Sustainability Roadmap 2024-2025 California Department of Fish and Wildlife

Sustainability Master Plan
and Biennial Progress Report on Legislative Sustainability Mandates and the Governor's Sustainability Goals for California State Agencies

California Department of Fish and Wildlife

Gavin Newsom, Governor

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DEPARTMENT OF FISH AND WILDLIFE ROADMAP

Sustainability Road Map 2024-2025

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EXECUTIVE SUMMARY

The Governor's Sustainability Roadmap is both a progress report and an action plan for implementing sustainable practices within California's state government. "Sustainability" as defined by the roadmap includes acting across eight target areas: adapting to the anticipated impacts from climate change, zero-emission vehicles (ZEVs), energy efficiency, decarbonization, water conservation, facilities construction and operation, waste management, and procurement.

The California Department of Fish and Wildlife's (CDFW) mission is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW is responsible for over 1,000,000 acres of fish and wildlife habitat, managed through 722 properties throughout the state, primarily occurring at Fish Hatcheries (FH), Ecological Reserves (ER), and Wildlife Areas (WA). These properties provide habitat for a rich diversity of fish, wildlife, and plant species and comprise habitats from every major ecosystem in the state. In addition to managing WAs and ERs, CDFW operates 24 FHs to provide sportfish stock for anglers in California. CDFW is also responsible for other programs, such as private lands conservation programs that assist landowners with the management of wetlands, riparian habitats, native grasslands, and wildlife-friendly farmlands.

Due to the variety of programs and services CDFW offers, its portfolio is very diverse. CDFW has a variety of properties throughout the state, including health labs, FHs, ERs, WAs, field offices, and many more. There are approximately 709 structures located on CDFW owned lands, some of these structures include small hunter check stations, residences, and large offices. Of these properties, CDFW owns 96 facilities, leases 38 spaces (including offices, labs, warehouses, mini storages, Connex boxes, boat berths, and aircraft hangers), and the rest of the properties are open WAs/ERs with no structures or personnel attached.

CDFW has continued its efforts to take action to save energy and water, increase use of renewable energy, and reduce Green House Gas (GHG) emissions. The eight areas in which CDFW continues these efforts are detailed below and presented within this Roadmap.

Climate Change Adaptation

CDFW has many building operations throughout the state, therefore the department faces many challenges related to climate change, some of which include rising temperatures, increased precipitation, drought, wildfires, and sea level rise. Given the variety of challenges, CDFW will need to be prepared to

adapt its building management practices accordingly. Where feasible, leased spaces relocation may be an option, however CDFW is somewhat limited with relocation as staff need to be where wildlife lives and thrives.

To assist with preparedness, CDFW has been working with the California Natural Resources Agency (CNRA) and various other partners to address climate change impacts on California wildlife and is a contributor to the Safeguarding California Climate Adaptation Strategy. CDFW is working to incorporate climate science and climate adaptation strategies into its own programs and resource management activities. CDFW is also addressing climate risks to facilities by adapting its operational practices in ways that will reduce its overall carbon footprint and help to mitigate the sources of climate change.

Zero Emission Vehicles (ZEV)
CDFW employees utilize vehicles in a variety of applications for law enforcement, emergency response, land management, FH support, scientific research, and administrative functions. Common vehicle usage includes, but is not limited to, traveling long distance to remote sites, towing equipment over one thousand pounds, planting fish, and transporting wildlife on remote off-road terrain.

CDFW is making strides in moving away from gasoline and diesel by increasing CDFW's ZEV Fleet by 10% each year and has made significant progress in developing Electric Vehicle Supply Equipment (EVSE) infrastructure at CDFW facilities, increasing the number of charging ports at locations across the state.

Energy
CDFW has three main types of locations, FHs, ERs and WAs. Many of the ERs and WAs have large pumps for wildlife that consume large amounts of energy. The FHs often operate 24 hours per day and use large chillers that are necessary for fish health and safety. Despite these challenges, CDFW continues to pursue efforts to reduce energy consumption across all facilities. CDFW understands that conserving resources is extremely important and is committed to reducing energy use and greenhouse gas emissions as much as possible by significantly reducing energy use across CDFW.

Decarbonization

CDFW facilities total nearly 2 million square feet, all vital to its mission of conserving fish and wildlife habitats. These facilities rely heavily on propane for heating and water systems, though some, like barns and hatcheries, have transitioned to all-electric systems as part of broader decarbonization efforts. High energy demands, particularly fish hatcheries, contribute significantly to

carbon emissions due to the need for precise water temperature control and pumping. Despite its critical role, CDFW faces funding constraints that have led to deferred maintenance and reactive upgrades. In alignment with Senate Bill 1203, which mandates net-zero greenhouse gas emissions by 2035, CDFW is developing strategic plans focused on electrification, energy efficiency, and renewable energy integration in an effort to decarbonize all CDFW facilities. These efforts reflect a commitment to sustainable operations that support both ecological stewardship and California's climate goals.

Water Efficiency and Conservation

Drought conditions require CDFW's increased collaboration with federal and state water and fish agencies to coordinate overall water operations to reduce impacts to aquatic resources and listed species. This includes frequent coordination meetings, monitoring in-river conditions, evaluating risk of water operation decisions, collaborative drought contingency planning for the State Water Project and Central Valley Project, participating in State Water Board hearings, and evaluating water operations modeling exercises to address impacts to fish and wildlife.

In addition, CDFW staff is increasing its workload in the review of requests for permit modifications, development of drought voluntary flow agreements with local landowners to reduce water demand, enforcement actions related to illegal diversions and permit violations, and participating in State Water Board hearings related to Temporary Urgency Change Petitions, variance requests to reduce existing instream flow requirements, curtailments, and emergency regulations.

Facilities' Construction and Operations

CDFW has been involved in completing 22 projects in Coastal Wetlands, Inland Seasonal Wetlands, including vernal pools, Sacramento-San Joaquin Delta Wetlands, and Mountain Meadows. Roughly, 7,477 acres have been restored or enhanced, and approximately 999,950 metric tons of CO2-equivilent have been sequestered (equal to 8.8 million gallons of gasoline). Of the $39.2M investments, $20.35M has directly benefited priority populations.

Waste Management and Recycling

In support of its mission to protect California's natural resources, CDFW is committed to minimizing its environmental footprint through responsible waste management. While operations such as habitat restoration, wildlife care, and scientific research generate complex waste streams including non-recyclable items like chemical-soiled materials and contaminated lab consumables, CDFW

has implemented recycling programs across its diverse facilities to divert paper, cardboard, metals, and select plastics from landfills. Challenges remain, particularly in remote areas with limited recycling access and specialized facilities like coastal research centers and laboratories. To address these, CDFW is working to expand recycling education, resources, and partnerships to improve waste practices and uphold ecological stewardship across all operations.

Procurement

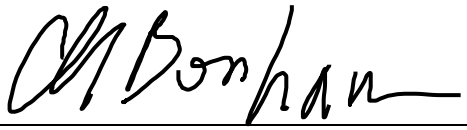
CDFW integrates sustainable procurement practices by prioritizing recycled-content products in all acquisitions. In compliance with the State Agency Buy Recycled Campaign (SABRC), which requires 75% of purchases in most categories to contain post-consumer recycled content, CDFW has implemented the "Recycled First" policy through Business Management Branch Memorandum 23-08. This policy directs staff to favor recycled products when feasible. By promoting sustainable purchasing practices, CDFW supports sustainability-oriented businesses, improves markets for products containing recycled content, reduces manufacturing waste and pollution, reduces energy consumption, and supports the goal of a circular economy. These efforts reduce waste, pollution, and energy use while supporting a circular economy and reinforcing CDFW's role as a leader in environmental stewardship.

Moving Forward

The responsibility for incorporating sustainability into practices, planning, and operations is shared throughout CDFW. In addition to adaptation practices, CDFW has taken many steps to reduce its Carbon footprint. Approximately half of CDFW's owned buildings have updated to LED lighting and CDFW is continuing to look for ways to improve efficiency and energy savings in operations of its FHs and land operations.

CDFW is currently in the process of auditing sites for use of variable frequency drives on many of the department's pumps, which save both energy and water. CDFW has contracted for five solar projects to be completed over the next two years, with an expected energy reduction of 17 percent.

CDFW is making positive strides towards achieving and exceeding sustainable goals for future generations.



Charlton H. Bonham, Director

CHAPTER 1 - CLIMATE CHANGE ADAPTATION

Department Mission and Climate Change Adaptation

CDFW's mission is to protect California's wildlife and natural resources. Reducing the effects of climate change is pivotal in carrying out CDFW's mission as it has a huge impact on natural lands. When considering how the Department's assets will be affected by a changing climate, CDFW must not only consider its developed infrastructure but also the wildlife and open lands that it manages.

CDFW has been working to address climate change impacts on California ecosystems by integrating climate science and adaptation strategies into its management efforts and decision-making processes wherever possible. At the state-wide level, CDFW coordinates with the California Natural Resources Agency (CNRA) and others state agencies on climate change adaptation and mitigation-related planning efforts such as the Safeguarding California Climate Adaptation Strategy, the Extreme Heat Action Plan, the Natural and Working Lands Climate-Smart Strategy, and the Scoping Plan. Across department functions and programs, CDFW is striving to address climate change within the context of species management, conservation planning, grants, science and research, land management, and more.

To support climate adaptation on state-owned lands, CDFW is continuing to incorporate climate change planning into its Land Management Plans (LMPs) using updated guidance for developing LMPs, which includes a section on how to incorporate climate change-related strategies. CDFW is also establishing a long-term climate and biodiversity monitoring network across department lands, called the Sentinel Site Network. This Network will help the department evaluate climate impacts to biodiversity on state lands and detect emerging climate-related threats. As part of this project, weather stations will be placed on 39 properties across the state to ultimately assess the pace and magnitude of climatic change, and to further evaluate wildfire and drought risks at these properties and beyond. Data collected through this effort will help verify some of the risk-related rankings provided in this roadmap, which are based on modeled climate projections for the future and will support climate-smart land and facilities management going forward.

Since CDFW has established methods of addressing climate change within wildlife and habitat management, most of this chapter will focus on the facilities located at these sites. For more information on what CDFW is doing to manage wildlife in these changing conditions, please refer to CDFW's climate change website or the California Climate Adaptation Strategy.

Climate Change Risks to Facilities

Climate Change Risk Assessment Process:

CDFW does not currently have a formal climate risk assessment process. However, the department has taken several steps to address climate risks in its operations. A few years ago, CDFW developed an optional Adaptation Checklist for Climate-smart Projects, which provides a framework for evaluating potential climate risks across various project types, including infrastructure. The CDFW Lands Program created Land Management Plans (LMPs) for CDFW properties, each of which includes a required section on climate change; while the focus is primarily on wildlife and habitat, the potential impacts on infrastructure may also be considered. Additionally, hatchery operations have been adapted in response to drought conditions, reflecting adjustments to climate-related challenges. Various grant programs overseen by CDFW often require climate impact or risk evaluations to ensure project longevity. Furthermore, CDFW has a designated Climate Change Specialist who is working on a long-term monitoring initiative called the Sentinel Site for Nature, which focuses on tracking climate change impacts on wildlife and habitat, though it is less concerned with buildings or infrastructure. Together, these efforts illustrate how CDFW integrates climate considerations into its work while development of a formal climate risk assessment is in progress.

Assessing Risk from Changing Extreme Temperatures:

Under a changing climate, air temperatures are expected to increase, resulting in higher maximum and minimum temperatures across the state. Using projections from Cal-Adapt, CDFW evaluated which CDFW facilities are most vulnerable to rising temperatures. The following tables identify the facilities expected to be most affected.

While CDFW does not yet have a formal internal climate risk assessment process, this analysis follows the approach outlined in the Suggested Department Climate Risk Assessment Process Guide.

As part of CDFW's natural infrastructure strategies, CDFW actively restores wetlands and pumps water to maintain these ecosystems, helping preserve critical habitat and buffer against temperature extremes. These efforts are integral to supporting climate resilience across affected regions. CDFW wetlands are managed by the volume of water which provides natural flood protection, filtration, and protection of biodiversity. Many CDFW hatcheries also rely on gravity-fed water supply, which allows CDFW to maintain operations without increasing carbon emissions.

Table 1.1: Top 5-10 Facilities that Will Experience the Largest Increase in Extreme Heat Events

Facility Name	Extreme heat threshold (EHT)°F	Average # of days above EHT (1961-1990)	Average # of days above EHT (2031-2060)	Change from Historical to projected average # of days above EHT (2031-2060)	Avg. # days above EHT (2070-2099)	Change from historical to projected average # of days above EHT (2070-2099)
IDR 6 - BALDWIN LAKE ER	84.7	4	39.5	35.1	68.7	64.3
CR 4 - KERN RIVER FH	98.0	4.4	38.0	33.6	67.3	62.9
CR 4 - CANEBRAKE ER	100.8	4.4	36.1	31.7	64.6	60.2
IDR 6 - HOT CREEK FH	86.0	4.4	35.9	31.4	70.7	66.3
CR 4 - HUNTINGTON LAKE PATROL CABIN	76.6	4.4	35.8	31.4	70.5	66.1
CR 4 - SAN JOAQUIN RIVER ER	106.8	4.4	34.7	30.2	63.6	59.2
IDR 6 - MOJAVE FH	103.6	4.4	33.5	29.1	60.6	56.2
IDR 6 - IMPERIAL WA	113.8	4.3	33.3	29.0	64.3	60.0
IDR 6 - FISH SPRINGS FH	100.3	4.4	33.3	28.8	63.4	59.0
CR 4 - NORTH GRASSLANDS WA	103.7	4.4	32.8	28.5	61.5	57.1

Table 1.2a: Top 5-10 Facilities Most Affected by Changing Temperature – Annual Mean Max. Temp

Facility Name	Historical Annual Mean Max. Temp. (1961 – 1990)	Annual Mean Max. Temp. (2031 – 2060)	Change from Historical to Annual Mean Max. Temp (2031-2060)	Annual Mean Max Temp. (2070-2099)	Change from Historical to Annual Mean Max. Temp (2070-2099)
NCR 2 - HALLELUJAH JUNCTION WA	62.4	68.3	6.0	72.8	10.4
IDR 6 - FISH SPRINGS FH	71.4	77.3	5.9	81.4	10.0
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	58.6	64.4	5.8	68.9	10.3
NR 1 - HONEY LAKE WA	64.9	70.6	5.7	75.3	10.4
IDR 6 - MOJAVE FH	75.7	81.4	5.7	85.4	9.6
CR 4 - CANEBRAKE ER	73.5	79.2	5.6	82.9	9.4
CR 4 - KERN RIVER FH	71.0	76.6	5.6	80.3	9.3
IDR 6 - CAMP CADY WA	81.4	86.9	5.6	90.8	9.4
IDR 6 - BLACK ROCK SPRINGS FH	74.6	80.2	5.5	84.2	9.6
IDR 6 - HOT CREEK FH	58.9	64.4	5.5	68.7	9.8

Table 1.2b: Top 5-10 Facilities Most Affected by Changing Temperature - Annual Mean Min Temp

Facility Name	Historical Annual Mean Min. Temp. (1961 – 1990)	Annual Mean Min. Temp. (2031 – 2060) °F	Change from Annual Mean Min. Temp (2031-2060)	Annual Mean Min. Temp. (2070-2099) °F	Change from Annual Mean Min. Temp (2070-2099)
NCR 2 - HALLELUJAH JUNCTION WA	30.0	36.0	6.0	40.6	10.6
CR 4 - HUNTINGTON LAKE PATROL CABIN	27.5	33.5	6.0	38.1	10.5
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	26.3	31.8	5.6	36.5	10.3

Facility Name	Historical Annual Mean Min. Temp. (1961 – 1990)	Annual Mean Min. Temp. (2031 – 2060) °F	Change from Annual Mean Min. Temp (2031-2060)	Annual Mean Min. Temp. (2070-2099) °F	Change from Annual Mean Min. Temp (2070-2099)
IDR 6 - BALDWIN LAKE ER	30.3	35.8	5.5	40.0	9.7
NR 1 - BUTTE VALLEY WA	25.0	30.4	5.5	35.2	10.3

Assessing Risk from Heating Degree Days (HDD) and Cooling Degree Days (CDD)

Table 1.3a: Top 5-10 Assessing Risk for Heating Degree Days (HDD)

Facility Name	Heating Degrees 1961-1990	Average Modeled Heating Degrees (year), 2031-2060	Change in Heating Degree Days Historical to Mid-Century	Average Modeled Heating Degrees (year), 2070-2099	Change in Heating Degree Days Historical to End-Century
CR 4- HUNTINGTON LAKE PATROL CABIN	9424.3	7175.5	-2248.8	5973.2	-3451.1
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	8283.9	6192.9	-2091.0	5057.2	-3226.7
NR 1 - BUTTE VALLEY WA	8971.8	7019.1	-1952.7	5871.1	-3100.7
NCR 2 - HALLELUJAH JUNCTION WA	7020.2	5093.1	-1927.1	4184.4	-2835.8
IDR 6 - HOT CREEK FH	7402.5	5528.1	-1874.4	4524.9	-2877.6

Table 1.3b: Top 5-10 Assessing Risk for Cooling Degree Days (CDD)

Facility Name	Cooling Degrees 1961-1990	Average Modeled Cooling Degrees (year), 2031-2060	Change in Cooling Degree Days Historical to Mid-Century	Average Modeled Cooling Degrees (year), 2070-2099	Change in Cooling Degree Days Historical to End-Century
IDR 6 - IMPERIAL WA	3958.3	5501.0	1542.7	6597.9	2639.6
IDR 6 - CAMP CADY WA	2795.7	4109.3	1313.5	4993.5	2197.7
IDR 6 - SAN JACINTO WA	1637.7	2841.4	1203.7	3678.3	2040.6
CR 4 - SAN JOAQUIN RIVER ER	1723.8	2875.4	1151.6	3648.8	1925.1
CR 4 - SAN JOAQUIN FH	1639.2	2785.3	1146.1	3556.6	1917.3
CR 4 - LOS BANOS WA	1500.0	2627.2	1127.2	3424.2	1924.2
CR 4 - NORTH GRASSLANDS WA	1531.7	2658.8	1127.1	3452.9	1921.2
CR 4 - LA GRANGE FIELD HABITAT OFFICE (Tuolumne River Restoration Center)	1314.7	2433.1	1118.4	3194.9	1880.2
NCR 2 - NORTH CENTRAL HQs – (with American River FH)	1440.5	2524.0	1083.5	3308.0	1867.5
NCR 2 - SUTTER BYPASS WA	1507.4	2578.7	1071.3	3359.6	1852.2

Reporting Narrative on Tables 1.3a and 1.3b: HDD and CCD

CDFW identified priority facilities of concern regarding Heating Degree Days (HDD) and Cooling Degree Days (CDD) using climate projection tools from Cal-Adapt. Sites were initially ranked by the magnitude of projected change in HDD and CDD and the list was refined by evaluating ecological sensitivity and the operational criticality of each facility. Two categories of CDFW facilities emerged as most vulnerable: Fish Hatcheries (FHs) and Wildlife Areas/Ecological Reserves (WAs/ERs). These facilities are particularly sensitive to extreme temperatures and climate-related stressors. For FHs, increased temperatures can challenge CDFW's ability to maintain optimal water conditions for fish and

spawning activities. These conditions will likely require greater energy use, upgrades to cooling infrastructure, and may impact the health and safety of staff working in high-heat environments. For WAs and ERs, elevated heat and reduced moisture availability can result in physiological stress to wildlife, habitat degradation, and the spread of invasive species, disease, and pathogens.

Facility performance and occupant safety are both concerns across these sites, many of which may lack adequate heating and cooling systems to meet future demands, particularly during prolonged heat events or extreme cold in remote locations. When viewed regionally, CDD is projected to increase most in Regions 2 (North Central Valley) and 4 (Central Valley) and 6 (Inland Desert). These areas both have high temperatures and large populations. HDD is projected to increase most in Region 1 (Northern Region) and other mountainous, colder zones, where facilities may face challenges with energy use, maintenance, and infrastructure stress due to cold extremes. These regional trends and facility types will guide CDFW's prioritization of resilience efforts.

Plan to Mitigate HDD and CDD

CDFW has not yet developed a plan to specifically mitigate the effects of increased HDD and CDD. However, individual facilities may have mitigation strategies incorporated into their operating procedures to address climate change more broadly, including the effects of increased extreme temperatures and HDD/CDD. Several of the properties listed above are "Sentinel Sites" where CDFW is launching joint climate and biodiversity monitoring. The data from this monitoring will become an asset in CDFW's development of a plan to mitigate the effects of increased HDD and CDD.

Planning Outline: PO1:a: Plan for Top 5-10 Facilities HDD and CDD Mitigation

Facility Name	Abbreviated Mitigation Plan 2030
CR 4- HUNTINGTON LAKE PATROL CABIN	No Plan
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	No Plan
NR 1 - BUTTE VALLEY WA	No Plan
NCR 2 - HALLELUJAH JUNCTION WA	No Plan
IDR 6 - HOT CREEK FH	No Plan
IDR 6 - BALDWIN LAKE ER	No Plan
NR 1 - ASH CREEK WA	No Plan
NR 1 - HONEY LAKE WA	No Plan
NR 1 - MOUNT SHASTA FH	No Plan
NR 1 - SOUTH SPIT WA-FAY SLOUGH	No Plan

Planning Narrative on PO1:a: Mitigate HDD and CDD

CDFW has not developed a separate plan to mitigate the effects of increased HDD and CDD. However, CDFW will collaborate with other state agencies, including the Department of General Services (DGS), to determine which actionable steps would be the most effective and appropriate for CDFW facilities, consistent with the goals laid out in the Extreme Heat Action Plan and existing efforts to plan for drought and extreme heat events. CDFW's Business Management Branch, Sustainability Unit has one staff member dedicated to sustainability initiatives and will continue to gather data with the intent of developing a plan as time allows.

Assessing Risk from Urban Heat Islands

Table 1.3: Facilities in Urban Heat Islands

Facility Name	Located in an Urban Heat Island (Yes or No)	sq. ft. of Surrounding Hardscape or Pavement if greater than 5000 sq. ft.
IDR 6 – SAN JACINTO WA	Yes	36,840
SCR 5 – RANCHO JAMUL ER	Yes	17,940
BDR 3 – BAY DELTA HQ'S	Yes	9,856
NCR 2 - NORTH CENTRAL HQs – (with American River FH)	Yes	6,352
BDR 3 – NAPA-SONOMA MARSHES WA	Yes	4,925
CR 4 – ELKHORN SLOUGH ER	Yes	4,769
BDR 3 – PETALUMA MARSH WA	Yes	3,578

Reporting Narrative on Table 1.4: Urban Heat islands

Approximately 24% of CDFW owned facilities are located within areas identified as Urban Heat Islands (UHIs). Among these, roughly half are Wildlife Areas (WAs) and Ecological Reserves (ERs). These sites typically consist of large, undeveloped open spaces with minimal impervious surfaces and small building footprints and thus have a limited contribution to UHI effects. The impact of UHIs on CDFW operations have not been identified by CDFW.

Of the facilities located in UHIs, a small subset contains impervious surfaces greater than 5,000 square feet, including parking areas or paved grounds.

However, most CDFW owned facilities are relatively small and have minimal infrastructure that contributes significantly to localized heat retention.

For leased facilities, CDFW currently has limited control over building design or site improvements. However, when lease agreements are renewed, CDFW will continue to advocate for energy efficiency measures, such as reflective roofing, improved insulation, and heat mitigating landscaping. These strategies may also be incorporated into new lease agreements where feasible.

While CDFW's overall contribution to urban heat island effects is minimal, the Department remains committed to integrating climate resilient practices into both existing and future facility planning wherever possible.

Planning Outline for Urban Heat Islands Mitigation:

Planning Outline: PO1:b: Plan for Urban Heat Islands Mitigation

Facility Name	Mitigation or Plan	Est. Implementation Date
IDR 6 – SAN JACINTO WA	NO PLAN	
SCR 5 – RANCHO JAMUL ER	NO PLAN	
BDR 3 – BAY DELTA HQ'S	NO PLAN	
NCR 2 - NORTH CENTRAL HQs – (with American River FH)	NO PLAN	
BDR 3 – NAPA-SONOMA MARSHES WA	NO PLAN	
CR 4 – ELKHORN SLOUGH ER	NO PLAN	
BDR 3 – PETALUMA MARSH WA	NO PLAN	

Planning Narrative for PO1.b: Urban Heat Islands Mitigation

CDFW continues to research the effects of urban heat islands on the above CDFW facilities and how these islands impact disadvantaged communities. CDFW has not had the funding or resources to dedicate to developing a plan to mitigate the impact of urban heat islands. CDFW will continue to research this issue with the intent of developing a plan.

Assessing Risk from Changes in Precipitation

Table 1.4: Top 5-10 Facilities that will be Most Impacted by Projected Changes in Precipitation

Facility Name	Annual Mean Max. Precip. (1961 – 1990) (in/yrs.)	Annual Mean Precip. (2031 – 2060) (in/yrs.)	Percent Change by mid-century	Annual Mean Precip. (2070 – 2099) (in/yrs.)	Percent change by end of century	Extreme Precip (1961-1990) (in/day)	Extreme Precip (2031-2060) (in/day)	Extreme Precip (2070-2090) (in/day)
BDR 3 - EDEN LANDING ER	16.3	18.2	1.9	19.8	3.5	3.7	3.3	3.8
BDR 3 - KNOXVILLE WA	24.9	30.9	0.2	33.6	0.4	5.4	6.9	8.3
IDR 6 - BLACK ROCK SPRINGS FH	4.6	5.6	0.2	6.5	0.4	3.5	4.0	5.4
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	19.5	23.8	0.2	26.8	0.4	5.2	6.5	7.4
IDR 6 - MOUNT WHITNEY FH	5.5	6.7	0.2	7.8	0.4	3.7	4.6	6.0
BDR 3 - NAPAFO (Silverado Fisheries Base)	33.3	40.1	0.2	44.2	0.3	7.4	8.6	11.6
NR 1 - MOUNT SHASTA FH	44.7	53.3	0.2	55.5	0.2	7.6	8.5	9.3

Facility	Annual Mean Max. Precip. (1961 – 1990) (in/yrs.)	Annual Mean Precip. (2031 – 2060) (in/yrs.)	Percent Change by mid-century	Annual Mean Precip. (2070 – 2099) (in/yrs.)	Percent change by end of century	Extreme Precip (1961-1990) (in/day)	Extreme Precip (2031-2060) (in/day)	Extreme Precip (2070-2090) (in/day)
BDR 3 - WARM SPRINGS FH	50.2	59.7	0.2	64.8	0.3	9.4	10.6	11.9
BDR 3 - DELTA OPERATIONS BASE	12.9	15.4	0.2	16.4	0.3	3.3	2.8	3.4
BDR 3 - PETALUMA MARSH WA	25.4	30.0	0.2	33.2	0.3	6.0	6.5	7.4

Reporting Narrative on Table 1.5: Changes in Precipitation

Predictive modeling indicates an overall increase in precipitation across nearly all CDFW-owned facilities. The two types of facilities most likely to be significantly impacted by these changes are Fish Hatcheries (FHs) and Wildlife Areas/Ecological Reserves (WAs/ERs).

WAs and ERs are particularly sensitive to fluctuations in precipitation. Insufficient rainfall can lead to destabilized wildlife populations due to reduced availability of potable water and shrinking aquatic habitat caused by lower reservoir levels and diminished stream flows. Additionally, dry conditions increase wildfire risk, posing a significant threat to both habitat and infrastructure.

In the short term, projected increases in precipitation may offer net positive effects at many WAs and ERs by improving water availability and habitat conditions. However, excessive or sustained increases in precipitation can create new risks. These include flooding, which can lead to habitat loss, erosion, damage to physical infrastructure, and restricted access to facilities due to flooded roadways. In such scenarios, there are also potential impacts to occupant health and safety, particularly at remote or low-lying sites.

Planning Outline for Changes in Precipitation Mitigation

Planning Outline PO1:c: Plan for Top 5-10 Facilities Most Impacted by Projected Changes in Precipitation

Facility Name	Extreme Precipitation (2030) Plan or strategy
CR 4 - SAN JOAQUIN RIVER Salmon Restoration Program	No Plan
NR 1 - ASH CREEK WA	No Plan
IDR 6 - FISH SPRINGS FH	No Plan
CR 4 - KERN RIVER FH	No Plan
NCR 2 - OROVILLE WA	No Plan

Planning Narrative on PO1.c: Precipitation Changes Mitigation Plan

CDFW does not have a plan to reduce the impact for changing precipitation on facility performance. CDFW will continue to monitor precipitation trends closely and consider climate resilience strategies to minimize operational disruptions and protect ecological integrity at high-risk locations.

Assessing Risk from Sea Level Rise

Table 1.5: All Facilities at Risk from Rising Sea Levels

Facility Name	Tide Chart Region	2050 Water Level (ft)	Exposed in 2050? (y/n)	2100 Water Level (ft)	Exposed at 2100? (y/n)
BDR 3 - PETALUMA MARSH WA	San Francisco Bay	1.80	2.24	3.02	3.53
BDR 3 - EDEN LANDING ER	San Francisco Bay	1.80	2.24	3.02	3.53
BDR 3 - NAPA-SONOMA MARSHES	San Francisco Bay	1.80	2.24	3.02	3.53

Reporting Narrative on Table 1.6: Sea Level Rise Impacts

The California Ocean Protection Council (OPC) has issued the State of California Sea-Level Rise Guidance (Guidance) for State agencies on what level of sea level rise projections to consider in planning.

Like the flooding that occurs from increased precipitation, sea level rise has the potential to cause flooding that would require relocation of CDFW sites or other adaptation actions. Additionally, rising seas can lead to saltwater intrusion into freshwater systems and resources, altering salinity levels. CDFW is placing two tide gauges at Napa-Sonoma Marshes WA to help monitor and document sea

level-rise along these areas of the coast and inform conservation planning efforts at these locations.

Planning Outline for Sea Level Rise Impacts

Planning Outline PO1:d: Planning for Sea Level Rise

Facility Name	Tide Chart Region	Plan 2030?
BDR 3 - PETALUMA MARSH WA	San Francisco Bay	NO PLAN
BDR 3 - EDEN LANDING ER	San Francisco Bay	NO PLAN
BDR 3 - NAPA-SONOMA MARSHES	San Francisco Bay	NO PLAN

Planning Narrative on PO1.d: Sea Level Rise Impact Mitigation

In 2022 the state produced the State Agency Sea-level Rise Action Plan for California. CDFW was a contributor to this plan, which outlines several important actions for agencies to take to minimize the impacts of sea-level rise on state resources. Included for CDFW, is a plan to "evaluate relative climate vulnerability of coastal wildlife areas and ecological reserves, including sea-level rise-related risks to biodiversity (including endangered and threatened species) and state infrastructure." CDFW will work with partners to complete this evaluation as it may inform adaptation actions at high-risk properties.

Unfortunately, it is not possible to relocate all projects and locations that fall in these at-risk areas as this is where wildlife lives. However, measures can be taken to minimize the effects, such as locating buildings and other sensitive equipment to higher ground, and elevation of natural and manmade infrastructure to accommodate the projected rise. As mentioned before, climate change adaptation has been incorporated into CDFW's wildlife planning for some time. An example of this is a project that required repairing an earthen wall for a wetland restoration. When it was rebuilt, the project took consideration of how the sea level would rise in that area and built the wall higher than was previously projected to accommodate the rise. CDFW is beginning to incorporate this planning on the facilities side as has already been done with wildlife projects. Managed retreat (planned retreat of facilities away from the shore) and living shorelines are other strategies that may need to be employed at coastal properties.

Assessing Risks from Wildfire

Wildfire Threats by Fire Hazard Severity Zone

Table 1.6: Top 5-10 Assessing Facilities Most at Risk to Wildfire Threats by Fire Hazard Severity Zone

Facility Name	Fire Hazard Severity Zone Designation (low, medium, high, very high)
BDR 3 - KNOXVILLE WILDLIFE AREA	Very High
BDR 3 - NAPA FO (Silverado Fisheries Base)	Very High
CR 4 - KERN RIVER FH	Very High
CR 4 - MOCCASIN CREEK FISH HATCHERY	Very High
IDR 6 - BALDWIN LAKE ECOLOGICAL AREA	Very High
IDR 6 - FILLMORE FH	Very High
IDR 6 - HOT CREEK FH	Very High
IDR 6 - SAN JACINTO WA	Very High
IDR 6 - SLINKARD/LITTLE ANTELOPE WA	Very High
NCR 2 - BRIDGE ARBOR FA	Very High
NR 1 - ASH CREEK WILDLIFE AREA	Very High
NR 1 - CRYSTAL LAKE FH	Very High
NR 1 - FALL RIVER MILLS ER	Very High
NR 1 - IRON GATE FISH HATCHERY	Very High
NR 1 - MOUNT SHASTA FISH HATCHERY	Very High
NR 1 - TEHAMA WA	Very High
NR 1 - YREKA SCREEN SHOP	Very High
SCR 5 - RANCHO JAMUL ER	Very High
SCR 5 - CANADA DE SAN VICENTE ER	Very High
SCR 5 - HOLLENBECK CANYON WA	Very High

Reporting Narrative on Table 1.7: Assessing Facilities most at Risk to Wildfire Threats by Fire Hazard Severity Zones

Wildfires pose a serious threat to many CDFW facilities. In the cases of FHs, wildfires have the potential to completely devastate an operation. The damage caused by intense heat and smoke can easily destroy an entire breeding season, essentially nullifying an entire year's worth of operations. In the cases of WAs/ERs, wildfires can consume large tracts of habitat, which has numerous deleterious effects: less food for herbivorous animals means lower populations, which then reverberates up the entire food chain. This issue is compounded by the reduction in habitat for wildlife populations which remain.

Reduced wildlife populations and damaged habitat result in a decrease in the ability of a WA/ER to perform its function. A WA/ER with damaged habitat cannot perform the function of preserving ecosystems nor can it provide recreational wildlife opportunities to the public.

Lastly, wildfire also creates health and safety hazards for site occupants at all types of facilities by rapidly and violently altering the landscape, resulting in new undiscovered hazards such as partially felled trees, which create not only a safety hazard but also can impact facility access. Smoke inhalation from wildfire also poses a noteworthy danger to occupant health.

The nature of CDFW's mission statement and operational infrastructure places CDFW at an elevated risk of wildfire damage because many CDFW facilities are in isolated areas. This not only increases the likelihood of damage by wildfire but also increases their potential damage severity due to the difficulty of fighting fires in remote locations.

Planning Narrative on Table 1.7: Assessing Facilities most at Risk to Wildfire Threats by Fire Hazard Severity Zones

CDFW has a plan in progress for mitigating facility operations that may be impacted by being located in wildfire high hazard zones. CDFW is actively implementing strategies aligned with wildfire risk reduction and long-term resiliency through investments, planning, and partnerships.

Increased Investment & Maintenance: As a direct result of increased funding, CDFW has procured and upgraded fuels management equipment and expanded treatment efforts across its lands. These actions aim to reduce wildfire risk and protect nearby communities and ecosystems.

Adaptive Management Framework Development: CDFW employs Adaptive Management, which emphasizes iterative, data-informed decision-making. Monitoring the effectiveness of fuel treatments informs future project siting, treatment type, and maintenance schedules to sustain risk reduction.

Ecological Restoration Efforts: CDFW is working to restore native vegetation and reintroduce natural processes such as low-intensity fire. These efforts support ecosystem health, reduce wildfire severity, and enhance watershed conditions.

Workforce and Partnership Expansion: Recognizing the need for sustained capacity, CDFW is expanding partnerships with Tribes, state and federal agencies, educational institutions, and private entities to support a strong and capable wildfire resiliency workforce.

Wildfire Threats as Measured by Impacts from Previous Wildfire Events

Table 1.7: Facilities Impacted by Previous Wildfire Events (Last 20 Years)

Facility Name	Impact Category	Year of Impact	Fire Name
BDR 3 - KNOXVILLE WILDLIFE AREA	Fire Imposed Restrictions on Facility Access	8/17/2020	Lnu Lightning Complex
BDR 3 - WARM SPRINGS FH	Fire Imposed Restrictions on Facility Access	8/17/2020	Lnu Lightning Complex
CR 4 - CARRIZO PLAINS ER	Smoke Impacts	6/25/2017	CEBRIAM
IDR 6 - Mount Whitney FH	Actual Fire damage	7/6/2007	2007 Oak
NCR 2 - BRIDGE ARBOR FA	Smoke Impacts	7/27/2018	2018 Ranch
NCR 2 - HALLELUJAH JUNCTION WA	Smoke Impacts	8/6/2017	2017 Chilcoot
NCR 2 - HALLELUJAH JUNCTION WA	Smoke Impacts	8/14/2020	2020 Loyalton
NCR 2 - HALLELUJAH JUNCTION WA	Operations Disruptions	7/2/2021	2021 Sugar
NR 1 - ASH CREEK WILDLIFE AREA	Smoke Impacts	8/9/2018	2018 Hat
NR 1 - CRYSTAL LAKE FH	Actual Fire damage	8/2/2009	2009 Cassel
NR 1 - Crystal Lake FH 2	Actual Fire damage	8/2/2009	2009 Cassel
NR 1 - Darrah Springs FH 2	Actual Fire damage	8/18/2012	2012 Ponderosa
NR 1 - TEHAMA WA	Operations Disruptions	7/24/2024	Park
SCR 5 - HOLLENBECK CANYON WA	Actual Fire damage	9/9/2013	Lyon
SCR 5 - SAN FELIPE VALLEY WA	Smoke Impacts	8/13/2012	Stewart
BDR 3 - KNOXVILLE WILDLIFE AREA	Fire Imposed Restrictions on Facility Access	8/17/2020	Lnu Lightning Complex

Reporting Narrative on Table 1.8 Wildfire Threats as Measured by Impacts from Previous Wildfire Events.

Wildfires have taken a significant toll on CDFW, inflicting damage on critical facilities, disrupting operations, and endangering both wildlife and staff. These fires have underscored the urgent need for resilient emergency preparedness. At Mount Whitney Fish Hatchery, a fire caused severe damage when debris from the burn area choked the stream that feeds the hatchery. The blockage

overwhelmed the filtration system in the raceways, leading to the tragic loss of thousands of Mt. Whitney strain rainbow trout broodstock—genetically important fish that had been carefully cultivated over many years. In the Hollenbeck Canyon Wildlife Area, flames destroyed the irrigation system used to maintain vital habitat. The damage forced the closure of the hunting field, impacting both wildlife management efforts and public recreational access.

At Warm Springs Fish Hatchery, the advancing fire created days of tense uncertainty. Power was lost, requiring staff to remain on-site around the clock, refueling diesel generators every few hours to keep essential systems running. As helicopters and planes roared overhead dropping flame retardant, staff used motorcycles to scout the ridgeline for fire activity. One night, as the fire approached dangerously close, employees worked in darkness to connect every fire hose on the property in preparation for defense. Ultimately, the fire was contained after several harrowing days, and all fish were saved—thanks to the dedication and vigilance of the hatchery team.

Damage from the fire at the Knoxville Wildlife Area forced the closure of the area to the public for an entire year, limiting access and delaying habitat restoration and wildlife monitoring efforts. Tragedy also struck the Crystal Lake Fish Hatchery, where fire resulted in the destruction of 1.2 million incubating fish. The loss was not just a numerical one—it represented a devastating setback for fishery programs dependent on those stocks for future releases and ecosystem balance.

Collectively, these events highlight the increasing threat that wildfires pose to CDFW's mission. From hatcheries to wildlife areas, the fires disrupted operations, destroyed valuable resources, and tested the resilience of staff and infrastructure. As wildfire seasons grow longer and more intense, CDFW faces mounting challenges in protecting California's fish, wildlife, and the ecosystems they depend on.

Planning Outline PO1:e: Plan for Mitigating Wildfire Risk for Top 5-10 Facilities Most at Risk.

Wildfires pose a significant and ongoing risk to CDFW as many facilities are located in remote or high fire hazard severity zones. Several sites are directly in high-risk areas, while others, though outside immediate threat zones, are still vulnerable to hazardous smoke conditions due to their distance from major urban centers. In past wildfire seasons, smoke and fire threats have caused partial or full site shutdowns, compromising operations and the health and safety of staff. Notably, in 2020–2021, 30 CDFW properties were burned, affecting approximately 43,610 acres.

Additionally, power safety shutoffs implemented by utility companies to reduce wildfire ignition risks have further impacted facility operations. These shutoffs, which can last from several hours to over a week, create operational disruptions and require reliance on backup generators. This is especially critical for fish hatcheries (FHs), which must maintain continuous operations to sustain aquatic life. Backup power at these locations typically lasts only 48 hours, after which contingency measures must be activated, often at significant cost and risk.

To address these challenges, CDFW established an internal task force in 2019 focused on emergency preparedness and wildfire response planning. The department is actively exploring long-term solutions such as Microgrid technology to reduce dependence on the power grid and improve site resilience.

In alignment with the California Wildfire and Forest Resilience Action Plan released by Governor Newsom in January 2021, CDFW has received over $80 million to accelerate wildfire mitigation and forest health activities. These efforts include:

- Investing in modern fuels management equipment
- Restoring native vegetation to increase ecological resilience
- Reintroducing low-intensity, controlled burns
- Collaborating with CAL FIRE on the creation of fuel breaks
- Using targeted grazing to reduce fire risk in grasslands

These ongoing initiatives contribute directly to the protection of departmental facilities and infrastructure.

For continued updates and further detail, visit the Wildfire Resiliency Initiative webpage.

Planning Outline PO1:e: Plan for Mitigating Wildfire Risk for Top 5-10 Facilities Most at Risk

Facility Name	Plan 2026-2030
CR 4 - HUNTINGTON LAKE PATROL CABIN	YES
CR 4 - CARRIZO PLAINS ER	YES
SCR 5 - RANCHO JAMUL ER	YES
NR 1 - CRYSTAL LAKE FH	YES
NR 1 - TRINITY RIVER FH	YES

Facility Name	Plan 2026-2030
SCR 5 - SAN FELIPE VALLEY WA	YES
NR 1 - DEER CREEK (FISH SCREENS)	YES
IDR 6 - FILLMORE FH	YES
NR 1 - IRON GATE FH	YES
BDR 3 - EDEN LANDING ER	YES

Understanding Climate Risk to Planned Facilities

Tables 1.8: a-g: Climate Risks Process for Planned Facilities

a.1Annual Mean Max. Temperature

Facility Name	Historical Annual Mean Max. Temp. (1961 – 1990)	Annual Mean Max. Temp. (2031 – 2060)	Change from Historical to Annual Mean Max. Temp (2031-2060)	Annual Mean Max Temp. (2070-2099)	Change from Historical to Annual Mean Max. Temp (2070-2099)
NO NEW FACITLITIES					

a.2 Annual Mean Min. Temperature

Facility Name	Historical Annual Mean Min. Temp. (1961 – 1990)	Annual Mean Min. Temp. (2031 – 2060) °F	Change from Annual Mean Min. Temp (2031-2060)	Annual Mean Min. Temp. (2070-2099 °F	Change from Annual Mean Min. Temp (2070-2099)
NO NEW FACITLITIES					

b. Annual Mean Max. Precipitation

Facility Name	Annual Mean Maximum Precipitation (1961 – 1990) (in/yr.)	Annual Mean Precipitation (2031 – 2060) (in/yr.)	Extreme Precip (1961-1990) (in/day)	Extreme Precip (2031-2060) (in/day)
NO NEW FACITLITIES				

c. Largest Increase in Extreme Heat Events

Facility	Extreme heat threshold (EHT) °F	Average number of days above EHT (1961-1990)	Average number of days above EHT (2031-2060)	Increase in number of days above EHT
NO NEW FACITLITIES				

d. Sea Level Rise

Facility Name	Area (California Coast, San Francisco Bay, Delta)	Sea Level Rise 0.0 m	Sea Level Rise 0.5 m	Sea Level Rise 1.0 m	Sea Level Rise 1.41 m
NO NEW FACITLITIES					

e. Wildfire Risks by Fire Hazard Severity Zone

Facility Name	Current Fire Hazard Severity Zone (low, medium, high, very high)
NO NEW FACITLITIES	

f. Facilities Impacted by Previous Wildfire Events (Last 20 Years)

Facility Name	Impact Category Choose an item.	Year of Impact	Fire Name
NO NEW FACITLITIES			

g. Risk from Heating Degree Days/Cooling Degree Days

Facility Name	Heating/Cooling Degree Days (1961-1990) (HDD/CDD)	Heating/Cooling Degree Days (2031-2060) (HDD/CDD)
NO NEW FACITLITIES		

Reporting Narrative for Tables 1.9a-g: Understanding Climate Risks to Planned Facilities

NO NEW FACILITIES

Planning Narrative for Tables 1.9a-g: Understanding Climate Risks to Planned Facilities

NO NEW FACILITIES

Understanding the Potential Impacts of Facilities on Communities

Reporting on Facilities Located in Disadvantaged Communities

Table 1.9: Facilities Located in Disadvantaged Communities

Facility Name	CalEnviroScreen Score	Located in a disadvantaged community? Yes/No
CR 4 - NORTH GRASSLANDS WA	80-90%	Yes
CR 4 - LOS BANOS WA	80-90%	Yes
CR 4 - MENDOTA WA	80-90%	Yes
CR 6 – IMPERIAL WA	80-90%	Yes

Reporting Narrative for Table 1.10: Facilities Located in Disadvantaged Communities

Eleven percent of CDFW's owned facilities are in disadvantaged communities based on California Office of Environmental Health Hazard Assessment's (OEHHA) CalEnviroScreen scores. CDFW interacts with the communities in many ways, providing recreation and access to natural lands, wildlife, and education. In addition, through hunting and fishing, CDFW provides communities with access to food. CDFW also supports the communities by assisting with mitigation of Urban Heat Islands through the addition of green spaces and natural infrastructure.

Planning Narrative for Table 1.10: Facilities in Disadvantaged Communities

CDFW provides communities with education on the natural environment, climate change, and actions that individuals can take to help mitigate the problem. In the event of an emergency, CDFW will assist however possible, but it is likely that, in the event of flooding and such, these locations will be the first to flood. CDFW is also seeking other ways to address these communities, and one way is to put EV chargers at many of the locations in these areas to assist with the increased adoption of ZEVs. In addition, CDFW is increasing solar projects in these areas, which will also help to decrease greenhouse gas emissions.

Finally, several CDFW grant programs fund projects that directly and/or indirectly benefit Disadvantaged Communities (DACs) (e.g., Prop 1 and the Wetland/GHG program). This information is usually collected during project proposal submission (as a question in the project guidelines and potentially as a scoring criterion).

New Facilities and Disadvantaged Communities and Urban Heat Islands

Table 1.10: New Facilities, Disadvantaged Communities and Urban Heat Islands

Facility Name	Located in a Disadvantaged Community (yes/no)	Located in an urban heat island (yes/no)
NO NEW FACILITIES		

Reporting Narrative on Table 1.11: New Facilities and Disadvantaged communities and Urban Heat islands

NO NEW FACILITIES IN DISADVANTAGED COMMUNITIES AND URBAN HEAT ISLANDS

Planning Narrative on Table 1.11: New Facilities and Disadvantaged communities and Urban Heat islands

NO NEW FACILITIES IN DISADVANTAGED COMMUNITIES AND URBAN HEAT ISLANDS

Integrating Climate Change into the Department Planning Process and into all Funding Programs

Table 1.11: Integration of Climate Change into Department Planning Process

Name of Plan	Have you integrated climate?	Is a plan in progress?	If no, or in process, when will it be integrated?
Safeguarding California	YES	NO	N/A
Land Management Plan (LMP)	YES	NO	N/A
2015 State Wildlife Action Plan	YES	NO	N/A
2025 State Wildlife Action Plan	YES	YES	IN PROGRESS

Reporting Narrative for Table 1.12: Integrating Climate Change into Department Planning Process

CDFW has contributed to the Safeguarding California Implementation Action Plans and has integrated climate change into its LMP efforts by developing guidance for staff on how to address climate change in LMPs within its "Guide and Annotated Outline for Writing Land Management Plans." This internal guidance document calls for each LMP to include a discussion of climate change-related impacts and risks to the property and the inclusion of climate change adaptation strategies to minimize said risks. Guidelines were developed

and are maintained by the department's Land Management Program. Regional land management staff are responsible for drafting new LMPs. Several LMPs are complete, and a few are still in progress. Detailed information on completed and in progress LMPs can be found on the CDFW Land Management Planning Overview website.

CDFW has also integrated climate change into the State Wildlife Action Plan (SWAP), which is a state-wide blueprint for conservation in California. This plan includes many strategies for minimizing the impacts of climate change in all aspects of natural resource management. The first SWAP was developed in 2005 and is updated every 10 years. CDFW is finalizing its comprehensive review and update for the SWAP 2025 with a release date scheduled for October 1, 2025.

Planning Narrative for table 1.12: Integrating Climate Change into Department Planning Process

CLIMATE CHANGE INTEGRATION INTO DEPARTMENT PLANNING PROCESS ACHIEVED

Community Engagement and Planning Processes

Table1.12: Community Engagement and Planning Processes

Name of Plan	Does this plan consider impacts on vulnerable populations? Yes/No	Does this plan include coordination with local and regional agencies? Yes/No	Does this plan prioritize natural and green infrastructure? Yes/No
Natural Community Conservation Planning Program	YES	YES	YES
Regional Conservation Investment Strategies Program	YES	YES	YES

Reporting Narrative for Table 1.13: Community Engagement and Planning Processes

The Natural Community Conservation Planning Program (NCCPs) are permits, and subject to CEQA. The NCCP Act (Fish and Game Code §§ 2800-2835, as amended) requires establishment of a public participation process through plan development and review, including public review and comment periods and outreach, "…*for persons interested in the plan, including landowners, with an*

emphasis on obtaining input from a balanced variety of affected public and private interests, including state and local governments, county agricultural commissioners, agricultural organizations, landowners, conservation organizations, and the general public." While anyone may undertake NCCP, it must be in cooperation with a local agency that has land use permit authority over the activities. CDFW Regional staff serve as the leads on coordinating and developing NCCPs and typically have a primary plan contact.

NCCPs are broad-based regional plans, which would facilitate efficient natural/green infrastructure planning. They focus on early coordination and cooperation between public agencies, landowners, and other interests providing the opportunity to coordinate on minimizing and addressing impacts.

CDFW adheres to the Regional Conservation Investment Strategies Program (RCIS). RCIS is a voluntary initiative designed to support broad-scale conservation planning by utilizing existing data. It promotes landscape-level assessments and enables the development of large-scale conservation and mitigation efforts, which can offer greater ecological value compared to addressing impacts on a project-by-project basis. The program includes three main components: the Regional Conservation Assessment (RCA), the Regional Conservation Investment Strategy (RCIS), and the Mitigation Credit Agreement (MCA), each providing unique opportunities for advancing conservation goals.

Planning Narrative for Table 1.13: Community Engagement and Planning Processes

COMMUNITY ENGAGEMENT AND PLANNING PROCESSES ACHIEVED

Climate Change Implementation Planning in Department Funding Programs

Table1.13: Climate Change Implementation Planning in Department Funding Programs

Name of Grant or Funding Program	Have you integrated climate change into program guidelines? (Yes/No)	If no, Date it will be integrated?	Does this Funding Program consider impacts on vulnerable populations? (Yes/No)	Does this Funding Program include coordination with local and regional agencies? (Yes/No)
Fisheries Restoration Grant Program (FRGP)	YES	N/A	N/A	YES
Greenhouse Gas (GHG) Reduction Grant Program	YES	N/A	N/A	YES
Proposition 1 Restoration Grant Program	YES	N/A	N/A	YES
Proposition 68 Restoration Grant Programs	YES	N/A	N/A	YES
Water Storage Investment Program	YES	N/A	N/A	YES

Reporting Narrative for Table 1.14: Climate Change Implementation Planning in Department Funding Programs

CLIMATE CHANGE INTEGRATION ACHIEVED. For more information visit CDFW's Watershed Restoration Grants Branch website.

Planning Narrative for Table 1.14: Climate Change Implementation Planning in Funding Programs

CLIMATE CHANGE INTEGRATION ACHIEVED

Measuring and Tracking Progress

Reporting Narrative on Measuring and Tracking Progress

Changing climate conditions necessitates an adaptive management approach. An adaptive management approach is informed by tracking changing climate conditions and the performance of a plan or project. Building check points into a project or plan timeline can help to create a system for regular review and, if needed, adjustments.

Planning Narrative on Measuring and Tracking Progress

Even though CDFW has been incorporating climate change analysis into LMPs and other projects for wildlife, there is more to be done. Tracking resilience and adaptation can be tricky given that the results are happening over long periods of time, however measuring how species are thriving in the WAs in general is a way to track progress. Depending on the type of wildlife and location, there are different targets, goals, and plans to ensure that species are thriving. The department is still in the early stages of implementing life cycle costs into planning and implementing adaptation measures for facilities. On the facilities side, CDFW intends to continue using the current tracking systems, Energy Star Portfolio Manager for energy and water usage and The Climate Registry Information System (CRIS) for GHG emissions, to assess progress. CDFW will incorporate new technology as it becomes available and is cost effective.

CHAPTER 2 - ZERO-EMISSION VEHICLES

Department Mission and Fleet

This Zero-Emission Vehicles (ZEV) Report and Plan demonstrate CDFW's progress toward meeting the Governor's Sustainability Goals related to ZEVs and reduction of greenhouse gas emissions (GHGs). This report identifies successful accomplishments, ongoing and future efforts, and outstanding challenges.

CDFW employees utilize vehicles in a variety of applications for law enforcement, emergency response, land management, fish hatchery (FH) support, scientific, and administrative functions. Common vehicle usage includes, but is not limited to, traveling long distance to remote sites, towing equipment over one thousand pounds, planting fish, and transporting wildlife on remote off-road terrain.

CDFW Law Enforcement Division (LED) officers and Office of Spill Prevention and Response (OSPR) employees use 4-wheel drive pickups and sport utility vehicles (SUVs) to access remote areas of the state, patrol the back country, respond to oil spills and other deleterious materials, and ensure regulatory compliance with federal and state laws. Additionally, vehicles are often used to tow trailered boats, all-terrain vehicles (ATVs) and snowmobiles for patrol and response on the state's 1,100 miles of coastline, 30,000 miles of streams, and other state, and public off-road lands not accessible by standard vehicles.

Scientific and non-scientific field employees also use 4-wheel drive pickups and SUVs to access remote areas of the state. Their duties consist of conducting field studies of fish and wildlife populations, assessing the impacts of activities with potential impacts to habitat, conducting surveys of hunters and anglers, transporting supplies, and a variety of additional activities. CDFW staff at FHs use their vehicles for transporting equipment and deploying fish into lakes or other waterways. Vehicles are used daily in peak season and less often during off-season. Vehicles may be seen towing trailered boats, ATVs, snowmobiles, sprayers, pumps, and a variety of scientific equipment.

Administrative staff working from regional headquarters and field offices use sedans, SUVs, and vans to perform routine day-to-day functions (such as travel to meetings, site visits, and trips to local post-offices, and banks). These vehicles are pooled and are also used by scientific staff when needed.

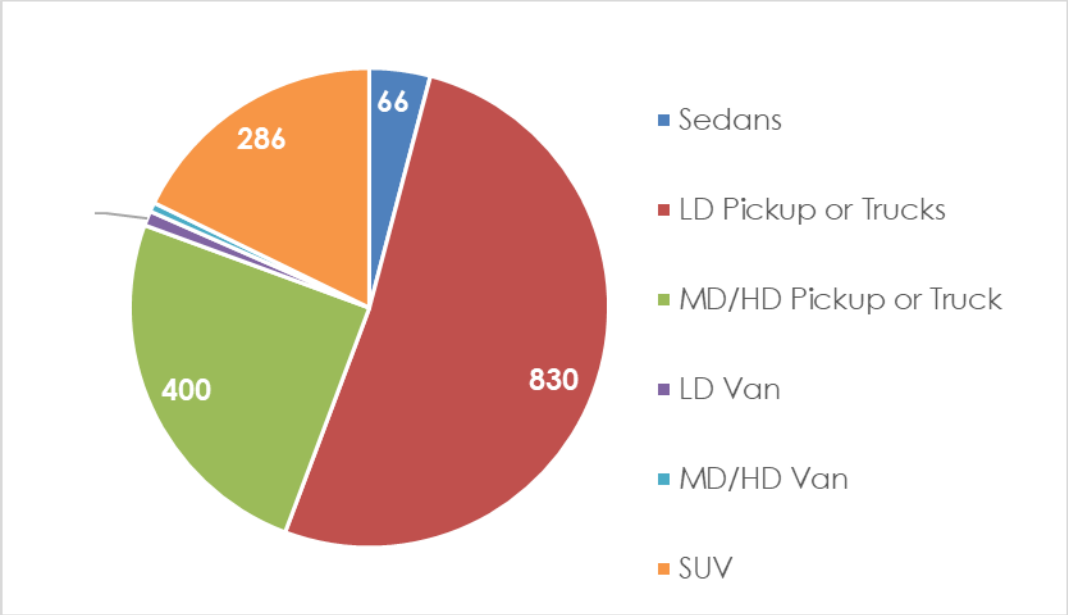
CDFW staff that access remote areas or go off-road face various road conditions. Off-road conditions vary by climate, weather, and topography.

Common road conditions include dirty or dusty roads, wet mud, flooded surfaces, uneven surfaces, snow, and rocky or sandy roads. Along with the poor road conditions, hauling or carrying equipment or supplies can exceed one-way distances over 200 miles.

The following graphs show the breakdown of CDFW's fleet by composition as well as a deeper look at the individual categories of light duty, medium duty, etc.

Composition of Vehicle Fleet

Graph 2.1: 2024 Composition of Vehicle Fleet



Fuel Types

Reporting on Total Fuel Use by Fuel Type.

Table 2.1: Total Fuel Purchased in 2023/2024

Year	Fuel Type (Gallons) Diesel	Fuel Type (Gallons) Gasoline	Fuel Type (Gallons) Renewable Diesel
2023	223,329	997,390	0
2024	192,247	971,685	0

Reporting Narrative on Table 2.1: Fuel Type Selections

Fuel choice selections are made based on availability. Currently, CDFW fleet vehicles are still primarily fueled by traditional gasoline/diesel because these are the most commonly available fuels on the market. CDFW does not have any

centralized diesel fueling locations, therefore, no renewable diesel was purchased in 2023-2024. CDFW is making strides in moving away from gasoline and diesel by increasing CDFW's ZEV Fleet by 5% each year wherever feasible.

Planning Narrative on Table 2.1: Fuel Type Selections

CDFW does not currently have a policy regarding fuel types. CDFW has had internal discussions on hydrogen as an alternative fuel source. The result of the discussions and analysis is that while there is great potential in this area, the technology is not yet mature enough to provide sufficient vehicle choices or fueling infrastructure.

Rightsizing the Vehicle Fleet

Teleworking, Mission Changes, and Technology Changes

Reporting Narratives on Teleworking, Mission Changes, and Technology Changes

Teleworking:
Many vehicle-dependent duties performed by CDFW staff are not affected in the long term by the introduction of teleworking. In many cases, the duties CDFW staff perform with their vehicles cannot be completed remotely. For example, a scientific aid who is monitoring a wildlife population or managing an ecological reserve (ER) must be on site to perform those duties. Similarly, an LED warden cannot patrol their assigned area remotely because they must be in the field using their vehicle to accomplish their mission. When it comes to routine functions such as office visits or errands, telework during the initial phases of the COVID-19 pandemic did result in a decrease in miles traveled in the short term, but CDFW has seen that trend reverse as the total miles traveled annually has started to return to pre-pandemic levels.

Mission Changes:
There hasn't been a change to the mission of CDFW through legislation or changing circumstances. The reduction of GHG emissions resulting from fewer internal combustion engine (ICE) vehicles used in CDFW's fleet help CDFW carry out its mission.

Technology Changes:
In recent years, electric vehicle (EV) technology has matured to the point of presenting a viable option to power some of CDFW's fleet with a fuel type other than fossil fuels. CDFW is embracing this technology and actively working to acquire more EVs and build out as many Electric Vehicle Supply Equipment

(EVSE) as possible, working directly with the Department of General Services (DGS) to accomplish this. While this technology has significant benefits to be realized, such as reduced fuel cost and lowered carbon output, at this time CDFW is not observing a reduction of CDFW's fleet size in response to this technology, in terms of number of vehicles or number of miles traveled. Simply put, accomplishing CDFW's mission requires us to rely heavily on vehicles to traverse wide swaths of California.

Telematics

Telematics Implementation Status

Reporting Narrative on Telematics Implementation Status

CDFW implemented its Telematics Program in March 2021 and executed its Telematics Policy (BMB MM 21-05) in October 2021, in accordance with State Administrative Manual (SAM) §4122 (Telematics) and pursuant to Executive Order (EO) B-2-11. Notably, all telematics activities were suspended by order of DGS on May 18, 2022, resuming on April 4, 2023.

Asset Type	Estimated % Telematics Equipped	Completion Date
Over the Road (OTR) Vehicles (i.e., sedan, pickup, SUV, van)	75%	January 2, 2024
Select Non-OTR Vehicles (i.e., heavy equipment, boat, etc.)	50%	January 2, 2024
Select Non-Self-Propelled Assets (i.e., trailer, mobile equipment, etc.)	35%	January 2, 2024

Asset Type	Estimated % Telematics Equipped	Completion Date
Over the Road (OTR) Vehicles (i.e., sedan, pickup, SUV, van)	100%	July 1, 2024
Select Non-OTR Vehicles (i.e., heavy equipment, boat, etc.)	100%	July 1, 2024
Select Non-Self-Propelled Assets (i.e., trailer, mobile equipment, etc.)	100%	July 1, 2024

Planning Narrative for Telematics Data

By utilizing telematics reporting capabilities, CDFW Fleet Management may monitor, track, and report CDFW progress in transitioning from internal combustion engines (ICE) to Zero Emission Vehicles (ZEV) and the related benefits. Telematics reporting capabilities available through the current telematics contractor's (Geotab USA Inc.) system provides the following fleet asset details that CDFW fleet management may base ongoing ZEV integration analysis:

- ICE fuel consumption (i.e., level of decrease with number of ZEV deployed).
- ZEV recharging cycles (i.e., study new cost of charging a ZEV).
- Fleet asset description (i.e., number of fleet asset by type description).
- Travel time by fleet asset.
- Travel distance by fleet asset.
- Current ICE to ZEV asset mix.
- Current ICE to ZEV asset mix by type of vehicle (i.e., pickup truck, sedan, van, etc.)

Existing Fleet Description

Light Duty Fleet Vehicles

The most common use for CDFW's light duty fleet is for day-to-day administrative activities or site visits. Typical duties that are accomplished with these vehicles include going to the bank, post office, and facilitating land travel between offices for CDFW staff. These vehicles primarily operate on pavement in a mix of city and highway environments. Typically, light duty vehicles are used for short distance trips. Situations where staff must be on the road all day in a light duty vehicle are rare for CDFW.

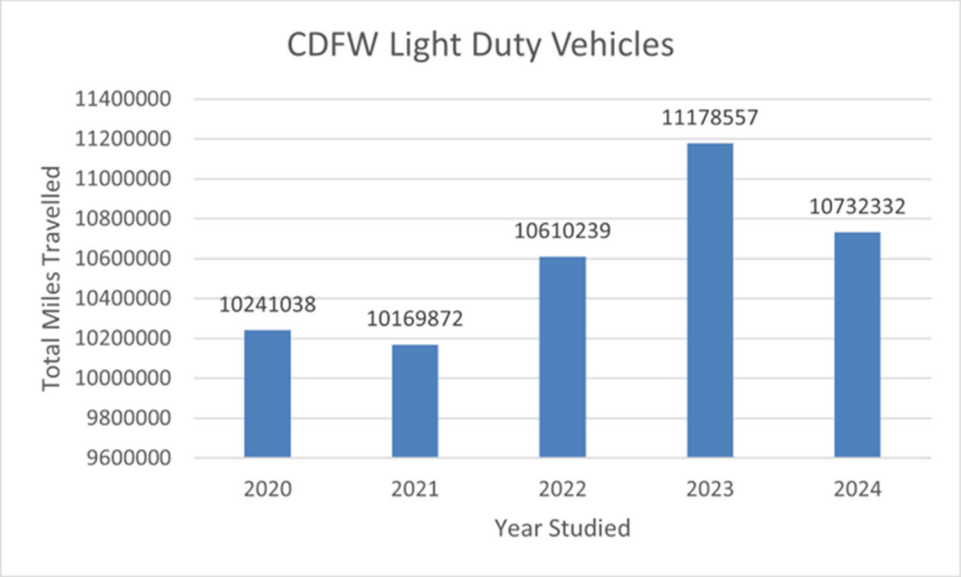
Reporting On Total Miles Traveled

Table 2.2 Total Miles Traveled

Year	2019	2020	2021	2022	2023	2024
Miles Traveled	13,197,882	10,241,038	10,169,872	10,610,239	11,178,557	10,732,332

Reporting Narrative on Table 2.2: Total Miles Traveled

The annual mileage usage of CDFW's light duty fleet is relatively stable, averaging approximately 10,955,444.5 miles per year from year 2023 to 2024, with a statistical range of 446,225 miles and an average deviation of 315,512 miles per year.



The average number of light duty vehicles in CDFW's fleet is 1,600, which averages 6,463 miles per year per vehicle. The implementation and integration of telematics into fleet management practices and protocols will increase the accuracy, efficiency, and effectiveness of fleet asset tracking and reporting. Through telematics, light duty vehicle's travel distances and frequency of use can be analyzed by individual fleet asset, designated program, or assigned driver. This will help CDFW manage fleet assets for optimal usage and maximize the operational life of a fleet asset. Automated recording and reporting of fleet asset usage by telematics will increase accuracy and improve timing of scheduled asset replacement or deferred replacement practices. This will contribute to improved planning and more accurate budget forecasts and Fleet Acquisition Plan (FAP) data. The labor time saved through automated asset usage (mileage) tracking through telematics will allow valuable time to be redirected to support other mission critical activities.

Reporting On Miles Per Gallon (MPG)

Table 2.3 Light-Duty Miles per Gallon

Year	2019	2020	2021	2022	2023	2024
MPG	1,254,779	1,152,066	1,244,205	1,174,121	1,317,963	TBD

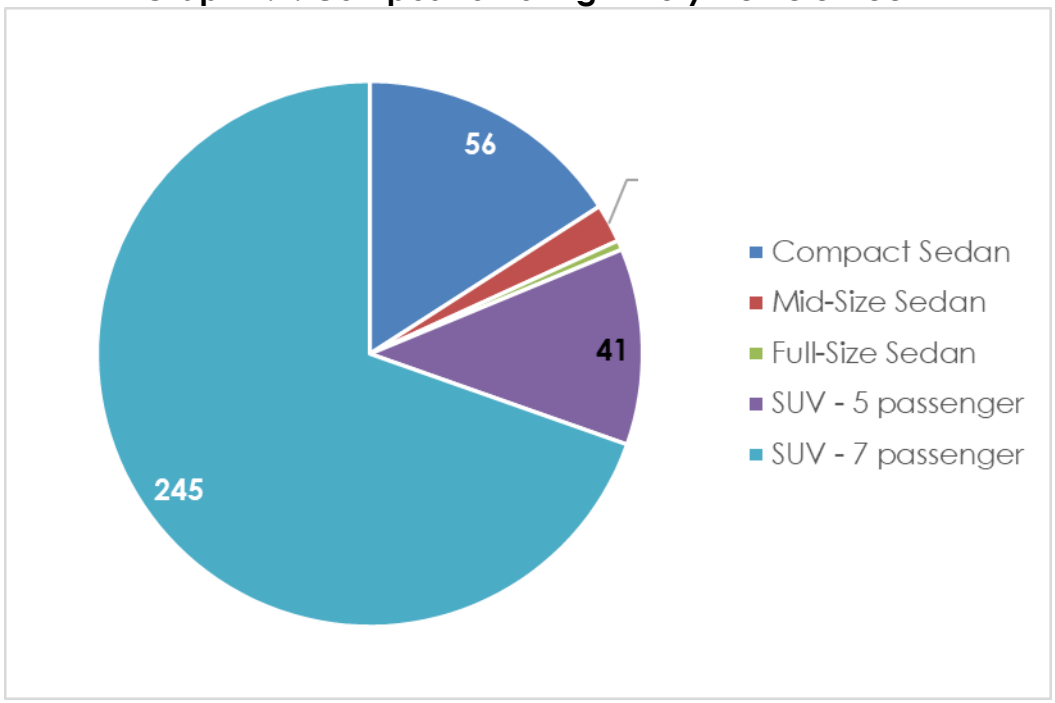
Reporting Narrative on Table 2:3: Miles Per Gallon

The annual miles per gallon of CDFW's light duty fleet is relatively stable. While striving to transition fleet assets from ICE to ZEV, CDFW continues to promote fuel efficiency and decreased consumption of fossil fuel by ensuring the proper maintenance and operational conditions of all ICE vehicles to maximize miles

per gallon of fuel. CDFW also continues its best practice of domiciling fleet assets locally and in proximity to assigned programs and regional offices, to control the travel radius to optimize travel time and fuel consumption. These policies, combined with an increase in the percentage of ZEVs in CDFW's fleet, have contributed to an increase in fuel efficiency from 2024-2025. The data for 2024's Light-Duty Miles Per Gallon use is not yet available.

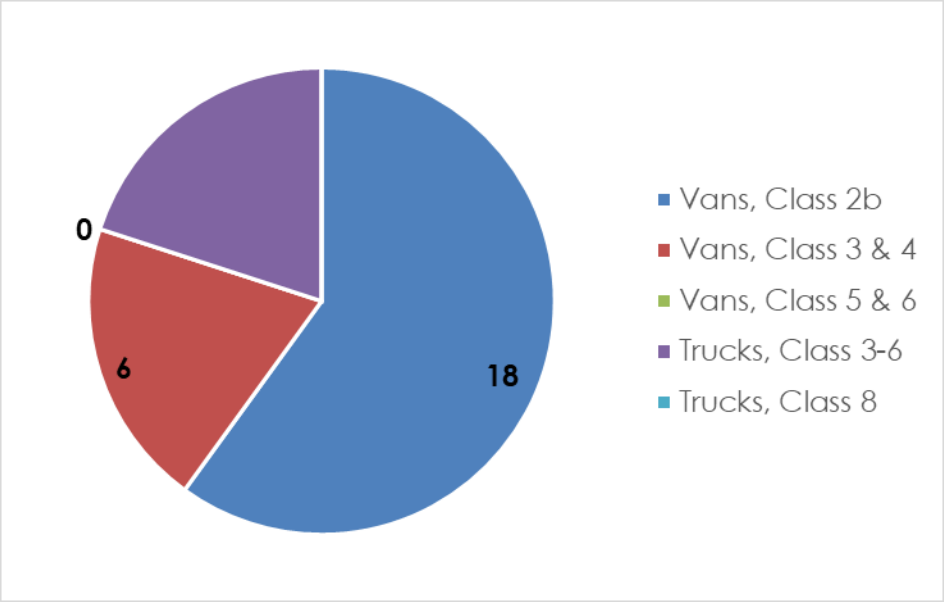
Composition of Light Duty Vehicle Fleet

Graph 2.2: Composition of Light Duty Vehicle Fleet



Medium and Heavy-Duty Fleet Vehicles

Graph 2.3: Composition of Medium and Heavy-Duty Vehicle Fleet Subject to the ZEV and Hybrid First Purchasing Mandate



Incorporating ZEVs into the State Fleet

Light-Duty ZEV Adoption

Table 2.4 Light Duty Vehicles in Department Fleet Currently Eligible for Replacement

Vehicle Type	Sedans	LD vans	LD Pickups	SUVs, 5 passengers	SUVs, 7 passengers	SUVs, 8 passengers	Total
# of Vehicles eligible for replacement	59	20	699	31	49	145	1003

Table 2.5 Plan for Light Duty ZEV Additions to the Department Fleet

ZEV Category	21/22	22/23	23/24	24/25	25/26
Battery Electric Vehicle (BEV)	24	21	23	13	5
Plug-in Hybrid Vehicle (PHEV)	3	4	1	1	3
Fuel Cell Vehicle	0	0	0	0	0
Percent of total purchases	0	0	0	0	0
Required ZEV Percentage	36.9%	41.3%	47.8%	50%	60%

ZEV Category	21/22	22/23	23/24	24/25	25/26
Total number of ZEVs in Fleet*	**129**	**150**	**173**	**186**	**191**

Reporting Narrative for Table 2.5: Light Duty ZEV Additions to the Department Fleet.

Current ZEV offerings can only fill the role of a single use case for CDFW: the use case of traveling on paved roads to perform administrative functions such as travel to CDFW and partner agency offices for meetings, performing contract oversight functions at various sites, delivering mail and packages, and other miscellaneous tasks. For performing these types of tasks with ZEVs, the main challenge for CDFW is ensuring access to adequate charging infrastructure and ability to support remote field work operations. Battery Electric Vehicles (BEV) are useful for performing tasks that only require local travel due to their limited range, while Plug-in Hybrid Electric Vehicles (PHEV) are more useful for longer drives to further facilities. Typically, ZEVs being used for this type of purpose would be administrative staff such as analysts or managers. Unfortunately, these types of vehicles are not the most beneficial for CDFW. The majority of CDFW's fleet are composed of trucks and SUVs equipped for driving off-road and hauling; current ZEV offerings are unable to fill those needs. There are no vehicle classes missing that CDFW requires to fulfill the mandate. CDFW does not currently own or operate any hydrogen fuel cell vehicles.

Planning Narrative for Table 2.5: Light Duty ZEV Adoption

LD VEHICLE PLAN ACHIEVED

Medium- Heavy-Duty ZEV Adoption

Medium and Heavy-Duty Vehicles in Department Fleet currently Eligible for Replacement

Table 2.6 MD/HD Vehicles in Department Fleet Currently Eligible for Replacement

Vehicle Type	Vans, Class 2b	Vans, Class 3 & 4	Vans, Class 5 & 6	Trucks, Class 3-6	Truck, Class 8	Total
# of Vehicles Eligible for Replacement	9	1	0	68	0	78

Table 2.7 Planned Medium/Heavy Duty ZEV Additions to the Department Fleet

Table Header Format	21/22	22/23	23/24	24/25	25/26
Battery Electric Vehicle (BEV)	**0**	**0**	**0**	**0**	**0**
Plug-in Hybrid Vehicle (PHEV)	**0**	**0**	**0**	**0**	**0**
Fuel Cell Vehicle	**0**	**0**	**0**	**0**	**0**
Percent of total purchases	**0%**	**0%**	**0%**	**0%**	**0%**
Total number of ZEVs in Fleet	**39**	**60**	**73**	**92**	**111**

Reporting Narrative for Table 2.7: Medium-Heavy Duty ZEV Adoption

Like the light-duty purchasing policy above, the adoption of MD/HD ZEVs is essential to meet GHG emission reduction goals. As of July 2020, SAM section 4121.9 requires state agencies to prioritize the purchasing of MD and HD ZEV vehicles into their fleets. Additionally, beginning December 31st, 2025, all departments are required, per Assembly Bill (AB) 739, to have fifteen percent of newly purchased vehicles with a gross weight rating of 19,000 pounds or more be ZEVs. This percentage will increase to thirty percent by December 31st, 2030.

Planning Narrative for Table 2.7: Medium-Heavy Duty ZEV Adoption

There are currently no medium duty ZEV offerings on the market which fill the roles that CDFW requires MD vehicles to fill. The main challenge is that current market offerings for MD ZEVs do not meet CDFW's needs for off-road and towing capability. CDFW doesn't use any MD ZEVs, the typical use case for one in CDFW cannot be described. MD vehicles are typically driven either by scientific staff to perform various types of field work or by law enforcement staff to patrol public lands and enforce the Fish and Game code. The types of MD/HD vehicles most beneficial to CDFW's fleet are vehicles that have off-road and towing capability. CDFW will continue to monitor the market for MD/HD ZEVs to expand CDFW's EV fleet.

Take-Home Vehicle Fleet Status

Table 2.8 Take-Home Vehicle Fleet Status

Vehicle Type	Sedans	LD Pickup or Trucks	MD/HD Pickup or Truck	LD Van	MD/HD Van	SUV
Totals	2	337	69	1	0	64

Reporting Narrative on Table 2.8: Take-Home Vehicle Fleet Status

Approximately 71% of CDFW's take-home fleet are LD pickup vehicles or trucks. Common take-home vehicle types include, but are not limited to, Chevrolet Silverado's, Ford F150s, Ford F250s, Ram 2500s, and Toyota Tacoma's. Staff who are required to travel for emergencies and remain responsive and available for field work are often granted take-home vehicles with an approved Vehicle Home Storage Permit on file.

Planning Narrative on Integrating the Take-Home Vehicle Program with Telework

Incorporating telework for home storage permits might involve promoting remote work to reduce commuting and implementing policies to optimize energy usage during charging. CDFW will ensure home storage permits will use the State Administrative Manual (SAM) section 4121 (ZEV and Hybrid First Purchasing Mandate) as the continued requirement meeting ZEV replacement thresholds. The right type of vehicle will be assigned based on the type of work the employee does for CDFW.

Planning Narrative on Integrating the Take-Home Vehicle Program with Emissions Reduction Strategies

Incorporating emissions reduction strategies for home storage permits might involve promoting remote work to reduce commuting and implementing policies to optimize energy usage during charging. CDFW will ensure home storage permits will use the State Administrative Manual (SAM) section 4121 (ZEV and Hybrid First Purchasing Mandate) as the continued requirement meeting ZEV replacement thresholds.

Planning Narrative for Integrating ZEVs into Take-Home Vehicles

CDFW will ensure home storage permits will use the State Administrative Manual (SAM) section 4121 (ZEV and Hybrid First Purchasing Mandate) as the continued requirement meeting ZEV replacement thresholds.

ZEV Public Safety Exemption

Reporting Narrative for ZEV Public Safety Exemption

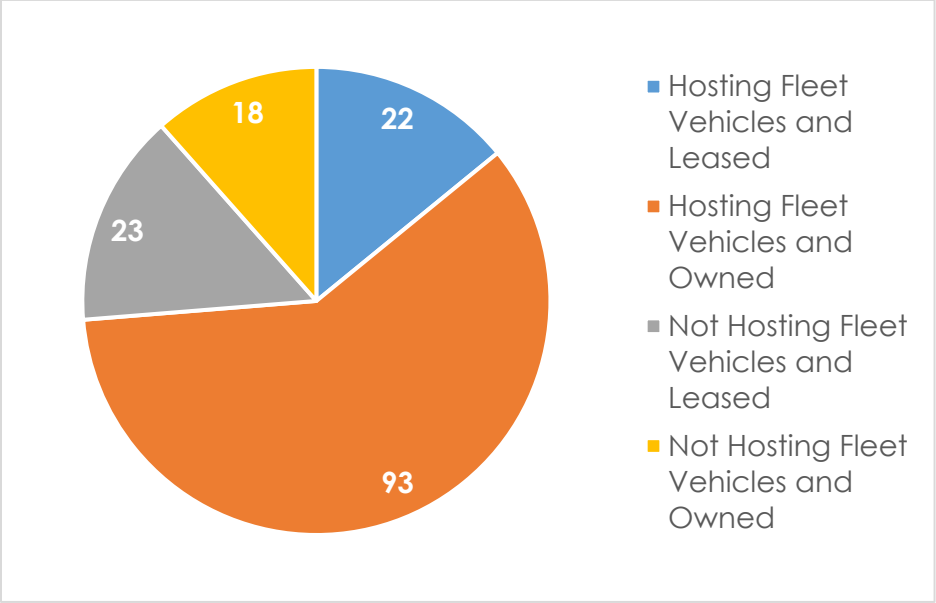
CDFW has no plans for Law Enforcement Division (LED) officers to utilize ZEVs. CDFW's LED is exempt from these requirements due to the unique demands of their role.

Planning Narrative for ZEV Public Safety Exemption

CDFW does not currently have plans to incorporate ZEVs into its public safety fleet. Due to the nature and breadth of CDFW's mandate, it is essential that CDFW's public safety fleet retains off-road and towing capability. Current ZEV offerings on the market do not adequately compete with the level of utility offered by ICE vehicles in this area yet. However, the market for ZEVs is evolving rapidly. The next step for CDFW to consider adding ZEVs to our public safety will be when there is an affordable ZEV on the market that provides the level of utility and durability required by CDFW's Public Safety officials.

Department's Parking Facilities

Graph 2.4: Parking Facilities



Reporting Narrative on Graph 2.4: Parking Facilities

CDFW's facilities consist of three basic types: offices/labs, WAs/ERs, and FHs. Owned facilities represent 58 percent of CDFW facilities whereas leased facilities represent 42 percent.

Offices and labs are generally mixed use and house scientific, LED, and administrative staff. Larger main offices have dedicated, secured lots for CDFW fleet and open mixed parking for employees and visitors. Parking at smaller facilities is generally mixed across all parking types. Visitors include those purchasing hunting and fishing licenses, staff attending meetings, public bid openings, and various other short-term needs. All office and lab facilities host

fleet vehicles. Some offices/labs have physically separated areas for fleet vehicles, but most do not.

WAs/ERs owned by CDFW are managed by lands staff that perform habitat restoration and maintenance projects year-round. These facilities are open to the public for their use and enjoyment, with some requiring a permit. Staffed CDFW lands host fleet vehicles and the parking is mixed use among CDFW fleet, employees, and visitors. Visitors stay anywhere from 30 minutes to all day depending on the use type – hunting, wildlife viewing, studies, meetings, and other miscellaneous recreational activities. Many of the lands do not have paved lots or marked stalls.

FHs are operated by staff that breed and rear fish from eggs to fingerlings to be planted in California's lakes and streams. There are twenty-four FHs, which are open to the public for viewing and for educational purposes. All FHs host fleet vehicles and the parking is mixed use among CDFW fleet, employees, and visitors. Visitors stay anywhere from 30 minutes to two hours, depending on the time of year.

Reporting on Status of EVSE Projects

Table 2.9 : High Priority EVSE Projects

Facility Name	Total Parking Spaces	Existing L1 Charging Ports (2024)	Existing L2 Charging Ports (2024)	Existing L3 Charging Ports (2024)	Total Charging Ports (2024)	EV Charging Ports Needed by 2026
REDDING - REGIONAL HEADQUARTERS FIELD OFFICE	68	0	4	0	4	4 Level 2 Ports
YREKA FIELD OFFICE	14	0	6	0	6	3 Level 2 Ports
ARCATA FIELD OFFICE 1	46	0	2	0	2	2 Level 2 Ports
GRAY LODGE WILDLIFE AREA FIELD OFFICE	4	0	2	0	2	2 Level 2 Ports
NAPA FIELD OFFICE	8	0	4	0	4	2 Level 2 Ports
MENDOTA WILDLIFE AREA FIELD OFFICE	14	0	2	0	2	2 Level 2 Ports

Facility Name	Total Parking Spaces	Existing L1 Charging Ports (2024)	Existing L2 Charging Ports (2024)	Existing L3 Charging Ports (2024)	Total Charging Ports (2024)	EV Charging Ports Needed by 2026
FRESNO - REGION HEADQUARTERS FIELD OFFICE	70	0	2	0	2	1 Level 2 Ports
ELKHORN SLOUGH ECOLOGICAL RESERVE FIELD OFFICE	44	0	2	0	2	1 Level 2 Ports
UPPER BUTTE BASIN WILDLIFE AREAFIELD OFFICE	16	0	6	0	6	1 Level 2 Ports
EUREKA FIELD OFFICE	26	0	4	0	4	0
RANCHO CORDOVA – REGIONAL HEADQUARTERS FIELD OFFICE	180	0	6	0	6	0
FAIRFIELD - REGIONAL HEADQUARTERS FIELD OFFICE	156	0	4	0	4	0
SANTA ROSA - FIELD OFFICE 1	160	0	2	0	2	0
STOCKTON FIELD OFFICE	110	0	4	0	4	0
YOLO BYPASS WILDLIFE AREA AND SCREEN SHOP	46	0	8	0	8	0
SANTA CRUZ FIELD OFFICE	50	0	2	0	2	0
LA GRANGE FIELD OFFICE	8	0	2	0	2	0

Facility Name	Total Parking Spaces	Existing L1 Charging Ports (2024)	Existing L2 Charging Ports (2024)	Existing L3 Charging Ports (2024)	Total Charging Ports (2024)	EV Charging Ports Needed by 2026
LOS BANOS WILDLIFE AREA FIELD OFFICE	121	0	4	0	4	0
SAN DIEGO - REGIONAL HEADQUARTERS FIELD OFFICE	82	0	2	0	2	0
UPPER NEWPORT BAY ECOLOGICAL RESERVE FIELD OFFICE	42	0	4	0	4	0
ONTARIO - REGIONAL HEADQUARTERS FIELD OFFICE	224	0	6	0	6	0
FILLMORE FISH HATCHERY FIELD OFFICE	20	0	2	0	2	0
MOJAVE RIVER FISH HATCHERY FIELD OFFICE	32	0	2	0	2	0
MONTEREY - REGIONAL HEADQUARTERS	89	0	4	0	4	0
SANTA ROSA - R7 FIELD OFFICE	160	0	2	0	2	0
RANCH RD FIELD OFFICE	430	0	4	0	4	0
SACRAMENTO - 1700 9TH ST	6	0	4	0	4	0
HQ WEST SACRAMENTO FIELD OFFICE	77	0	6	0	6	0
WEST SACRAMENTO - FIELD OFFICE 1	0	0	6	0	6	0

Facility Name	Total Parking Spaces	Existing L1 Charging Ports (2024)	Existing L2 Charging Ports (2024)	Existing L3 Charging Ports (2024)	Total Charging Ports (2024)	EV Charging Ports Needed by 2026
BMB - WEST SACRAMENTO FIELD OFFICE	0	0	2	0	2	0
BAKERSFIELD FIELD OFFICE	36	0	2	0	2	0
BOLSA CHICA ECOLOGICAL RESERVE	41	0	2	0	2	0
OROVILLE WILDLIFE AREA FIELD OFFICE	18	0	6	0	6	0
RED BLUFF - SCREEN SHOP FIELD OFFICE	8	0	3	0	3	0
Total	**2406**	**0**	**123**	**0**	**123**	**18**

EV Charging Site Assessments

Reporting on 2024 Facility Site and Infrastructure Assessments

Table 2.10 EV Charging Infrastructure Site Assessments Conducted

Facility Name	L1 EVSE Project Assessments	L2 EVSE Project Assessments	L3 EVSE Project Assessments	Entity that Conducted the Site Assessment
GRIZZLY ISLAND WILDLIFE AREA FIELD OFFICE	0	1	0	DGS & Stantec
MOUNT SHASTA FISH HATCHERY FIELD OFFICE	0	1	0	DGS & Stantec
FILLMORE FISH HATCHERY FIELD OFFICE	0	1	0	Southern California Edison
HOT CREEK FISH HATCHERY FIELD OFFICE	0	1	0	Southern California Edison

Facility Name	L1 EVSE Project Assessments	L2 EVSE Project Assessments	L3 EVSE Project Assessments	Entity that Conducted the Site Assessment
KERN RIVER HATCHERY FIELD OFFICE	0	1	0	Southern California Edison
SAN JACINTO WILDLIFE AREA FIELD OFFICE	0	1	0	Southern California Edison
MOJAVE RIVER FISH HATCHERY FIELD OFFICE	0	1	0	Southern California Edison
UPPER NEWPORT BAY ECOLOGICAL RESERVE FIELD OFFICE	0	1	0	Southern California Edison
Total	**0**	**8**	**0**	-

Planning Narrative on Table 2.10: EVSE Construction Plan

CDFW has made significant progress in developing EVSE infrastructure at CDFW facilities. DGS Office of Sustainability (OS), Clean Transportation Unit (CTU) handles the contracting and bidding for these projects and CDFW's plan is to continue collaborating with DGS-CTU to install chargers in support of CDFW's growing ZEV fleet. Table 2.10 summarizes CDFW's current ongoing projects that are facilitated by DGS.

All projects noted above with the exception of Grizzly Island Wildlife Area and Mount Shasta Fish Hatchery are enrolled in Southern California Edison's (SCE) Charge Ready Program. SCE funds all project costs apart from the EV chargers and performs the design and construction as part of this program. CDFW continues to look for opportunities similar to the Charge Ready Program to expand CDFW's EVSE. Additionally, CDFW has submitted 13 sites for DGS to perform assessments to determine if infrastructure is capable of more charging stations. DGS-CTU is currently evaluating the information CDFW submitted on these sites and will perform assessments beginning in late 2025 or early 2026.

On-going EVSE Charging Operations and Maintenance

Public EV Charging Policies

Reporting Narrative on Public EV Charging Policies

CDFW EV charging stations are intended for state fleet vehicles only. Per Business Management Branch Memorandum (BMB Memo) 23-07, no public use of CDFW charging stations is permitted. CDFW has restricted access to all EV charging stations so that the public cannot access the chargers for their personal vehicles.

Planning Narrative on Public EV Charging Policies

CDFW does not intend to revise the direction in BMB Memo 23-07 to allow for public use of CDFW's EV charging stations because CDFW's priority is accommodating existing and incoming ZEV fleet. Additionally, most CDFW EVSE are not compliant with the Americans with Disabilities Act (ADA). Public use of the chargers could pose a risk to the public and to CDFW. CDFW has no plans to upgrade the EV charging stalls to be ADA accessible.

Employee EV Charging Policies

Reporting Narrative on Employee EV Charging Policies

Most CDFW EV charging stations are intended for state fleet vehicles only. Per BMB Memo 23-07, CDFW employees are not permitted to use CDFW charging stations for their personal vehicles.

Two CDFW locations permit employees to use the charging stations for their personal vehicles, which are the American River Trout Hatchery and the Monterey field office. These are currently the only two CDFW locations that have charging stations in ADA compliant stalls, therefore CDFW staff are permitted to use the ADA compliant stall to charge their personal vehicle. CDFW's EVSE's primary purpose is to charge state fleet vehicles, thus, state fleet vehicles have priority use of the ADA compliant chargers over CDFW employee's personal vehicles.

Planning Narrative on Employee EV Charging Policies

CDFW does not intend to revise the direction in BMB Memo 23-07 to allow for employees' use of CDFW's EV charging stations for their personal vehicles

because CDFW's priority is accommodating existing and incoming ZEV fleet. Some of CDFW's current EVSE installation projects through SCE's Charge Ready Program include ADA compliant charging ports. Employees will be able to charge their personal vehicles using the ADA compliant stalls, with priority given to state fleet vehicles.

Fleet EV Charging Policies

Reporting Narrative for Fleet EV Charging

NO FLEET EV CHARGING POLICIES

Planning Narrative for Fleet EV Charging

At present, measurable impact of the Telematics Program to fleet management is pending availability of adequate data and full implementation of telematics to all CDFW fleet assets subject to SAM §4122 (Telematics). However, the anticipated benefits will come in the form of increased fleet asset management efficiencies through automated fleet usage, maintenance, and location logging, tracking, monitoring, alerting, and reporting telematics system capabilities. Additionally, the DGS is currently working to bridge the gap between the current telematics contractor system to the DGS, Office of Asset and Fleet Management reporting system with accordance to SAM §4120.1 (Fleet Asset Reporting) and pursuant to Public Resources Code (PRC) §25722.5 to further automate manual fleet asset reporting practices.

By utilizing telematics reporting capabilities, CDFW fleet management may monitor, track, and report CDFW progress in transitioning from internal combustion engines (ICE) to ZEV and the related benefits. Telematics reporting capabilities available through the current telematics contractor's (Geotab USA Inc.) system provides, but is not limited to, the following fleet asset details that CDFW fleet management may base ongoing ZEV integration analysis:

- ICE fuel consumption (i.e., level of decrease with number of ZEV deployed).
- ZEV recharging cycles (i.e., study new cost of charging a ZEV).
- Fleet asset description (i.e., number of fleet asset by type description).
- Travel time by fleet asset.
- Travel distance by fleet asset.
- Current ICE to ZEV asset mix.
- Current ICE to ZEV asset mix by type of vehicle (i.e., pickup truck, sedan, van, etc.)

Hydrogen Fueling Infrastructure

Planning Narrative for Hydrogen Fueling Infrastructure

CDFW does not currently have plans to utilize hydrogen fueled vehicles. There are two main reasons for this. The first is that hydrogen fuel cell infrastructure is lacking in the State of California, which creates a potential obstacle in keeping CDFW's fleet operational. The second is that current market offerings for hydrogen fueled vehicles do not meet CDFW needs in terms of vehicles that are off-road and towing capable. However, CDFW remains optimistic about the maturation of this technology to a point where it would present a feasible alternative to current fuel sources.

CHAPTER 3 – ENERGY

Department Mission and Building Infrastructure

Reporting Narrative for Department Mission and Building Infrastructure:

CDFW's portfolio is large and diverse. The department manages many types of facilities throughout California, spanning various climates and terrains. CDFW stewards over 1,000,000 acres of land across 709 structures statewide. Of these, 96 properties are owned by CDFW and include a range of structures serving different purposes. Approximately 95% of the facilities operated by CDFW are owned by the State of California, while the remaining 5% are leased.

There are 576 structures located on these 71 owned sites, with a combined total of approximately 1,107,416 square feet. CDFW's structures vary widely in type and function. More than half of these structures purchase energy, and many also use fuel for heating, including natural gas or propane. Additionally, roughly 1,215 structures such as pump sheds, restrooms, and garages have electricity but are not heated.

Many CDFW facilities rely on large pumps to circulate water for wildlife, which consume significant amounts of energy. Fish hatcheries (FHs), which operate 24 hours a day, are the highest energy consumers among CDFW facilities.

Finally, CDFW operates several labs dedicated to wildlife conservation and oil spill prevention. These labs require stable temperatures, which can increase their energy use.

Total Purchased Energy

Table 3.1: Total Purchased Energy 2023 and 2024

Purchased Energy	2003 Baseline Quantity	Unit	2023 Quantity	2024 Quantity	% Qty. Change 2003-24
Electricity	25,421,298	kWh	16,517,096	17,827,806	-30%
Less EV Charging	Unknown	kWh	-	-	-
Natural Gas	44,052	therms	34,508.9	29,627.7	-33%
Propane	Unknown	gallons	225,927	93,365.6	-58.67
Fuel Oil	Unknown	gallons	-	-	-
Steam	Unknown	pounds	-	-	-

Purchased Energy	2003 Baseline Quantity	Unit	2023 Quantity	2024 Quantity	% Qty. Change 2003-24
Chilled H2O	Unknown	kBtu	-	-	-
TOTALS	91,142,669	kBtu Site	16,551,604.9	17,857,433.7	-30%

Department Energy Use

Reporting High Energy Use Facilities

Table 3.2 identifies CDFW's largest energy users, most of which are Fish Hatcheries (FHs). These locations consume significant energy because they operate 24 hours a day and require pumps to recirculate water and/or larger chillers to maintain optimal water temperatures for fish. As funding becomes available, tank improvements and other energy- and water-saving upgrades will be implemented to increase efficiency. Wildlife Areas (WAs) also rely heavily on water pumps to maintain habitats, resulting in substantial energy use. Currently, CDFW does not have a process to track the usage of EV charging, propane, fuel oil, steam, or chilled water by each facility individually. CDFW plans to develop a method to allocate this information for future reports and sustainability initiatives.

Table 3.2: Facilities with Largest 2024 Energy Consumption

	Facility Name	Floor Area (ft^2)	Site Energy (kBTU)	Source Energy (kBTU)	Source EUI (kBTU/ft^2-yr)
OWNED	NCR 2 - NORTH CENTRAL HQs - with American River Fish Hatchery	66,667	6,546,875	20,622,657	309
	NCR 2 - GRAY LODGE WA	34,089	5,492,284	17,300,695	508
	BDR 3 - YOLO BYPASS WA Pumps	1	4,734,538	14,913,796	14913796
	BDR 3 - WARM SPRINGS FH	54,810	3,118,159	9,822,202	179
	NCR 2 - AMERICAN RIVER FISH HATCHERY	1	2,958,301	9,318,647	9318647
	CR 4 - NORTH GRASSLANDS WA	17,433	2,572,328	8,102,833	465
	CR 4 - LOS BANOS WA	21,162	2,448,169	7,711,731	364
	NR 1 - MAD RIVER FH	50,819	2,297,365	7,236,700	142

	Facility Name	Floor Area (ft²)	Site Energy (kBTU)	Source Energy (kBTU)	Source EUI (kBTU/ft²-yr)
	NR 1 - IRON GATE FISH HATCHERY	22,605	1,915,145	6,032,707	267
	CR 4 - North Grasslands WA 3 (Newman)	1	1,788,723	5,634,477	5634477
LEASED	NO DATA				
	Total for Facilities in This Table	**267,588**	**33,871,887**	**106,696,445**	**---**
	Total for All Department Facilities	**1,287,633**	**48,869,472 Y kBTU**	**153,938,838 Z kBTU**	**---**
	Percent of Totals	**21%**	**69%**	**69%**	**---**

Energy Efficiency Solutions for Largest Energy Using Buildings

CDFW operates other main types of facilities apart from FHs, including Wildlife Areas (WAs)/Ecological Reserves (ERs), and offices/labs. Each type of facility presents its own challenges. For example, WAs operate pumps that consume large amounts of energy, as do facilities that run 24 hours for wildlife conservation purposes and those located in very remote areas.
CDFW does not have the resources to design and construct major projects and therefore relies on the Department of General Services (DGS). CDFW depends on DGS to ensure that the building for this project complies with all environmental standards and mandates.

Planning Outline PO3a: Planning for Facilities with Largest Energy Use

Facility Name	Proposed Energy Efficiency Solutions
NCR 2 - NORTH CENTRAL HQs - with American River Fish Hatchery	Contracting in progress with DGS OS Energy Savings Program
NCR 2 - GRAY LODGE WA	Solar System Installation
BDR 3 - YOLO BYPASS WA Pumps	Solar System Installation
BDR 3 - WARM SPRINGS FH	Contracting in development with DGS OS Energy Savings Program
NCR 2 - AMERICAN RIVER FISH HATCHERY	Contracting in progress with DGS OS Energy Savings Program
CR 4 - NORTH GRASSLANDS WA	Contracting in development with DGS OS Energy Savings Program
CR 4 - LOS BANOS WA	Solar System Installation

Facility Name	Proposed Energy Efficiency Solutions
NR 1 - MAD RIVER FH	Facility closure in progress
NR 1 - IRON GATE FISH HATCHERY	Contracting in progress with DGS OS Energy Savings Program
CR 4 - North Grasslands WA 3 (Newman)	Contracting in development with DGS OS Energy Savings Program

Planning Narrative for PO3a: Building Energy Efficiency

CDFW is collaborating with the DGS OS Energy Savings Program to implement Energy Savings Performance Contracts (ESPCs) with an Energy Service Company (ESCO). The objective is to upgrade equipment and appliances at CDFW-owned facilities, with a focus on high energy-consuming systems such as pumps.

In 2025, DGS issued a Request for Proposal (RFP) targeting facilities within CDFW's Northern Region 1 (NR 1) and North Coast Region 2 (NCR 2), specifically focusing on Wildlife Areas (WAs) and Fish Hatcheries (FHs). CDFW and DGS intend to replicate this process across the remaining CDFW regions and facilities, ensuring all assets are thoroughly evaluated for potential upgrades. Detailed plans for implementation can be found in Chapter 4 – Decarbonization Action Plan.

CDFW is also advancing solar installation projects at the sites identified in Planning Outline PO3a, with construction scheduled to begin in 2026. Additionally, CDFW is actively collecting data and exploring solar opportunities at additional facilities. Over the next five years, CDFW will continue to enhance education and outreach efforts to facilitate streamlined solar installation.

Zero Net Energy (ZNE)

Reporting on Existing Building ZNE

CDFW currently does not have any ZNE buildings and has not undertaken any new construction, major renovations, or build-to-suit leases since October 23, 2017. While CDFW continues to make progress toward converting its existing building area to ZNE, limited funding has prevented the department from meeting the 2025 goal of having 50% of its total building area converted to ZNE. Additionally, CDFW lacks in-house staff with the specific expertise needed to manage projects focused on ZNE conversions. As a result, the department relies on DGS for guidance in meeting ZNE-related goals.

Relevant ZNE Milestones

State policies (State Administrative Manual (SAM Chapter 1815.31):

- 2017 – 100% of new construction, major renovations and build-to-suit leases beginning design after 10/23/2017 to be ZNE
- 2025 – 50% of total existing building area will be ZNE

Table 3.3 Zero Net Energy Buildings

Status of ZNE Buildings	Number of Buildings	Floor Area (ft^2)	% of Building Area
Buildings Completed and Verified	0	0	0%
Building in Design or Under Construction	0	0	0%
Building Proposed for Before 2025 (but not in design or construction)	0	0	0%
Totals for ZNE Buildings by 2025	0	0	0%
Totals for All Department Buildings by 2025	0	0	0%
% ZNE by 2025	0%	0%	0%

Planning Narrative of Table 3.3: Zero Net Energy Buildings

CDFW will work with DGS's Real Estate Services Division (RESD) on all future construction projects and will rely on DGS-RESD for guidance on ensuring new construction meets ZNE requirements. CDFW plans on using renewable energy such as solar panels for larger facilities, where it is cost feasible by using Power Purchase Agreements (PPA) as form of payment. CDFW continues to research grants and other funding opportunities to buy systems when looking at smaller sites.

New Construction Exceeds Title 24 by 15%

Table 3.4: New Building Construction Exceeding Title 24 by 15%

New Buildings Exceeding Title 24 by 15%	Number of Buildings	Floor Area (ft^2)
Completed Since July 2012	NO NEW CONSTRUCTION	
Under Design or Construction		
Proposed Before 2025		

Reporting Narrative of Table 3.4 New Building Construction Exceeding Title 24 by 15%

NO NEW CONSTRUCTION

Planning Narrative of Table 3.4 New Building Construction Exceeding Title 24 by 15%

CDFW will work with DGS-RESD for guidance on ensuring future new construction and major renovations exceed Title 24 by at least 15%. CDFW does not have the expertise to manage construction projects to comply with this requirement and will use the resources DGS has available to meet this requirement for future construction projects.

Existing Buildings Energy Efficiency

Reporting on Energy Efficiency for Existing Buildings

Table 3.5: Department-Wide Energy Trends (if available)

Year	Floor Area (ft^2)	Total Source kBTU Consumption	Department Average EUI (Source kBtu /square foot)
Baseline Year 2003	Unknown	Unknown	60
2013	1,274,788	218,454,236	171
2014	1,274,788	212,340,390	167
2015	1,274,788	214,538,911	168
2016	1,287,633	260,714,207	202
2017	1,287,633	233,907,406	182
2018	1,287,633	251,471,772	195
2019	1,287,633	280,197,371	218
2020	1,287,633	231,067,513	179
2021	1,287,633	179,645,581	140
2022	1,287,633	153,938,838	120
2023	1,287,633	181,283,914	141
2024	1,287,633	194,870,073	151
% Change 2003-2024	**4%**	**-7%**	**-10%**

Reporting Narrative for Table 3.5: Department-Wide Energy Trends

CDFW is either reducing or maintaining its energy use over time. CDFW-owned facilities encompass a total building area of 1,247,612 square feet. Of this, 91% consists of Wildlife Areas/Ecological Reserves (WAs/ERs) and Fish Hatcheries (FHs), which are often located in remote areas. The remaining 9% includes

screen shops, offices, laboratories, and other service facilities, primarily situated in urban settings.

CDFW also leases facilities totaling 683,940 square feet. Of the leased space, 80% is used for office purposes, while the rest includes warehouses and other facility types. However, energy consumption data for leased facilities is currently unavailable.

Many CDFW facilities serve multiple functions, including visitor centers, residential quarters, home offices, and educational centers. In 2018, FHs accounted for 57% of CDFW's total energy consumption, WAs/ERs for 38%, and all other facility types for the remaining 5%.

The average source EUI by facility type is as follows:
Fish Hatcheries (FHs): 206 kBtu/ft²
Wildlife Areas/Ecological Reserves (WAs/ERs): 34 kBtu/ft²
Other facilities: 91 kBtu/ft²

Planning Narrative for Table 3.5: Department-Wide Building Energy Trends

Although CDFW has met the mandated goals, its energy use intensity is higher on average compared to national benchmarks. CDFW is seeking opportunities to reduce energy use intensity across its portfolio, with a particular focus on FHs, which tend to have higher energy consumption. CDFW intends to work with the DGS Office of Sustainability (OS) to implement Energy Savings Performance Contracts (ESPCs) at fish hatcheries and wildlife areas to reduce energy consumption. CDFW plans to pursue these projects in late 2026. Since no cost data is currently available, a cost comparison cannot be made at this time. Having met its energy goals, CDFW is now establishing new targets to continue reducing energy usage.

Energy Savings Projects

Table 3.6: Summary of Energy Savings Projects 2023-2024

Year Funded	Estimated Energy Savings (kBTU/yr.)	Floor Area Retrofit (sq. ft.)	Percent of Department Floor Area
	NO ENERGY SAVINGS PROJECTS		

Reporting Narrative for Table 3.6 Energy Savings Projects 2023-2024

CDFW has not completed energy savings projects and has been working with the DGS Office of Sustainability (OS) to implement energy savings projects at CDFW-owned facilities. CDFW has conducted surveys to gather information across all facilities for DGS-OS to analyze and provide expert guidance on how to implement projects moving forward.

DGS developed an RFP to enter into an ESPC with an ESCO to implement energy efficiency upgrades at CDFW's Northern Region and North Coast Region facilities with the goal of replicating this contracting process at all CDFW facilities.

Planning Narrative for Table 3.6: Energy Savings Projects

CDFW's Executive Management has placed all energy savings projects on hold due to budget constraints and these projects will be re-evaluated in 2026.

Demand Response (DR)

Participating in DR Utility Programs & Participating in DR Events

Table 3.7 : Demand Response (DR) Program Participation

Demand Response	Total Number of Buildings	Total Nominated Reduction (kW)	Total Curtailment in 2023 (kW)	Total Curtailment in 2024 (kW)
Enrolled with Enersponse	48	2	0	0
Participate in DR	48	2	0	0
Participate in ADR	0	0	0	0
Total Participating (DR/ADR)	60	0	0	0
Enrolled in DR/ADR in 2025	0			
Under Construction or Renovation during 2025	0			
Ineligible to Participate	0			
Entire Agency's Building Portfolio	835			

Reporting Narrative for Table 3.7: Demand Response (DR) Program Participation

In 2024, CDFW began working with Enersponse to enroll facilities into their Demand Response (DR) program to reduce energy consumption during peak hours to support grid stability. CDFW currently has 60 facilities enrolled in Demand Response. During this period of enrollment, CDFW has made efforts to participate in Demand Response by drafting an Energy Emergency Action (EEA) to capture the details in implementation during a DR event. Considerations that CDFW has made include what staff will communicate the DR event, what specific actions will be taken at each facility, and how to stress the consequences of failing to stabilize the grid during a DR event.

Two challenges that CDFW is working to navigate are the variety of facilities in CDFW's portfolio and engagement with staff. Many CDFW facilities have operations that cannot be halted during a DR event. For example, FHs rely on appliances to maintain temperature for fish, and laboratories rely on appliances such as cryo refrigerators to keep scientific samples at the required temperature. At this time, automated demand response (ADR) has not been implemented, so participating in a DR event required direct participation from staff. CDFW is working to expand the message of DR to increase participation and enthusiasm across the department. Navigating these two challenges will ensure successful DR events with greater potential for load shed.

Planning Narrative for Table 3.7: Demand Response (DR) Program Participation

CDFW continues to work with Enersponse and the DGS OS Energy Saving Program. ADR is at the forefront of discussions with DGS OS and CDFW continues to utilize tools provided by Enersponse to find a path to enroll CDFW's remaining facilities.

Renewable Energy

Table 3.8: 2024 On-Site and Off-Site Renewable Energy

Status	Number of Sites	Capacity (kW)	2024 Power Generation (kWh)	Percent of Total Annual Power Use
On-Site Renewables in Operation or Construction	5	1,690	TBD	TBD
On-Site Renewables Planned	1	54	TBD	TBD
On-Site Renewables Totals	6	1,744	TBD	TBD
Department-Wide Total Energy Use (kWh equivalent)	-	-	17,827,806	100

Status	Number of Sites	Capacity (kW)	2024 Power Generation (kWh)	Percent of Total Annual Power Use
Off-Site Renewable Totals	0	0	0	0
Off-Site Renewables Planned	0	0	0	0
Off-Site Renewables Combined Current & Planned	0	0	0	0
Current Combined On-Site and Off-Site Renewable Energy	**0**	**0**	**0**	**0**
Additional Planned On-Site and Off-Site Renewables	0	0	0	0

Reporting Narrative for Table 3.8: On-Site and Off-Site Renewable Energy

CDFW will begin construction on five pilot sites to host new solar generation systems in 2026. In accordance with DGS guidelines, a power purchase agreement (PPA) will be used to fund these systems. The goal is for these completed systems to serve as a model for future installations.

Note that this is a pilot project, with the intention to expand to additional sites once the process is completed. Although these five sites represent only 11 percent of CDFW's state-owned locations, they include some of the largest energy users. While there are no specific kW targets for renewable energy, it contributes toward achieving the following goals: (1) Zero Net Energy by 2025 and (2) a 20% reduction in grid-based energy use by 2018.

Planning Narrative for Table 3.8, for all Existing Building Renewable Energy

CDFW is working with DGS-OS to pursue the development of a microgrid system to enhance the resilience and reduce reliance on propane at the Carrizo Plains Ecological Reserve. Microgrids offer multiple critical benefits, including the reduction of greenhouse gas emissions through the integration of clean energy sources and monetary savings for the department. DGS-OS is developing an RFP to determine if developers are interested in the project and if the project will be viable. CDFW will continue to pursue solar and other renewable energy sources at other facilities wherever it is feasible.

Monitoring-Based Commissioning (MBCx)

Table 3.9: Current & Potential MBCx Projects

Facility	Building Name	Floor Area (sq. ft.)	MBCx Capable, Difficult, or No EMS	MBCx Projected Start Date	MBCx Projected Cost ($ if known)
AMERICAN RIVER FISH HATCHERY	FISH REARING FACILITY	5,200	NO EMS/BMS	TBD	TBD
ASH CREEK WA	BARN	7,500	NO EMS/BMS	TBD	TBD
ASH CREEK WA	BARN	5,250	NO EMS/BMS	TBD	TBD
ASH CREEK WA	GRANARY/BARN, EXP. #2	8,000	NO EMS/BMS	TBD	TBD
BUTTE VALLEY WA	GRAIN STORAGE BLDG - BUTTE VALLEY WLA	11,880	NO EMS/BMS	TBD	TBD
CARRIZO PLAIN ER	STORAGE BUILDING	7,200	NO EMS/BMS	TBD	TBD
DARRAH SPRINGS FH	HATCHERY BLDG	7,200	NO EMS/BMS	TBD	TBD
DARRAH SPRINGS FH	SHOP/GARAGE	11,000	NO EMS/BMS	TBD	TBD
ELKHORN SLOUGH ER	HAY BARN-SLOUGH SANCTUARY	5,280	NO EMS/BMS	TBD	TBD
ELKHORN SLOUGH ER	HAY BARN-SLOUGH SANCTUARY	9,200	NO EMS/BMS	TBD	TBD
GRIZZLY ISLAND WA	SHOP BUILDING	5,500	NO EMS/BMS	TBD	TBD
HOT CREEK FH	WORKSHOP / GARAGE	5,600	NO EMS/BMS	TBD	TBD
HOT CREEK FH	BUILDING RECONSTRUCTION	5,500	NO EMS/BMS	TBD	TBD
HOT CREEK FH	HATCHERY #2	7,100	NO EMS/BMS	TBD	TBD
Mt. Whitney Facility	HATCHERY OFFICE	6,000	NO EMS/BMS	TBD	TBD
Mt. Whitney Facility	STORAGE BLDG.	5,600	NO EMS/BMS	TBD	TBD
IMPERIAL WA	OFFICE	40,200	NO EMS/BMS	TBD	TBD
KNOXVILLE WA	LARGE ROUND HOUSE	5,500	NO EMS/BMS	TBD	TBD

Facility	Building Name	Floor Area (sq. ft.)	MBCx Capable, Difficult, or No EMS	MBCx Projected Start Date	MBCx Projected Cost ($ if known)
LAKE EARL WA	SILAGE BARN - L. EARL & TALAWA	5,200	NO EMS/BMS	TBD	TBD
LAKE EARL WA	BARN	5,100	NO EMS/BMS	TBD	TBD
MARINE WILDLIFE VETERINARY CARE & RESEARCH CENTER	MARINE WILDLIFE VET CARE & RESEARCH CTR	14,400	NO EMS/BMS	TBD	TBD
MOCCASIN CREEK FH	HATCHERY	6,624	NO EMS/BMS	TBD	TBD
MT. SHASTA FH	HATCHERY A	5,518	NO EMS/BMS	TBD	TBD
MT. SHASTA FH	HATCHERY E	7,370	NO EMS/BMS	TBD	TBD
MT. SHASTA FH	OFFICE/HATCHERY BLDG	7,920	NO EMS/BMS	TBD	TBD
NAPA FIELD OFFICE	YOUNGVILLE OFFICE, REG. 3	15,456	NO EMS/BMS	TBD	TBD
NAPA-SONOMA MARSHES WA	DAIRY BARN	16,110	NO EMS/BMS	TBD	TBD
NIMBUS DAM FH	REGION 2 HQ. & FIELD STATION	33,600	NO EMS/BMS	TBD	TBD
NORTH GRASSLANDS WA	BARN	6,912	NO EMS/BMS	TBD	TBD
PETALUMA MARSH WA	GARAGE/APARTMENT-DAYS ISLAND WLA	15,800	NO EMS/BMS	TBD	TBD
RANCHO JAMUL ER	MAIN BUILDING	7,297	NO EMS/BMS	TBD	TBD
RED BLUFF SCREEN SHOP	METAL SHOP BLDG	10,000	NO EMS/BMS	TBD	TBD
REG. 1 OFFICES, REDDING HQ	REGION 1 OFFICE BLDG	12,400	NO EMS/BMS	TBD	TBD

Facility	Building Name	Floor Area (sq. ft.)	MBCx Capable, Difficult, or No EMS	MBCx Projected Start Date	MBCx Projected Cost ($ if known)
SAN FELIPE VALLEY WA	BARN	5,400	NO EMS/BMS	TBD	TBD
SHASTA VALLEY WA	BARN	11,840	NO EMS/BMS	TBD	TBD
SHASTA VALLEY WA	SHOP	5,400	NO EMS/BMS	TBD	TBD
UPPER BUTTE BASIN WA	SHOP, MC GOWAN	6,000	NO EMS/BMS	TBD	TBD
UPPER NEWPORT BAY ER	OC WATER QUALITY LAB	6,825	NO EMS/BMS	TBD	TBD
YOLO BYPASS WA	SCREEN SHOP / OFFICE	7,200	NO EMS/BMS	TBD	TBD
YOLO BYPASS WA	SCREEN SHOP	5,400	NO EMS/BMS	TBD	TBD
YOLO BYPASS WA	WILDLIFE AREA SHOP	10,500	NO EMS/BMS	TBD	TBD
TOTALS	--	327,912	--	--	--

Reporting Narrative Instructions for Table 3.9: MBCx Status of Existing Buildings

CDFW does not currently have an installed energy management control system (EMCS) or current MBCx activities. Many of the locations are smaller buildings that do not have a need for a large energy management system. Per State Administrative Manual Chapter 1815.3, the facilities listed in Table 3.9 meet the criteria for requiring MBCx. CDFW is evaluating these sites to determine the feasibility of implementing MBCx, however, CDFW does not have the expertise to implement MBCx and will rely on guidance from DGS on proper implementation.

Planning Narrative for Table 3.9: MBCx Status of Buildings

CDFW is evaluating these sites to determine feasibility to implement MBCx. CDFW will work with DGS-OS on implementing EMS/BMS systems to incorporate MBCx to applicable buildings.

Building Controls

Reporting on EMS/BMS/Controls Building Capability

Table 3.10: Building Controls

Equipment Controls	% of Buildings Controlled Remotely Offsite	% of Buildings with Controls Onsite	% of Total Buildings
Lighting	0	100	100
HVAC: EMS/BMS	0	0	0
HVAC: Smart Thermostats	0	0	0
Other: _____	N/A	N/A	N/A

Reporting Narrative for Table 3.10: Building Controls

CDFW currently does not have any building control systems at its facilities. CDFW does not have the knowledge or expertise to integrate building controls and doesn't have data on which facilities are capable of integrating building control systems.

Planning Narrative for Table 3.10: EMS/BMS/Controls Building Capability

CDFW will work with DGS-OS to determine what buildings are capable of integrating EMS/BMS.

Energy Reduction Strategies - Best Management Practices (BMPs)

Planning Narrative for Energy Reduction Strategies in Department Buildings Best Management Practices (BMPs)

ENERGY REDUCTION STRATEGIES ACHIEVED

Chapter 4 - DECARBONIZATION

Department Mission and Decarbonization Efforts

CDFW manages an extensive portfolio of facilities critical to its mission of restoring fish habitats and protecting wildlife environments. Comprising 709 total facilities, 96 owned and 38 leased, CDFW's infrastructure includes diverse facility types such as fish hatcheries, wildlife areas, ecological reserves, laboratories, field offices, screen shops, and more.

Energy use across these facilities is predominantly driven by propane, which serves as the primary fuel source for space heating and water systems. Notably, several buildings including barns and hatcheries are all-electric, reflecting ongoing efforts to transition toward cleaner energy. The fish hatcheries, especially Mojave, Nimbus, and Hot Creek create the most carbon emissions due to the significant demands of maintaining optimal water temperatures and pumping operations essential to hatchery function. Across CDFW facilities, HVAC rooftop units (RTUs) and water heating systems constitute the largest energy loads.

Despite the scope of its operations, CDFW faces funding challenges that have resulted in deferred maintenance on much of its equipment. This situation often necessitates reactive upgrades only in emergency situations, highlighting the need for strategic investment in facility modernization. In this chapter, CDFW will identify measures to proactively decarbonize its facilities.

Reporting Narrative on Decarbonization Action and Department Mission:

CDFW operates a total of 709 buildings, including 240 residences, 73 garages, 59 barns, 55 shops, 46 hatcheries, 43 offices, 43 storage buildings, 42 pump and well houses, 10 dormitories, 9 laboratories, and other small miscellaneous buildings. The total square footage of CDFW facilities totals 1,962,507 square feet between owned and leased buildings. In response to Senate Bill 1203, which mandates state agencies to achieve net-zero greenhouse gas emissions in their operations by 2035, CDFW is developing and implementing comprehensive decarbonization plans. These plans focus primarily on Scope 1 and Scope 2 emissions related to onsite building operations. Key strategies include building electrification, energy efficiency improvements, and the integration or procurement of renewable energy sources. CDFW is committed to updating these plans biennially in future Sustainability Roadmaps to ensure measurable progress toward the 2035 goal.

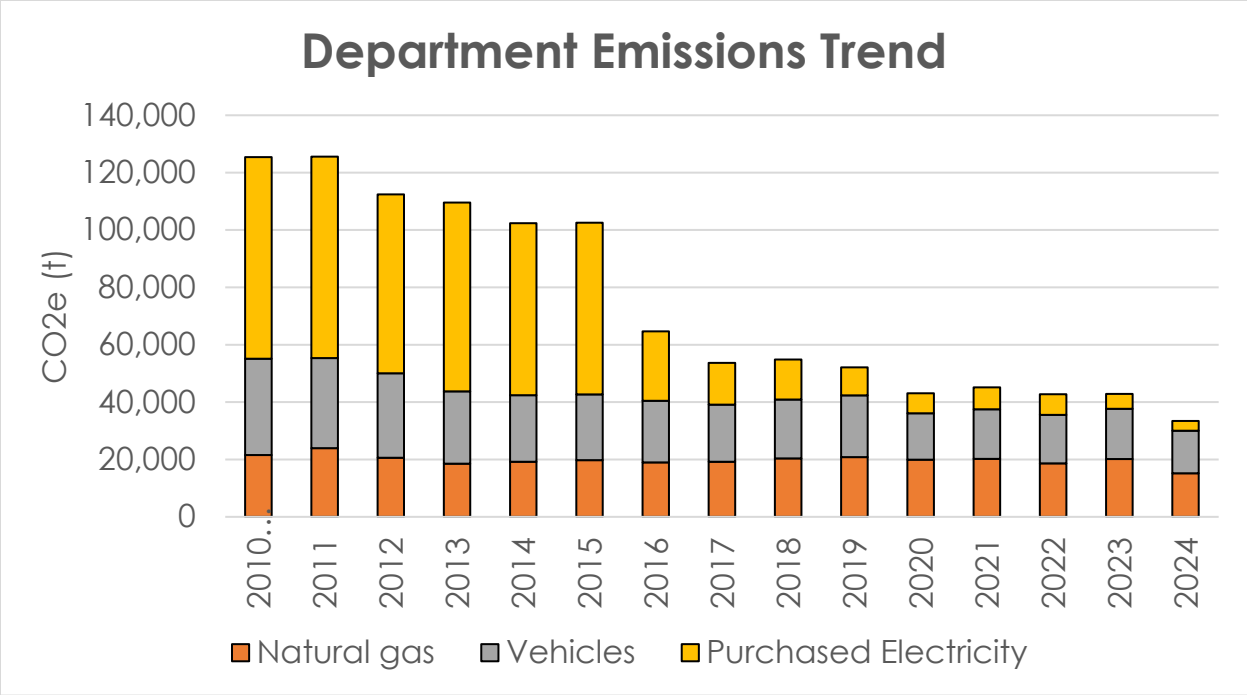
Through these efforts, CDFW aims to balance its essential conservation work with responsible stewardship of energy resources, setting a path toward sustainable and resilient operations that support California's environmental and climate objectives.

Greenhouse Gas Emissions

Table 4.1: GHG Emissions since 2010 (Metric Tons)

Emissions Source	Natural gas	Vehicles	Purchased Electricity	Total
2010 Baseline	21,556	33,588	70,272	125,416
2011	23,962	31,380	70,225	125,567
2012	20,587	29,461	62,340	112,388
2013	18,516	25,251	65,778	109,545
2014	19,233	23,165	59,956	102,354
2015	19,741	22,954	59,870	102,565
2016	18,996	21,460	24,234	64,690
2017	19,210	19,901	14,570	53,681
2018	20,361	20,533	13,956	54,850
2019	20,841	21,533	9,717	52,091
2020	19,906	16,214	6,938	43,058
2021	20,231	17,264	7,622	45,117
2022	18,662	16,871	7,196	42,729
2023	20,136	17,517	5,220	42,873
2024	**15,174**	**14,838**	**3,422**	**33,434**
Percent Change since Baseline	-30%	-50%	-90%	-73%

Graph 4.1: GHG Emissions since 2010



Department's Decarbonization Approach

CDFW is taking a structured approach to decarbonization by continuing research and efforts to expand the department's knowledge of the current state of facilities and equipment that generates greenhouse gas emissions. CDFW is analyzing current building data collected from benchmarking and other reports to evaluate energy consumption in an effort to guide project planning and cost estimates. Energy efficiency upgrades are at the forefront of CDFW's plans to lower overall Scope 1 and Scope 2 greenhouse gas emissions. Scope 1 emissions will be lowered by replacing on site fossil fuel emitting equipment with electric alternatives, while Scope 2 emissions will be lowered by reducing the overall energy consumption at facilities.

To reach carbon neutrality for Scope 2 emissions, CDFW is exploring renewable energy initiatives and clean electricity procurement strategies. This aligns with Senate Bill 100, which requires all electricity in California to be carbon-free by 2045, and Senate Bill 1020, which mandates that state agencies use 100% carbon-free electricity by 2035. Meeting this 2035 target means CDFW is actively evaluating its current energy usage, identifying opportunities to transition facilities to clean power sources, and partnering with utility providers and state programs wherever possible to secure renewable electricity sources.

Existing Conditions Assessment

CDFW continues to evaluate and reduce its carbon footprint through a variety of energy and fuel management strategies. Natural gas remains a significant energy source at several CDFW facilities, where it is primarily used for electricity generation. Additionally, propane is utilized across the department, particularly at facilities in remote locations. While CDFW currently lacks a comprehensive system to track propane purchases and associate emissions to specific facilities through the Climate Registry Information System (CRIS), propane usage contributes to CDFW's overall carbon emissions profile.

To address this, CDFW works in coordination with DGS to replace propane and gas-powered appliances with electric alternatives wherever feasible. These upgrades are part of broader energy efficiency efforts that include the successful replacement of traditional lighting with LED lighting across most CDFW facilities.

CDFW also participates in demand response programs by reducing energy consumption during peak demand periods to alleviate pressure on the state's power grid and further lower its carbon impact. However, the department must maintain a balance between sustainability and operational reliability. For this reason, propane and diesel generators remain essential for backup power at facilities like laboratories and fish hatcheries, where continuous operation of critical equipment in cases such as laboratories where refrigeration units for scientific samples is mandatory and at hatcheries where climate control systems for broodstock and fish is necessary for resource preservation. Heating Ventilation and Air Conditioning (HVAC) systems also play a significant role in CDFW's carbon emissions.

CDFW remains committed to ongoing energy improvements and the integration of cleaner technologies, while recognizing the unique operational demands inherent to its conservation mission.

Carbon Inventory Worksheet

Planning Narrative for Carbon Inventory Worksheet

CDFW has initiated efforts to collect data for its carbon emissions inventory. However, currently, there is insufficient information to complete the Carbon Inventory Worksheet for the 2024-2025 Sustainability Roadmap. CDFW faces challenges in gathering detailed data on equipment across all facilities, including information on equipment age, manufacturers, model and serial numbers, British Thermal Unit (Btu) capacities, and installation dates. To obtain this data, the CDFW Business Management Branch (BMB) Sustainability Unit must

conduct surveys at each facility. Due to limited staffing, this process will require several months to coordinate and will be carried out as resources permit. Additionally, CDFW currently lacks a system to track fuel allocation for individual fleet vehicles, as many gasolene and diesel fuel purchases are recorded as bulk transactions.

CDFW is committed to ongoing data collection and aims to develop improved tracking systems, with the objective of completing the Carbon Inventory Worksheet for the 2026-2027 Sustainability Roadmap.

Owned Building Inventory

Reporting Narrative on Owned Building Inventory

CDFW's carbon emissions are recorded and measured annually in the Climate Registry Information System (CRIS). Data on natural gas and electricity usage is collected from various sources, including the Energy Star Portfolio Manager (ESPM) and utility-provided datasets. Fish hatcheries are the department's largest energy consumers and, as a result, the highest contributors to carbon emissions. Due to the operational demands of these facilities, large energy-consuming equipment must remain in constant use, making energy reduction efforts particularly challenging.

Table 4.1: Baseline Building Inventory – Owned Facilities

Property Name	Building Count	Total Square Footage	Typical Fossil Fuel Consuming Equipment	Total Property Emissions (MTCO2e)
MOJAVE RIVER FH	18	20931	NG RTU NG Furnace NG Unit Heater NG Unitized WH Process	998
NIMBUS DAM FH	11	61131	Prop RTU Prop Furnace Prop Unitized WH Kitchen	511
HOT CREEK FH	33	53832	Prop Unit Heater Prop Furnace Prop RTU Prop Instant WH Prop Unitized WH Process	218

Property Name	Building Count	Total Square Footage	Typical Fossil Fuel Consuming Equipment	Total Property Emissions (MTCO2e)
UPPER BUTTE BASIN WA	6	13994	Prop RTU Prop Unit Heater Prop Unitized WH Prop Instant WH Kitchen Laundry Process	189
AMERICAN RIVER FISH HATCHERY	2	6653	NG Furnace NG Unitized WH Kitchen Laundry	181
MERCED RIVER SPAWNING HABITAT CE	3	4328	Prop Furnace Prop Unitized WH	165
DARRAH SPRINGS FH	17	41692	NG Furnace NG RTU NG Unitized WH	163
YOLO BYPASS WA	11	42669	Prop RTU Prop Furnace Prop Unit Heater Prop Instant WH Prop Unitized WH Kitchen Laundry	128
IRONGATE FISH HATCHERY	6	6420	Kitchen Laundry	121
CRYSTAL LAKE FH	15	22658	Prop Unit Heater Prop Furnace Prop Instant WH Prop Unitized WH Kitchen Laundry	116

Leased Building Inventory

Reporting Narrative on Leased Building Inventory

CDFW faces challenges in accurately tracking carbon emissions from its leased facilities. Detailed data on carbon-emitting equipment within leased spaces is largely unavailable, making direct measurement impossible. Instead, CDFW

relies on estimations generated through the Climate Registry Information System (CRIS). This system calculates carbon emissions by assessing each leased facility's square footage and building type, using a specialized tool developed by The Climate Registry. CDFW leases 38 facilities, occupying a total of 584,156 square feet of leased space. Most of the carbon emissions associated with these facilities are based on estimates. While these estimations provide a useful approximation, the precise level of carbon emissions attributable to CDFW's operations at leased facilities remains uncertain and can only be approximated at this time. This gap highlights an area for potential improvement in monitoring and managing the department's overall environmental impact.

Table 4.2: Baseline Building Inventory – Leased Facilities

Building Name	Lessor Agency	Leased Square Footage	Natural Gas Consuming Equipment
1010 RIVERSIDE PARKWAY FIELD OFFICE 2	N/A - 3rd Party Lease	85775	Unknown
10551 HUMBOLDT STREET	N/A - 3rd Party Lease	17107	Unknown
1123 INDUSTRIAL ROAD, SUITE 300	N/A - 3rd Party Lease	4150	Unknown
1130 EAST SHAW AVE, STE. 100/206/208	N/A - 3rd Party Lease	21486	Unknown
1415 N MARKET SUITE 3/9	N/A - 3rd Party Lease	8817	Unknown
1450 S MERCEY SPRINGS ROAD, #107	N/A - 3rd Party Lease	2820	Unknown
1487 SANDY PRAIRIE CT	N/A - 3rd Party Lease	5000	Unknown
1625 S MAIN STREET, #3819	N/A - 3rd Party Lease	720	Unknown
1625 S MAIN STREET, #7255	N/A - 3rd Party Lease	2880	Unknown
1700 9TH ST	N/A - 3rd Party Lease	38403	Unknown

Central Utility Plant and Energy Intensive Operations Inventory

Table 4.3: Central Utility Plant Inventory

Existing Plant Type	Property Name	Connected Building Count	Natural Gas Consumption (Therms)	Fuel Oil Consumption (kBtu)	Total Carbon Emissions (CO_2e)
NO CUP					

Reporting Narrative on Central Utility Plant Inventory

NO CUP

Decarbonization Measures

Reporting Narrative on Building Electrification Measures

To reduce carbon emissions, CDFW can implement comprehensive building electrification measures across its facilities, targeting heating, domestic hot water, cooking, laundry, pools, and other energy-intensive processes. Natural gas boilers and rooftop units can be replaced with efficient air-to-water or geothermal heat pumps. Additionally, natural gas furnaces, wall-mounted heaters, and unit heaters can be substituted with infrared heaters, heat pump split systems or packaged terminal heat pumps (PTHPs). Domestic hot water systems are similarly targeted for electrification upgrades. Natural gas water heaters and instant water heaters can be replaced by heat pump water heaters or electric tankless units.

CDFW will consider replacing gas stoves and ovens with induction or electric models, providing safer and cleaner cooking alternatives. Gas dryers can also be switched to electric heat pump dryers, which offer significant energy savings. Heat recovery chillers can capture wasted energy from chilled water returns, supplemented by additional heat pumps and backup boilers for peak heating requirements. Various strategies CDFW can implement to mitigate this are to install geothermal heat pumps with bore fields for sustainable heat exchange, backed up by boiler systems for peak demands.

Table 4.4: Building Electrification Measures Summary

Project Type	Project Count	Fossil Fuel Savings (kBtu)	Electricity Savings (kWh)	Emissions Savings (MTCO2e)	Utility Cost Impact ($)
Process_Kitchen Electrification	209	4746706	-618118	157.0800604	-97152
Process_HP Dryer	187	689150	-74241	25.8213956	-9796
DHW_Hybrid HP WH	206	3708266	-269315	163.1205019	-15959
HVAC_SPLIT SYSTEM	184	6015111	-610401	237.3518151	-85021
HVAC_HP RTU	92	6035079	-612557	234.5813414	-43737
DHW_Instant ER WH	102	854221	-202375	11.46581891	-38173
HVAC_INFRARED HEATER	59	5641890	-674711	203.9639027	-110160
HVAC_HP WALL UNIT	11	493928	-50122	20.261852	-6712
HVAC_AWHP	3	1581653	-177655	54.42349347	-13358
HVAC_GSHP	1	187301	-13197	8.896903426	252
Process Kitchen Electrification	209	4746706	-618118	157.0800604	-97152
Process_HP Dryer	187	689150	-74241	25.8213956	-9796

CUP Electrification Options

Reporting Narrative on CUP Electrification Options

NO CUPs

Table 4.5: CUP Measure Summary

Property Name	Recommended Strategy	Fossil Fuel Savings (kBtu)	Electricity Savings (kWh)	Emissions Savings (MTCO2e)	Utility Cost Impact ($)
NO CUPs					

Building Energy Efficiency Measures

Reporting Narrative on Building Energy Efficiency Measures

Moving beyond equipment replacement, CDFW can implement retro-commissioning projects designed to optimize the performance of existing systems, ensuring they operate at peak efficiency. A key focus area is the upgrade of lighting systems. By transitioning to LED fixtures, CDFW aims to reduce energy demand, benefiting from LEDs' superior efficiency and longevity. This shift not only lowers electricity consumption but also reduces maintenance costs over time.

Moreover, existing electric resistance domestic hot water heaters can be upgraded to high-efficiency heat pump water heaters, further improving energy performance. Through these targeted electrification strategies, CDFW aims to drastically reduce its reliance on fossil fuels, boost overall energy efficiency, and align its facilities with sustainable operational practices. These measures not only advance CDFW's environmental stewardship but also support its mission by fostering healthier, more resilient buildings that minimize ecological impact.

Table 4.6: Energy Efficiency Measure Summary

Project Type	Project Count	Fossil Fuel Savings (kBtu)	Electricity Savings (kWh)	Emissions Savings (MTCO2e)	Utility Cost Impact ($)
Lighting_LED	587	0	1257367	249.1120648	353340.9467
DHW_Hybrid HP WH (EFF)	93	0	140704	27.87655789	37359.08687
RCx	2	118752	47058	16.052407	10558.87711

Decarbonization Action Plan

Reporting Narrative on Decarbonization Action Plan

CDFW's comprehensive plan to decarbonize its facilities is part of a broader commitment to sustainability and environmental stewardship. Recognizing the critical role that reducing carbon emissions plays in combating climate change, CDFW is equipped with adaptable strategies to evolve as new insights and funding opportunities emerge.

Short-Term Goals (2026–2030):

In the immediate future, CDFW aims to lay a strong foundation by completing solar energy projects across its five pilot facilities, Darrah Springs Fish Hatchery (DSFH), Gray Lodge Wildlife Area (GLWA), Yolo Bypass Wildlife Area (YBWA), Mendota Wildlife Area (MWA), and Los Banos Wildlife Area (LBWA). These solar projects help CDFW reduce reliance on fossil fuels. Additionally, a thorough carbon inventory will be undertaken to better understand CDFW's current emissions and identify priority areas for reduction.

Practical steps such as replacing water heaters with electric models will occur on an as-needed basis, ensuring energy efficiency improvements are integrated seamlessly. Simultaneously, CDFW will explore the implementation of automated building control systems designed to optimize energy use, with the goal of enrolling sites in automated demand response programs to balance energy consumption with grid needs. These efforts will be supported in collaboration with the Department of General Services (DGS), especially in expanding solar initiatives.

CDFW intends to continue working towards contracting with an Energy Service Company (ESCO) to implement energy efficiency projects at CDFW's Northern and North Coast Regional owned facilities. This project is currently on hold by Executive management and CDFW intends to reevaluate the project prior to 2030 for implementation. In the meantime, CDFW will retrofit remaining lighting fixtures with LED fixtures.

Mid-Term Goals (2031–2035):

Building on the initial groundwork, CDFW plans to implement energy savings projects facilitated through partnerships with ESCOs through energy savings performance contracts (ESPCs) at the remaining CDFW owned facilities that have yet to be addressed. These projects will address multiple areas of energy consumption across various facilities. Key measures include upgrading water

heaters and kitchen appliances to electric alternatives and deploying advanced energy management and building automation systems. CDFW will continue to replace water heaters on an as-needed basis until all water heaters are electrified, and replace natural gas dryers, stoves and ovens with electric alternatives. Lastly, CDFW plans to begin solar projects at two facilities, the Upper Newport Bay Ecological Reserve (UNBER) and Elkhorn Slough Ecological Reserve (ESER) and is pursuing a microgrid at Carrizo Plains Ecological Reserve (CPER). These mid-term efforts will significantly reduce fossil fuel dependence and enhance operational efficiency.

Long-Term Goals (2035 and Beyond):

By the long term, CDFW aims to complete ESCO or ESPM projects at all owned facilities, addressing any deferred maintenance or necessary upgrades on large energy-consuming equipment such as replacing natural gas HVAC units with heat pumps or geothermal heat pumps, as well as replacing remaining chillers and pumps. CDFW will ensure an engineering feasibility study is performed for the heat pumps and will perform these upgrades through a capital outlay project. A continuous monitoring system will be established to maintain progress toward carbon neutrality across all buildings. To ensure sustained compliance, CDFW will implement policies that align with evolving decarbonization regulations, securing its commitment to an environmentally responsible future.

Existing Challenges:

Foremost among CDFW's challenges to decarbonize is the constraint of available funding, which significantly limits CDFW's ability to initiate and sustain proactive measures. Due to budgetary restrictions, CDFW often finds itself in a reactive position, addressing energy efficiency improvements only when urgent needs arise or when funding becomes temporarily available, rather than strategically planning long-term upgrades.

Another pressing challenge is the limited number of staff members with specialized expertise in energy efficiency. This expertise gap hampers the department's capacity to independently develop, oversee, and optimize such projects. As a result, CDFW frequently relies on DGS for technical guidance and project implementation. While this partnership is beneficial, it also introduces coordination complexities and can slow project timelines.

Uncertainty surrounding cost savings and return on investment further complicates decision-making. Without clear, predictable financial benefits, justifying the initial expenditures for energy efficiency upgrades can be difficult, especially when budgets are tight and priorities compete for limited resources.

Moreover, implementing these projects can cause disruptions to critical operations. Given CDFW's essential work in managing wildlife resources and habitats, any interruption, whether due to construction, equipment installation, or infrastructure upgrades, poses risks to ongoing field activities and public services.

Experience with installing electric vehicle (EV) chargers has also highlighted infrastructure challenges. Upgrades to electrical systems are often necessary to support new technology, yet these enhancements come with additional costs, logistical hurdles, and potential reliability issues, as staff have encountered outages related to existing electrical infrastructure.

These same limitations are likely to affect HVAC decarbonization and energy efficiency projects, which also require increased electrical capacity and system resilience. Without proactive planning and investment, similar disruptions could occur, delaying implementation timelines and increasing operational risks. Lessons learned from EV infrastructure upgrades underscore the importance of assessing grid readiness and coordinating closely with utilities early in the project planning process.

Together, these challenges create a multifaceted barrier for CDFW as it strives to modernize and improve energy efficiency. Balancing fiscal limitations, expertise shortages, operational continuity, and infrastructure needs requires careful planning and collaboration. Addressing these obstacles will be critical for the department to achieve sustainable energy goals and reduce its environmental footprint over time.

Decarbonization Action Plan Implementation

Reporting Narrative on Decarbonization Action Plan Implementation

CDFW plans to decarbonize its buildings primarily through ESPCs using the DGS' ESCO pool. This approach will address the majority of CDFW's decarbonization measures by implementing energy efficiency upgrades that pay for themselves over time through cost savings. For projects that fall under deferred maintenance and are not included in an ESPC, CDFW will handle these on a case-by-case basis considering department need and funding sources. For renewable energy initiatives such as solar installations and microgrids, CDFW will pursue Power Purchase Agreements (PPAs) as the primary financing method.

Table 4.7: Decarbonization Strategy Summary

Project Type	Project Count	Emissions Savings (MTCO2e)	Timeline
ESPC at Region 1 and 2 facilities	23	Unknown	Short-term: Complete projects by 2030
Solar Pilot Projects at DSFH, GLWA, YBWA, LBWA, & MWA	5	Unknown	Short-term: Complete projects by 2027
Retrofit existing lighting with LED	Up to 588	Up top 249.11	Short-term: Complete by 2030
Replace water heaters as needed	Up to 401	Up to 202.46	Short-term: Complete on as-needed basis until 2030
Replace water heaters as needed, continued	Up to 401	Up to 202.46	Mid-term: Complete on as-needed basis until 2030
Replace natural gas dryers with electric alternatives	Up to 188	Up to 25.82	Mid-term: Complete by 2035
Replace natural gas stoves and ovens with electric alternatives	Up to 210	Up to 157	Mid-term: Complete by 2035
ESPC at remaining CDFW facilities	72	Unknown	Mid-term: Complete projects by 2035
Solar installation at UNBER	1	Unknown	Mid-term: Complete projects by 2035
Solar installation at ESER	1	Unknown	Mid-term: Complete projects by 2035
Microgrid at CPER	1	Unknown	Mid-term: Complete projects by 2035
Replace HVAC units	Up to 350	Up to 759.48	Mid-term: Partially complete projects where feasible by 2035
Replace HVAC units	Up to 350	Up to 759.48	Long-term: Complete remaining projects by 2045
Pumps retrofit on remaining pumps not addressed in ESPM	TBD	Unknown	Long-term: Complete all retrofits by 2045

Pilot and Priority Projects

Reporting Narrative on Priority Projects

CDFW is taking strategic steps toward decarbonizing its facilities. A key component of this effort involves implementing ESPCs through DGS, leveraging DGS's vetted pool of ESCOs. This approach allows CDFW to make critical energy

efficiency upgrades while ensuring cost-effectiveness and measurable savings over time. Under this initiative, the selected ESCO will conduct comprehensive energy audits and propose tailored projects across CDFW facilities. These projects will focus on optimizing building performance and reducing greenhouse gas emissions through measures such as:

- Right sizing and retrofitting water pumps
- Installing high-efficiency heat pumps
- Upgrading insulation and integrating smart HVAC controls
- Converting outdated lighting to modern LED fixtures
- Retrofitting chillers, particularly at energy-intensive fish hatcheries

The first phase of this effort targets facilities in CDFW's Northern and North Coast Regions, which rank among the agency's highest energy consumers. A proposal has already been submitted to DGS by an ESCO to perform work at these locations, positioning them as pilot sites for this larger decarbonization strategy. However, the project is currently on hold, with reevaluation planned within the next one to two years. This pause provides an opportunity to refine project scope and timing to maximize effectiveness and alignment with broader state goals. Looking ahead, CDFW's objective is to extend these energy-saving services to all CDFW facilities by 2035, ensuring system-wide decarbonization and long-term operational resilience.

In parallel with building retrofits, CDFW is also investing in renewable energy. CDFW, in collaboration with DGS, is initiating two new solar energy projects at UNBER and ESER. Although these projects are in the early development stages, their selection reflects a combination of operational need, enthusiasm from site managers, and available technical data to support feasibility. Additionally, CDFW is working with DGS to complete ongoing solar projects at DSFH, GLWA, YBWA, MWA, and LBWA.

By integrating energy-efficient technologies and on-site renewable generation, CDFW is laying the foundation for decarbonizing its facilities. These efforts not only contribute to statewide climate action but also support the agency's mission to steward California's natural resources in an environmentally responsible manner.

Table 4.8: Pilot and Priority Projects for Initial Implementation

Project	Description	Timeline
ESPC at Region 1 and 2 facilities	ESPC through an ESCO at all viable owned facilities	2-4 Years
Solar Pilot Projects at DSFH, GLWA, YBWA, LBWA, & MWA	Solar panel installation at all five facilities	1-2 Years
Solar installation at UNBER	Solar panel installation	3-5 Years
Solar installation at ESER	Solar panel installation	3-5 Years

Project Funding and Incentives

Reporting Narrative on Project Funding and Incentives

CDFW will finance energy efficiency and decarbonization projects through a variety of mechanisms designed to minimize fiscal impact and maximize long-term savings. ESPCs will be a primary financing tool. These projects are funded through low-interest loans that are structured to be budget neutral, meaning CDFW will make loan payments equivalent to what would otherwise be spent on utilities. DGS oversees the ESPC process through its pool of qualified ESCOs. These firms conduct extensive investment-grade audits to ensure each project is financially viable before construction begins. This guarantees that energy savings will cover the cost of the loan, providing a sustainable path forward for facility upgrades without increasing operating budgets.

For larger-scale projects that fall outside the ESPC framework, CDFW will pursue traditional capital outlay funding or categorize them under deferred maintenance until sufficient funding can be secured. This ensures that essential infrastructure improvements continue to progress even if they are not immediately eligible for ESPC financing.

Solar energy projects will be implemented through Power Purchase Agreements (PPAs). Under this model, CDFW leases solar systems for a 20-year term at a fixed rate. This approach does not require upfront capital investment and allows CDFW to achieve utility cost savings that will accumulate significantly over the life of the agreement.

Currently, CDFW is not leveraging any incentive programs for decarbonization, but the department remains committed to exploring available opportunities and will continue research into potential programs that support the decarbonization action plan.

Through this multifaceted financing strategy, CDFW is positioned to implement cost-effective, energy-efficient projects that align with its mission and long-term operational goals.

Table 4.9: Funding Opportunity Summary

Project Type	Applicable Funding Mechanisms	Potential Utility Incentives
ESPC at Region 1 and 2 facilities	Loan through ESPC	Unknown
Solar Pilot Projects at DSFH, GLWA, YBWA, LBWA, & MWA	PPA	Unknown
Retrofit existing lighting with LED	Loan if performed through ESPC. TBD if purchased directly	Unknown
Replace water heaters as needed	Loan if performed through ESPC. TBD if purchased directly	Unknown
Replace water heaters as needed, continued	Loan if performed through ESPC. TBD if purchased directly	Unknown
Replace natural gas dryers with electric alternatives	Loan if performed through ESPC. TBD if purchased directly	Unknown
Replace natural gas stoves and ovens with electric alternatives	Loan if performed through ESPC. TBD if purchased directly	Unknown
ESPC at remaining CDFW facilities	Loan through ESPC	Unknown
Solar installation at UNBER	PPA	Unknown
Solar installation at ESER	PPA	Unknown
Microgrid at CPER	PPA	Unknown
Replace HVAC units	Loan if performed through ESPC. TBD if purchased directly	Unknown
Replace HVAC units	Loan if performed through ESPC. TBD if purchased directly	Unknown
Pumps retrofit on remaining pumps not addressed in ESPC	TBD	Unknown

CHAPTER 5 - WATER EFFICIENCY AND CONSERVATION

Department Mission and Water Use+

CDFW relies on a comprehensive network of built infrastructure to fulfill its mission of conserving and managing the state's diverse fish, wildlife, and habitats. This infrastructure, totaling approximately 1,378,351 square feet, encompasses a wide array of structures that utilize purchased water beyond standard office environments. These include residences, maintenance shops, laboratories, water filtration and purification facilities, public restrooms, fish hatcheries, and other specialized buildings critical to CDFW's operations.

Water is integral to maintaining wildlife areas, ecological reserves, and fish hatcheries, supporting habitats for numerous aquatic and terrestrial species. CDFW's Water Operations Program and Instream Flow Program (IFP), along with the Groundwater Program, collectively depend on this infrastructure to monitor, study, and manage water flows, fish populations, and habitat conditions throughout California.

In addition to water use within buildings, CDFW consumes purchased water in essential external processes. These include washing and maintaining fleet vehicles, which are vital for field operations and wildlife management activities, dust suppression on dirt roads and construction sites to minimize environmental impacts and maintain safe working conditions, and construction water used during the development or repair of infrastructure projects critical to habitat conservation.

Non-purchased water, such as water sourced directly from natural waterways, recycled water, or captured rainwater, plays a supporting role in CDFW operations but is scarcely used by CDFW. This non-purchased water is used to flood wetlands for wetland dependent species and use is dependent on weather and rainfall.

Through this integrated infrastructure and water use framework, CDFW advances its mission by ensuring that water-dependent habitats and species receive the necessary support to thrive, aligning with state mandates such as the California Salmon Strategy, California Water Action Plan, and the Sustainable Groundwater Management Act (SGMA).

Reporting on Total Purchased Water

Table 5.1: Total Purchased Water

Purchased Water	2023 Quantity (Gallons)	2024 Quantity (Gallons)	2023 Cost ($/yr.)	2024Cost ($/ yr.)
Potable	34,783,600	35,523,800	Not Available	Not Available
Recycled Water	Not Available	Not Available	Not Available	Not Available

Reporting Narrative on Table 5.1: Total Purchased Water

CDFW manages water use carefully across its extensive network of fish hatcheries, wildlife areas, and other facilities. A significant portion of water for these operations is supplied by on-site wells, many of which are not equipped with meters. Consequently, water use in these locations is often estimated rather than directly measured. CDFW actively collaborates with the State Water Resources Control Board to ensure responsible water use and compliance with regulations and policies. This partnership helps prevent excess water consumption and promotes sustainable water management across CDFW's operations.

Water demand varies widely depending on multiple factors, including the specific needs of wildlife habitats, prevailing climate conditions, and the operational requirements of individual facilities. Recycled water is used by CDFW to farm habitat crops and maintain wetlands, however, CDFW does not have a mechanism to track the quantity of recycled water used. By closely monitoring these variables, CDFW adapts its water use practices to balance conservation goals with environmental stewardship, ensuring the protection and sustainability of California's vital fish and wildlife resources.

Planning Narrative on Table 5.1: Total Purchased Water

RECYCLED WATER USED

CDFW will continue to collaborate with the State Water Resources Control Board to ensure excess water is not used by CDFW and continue conservation efforts. CDFW's Business Management Branch, Sustainability Unit will collaborate with facility managers to determine if the costs of purchased water can be accurately determined and recorded in Energy Star for the 2027 Benchmarking report.

Reporting on Properties with Largest Purchased Water Use per Capita per Day.

Table 5.2: Properties with Purchased Largest Water Use Per Capita

Building Name	Area (sq. ft.)	Ave. Daily Building Occupants	Total 2024 Gallons	Total 2024 Irrigation in Gallons (if known)	Gallons per Capita/ Day
NR 1 - CRYSTAL LAKE FH	27,486	20	6,236,500	-	311,825
SCR 5 - RANCHO JAMUL ER	12,117	10	3,807,600	-	380,760
IDR 6 - MOJAVE FISH HATCHERY	21,508	10	3,325,800	-	332,580
CR 4 - SAN JOAQUIN FH	31,317	50	3,160,800	-	63,216
NR 1 - MAD RIVER FH	50,819	68	2,351,500	-	34,581
Total for Buildings in This Table	143,247	-	18,882,200	-	1,122,962
Total for All Department Buildings	1,287,633	-	35,523,800	-	-
% of Totals	11%	-	53%	-	-

Reporting Narrative on Table 5.2: Properties with Largest Water Use Per Capita

CDFW fish hatcheries and wildlife areas exhibit high per capita water use, a reflection of the specialized and resource-intensive nature of the department's operations. Unlike typical water users, these facilities require substantial volumes of water to maintain critical habitats and support the health and propagation of fish and wildlife populations.

In fish hatcheries, large quantities of clean, well-oxygenated water are essential for rearing juvenile fish species such as salmon, steelhead, and trout. Continuous water flow is necessary to replicate natural aquatic conditions, maintain water quality, and reduce disease risk. This often results in high water consumption relative to the number of staff or visitors associated with the facility.

Similarly, wildlife areas depend on sustained water availability to preserve diverse habitats, including wetlands, riparian zones, and aquatic ecosystems. Water supports vegetation growth, aquatic species survival, and ecological processes that are crucial to maintaining biodiversity. Activities such as habitat restoration, fish passage enhancement, and maintaining instream flows further drive water use. Therefore, the elevated per capita water use at these sites is directly tied to CDFW's mission-driven activities that prioritize ecological health

and species conservation over conventional water usage efficiency metrics. Comparing water use between locations is also not useful because each site serves different functions and is situated in diverse geographic regions.

Planning Narrative on Table 5.2: Properties with Largest Water Use Per Capita

CDFW's per capita water use is expected to remain high at the facilities listed in Table 5.2 due to the essential nature of its operations in maintaining fish hatcheries, wildlife habitats, and aquatic ecosystems. These mission-critical activities require consistent and often substantial water use to support species propagation, habitat health, and ecological balance, priorities that inherently demand significant water input.

Despite the necessity for high water consumption in core operations, CDFW remains committed to preventing overuse and promoting sustainable water management. CDFW will continue to monitor water use in all facilities, including those outside of the highest water-consuming sites, such as offices, laboratories, and smaller support buildings to identify opportunities for conservation and efficiency improvements. By optimizing operational practices and encouraging staff awareness, CDFW will continue to reduce water waste wherever possible without compromising its mission.

Reporting on Properties with Largest Landscape Area Irrigated with Purchased Water

Table 5.3: Properties with Largest Landscape Area Irrigated with Purchased Water

Facility Name	Landscape Area (ft2)
NO LANDSCAPING	

Reporting Narrative on Table 5.3: Properties with Largest Landscape Area Using Purchased Water

NO LANSCAPING

Planning Narrative on Table 5.3: Properties with Largest Landscape Area Irrigated with Purchased Water

NO LANDSCAPING

Reporting on the Department's Purchased Water Use Trends from 2010 to Present

Table 5.4: Department-Wide Purchased Water Use Trends

Year	Total Occupancy /year	Total Amount Used (Gallons/year)	Percent Change From 2010 Baseline	Per capita Gallons per person per day
Baseline Year 2010	552	54,442,900		270
2020	80	34,219,800	-37%	1172
2021	50	38,074,100	-30%	2086
2022	100	35,280,900	-35%	967
2023	3315	3,478,360	-94%	2.8
2024	3315	35,523,800	-35%	29
2025 Goal	3315	29,086,830	-47%	24

Reporting Narrative on Table 5.4: Purchased Water Use Trends from 2010 to Present

For CDFW, using per capita water use as a metric is less effective because the number of employees at sites often does not correspond proportionally to water usage. This is largely due to water used for wildlife, which is not always measured separately. Additionally, most water consumption is estimated rather than metered. Visitor numbers can vary significantly, especially during peak fishing or hunting seasons.

CDFW will investigate these increases and make comparisons among similar types of locations (such as Fish Hatcheries, Wildlife Areas, Ecological Reserves, and others) as well as across similar geographic regions (inland desert, coastal, Central Valley, etc.).

CDFW-owned facilities set a 20 percent water reduction goal based on the 2010 baseline and exceeded this goal by achieving a 29 percent reduction in water use by 2018. Additionally, gallons per person per day decreased by 76 gallons.

In 2013, Executive Order B-29-15 established a special reduction mandate for 2013–2016, requiring a 25 percent reduction. CDFW took this mandate seriously and significantly reduced water usage across the department. However, some sites had to install additional tanks and water systems to rescue fish stranded by drought conditions. While this water use is exempt from reporting, it could not always be separated from total water consumption at these locations. As a result, this usage was included, which skewed the department's reporting for the mandate.

Planning Narrative on Table 5.4: Purchased Water Use Trends from 2010 to Present

CDFW will continue to maintain and exceed the 20 percent water reduction goal.

Reporting on Table 5.5 Total Purchased Water Reductions from 2010 to Present

Table 5.5: Total Purchased Water Reductions Achieved in Gallons

2010 Baseline totals (Gallons)	2023 Totals (Gallons)	2024 Totals (Gallons)
54,442,900	3,478,360	35,523,800
+ or -Gallons Compared to Baseline Year	-50,964,540	-18,919,540
Department- Wide Reduction as a % from 2010 baseline	54%	35%

Reporting Narrative on Table 5.5: Purchased Water Use Trends from 2010 to Present

MANDATED WATER REDUCTION GOALS ACHIEVED

Planning Narrative on Table 5.5: Purchased Water Use Trends from 2010 to Present

MANDATED WATER REDUCTION GOALS ACHIEVED

Department Indoor Water Use

Fixtures and Water Using Appliances Needs Inventories

Reporting on Building Indoor Water Fixtures and Water Using Appliances Needs

Table 5.6: Building Indoor Water Fixtures and Water Using Appliances Needs Inventories Summary

# of toilets to be replaced	# of urinals to be replaced	# of faucet aerators to be replaced	# of showerheads to be replaced *	# of clothes washers to be replaced	# of garbage disposals to be replaced.	# of pre-rinse valves to be replaced
NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA	NO DATA

Reporting Narrative on Table 5.6: Indoor Building Water Fixtures and Water Using Appliances Needs

Most projects completed at CDFW facilities are maintenance, repairs or replacements on an as-needed basis. CDFW replaces water fixtures with more efficient models to the extent possible. In 2015, CDFW inventoried its facilities for indoor water fixtures and received funding through the DGS Drought Grant to replace all fixtures with more efficient ones. Starting September 2015 and ending in 2017 for all indoor water fixture replacements, CDFW replaced 626 toilets, 59 urinals, 965 faucet aerators, and 419 showerheads for an estimated water savings total of three million gallons after all fixtures are replaced, annually. CDFW currently does not have an inventory of the remaining fixtures that need replacement. Due to limited staff and funding, identifying and replacing the remaining fixtures will be a long-term commitment.

Planning Narrative on Table 5.6: Indoor Building Water Fixtures and Water Using Appliances Needs

CDFW will continue to seek funding opportunities to replace washers, garbage disposals, and rinse valves. CDFW's BMB, Sustainability Unit will collaborate with site managers to identify which fixtures still require replacement and will leverage available funds as they become accessible.

Water Conservation and Water Efficiency Projects for Purchased Water

Reporting on Current Indoor Water Efficiency Projects 2020- Present

Table 5.7: Summary of Current Indoor Water Efficiency Projects Completed 2020-Present or In Progress

Completed Projects per Year	Water Saved (Gallons/yr.)	Number of Indoor Water Efficiency Projects Completed	Cost Savings per Year
Fish Springs Fish Hatchery - 2025	200,000,000	0	TBD

Reporting Narrative on Table 5.7 Current Indoor Water Efficiency Projects 2020-Present

In October 2025, Fish Springs Fish Hatchery completed the installation of upgraded valves on its groundwater pumps. While the cost savings from this upgrade are still being determined, the improvement is expected to save approximately 200 million gallons of water annually, representing a 12% reduction in the facility's total annual groundwater usage.

Planning for Future Indoor Water Efficiency for the Next 5 Years- Building Priority Projects

Planning Outline PO5:a: Building Indoor Water Efficiency Priority Projects for the Next 5 Years

Building Name	Type of Project	Est Water Savings	Est. Start Date
Statewide	**Install meters on wells**	**Estimated 15%-30%**	**TBD**
American River FH	Upgrade equipment to reduce ground water pumped by approximately 25%	1,415,435,544 gallons/ 4,343.81 ac/ft per year	TBD. Evaluation is ongoing.
Mojave River FH	Upgrade equipment to reduce ground water pumped by approximately 25%	200,000,000	DGS is designing. Project is expected to be advertised for competitive bidding in early 2027.
Fillmore FH	Upgrade equipment and install VFD to reduce ground water pumped by approximately 25%	200,000,000	DGS is designing. Project is expected to be advertised for competitive bidding in 2026.

Planning Narrative for PO5a: Future Indoor Water Efficiency - Building Priority Projects

Most of CDFW's planned water efficiency projects are still in evaluation or design phases. However, these projects will meet the mandated water savings goal of 15-30% by saving approximately 25% cumulatively. Upgrades to pumps has the added benefit of reducing energy consumption at the hatcheries.

General Water Management

Reporting Narrative on General Water Management BMP

GENERAL WATER MANAGEMENT BMP ACHIEVED

Planning Narrative on General Water Management BMP

GENERAL WATER MANAGEMENT BMP ACHIEVED

Leak Detection and Repair

Reporting Narrative on Leak Detection and Repair BMP

LEAK DETECTION AND REPAIR BMP ACHIEVED

Planning Narrative on Leak Detection and Repair BMP

LEAK DETECTION AND REPAIR BMP ACHIEVED

Kitchen Water Conservation

Reporting Narrative on Kitchen Water Conservation BMPs, Fixtures

KITCHEN WATER CONSERVATION BMPS ACHIEVED

Planning Narrative on Kitchen Water Conservation BMPs, Fixtures

KITCHEN WATER CONSERVATION BMPS ACHIEVED

Laundry Facilities Water Conservation

Reporting Narrative on Laundry Facilities Water Conservation BMPS

LAUNDRY FACILITIES BMPS ACHIEVED

Planning Narrative on Laundry Facilities Water Conservation BMPS

LAUNDRY FACILITIES BMPS ACHIEVED

Department Total Non-purchased Water Excluding Water Reuse or Recycling

Reporting on Total Non-purchased Water Excluding Water Reuse or Recycling

Table 5.8: Department-Wide Non-purchased Water Use

Year	Groundwater Basin(s) Name	Number of Domestic or Irrigation Wells	Groundwater Use in Gallons	Surface Water Use in Gallons	Total (Gallons/ Year)
Baseline Year 2020	Unknown	Unknown	Unknown	Unknown	Unknown
2023	Lake Natoma	1	Unknown	Unknown	Unknown
2023	Sacramento Valley	5	10,000,000	1,500,000,000	1,510,000,000
2023	San Diego, Otay & Anza-Borrego	29	Unknown	Unknown	Unknown
2023	Antelope Valley/Little Antelope Valley	2	not metered	Unknown	Unknown
2024	Lake Natoma	1	Unknown	Unknown	Unknown
2024	Sacramento Valley	5	10,000,000	1,500,000,000	1,510,000,000
2024	Santa Rosa Valey	9	100,000	0	100,000
2024	Owens Basin	3	not metered	Unknown	Unknown

Reporting Narrative for Table 5.8: Non-purchased Water Excluding Water Reuse or Recycling

CDFW utilizes non-purchased water from various on-site sources to support critical habitat management and operational needs across several regions. This water is primarily drawn from wells and pumphouses that are not equipped with meters, making it difficult to quantify exact usage in gallons. Additionally, the volume of water used from this source fluctuates annually, depending on weather conditions and the amount of rainfall received.

Non-purchased water is also a vital resource for habitat management, particularly for flooding wetlands that support wetland-dependent species. This is a key conservation strategy used by CDFW to maintain healthy ecosystems and support biodiversity.

In the San Diego region, wells are used to supply water, but none of these wells are currently metered. As a result, while the use of this water is integral to CDFW's mission, it remains largely unquantified.

Planning Narrative on Table 5.8: Non-purchased Water Excluding Water Reuse or Recycling

CDFW is committed to responsible water stewardship and continues to implement strategies aimed at reducing the use of non-purchased water across its facilities. While some sites rely on unmetered wells and pumphouse sources to support essential operations and habitat management, CDFW is actively working to better monitor and manage this usage.

As part of this effort, CDFW is exploring the installation of water meters and other tracking systems where feasible. These improvements will provide greater insight into actual water consumption and help guide future conservation efforts.

At the North Central Region 2 Headquarters and associated hatchery, staff use non-purchased water minimally. To further reduce water demand, CDFW has already installed low-flow faucets and toilets in all domestic facilities. In addition, a pond was lined to significantly reduce seepage, conserving a substantial amount of groundwater over time. For agricultural operations, particularly cattle watering systems, float valves have been installed to provide water on demand only, minimizing unnecessary use and loss.

Department Water Energy Nexus Reporting

Reporting on Annual Amount of Boiler Makeup Water Used

Table 5.9: Annual Amount of Boiler Makeup Water Used

Boiler Water Use	Year 2023	Year 2024
Amount of Water Used for Makeup (Gallons)	NO DATA	NO DATA
Amount of Water Currently Reused. (Gallons)	NO DATA	NO DATA
Remaining additional water suitable for other purposes (Gallons)	NO DATA	NO DATA
Totals for all Facilities		

Reporting Narrative on Table 5.9: Boiler Water Reuse Opportunities

BOILER WATER REUSE ACHIEVED

Planning Narrative on Table 5.9: Boiler Water Reuse Opportunities

BOILER WATER REUSE ACHIEVED

Reporting Narrative for Boiler Efficiency

BOILER WATER USE EFFICIENCY ACHIEVED

Planning Narrative for Boiler Efficiency

BOILER WATER USE EFFICIENCY ACHIEVED

Reporting on Cooling Towers' Water Use

Table 5.10: Cooling Tower Water Use

Cooling Tower Water Use	Year 2023	Year 2024
Amount of Water Used for Make-up (Gallons)	NO COOLING TOWERS	
Totals for all Facilities		

Reporting Narrative on Table 5.10: Cooling Tower Water Use.

NO COOLING TOWERS

Planning Narrative on Table 5.10: Cooling Tower Water Use.

NO COOLING TOWERS

Reporting Narrative on Cooling Tower Water Reuse.

NO COOLING TOWERS

Planning Narrative on Cooling Tower Water reuse.

NO COOLING TOWERS

Reporting Narrative on Cooling Tower Efficiency

NO COOLING TOWERS

Planning Narrative for Cooling Tower Efficiency

NO COOLING TOWERS

Reporting on Boiler Needs Inventories Summary

Table 5.11: Summary of 2024 Boiler Needs Inventory

Number of meters to purchase and install	Water Treatment to Install, Repair, or Upgrade	Other
	NO BOILER TREATMENT NEEDS	

Reporting Narrative on Table 5.11: Boiler Needs

NO BOILER TREATMENT NEEDS

Planning Narrative on Table 5.11: Boiler Needs

NO BOILER TREATMENT NEEDS

Reporting on Cooling Systems Equipment Needs Inventory Summary

Table 5.12: Summary of 2024 Cooling System Needs Inventory

Equipment Needed	Equipment Totals for all Facilities
Meters	NO COOLING TOWERS
Water Treatment	
Other	

Reporting Narrative for Table 5.12: Cooling Systems Needs

NO COOLING TOWERS

Planning Narrative for Table 5.12: Cooling Systems Needs

NO COOLING TOWERS

Reporting on Efficiency Projects for Boilers and Cooling Systems 2020-Present

Table 5.13: Summary of Efficiency Projects for Boilers and Cooling Systems

Project Type	Water Saved (Gallons/yr.)	Number of Completed Projects	Number of Projects in Progress
NO CURRENT PROJECTS			

Reporting Narrative on Table 5.13: Efficiency Projects for Boilers and Cooling Systems

NO CURRENT PROJECTS

Reporting Narrative for BMPs for Building Boilers and Cooling Systems

BUILDING BOILERS AND COOLING SYSTEMS BMPS ACHIEVED

Planning Narrative for BMPs for Building Boilers and Cooling Systems

Department Outdoor Water Use:

Reporting on Outdoor Irrigation Hardware Inventory

Table 5.14: Summary of 2024 Outdoor Irrigation Hardware Needs Inventory

Irrigation Hardware Type	Total Hardware Needed
Separate meters or sub-meters	NO DATA
Irrigation controllers required with weather or soil moisture adjustment and flow sensing capabilities	NO DATA
Backflow Prevention **devices**	NO DATA
Flow sensors to be purchased and installed	NO DATA
Automatic rain shut-off devices	NO DATA
New pressure regulators	NO DATA
New hydrozone**(s)**	NO DATA
New valves	NO DATA
Filter assemblies	NO DATA
Drip irrigation emitters	NO DATA
Booster pumps	NO DATA
Rotary nozzles or other high efficiency nozzles	NO DATA

Reporting Narrative for Table 5.14: Outdoor Irrigation Hardware Needs

CDFW maintains relatively small landscaped areas. For the limited locations where landscaping and irrigation systems are installed, a best practices guideline is utilized. Given the modest size of these landscaped areas, a formal inventory was deemed unnecessary.

Although CDFW's landscaped zones are minimal, numerous sites contain pumps and irrigation controls dedicated to wildlife watering. Much of this infrastructure is aging, necessitating vigilant monitoring and timely maintenance by site managers to address leaks. Additionally, ongoing projects aim to minimize water spillage in wetland pond areas.

Planning Narrative for Table 5.14: Outdoor Irrigation Hardware Needs

NO IRRIGATION HARDWARE NEEDS

Reporting on Outdoor Irrigation Hardware Water Efficiency Projects

Table 5.15: Summary of Outdoor Hardware Water Efficiency Projects Completed 2020 -Present or In Progress

Year Funded	Water Saved (Gallons/yr.)	Completed Hardware Water Efficiency Projects	Hardware Water Efficiency Projects in Progress
NO CURRENT PROJECTS			

Planning Narrative for Table 5.15: Irrigation Hardware Water Efficiency Projects

UPGRADES TO IRRIGATION HARDWARE ACHIEVED

Reporting Narrative on Irrigation Hardware Maintenance BMPs

CDFW's landscaped areas are very small. For the few places with landscapes and systems installed, BMPs are reviewed and updated as necessary.

Planning Narrative on Irrigation Hardware Maintenance BMPS

For the few places with landscapes and systems installed, BMPs will continue to be reviewed and updated as necessary.

Reporting on Living Landscape Inventory

Table 5.16: All Facilities With > 500 sq. ft. of Living Landscape Inventory

Facilities with Landscape >500 Sq.	Total Turf (sq. ft.)	Number Of Historic Sites or Memorials	MWELO Landscape Area (sq. ft.)	Climate Appropriate Landscape Area (sq. ft.) e	Groundwater Basin Nam	Irrigation Source is Groundwater (Yes or No)	Irrigation source is Surface Water (Yes or No)	Irrigation source is Re-use or Recycled Water

Reporting Narrative on Table 5.16: Living Landscape Inventory

NO LIVING LANDSCAPE

Reporting on Living Landscape Upgrades for the Next 5 Years

Planning Outline PO5:b: Planned Projects for Living Landscape Upgrades for the Next 5 Years

Landscape >500Sq. ft.) Facility Name	Replace Turf (Sq. ft.)	MWELO landscape area Upgrade (sq. ft.)	Climate appropriate landscape Upgrade area (sq. ft.)	Date for Achieving Upgrades
NO LIVING LANDSCAPE				

Planning Narrative on PO5.b Living Landscape Upgrades for the Next 5 Years

NO LIVING LANDSCAPE

Planning Narrative for Remaining non MWELO Compliant Living Landscape Upgrades

NO LIVING LANDSCAPE

Reporting on Living Landscape Water Efficiency Projects 2020 – Present

Table 5.17: Summary of Completed Living Landscaping Water Efficiency Projects

Year Funded	Est Annual Water Savings (Gallons)	Sum of MWELO Landscape installed (sq. ft.)	Sum of Climate Appropriate Landscape Installed (sq. ft.)
NO LIVING LANDSCAPE			

Reporting Narrative on Living Landscape BMPs

NO LIVING LANDSCAPE

Planning Narrative on Living Landscape BMPs

NO LIVING LANDSCAPE

Reporting on Large Living Landscape Inventory (>20,000 sq. ft.)

Table 5.18: Large Landscape Inventory (>20,000 sq. ft.) and the Required Associated Landscape Water Budget Schedule

Name of Facility Sites/Locations with > 20,000 sq. ft. of Landscaping	Landscape Area per Facility (Sq. Ft.)	Water Budget per Facility (Gallons)	EPA WaterSense or Irrigation Association Certified Staff per Facility
NO LARGE LANDSCAPES			

Reporting on Achieving Large Living Landscape Requirements (>20,000 sq. ft.)

NO LARGE LANDSCAPES

Planning Outline PO5:c: Achieving Large Living Landscape Area Requirements (>20,000 sq. ft.)

Facility Name	Landscaping sq. ft. to be upgraded to MWELO standards	Water Budget per Facility (Gallons)	Ground Water Basin	# of staff Needing EPA WaterSense certification	Date for Achieving
NO LARGE LANDSCAPES					

Planning Narrative on PO5.c: Achieving Large Living Landscape Requirements (>20,000 sq. ft.)

NO LARGE LANDSCAPES

Critically Overdrafted Groundwater Basins and Water Shortage Contingency Plans

Reporting on Buildings in Critically Overdrafted Groundwater Basins

Table 5.19: Buildings in Designated Critically Overdrafted Groundwater Basins

Building Name	Basin Name	Amount of water Used 2023 (Gallons)	Amount of water Used 2024 (Gallons
NO FACILITIES			

Reporting on Buildings with Urban Water Shortage Contingency Plans

Table 5.20: Buildings with Urban Water Shortage Contingency Plans

Building Name	Name of Water Supplier with Urban Water Shortage Contingency Plans	Year of Publication or Update
NO BUILDINGS SUBJECT TO PLANS		

Reporting Narrative for Table 5.20: Urban Water Shortage Contingency Plans

NO BUILDINGS SUBJECT TO PLANS

Department's Urban Water Shortage Contingency Plan

Reporting Narrative for Department's Contingency Plan

NO BUILDINGS SUBJECT TO PLAN

Planning Narrative on Department's Contingency Plan

NO BUILDINGS SUBJECT TO PLAN

Chapter 6 – FACILITIES' CONSTRUCTION AND OPERATIONS

Department Mission and Facilities Construction and Operations

CDFW prioritizes sustainability in facility operations in several ways. CDFW integrates LEED certification and CALGreen Tier 1 environmental quality measures into its new construction and major renovations where applicable with the guidance of DGS. Cleaning practices utilize Green Seal-certified products and procedures that reduce chemical exposure and support healthier workspaces. These standards complement the department's broader conservation goals by minimizing environmental impact and promoting long-term resilience.

Operational systems, including HVAC and pest management, are maintained to high environmental standards that aid in CDFW operations. HVAC systems are optimized for both energy efficiency and indoor air quality, while Integrated Pest Management (IPM) strategies emphasize prevention and low-toxicity solutions. CDFW is also transitioning away from fossil fuel-emitting equipment, further reducing its carbon footprint in alignment with California's climate goals.

By embedding sustainability into its building operations, CDFW not only supports a healthier work environment for staff and the public but also reinforces its commitment to protecting the natural systems that sustain California's biodiversity.

Building Design and Construction

New Building LEED Certification

Table 6.1: New Building Construction since July 1, 2012

Facility Name	LEED Certification Type & Level Achieved	Commissioning Performed (Y/N)
WEST SAC 1010 CAMPUS	Gold	Yes

Reporting Narrative for Table 6.1: New Building Construction since July 1, 2021

Since 2012, CDFW has had one major renovation to a building over 10,000 ft^2 at the West Sacramento 1010 Campus which is a leased space. The leased space received a LEED Gold certification for the interior.

Planning Narrative for Table 6.1: New Building Construction since July 1, 2012

LEED CERTIFCATION ACHIEVED

LEED for Existing Buildings Operations and Maintenance

Table 6.2: Large Building LEED Certification for Existing Buildings

Number of Buildings over 50,000 sq. ft. and eligible for LEED EBOM	Number of Building over 50,000 sq. ft. that have achieved LEED EBOM	Percentage of Existing Buildings over 50,000 sq. ft. that have achieved LEED EBOM
NO BULDINGS EXCEEDING 50,000 SQ. FT.		

Reporting Narrative for Table 6.2: Large Building LEED Certification

NO BULDINGS EXCEEDING 50,000 SQ. FT.

Planning Narrative for Table 6.2: Large Building LEED Certification

NO BULDINGS EXCEEDING 50,000 SQ. FT.

Indoor Environmental Quality (IEQ)

Daylighting and Views in New Construction

Reporting Narrative for Daylighting and Views in New Construction

NO NEW CONSTRUCTION

Planning Narrative for Daylighting and Views in New Construction

NO NEW CONSTRUCTION

CALGreen Tier 1 Indoor Environmental Quality Measures

Reporting Narrative for CALGreen Tier 1 Indoor Environmental Quality Measures

INDOOR ENVIRONMENTAL QUALITY, CAL GREEN MEASURES ACHIEVED

Planning Narrative for CALGreen Tier 1 Indoor Environmental Quality Measures

INDOOR ENVIRONMENTAL QUALITY, CAL GREEN MEASURES ACHIEVED

IEQ-New Buildings and Renovation Measures

Reporting Narrative for IEQ-New Buildings and Renovation Measures

IEQ-NEW BUILDINGS AND RENOVATION MEASURES ACHIEVED

Planning Narrative for IEQ-New Buildings and Renovation Measures

IEQ-NEW BUILDINGS AND RENOVATION MEASURES ACHIEVED

Furnishing Standards

Reporting Narrative for Compliance with Furnishing Standards

FURNISHING STANDARDS ACHIEVED

Planning Narrative for Compliance with Furnishing Standards

FURNISHING STANDARDS ACHIEVED

Green Seal Cleaning Products

Reporting Narrative on Using Green Seal Cleaning Products

GREEN CLEANING PRODUCTS STANDARDS ACHIEVED

Planning Narrative on Using Green Seal Cleaning Products

GREEN CLEANING PRODUCTS STANDARDS ACHIEVED

Cleaning Procedures – Various Standards

Reporting Narrative for Cleaning Procedures – Various Standards

CLEANING PROCEDURES STANDARDS ACHIEVED

Planning Narrative for Cleaning Procedures – Various Standards

CLEANING PROCEDURES STANDARDS ACHIEVED

Cleaning Procedures – Title 8, Section 3362

Reporting Narrative for Cleaning Procedures TITLE 8 SECTION 3362

TITLE 8 SECTION 3362 CLEANING PROCEDURES STANDARDS ACHIEVED

Standard	Procedure in Place Yes or No
To the extent that the nature of the work allows, workplaces, storerooms, personal service rooms and passageways shall be kept clean, orderly and in a sanitary condition. The interiors, exteriors and environs of buildings that contribute to a hazard to which these orders apply shall be cleaned and maintained in such conditions as will not give rise to harmful exposure, as defined in Section 5140.	Yes
Cleaning and sweeping shall be done in such a manner as to minimize the contamination of the air and as far as is practicable, shall be performed at such time and in such a manner that will avoid harmful exposures as defined in Section 5140.	Yes
To facilitate cleaning, every floor, workroom, personal service room and passageway shall be kept free from protruding nails, splinters, loose boards and unnecessary holes and openings.	Yes
All putrescible waste or refuse shall be stored in a receptacle so constructed that it does not leak and may be conveniently and thoroughly cleaned. Such a receptacle shall be maintained in a sanitary condition and shall be equipped with a tight-fitting cover if it cannot be maintained in a sanitary condition without one. (This provision does not prohibit the use of receptacles which are designed to permit the maintenance of a sanitary condition without regard to the above requirements.)	Yes
All sweepings, putrescible wastes, refuse and garbage shall be removed in such a manner as to avoid creating a nuisance and shall be removed as often as necessary to avoid creating a menace to health through the development of unsanitary conditions.	Yes
Every enclosed workplace and personal service room shall be equipped and maintained, as far as is practicable, to prevent the entrance or harborage of insects, rodents, or other vermin. An effective program of extermination and control shall be instituted whenever their presence is detected.	Yes
When exterior water intrusion, leakage from interior water sources, or other uncontrolled accumulation of water occurs, the intrusion, leakage or accumulation shall be corrected because of the potential for these conditions to cause the growth of mold.	Yes

Planning Narrative for Cleaning Procedures TITLE 8 SECTION 3362

TITLE 8 SECTION 3362 CLEANING PROCEDURES STANDARDS ACHIEVED

HVAC Operation Requirements

Reporting Narrative for HVAC Operations

HVAC OPERATIONS ACHIEVED

HVAC Operation Requirement	Process in Place (Yes or No)
The HVAC system shall be maintained and operated to provide at least the quantity of outdoor air required by the State Building Standards Code, Title 24, Part 2, California Administrative Code, in effect at the time the building permit was issued.	Yes
The HVAC system shall be operated continuously during working hours except: (A) during scheduled maintenance and emergency repairs; (B) during periods not exceeding a total of 90 hours per calendar year when a serving electric utility by contractual arrangement requests its customers to decrease electrical power demand; or (C) during periods for which the employer can demonstrate that the quantity of outdoor air supplied by nonmechanical means meets the outdoor air supply rate required by (a)(1) of this Section.	Yes
The employer must have available a record of calculations and/or measurements substantiating that the required outdoor air supply rate is satisfied by infiltration and/or by a nonmechanically driven outdoor air supply system.	Yes
HVAC Operation Requirement	Yes
A computer-based preventative maintenance program is in place for all HVAC equipment.	Yes
Buildings are purged with outdoor air sufficient for three complete air changes or the minimum ventilation rate allowed in Section 120.1(c)2 of Title 24 for 1 hour before occupancy.	Yes

Planning Narrative for HVAC Operations

HVAC OPERATIONS ACHEIVED

HVAC Inspection Requirements

Planning Narrative for HVAC Inspection Requirements

HVAC INSPECTION REQUIREMENTS ACHIEVED

HVAC Inspection Requirement	Process in Place (Yes or No)
The HVAC system shall be inspected at least annually, and problems found during these inspections shall be corrected within a reasonable time.	Yes
Inspections and maintenance of the HVAC system shall be documented in writing. The employer shall record the name of the individual(s) inspecting and/or maintaining the system, the date of the inspection and/or maintenance, and the specific findings and actions taken. The employer shall ensure that such records are retained for at least five years.	Yes
The employer shall make all records required by this section available for examination and copying, within 48 hours of a request, to any authorized representative of the Division (as defined in Section 3207), to any employee of the employer affected by this section, and to any designated representative of said employee of the employer affected by this section.	Yes
Verification of minimum outdoor airflows using hand-held airflow measuring instruments.	Yes
Confirmation that air filters are clean and replaced based on manufacturer's specified interval.	Yes
Air filters used have a MERV rating of no less than 11.	Yes
Verification that all outdoor dampers, actuators, and linkages operate properly.	Yes
Checking condition of all accessible heat exchanger surfaces for fouling and microbial growth, with action taken when fouling is found.	Yes
Checking the first 20 feet of ductwork downstream of cooling coils for microbial growth, act if growth is found.	Yes
Ensuring that cooling towers are properly maintained and that records of chemical treatment are kept.	Yes
Retrofit to prevent cooling tower plumes closer than 25 feet to any building air intake.	Yes

Planning Narrative for HVAC Inspection Requirements

HVAC INSPECTION REQUIREMENTS ACHIEVED

Integrated Pest Management (IPM)

Table 6.3: Self-Managed Pest Control

Table 6.3: Self-Managed Pest Control

Self-Managed Pest Control	Y/N	Is there an IPM plan? (Y/N)
Does your department self-manage pest control for any and or all Department buildings and the associated building landscapes?	NO	YES
Does your department self-manage pest control for any and or all Department mission-related infrastructure including, but not limited to, highway medians and shoulders, levees, reservoirs, canals, campgrounds and recreation areas?	NO	YES

Reporting Narrative for Table 6.3: Self-Managed Pest Control

NO SELF-MANAGED PEST CONTROL

Planning Narrative for Table 6.3 Self-Managed Pest Control

NO SELF-MANAGED PEST CONTROL

Table 6.4: External Pest Control Contracts

Table 6.4: External Pest Control Contracts

External Pest Control Contract	Y/N	Is there an IPM plan? (Y/N)	Contract Renewal Date
Does your department externally contract pest control for any and or all Department buildings and the associated building landscapes? List all pest control contracts below. Add extra lines as required.			
Building Pest Control Contracts			
P2210007-00 Multiple Hatcheries Pest Control Service	YES	YES	6/30/2025
P2320003-00 NCR 2 Pest Control	YES	YES	6/30/2026
P2360002-00 Integrated Pest Control Services for Fish Springs, Black Rock and Hot Creek Hatcheries	YES	YES	6/30/2026
P2360005-00 Pest Control Services at Imperial Wildlife Area & San Jacinto Wildlife Area	YES	YES	6/30/2026
P2510002-00 Multiple Hatcheries Pest Control Service	YES	YES	6/30/2028
P2510003-00 Pine Creek Trap Pest	YES	YES	6/30/2028
P2540005-00 Kern River Hatchery Pest Control Services	YES	YES	6/30/2028
S2130027-00 WSH Pest Control	YES	YES	5/16/2025
S2230024-00 Delta Base Pest Control Services	YES	YES	6/30/2025
S2260012-00 Pest Control (Coleville-Slinkard Antelope)	YES	YES	6/30/2026
S2260012-01 Pest Control (Coleville-Slinkard Antelope)	YES	YES	6/30/2026
S2310003-00 Redding Pest Control ~ Big Time Pest Control	YES	YES	6/30/2026
S2310026-00 Pine Creek Trap Pest	YES	YES	6/30/2025
S2320020-00 WLA Pest Control	YES	YES	6/30/2026
S2320021-00 GLWA Pest Control	YES	YES	6/30/2026
S2330038-00 SFB Pest Control	YES	YES	5/15/2025
S2330038-01 SFB Pest Control	YES	YES	2/15/2027
S2340001-00 Pest Control Services at the San Joaquin Hatchery	YES	YES	6/30/2025
S2340005-00 Kern River Hatchery Pest Control	YES	YES	6/30/2025
S2395016-00 Willow Lodge Pest Control Services	YES	YES	10/31/2026
S2420020-00 Feather River Hatchery Pest Control Services	YES	YES	6/30/2026
S2430001-00 NSMWA Pest Control	YES	YES	7/15/2025

External Pest Control Contract	Y/N	Is there an IPM plan? (Y/N)	Contract Renewal Date
S2440008-00 Termite and Pest Treatment, ESER	YES	YES	6/30/2025
S2460012-00 Pest Control Services - MOJ	YES	YES	12/31/2025
S2460013-00 Pest Control Services - FIL	YES	YES	12/31/2025
S2475011-00 WPCL/PCL Pest Control Services	YES	YES	11/30/2026
External Pest Control Contract	**Y/N**	**Is there an IPM plan? (Y/N)**	**Contract Renewal Date**
Does your department externally contract pest control for any and or all Department mission-related infrastructure including, but not limited to, highway medians and shoulders, levees, reservoirs, canals, campgrounds and recreation areas? List all pest control contracts below. Add extra lines as required.			
Infrastructure Pest Control Contracts			
P2210007-00 Multiple Hatcheries Pest Control Service	YES	YES	6/30/2025
P2320003-00 NCR 2 Pest Control	YES	YES	6/30/2026
P2360002-00 Integrated Pest Control Services for Fish Springs, Black Rock and Hot Creek Hatcheries	YES	YES	6/30/2026
P2360005-00 Pest Control Services at Imperial Wildlife Area & San Jacinto Wildlife Area	YES	YES	6/30/2026
P2510002-00 Multiple Hatcheries Pest Control Service	YES	YES	6/30/2028
P2510003-00 Pine Creek Trap Pest	YES	YES	6/30/2028
P2540005-00 Kern River Hatchery Pest Control Services	YES	YES	6/30/2028
S2130027-00 WSH Pest Control	YES	YES	5/16/2025
S2230024-00 Delta Base Pest Control Services	YES	YES	6/30/2025
S2260012-00 Pest Control (Coleville-Slinkard Antelope)	YES	YES	6/30/2026
S2260012-01 Pest Control (Coleville-Slinkard Antelope)	YES	YES	6/30/2026
S2310003-00 Redding Pest Control ~ Big Time Pest Control	YES	YES	6/30/2026

External Pest Control Contract	Y/N	Is there an IPM plan? (Y/N)	Contract Renewal Date
S2310026-00 Pine Creek Trap Pest	YES	YES	6/30/2025
S2320020-00 WLA Pest Control	YES	YES	6/30/2026
S2320021-00 GLWA Pest Control	YES	YES	6/30/2026
S2330038-00 SFB Pest Control	YES	YES	5/15/2025
S2330038-01 SFB Pest Control	YES	YES	2/15/2027
S2340001-00 Pest Control Services at the San Joaquin Hatchery	YES	YES	6/30/2025
S2340005-00 Kern River Hatchery Pest Control	YES	YES	6/30/2025
S2395016-00 Willow Lodge Pest Control Services	YES	YES	10/31/2026
S2420020-00 Feather River Hatchery Pest Control Services	YES	YES	6/30/2026
S2430001-00 NSMWA Pest Control	YES	YES	7/15/2025
S2440008-00 Termite and Pest Treatment, ESER	YES	YES	6/30/2025
S2460012-00 Pest Control Services - MOJ	YES	YES	12/31/2025
S2460013-00 Pest Control Services - FIL	YES	YES	12/31/2025
S2475011-00 WPCL/PCL Pest Control Services	YES	YES	11/30/2026

Reporting Narrative for Table 6.4: Pest Management Contracts

INTERGRATED PEST MANAGEMENT REQUIREMENTS ACHIEVED

Planning Narrative for Table 6.4 Pest Management Contracts

INTERGRATED PEST MANAGEMENT REQUIREMENTS ACHIEVED

Table 6.5: Top 5 Department Pests Requiring Pest Control

Table 6.5: Top 5 Department Pests Requiring Pest Control

Pest Name (common)	Pest Control Method(s)
Rodents	IPM – trapping, preventative maintenance
Spiders	IPM – monthly spider web maintenance
Cockroach	IPM – inspections, bait, preventative maintenance
Termites	IPM – inspections, bait, preventative maintenance & monitoring
Ants	IPM – inspections, bait, & preventative maintenance

Reporting Narrative for Table 6.5: Top 5 Department Pests Requiring Pest Control

The presence of pests such as rodents, spiders, cockroaches, termites, and ants poses multiple risks to CDFW, ranging from threats to infrastructure and equipment to impacts on animal health and staff safety. Rodents are perhaps the most disruptive pests in both natural and controlled environments. In fish hatcheries, rodents can cause equipment failure or water contamination which can threaten fish health. In wildlife areas, they may disturb native ecosystems or attract predators. Within offices, rodents pose health hazards by spreading diseases through droppings and urine, and their constant gnawing can damage essential records, cables, and furnishings.

While many spiders are beneficial predators, their presence in workspaces and hatchery facilities can create safety concerns for staff, especially if venomous species like black widows or brown recluses are present. Cockroaches also pose a serious sanitation issue. In offices and hatchery environments, they can contaminate surfaces, supplies, and even sensitive biological materials. In wildlife areas, they may compete with native species or signal decaying organic material that requires attention.

Termites are especially dangerous due to their destructive feeding habits. In offices, wooden hatchery structures, and wildlife observation stations, termites can undermine the structural integrity of buildings. Ants can cause a range of issues depending on the species. Some impact electrical systems and equipment, while others may contaminate food supplies and feed stores. In hatcheries, ants can be drawn to organic material and even threaten fish eggs. Outdoors, certain species can damage native flora and fauna or displace beneficial insects in wildlife areas.

Effective pest management is essential for the functionality of critical facilities, protecting sensitive wildlife populations, and preserving a safe, healthy environment for employees and visitors. Addressing pest issues proactively allows the department to operate efficiently while safeguarding its mission to conserve and manage fish and wildlife resources.

Planning Narrative for Table 6.5 Top 5 Department Pests Requiring Pest Control

CDFW will continue utilizing IPM practices and renewing pest contracts to address these common pests.

Fossil Fuel Landscaping Equipment Replacement with Low Emitting Landscaping Equipment

Reporting Narrative for Replacing Fossil Fuel Landscaping Equipment

CDFW utilizes a variety of landscape equipment, including 17 push mowers, 6 riding mowers, 2 leaf blowers, 27 string trimmers, 6 hedge trimmers, 18 chainsaws, 6 pole saws, and 1 woodchipper. Of this equipment, 76% of the push mowers are electric and 55% of both the string trimmers and chainsaws are electric.

Planning Narrative for Replacing Fossil Fuel Landscaping Equipment

CDFW has no plans to replace existing functional landscaping equipment with electric alternatives but will replace the equipment as needed with electric alternatives if the electric alternatives are within CDFW's budget. Where CDFW's funding is limited, CDFW will explore incentive funding opportunities through the Carl Moyer Program which is facilitated by the California Air Resources Board (CARB). CDFW will prepare a fossil fuel replacement schedule for landscaping equipment in the 2026-2027 Sustainability Roadmap.

CDFW leased facilities' landscaping needs and equipment maintenance are coordinated through the Lessor of the properties and this is agreed upon in the lease agreements. All landscaping and landscaping equipment maintenance is done at the discretion of the Lessor with no input from CDFW.

Location Efficiency

Smart Location Score for New Leases after January 1, 2020

Table 6.6: Smart Location Score for New Leases after January 1, 2020

Facility name	Smart Location Calculator Score
10551 HUMBOLT STREET, LOS ALAMITOS 90720 – Occupancy Date: 10/01/2024	4
3030 OLD RANCH PKWY, SUITE 350, SEAL BEACH 90740 – Occupancy Date: 11/01/2022	2
3030 OLD RANCH PKWY, SUITE 400, SEAL BEACH 90740 – Occupancy Date: 11/01/2022	2
960 RIVERSIDE PKWY, SUITE 90, WEST SACRAMENTO 95605 – Occupancy Date: 07/01/2022	1
Average	**2.25**
Baseline	**Unknown**
% change from Baseline	**N/A**

Reporting Narrative for Table 6.6: Smart Location Score after January 1, 2020

Leased space is determined based on CDFW's staffing needs. Currently, the Smart Location Score is not considered when selecting office lease locations. When a new lease is needed, CDFW staff must outline their space requirements and provide justification for the proposed location.
Leased space is determined based on CDFW's staffing needs. Currently, the Smart Location Score is not a factor in deciding where CDFW leases office space. When a new lease is required, CDFW staff must describe their space needs and provide justification for the new location.

Planning Narrative for Table 6.6: Smart Location Score after January 1, 2020

CDFW's BMB, Leased Facilities Unit will consider applying the Smart Location Score to future leases where feasible and appropriate.

Current (non-expired) Leases Prior to 2020 - Lowest Smart Location Score

Table 6.7: Current (non-expired) Leases Prior to 2020 - Lowest Smart Location Score

Facility name	Smart Location Calculator Score
960 RIVERSIDE PARKWAY, SUITE 100, WEST SACRAMENTO, CA 95605	1
1010 RIVERSIDE PARKWAY, WEST SACRAMENTO, CA 95605	1
980 RIVERSIDE PARKWAY, WEST SACRAMENTO, CA 95605	1
3030 OLD RANCH PARKWAY, SUITES 350 & 400, SEAL BEACH, CA	2
1251 E DYER ROAD, BUILDING 2, SUITE 170, SANTA ANA, CA	3
2109 ARCH-AIRPORT ROAD SUITE 100, STOCKTON, CA 95206	3
7544 SANDHOLDT ROAD, MOSS LANDING, CA 95039	3
2825 CORDELIA ROAD, SUITE 100, FAIRFIELD, CA 94534	4
3272 GILARDI ROAD, SAN LUIS OBISPO, CA	4
1415 N MARKET BOULEVARD, SUITE 3, SACRAMENTO, CA 95834	6

Reporting Narrative on Table 6.7: Current (non-expired) Leases Prior to 2020 - Lowest Smart Location Score

Nearly 30% of CDFW's leased facilities are located in areas with a Smart Location Score above 50. High-scoring locations are generally in metropolitan areas with readily available public transportation. CDFW manages facilities statewide, many in remote areas where leased space is necessary to

accommodate staff. Additionally, there are limited affordable spaces in metropolitan areas that can house large numbers of CDFW staff, making it difficult to avoid leases in locations with low Smart Location Scores.

Planning Narrative on Table 6.7: Current (non-expired) Leases Prior to 2020 - Lowest Smart Location Score

To address the impact of leased facilities with low Smart Location Scores, CDFW's BMB, Sustainability Unit, will actively promote sustainable commuting options for staff. By encouraging the use of public transportation and educating staff on rideshare incentives, CDFW aims to reduce the environmental impact and inconvenience associated with commuting to these locations. These initiatives help mitigate the effects of working at leased facilities in areas with limited access to sustainable transit options, supporting CDFW's broader commitment to sustainability and reducing its overall carbon footprint.

CHAPTER 7 - WASTE MANAGEMENT AND RECYCLING

Department Mission and Waste Management and Recycling

In alignment with CDFW's overarching mission to manage California's diverse fish, wildlife, and plant resources, CDFW is committed to minimizing our environmental footprint through responsible waste management and sustainable practices. CDFW's operations, which include habitat restoration, wildlife care, scientific research, and public engagement, inherently generate various waste streams. These operations necessitate the use of specialized materials and consumables, leading to the production of waste that is often challenging to recycle or compost. Consequently, certain items, such as chemical-soiled paper towels, Styrofoam, used gloves, and non-recyclable chemical storage containers, are disposed of as waste.

CDFW's diverse facilities, including wildlife areas, fish hatcheries, laboratories, and research centers, contribute uniquely to waste generation. Wildlife areas are often in locations with limited access to recycling services, leading to increased waste accumulation. Facilities on the coast such as the Marine Veterinary Care and Research Center experience challenges in disposing of sea otter carcasses due to limited rendering plant acceptance in the area. Laboratories require the use of consumables in chemical analyses that cannot be reused due to contamination risks.

CDFW's commitment to ecological stewardship extends to its recycling efforts. The department has implemented recycling programs across all facilities, ensuring that materials such as paper, cardboard, metals, and certain plastics are diverted from landfills. However, items like ash remain non-recyclable due to current technological limitations. CDFW is dedicated to overcoming these challenges. The BMB, Sustainability Unit is focused on increasing recycling education, expanding resources, and fostering partnerships to improve waste management practices across the department. By aligning our waste management strategies with our mission, CDFW's aims to ensure the ecological integrity of California's natural resources for current and future generations.

Waste and Recycling Programs

Designated Waste and Recycle Coordinator and Program Basics

Reporting Narrative on Designated Waste and Recycle Coordinator and Program Basics

The CDFW BMB Sustainability Unit performs an annual survey of all CDFW facilities to determine whether recycling best management practices (BMPs) are met. The survey is used by CDFW's Recycle Coordinator within the BMB Sustainability Unit to complete the Waste Management Annual Report, otherwise known as the SARC Report. In 2023 and 2024, the California Department of Resources Recycling and Recovery's (CalRecycle) Jurisdiction and Agency Compliance and Enforcement (JACE) Branch determined CDFW is compliant with applicable recycling laws and regulations related to waste management. The survey used to complete the SARC Report also assists CDFW's Recycle Coordinator with identifying areas of improvement.

Planning Narrative on Designated Waste and Recycle Coordinator and Program Basics

DESIGNATED WASTE, RECYCLE COORDINATOR, AND PROGRAM BASICS ACHIEVED

SARC Report

Table 7.1: State Agency Reporting Center (SARC) Report on Total Waste per Capita

Per Capita Disposal Rate	2023	2024	Total Waste 2023	Total Waste 2024	% Change from 2023/2024
2.1	0.44	1.76	205.59	1,065.42	418.3%

Reporting Narrative on Table 7.1: SARC Report on Total Waste per Capita

PER CAPITA BASELINE ACHIEVED

Planning Narrative on Table 7.1: SARC Report on Total Waste per Capita

PER CAPITA BASELINE ACHIEVED
CDFW's 2024 SARC Report can be viewed at the following link:
https://www2.calrecycle.ca.gov/StateAgency/WasteMgmt/AnnualReports/Agency/285

Recycling Program and Practices

Reporting Narrative on Recycling Program and Practices

Pursuant to BMB Memo 23-08, CDFW programs shall make every effort to select recycled content products, at every opportunity, when purchasing goods that fall under the 16 SABRC reportable categories.

Buyers will incorporate templated language into Request for Quotations (RFQs) and solicitations for quotes, requesting that vendors supply recycled content alternatives that are equivalent to requested items where feasible and practical. Templated language has been included in CDFW's RFQ template and Written Quotes script. These are located on the Procurement intranet page under the General tab.

Additionally, buyers must follow Assembly Bill 661, which allows for vendors that offer products meeting the minimum postconsumer recycled content (PCRC) percentages to be awarded a bid, even when their bid is the higher bid, as long as it is no more than 10 percent higher than the other bid(s) not offering products meeting the minimum PCRC percentages.

Planning Narrative on Recycling Program and Practices

RECYCLING PRACTICES ACHIEVED

Organics Recycling

Reporting Narrative on Organic Recycling Program and Practices

CDFW does not currently have an Organics Recycling Program, however, the data collected for the SARC Report indicates that site managers at most facilities are adequately disposing of organic waste where it is possible to do so. CDFW's Recycling Coordinator is currently researching solutions to the obstacles some facilities face that have prevented CDFW from starting an Organics Recycling Program. Some facilities in remote areas of the state lack rendering services that can assist with fish carcass disposal. Other options for these facilities such as compost machines are not financially viable for CDFW at this time.

Planning Narrative on Organic Recycling Program and Practices

CDFW is currently working on an Organics Recycling Program. CDFW has one Recycling Coordinator, which limits CDFW's capacity to implement this

program. CDFW continues to research this issue and collaborate on realistic directives with site managers across the state with the intent on finalizing a timeline for implementation of this program.

Edible Food Recovery Program

Table 7.2: Edible Food Recovery Program Elements

Building Name	Cafeteria >5,000 sq. ft. (Enter sq. ft.)	Cafeteria +250 Seats (Enter number of seats)	Cafeteria Open in 2023?	Cafeteria Open in 2024?	Food Recovery Agreement (Yes, No or Unknown)
NO EDIBLE FOOD RECOVERY PROGRAM REQUIRED					

Reporting Narrative on Table 7.2: Edible Food Recovery Program

NO EDIBLE FOOD RECOVERY PROGRAM REQUIRED

Planning Narrative on Table 7.2: Edible Food Recovery Program

NO EDIBLE FOOD RECOVERY PROGRAM REQUIRED

Food Service Items Program

Reporting Narrative on Food Service Items Program

Table 7.3: Food Service Concessionaire Items Program Elements

Building Name	Prepared Food Service Operations Type	Food Service Packaging Meets Requirements	Process in Place for selecting Food Services that meet Packaging Requirements
NO FOOD SERVICES			

Reporting Narrative on Table 7.3: Food Service Items Program

NO FOOD SERVICES

Planning Narrative on Table 7.3: Food Service Items Program

NO FOOD SERVICES

Hazardous Waste Materials

Reporting on Hazardous Waste Materials

Table 7.4: Hazardous Waste Materials

Department -Wide Hazardous Material Name	Department Total Hazardous Material Amount (lbs.)
NO HAZARDOUS WASTE MATERIALS PRODUCED	

Reporting Narrative for Table 7.4: Hazardous Waste Materials

NO HAZARDOUS WASTE MATERIALS PRODUCED

Planning Narrative for Table 7.4: Hazardous Waste Materials

NO HAZARDOUS WASTE MATERIALS PRODUCED

Universal Waste Program

Reporting on Department-Wide Universal Waste Materials

Table 7.5: Reporting on Department- Wide Universal Waste Materials

Category	Universal Waste Contract in Place YES or NO
Electronic Waste	YES
Batteries	YES
CRTS	YES
CRT glass	YES
Lamps	YES
Mercury Wastes	YES
Non-empty aerosol cans	YES
PV modules	YES

Reporting Narrative for Table 7.5: Department-Wide Universal Waste Materials

DEPARTMENT WIDE UNIVERSAL WASTE MATERIALS DISPOSAL ACHIEVED

Planning Narrative for Table 7.5: Department-Wide Universal Waste Materials

DEPARTMENT WIDE UNIVERSAL WASTE MATERIALS DISPOSAL ACHIEVED

Material Exchange Programs

Reporting Narrative on Department-Wide Material Exchange

CDFW provides all surplus property requests to DGS for approval. Approvals include reutilization to be delivered to the DGS-OFAM warehouse and items to be sold at auction, which includes an online auction or donation to acceptable recipients, such as schools. CDFW only adheres to the surplus property of Information Technology (IT) and Non-IT equipment, as prescribed in the State Administrative Manual (SAM). CDFW is not aware of any materials exchange program sanctioned by DGS or any other oversight agency, however, routinely adheres to the SAM for proper asset disposal, sale, reutilization, or donation.

Planning Narrative on Department-Wide Material Exchange

CDFW participated in instances of asset disposal, sale, reutilization, or donation as prescribed by SAM. CDFW receives official direction from DGS to identify any acceptable material exchange activities and will implement new policies and procedures in compliance with any new direction from DGS, as necessary.

Waste Prevention Program

Reporting Narrative on Department-Wide Waste Prevention

CDFW does not have a waste prevention program. CDFW has one Recycling Coordinator who is responsible for all sustainability related operations. Due to limited staff, a waste prevention program has yet to be initiated.

Planning Narrative on Department-Wide Waste Prevention

CDFW plans to continue research and efforts to create a waste prevention plan after implementation of an organics recycling program. CDFW will survey facilities to learn what waste prevention strategies are currently being used and are successful for individual sites. CDFW's Recycling Coordinator will work with site management and CalRecycle on an appropriate and realistic protocol to draft this plan. CDFW plans to implement this plan by the end of 2027.

Reuse Program

Reporting Narrative for Department-Wide Material Reuse

CDFW reuses all materials, whenever feasible, either for its original intended purpose or a similar purpose, without significantly altering the physical form of the object or material.

Planning Narrative for Department-Wide Material Reuse

CDFW will continue to reuse all materials, whenever feasible, either for its original intended purpose or a similar purpose, without significantly altering the physical form of the object or material. Items will continue to be stored in a warehouse environment until they can be distributed to locations in need.

Employee Waste and Recycling Training and Education

Reporting Narrative for Employee Waste and Recycle Training and Education

Pursuant to AB 2812 (Gordon, Chapter 530, Statutes of 2016), CDFW provides adequate receptacles, signage, education, and staffing, and arranges for recycling services consistent with existing recycling requirements for each office building. At least once per year, the adequacy and condition of receptacles for recyclable material and of associated signage, education, and staffing is reviewed.

Additionally, the CDFW BMB Sustainability Unit provides bi-annual training to educate their employees by providing guidance on products that contain recycled content.

Planning Narrative for Employee Waste and Recycle Training and Education

EMPLOYEE EDUCATION AND TRAINING ACHIEVED

Chapter 8 - PROCUREMENT

Department Mission and Procurement

Aligned with CDFW's commitment to managing California's diverse fish, wildlife, and plant resources and their habitats, CDFW's procurement policies ensure that all acquisitions prioritize recycled-content products to reduce environmental impact. By promoting sustainable purchasing practices, CDFW supports sustainability-oriented businesses, improves markets for products containing recycled materials, reduces manufacturing waste and pollution, reduces energy consumption, and supports the goal of a circular economy.

The State Agency Buy Recycled Campaign (SABRC) mandates State agencies purchase post-consumer recycled-content products (PCRC) and report those purchases. State agencies must spend at least 75% of procurement dollars on products with PCRC across 16 product categories, except for paint, antifreeze, and tires, which require 50%.

CDFW has made strides in meeting these goals by establishing the BMB Memorandum (BMB Memo) 23-08 Recycled First Policy. This policy requires procurement staff to prioritize recycled-content products when feasible and practical, incorporating specific language into solicitations and following Assembly Bill 661, which allows awarding contracts to vendors offering PCRC products if bids are up to 10% higher than the non-recycled alternative. If no suitable recycled-content product can be found in six key categories (antifreeze, lubricating oils, metal products, paper products, plastic products, printing and writing paper), buyers must request an Exemption Waiver from the BMB Sustainability Unit before purchasing.

These initiatives demonstrate CDFW's dedication to integrating environmental stewardship into every aspect of its operations. By consistently prioritizing recycled-content products and supporting sustainable procurement practices, CDFW not only helps protect California's natural resources but also sets a strong example for other state agencies and organizations. Through continued commitment and collaboration, CDFW will advance its mission of conserving California's biodiversity while fostering a circular economy.

Reporting Narrative for Measure and Report Progress on EPP Spend

Pursuant to BMB Memo 23-08, CDFW programs must make every effort to select recycled content products at every opportunity when purchasing goods that fall under the 16 SABRC reportable categories.

Buyers will incorporate templated language into Request for Quotations (RFQs) and solicitations for quotes, requesting that vendors supply recycled content alternatives that are equivalent to requested items where feasible and practical. Templated language has been included in CDFW's RFQ template and Written Quotes script. These are located on the Procurement intranet page under the General tab.

Staff must also research recycled alternatives to products they intend to purchase in 6 SABRC categories (antifreeze, lubricating oils, metal, paper, printing and writing paper, and plastic) and obtain a signed waiver for approval of the purchase. The waiver demonstrates staff's efforts to evaluate the market and search for recycled alternatives.

Additionally, buyers must follow Assembly Bill 661, which allows for vendors that offer products meeting the minimum PCRC percentages to be awarded a bid, even when their bid is the higher bid, as long as it is no more than 10 percent higher than the other bid(s) not offering products meeting the minimum PCRC percentages.

CDFW's BMB Acquisition Support Unit and Sustainability Units host biannual calls and deliver trainings to improve buyer's progress on EPP spending.

Planning Narrative for Measure and Report Progress on EPP Spend

EPP SPEND ACHIEVED

Goods and Services Categories with the Greatest Potential to Green:

Reporting on Goods and Services Categories with the Greatest Potential to Green

Table 8.1: Goods and Services Categories with the Greatest Potential to Green

Good or Service	2024 Total Spend ($)	2024 Percent EPP Spend (%)	EPP Target (%)
ALL GOODS AND SERVICES CATEGORIES MEET EPP, NO FURTHER POTENTIAL TO GREEN			

Planning Narrative on Table 8.1: Goods and Services with the Greatest Potential to Green

ALL GOODS AND SERVICES CATEGORIES MEET EPP, NO FURTHER POTENTIAL TO GREEN

EPP BMPs

Reporting Narrative for EPP BMPS

Pursuant to BMB Memo 23-08, CDFW programs must make every effort to select recycled content products at every opportunity when purchasing goods that fall under the 16 SABRC reportable categories. Additionally, CDFW's Acquisition Support Unit and Sustainability Unit provide biannual training to educate their employees by providing guidance on products that contain recycled content.

Staff must also research recycled alternatives to products they intend to purchase in 6 SABRC categories (antifreeze, lubricating oils, metal, paper, printing and writing paper, and plastic) and obtain a signed waiver for approval of the purchase. The waiver demonstrates staff's efforts to evaluate the market and search for recycled alternatives.

Planning Narrative for EPP BMPs

EPP BMPs ACHIEVED

Reporting on EPP Training and Outreach

Table 8.2: 2024 EPP Basic Training Completions

CalHR Classification	Total Number of Staff	EPP Basic Training Completion	Percent Trained	2025 EPP Training Goal
NO DATA				

Table 8.3: 2024 EPP Executive Training Completions for Executive Members

Executive Member	Title	Date Completed
NO DATA		

Reporting Narrative on Tables 8.2-3: EPP Training and Education

CDFW's BMB Acquisition Support Unit and Sustainability Unit provide biannual training to educate staff by providing guidance on products that contain recycling content, however, CDFW's Organizational Development Branch (ODB) does not track data on staff who have completed the CalPCA EPP training.

Planning Narrative on Tables 8.2-3: EPP Training and Education

CDFW does not formally require all buyers to complete CalPCA EPP training; however, each buyer is encouraged to take this training upon hiring. Currently, CDFW has no plans to make this training mandatory for all buyers, and each manager is responsible for ensuring staff take applicable trainings related to EPP.

Reporting on State Agency Buy Recycled Campaign (SABRC), and Reducing Impacts

Measure and Report SABRC Progress

Table 8.4: State Agency Buy Recycled Campaign (SABRC) FY 23/24 Performance

Product Category	SABRC Reportable Dollars	SABRC Compliant Dollars	% SABRC Compliant
75% Total Purchase Requirement	$13,434,335.69	$11,338,069.99	84.40%
Building Finishes	N/A	N/A	N/A
Carpet	N/A	N/A	N/A
Erosion Control Products	N/A	N/A	N/A
Glass Products	$75,566.00	$5,241.80	6.94%
Lubricating Oils	$31,376.78	$14,992.07	47.78%
Metal Products	$10,953,294.35	$10,064,299.39	91.88%
Paper Products	$153,874.10	$129,139.32	83.93%
Pavement Surfacing	$2,614.18	$2,614.18	100%
Plastic Products	$1,967,209.67	$907,422.64	46.13%
Printing and Writing Paper	$129,602.31	$115,424.73	89.06%
Soil Amendments and Soil Toppings	N/A	N/A	N/A
Textiles	$97,593.33	$97,331.49	99.73%
Tire Derived Products	$23,204.97	$1,604.37	6.91%
50% Total Purchase Requirement	$175,547.58	$5,348.80	3.05%
Antifreeze	$1,454.24	$1,183.47	81.38%
Paint	$11,419.73	$4,165.33	36.47%
Tires	$162,673.61	$0.00	0%

Reporting Narrative for Table 8.4: Measure and Report SABRC Progress

CDFW did not meet the minimum percentage for glass products, lubricating oils, plastic products, tire derived products, paint or tires. CDFW has already taken steps to improve these percentages. In October of 2023, BMB implemented BMB

Memorandum 23-08 Recycled Frist Policy, which provides resources on finding goods containing the minimum SABRC percentages, as well as requirements for templated language that must be added to CDFW solicitations. The policy also requires buyers to obtain an Exemption Waiver for purchases of non-compliant goods. The Sustainability Unit is dedicated to meeting sustainability initiatives, and the goal is to continue making improvements to CDFW's processes to better assist buyers with meeting the SABRC requirements. In August of 2024, the Sustainability Unit held a statewide call with procurement staff and buyers in attendance. During this call, the importance of meeting SABRC requirements was emphasized. The Sustainability Unit continues to hold biannual trainings to discuss the results of the SABRC report and to provide guidance to buyers on finding compliant products.

Planning Narrative for Table 8.4: Measure and Report SABRC Progress

See 2023-2024 SABRC Report at this link:
https://www2.calrecycle.ca.gov/Docs/Web/130038

Pursuant to BMB Memo 23-08, CDFW programs must make every effort to select recycled-content products at every opportunity when purchasing goods that fall under the 16 SABRC reportable categories.

Buyers incorporate templated language into Requests for Quotations (RFQs) and solicitations, requesting that vendors supply recycled-content alternatives that are equivalent to requested items where feasible. This language has been embedded into CDFW's RFQ template and Written Quotes script, which are available on the Procurement intranet page under the General tab. The policy also requires buyers to obtain an Exemption Waiver for purchases of non-compliant goods.

Additionally, buyers follow Assembly Bill 661, which allows preference for vendors offering products that meet minimum PCRC percentages, even when their bid is up to 10% higher than non-compliant bids.

All procurement officers and their designees have completed the required annual SABRC training. Continued compliance is maintained by tracking completion rates and incorporating training reminders into annual staff development planning.
Staff must continue to demonstrate efforts to evaluate the market for products in the 16 SABRC categories. The BMB Acquisition Support Unit and Sustainability Unit will continue providing biannual training and guidance to improve SABRC results.

Reducing Impacts

Reporting Narrative for Reducing Impacts

Pursuant to BMB Memo 23-08, CDFW programs must make every effort to select recycled content products at every opportunity when purchasing goods that fall under the 16 SABRC reportable categories.

Buyers will incorporate templated language into Request for Quotations (RFQs) and solicitations for quotes, requesting that vendors supply recycled content alternatives that are equivalent to requested items where feasible and practical. Templated language has been included in CDFW's RFQ template and Written Quotes script. These are located on the Procurement intranet page under the General tab.

Additionally, vendors must submit a CalRecycle 74 Form with their quote. The CalRecycle 74 Form details which products are in any SABRC product categories and the percentage of PCRC in each product. The completed form must be included in the procurement packet.

Furthermore, buyers must follow Assembly Bill 661, which allows for vendors that offer products meeting the minimum PCRC percentages to be awarded a bid, even when their bid is the higher bid, if it is no more than ten percent higher than the other bid(s) not offering products meeting the minimum PCRC percentages. Buyers are required to purchase recycled content products whenever it is possible to do so in accordance with procurement policies listed in the State Administrative Manual and State Contracting Manual.

Planning Narrative for Reducing Impacts

CDFW Buyers will continue to incorporate templated language into RFQs and solicitations for quotes, requesting that vendors supply recycled content alternatives that are equivalent to requested items where feasible and practical. CDFW's BMB Acquisition Support Unit and Sustainability Unit host biannual calls to state procurement staff and share green procurement strategies and recommendations.

CHAPTER 9 - FUNDING OPPORTUNITIES

Funding Opportunity Climate Change Adaptation

Table 9.1: Climate Change Priority Projects

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES		Choose an item.		

Funding Opportunities for ZEVs and EV Infrastructure

Table 9.2: EV Priority Projects

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES		Choose an item.		

Funding Opportunities for Building Energy Conservation and Efficiency

Table 9.3: Building Energy Conservation and Efficiency Priority Projects

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES		Choose an item.		

Funding Opportunities for Decarbonization

Table 9.4: Funding Opportunities for Decarbonization

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES		Choose an item.		

Funding Opportunities for Water Conservation and Efficiency

Table 9.5: Water Conservation and Efficiency Priority Projects

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES		Choose an item.		

Funding Opportunities for Facilities Construction and Maintenance

Table 9.6: Sustainable Operations Priorities

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES	Choose an item.	Choose an item.		

Funding Opportunities for Waste Management and Recycling

Table 9.7: Waste Management and Recycling Priorities

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES	Choose an item.	Choose an item.		

Funding Opportunities for Procurement

Table 9.8: Procurement Priorities

Building Name	Project	Funding Source	Est. Begin Date	Est. Completion Date
NO PRIORITIES	Choose an item.	Choose an item.		

Full Life Cycle Cost Accounting

Reporting on Life Cycle Cost Accounting

NOINFRASTRUCUTRE INVESTMENTS

Planning for Implementing Life Cycle Cost Accounting

NOINFRASTRUCUTRE INVESTMENTS

Chapter 10 – PUBLIC EDUCATION AND OUTREACH

CDFW plays a critical role in safeguarding California's diverse natural resources through a wide array of sustainability and conservation initiatives. Recognizing the importance of public awareness and involvement, CDFW has made concerted efforts to educate the public about its work and the science that underpins it. These educational efforts not only build transparency but also empower communities to participate in preserving California's ecosystems.

CDFW has a vast internet presence that enables users to explore CDFW's extensive research, learn about species protection efforts, and delve into the latest findings from CDFW's Science Institute. The Science Institute provides critical insights into climate science and highlights the department's strategic response to climate change.

The Science Institute outlines how CDFW is taking proactive steps to mitigate the effects of climate change across California's diverse landscapes. Their approach includes:

- Building resilience in natural landscapes by using scientific tools to guide adaptive ecosystem management. This enables wildlife and habitats to better withstand and recover from climate-related stressors.
- Promoting carbon storage in natural and working lands. By protecting and managing forests, wetlands, grasslands, and other ecosystems, CDFW helps sequester carbon and reduce greenhouse gas emissions.
- Coordinating efforts with other state agencies and non-governmental organizations to align strategies and leverage shared resources, thereby increasing the effectiveness and reach of sustainability projects.

More information on the work of CDFW's Science Institute can be found at this link:

https://wildlife.ca.gov/Science-Institute

Public education is further advanced through the Conservation Lecture Series, a collection of engaging and informative webinars that are open to the public. These webinars cover a wide range of topics such as biodiversity, habitat protection, and innovative strategies to reduce the impact of artificial light on wildlife, and much more. The series connects the public with CDFW experts and

other thought leaders in conservation, promoting knowledge-sharing and community dialogue. The Conservation Lecture Series can be accessed by following this link:

https://wildlife.ca.gov/Conservation/Lectures

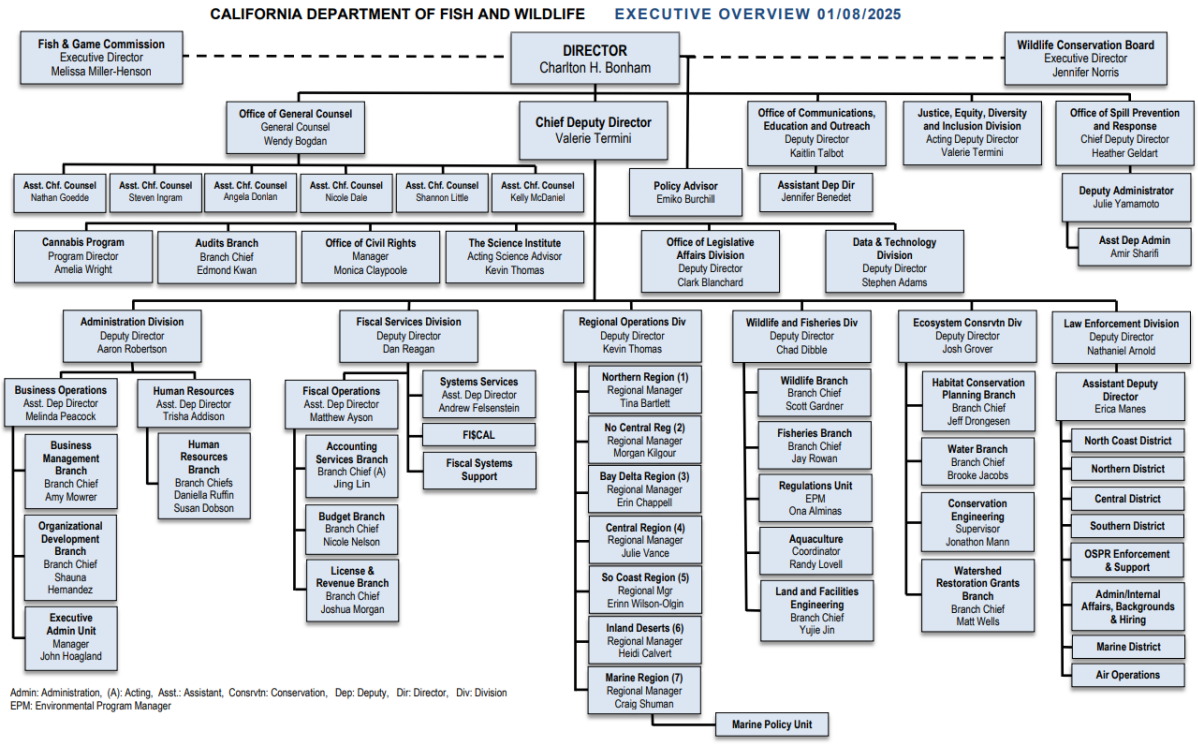
Another key resource available to the public is the State Wildlife Action Plan (SWAP). SWAP is a comprehensive blueprint that assesses the health of California's wildlife and ecosystems. It prescribes proactive measures to conserve species and habitats before they become critically endangered. Importantly, the plan supports wildlife conservation in a way that also accommodates responsible development and the growing needs of California's human population. By balancing ecological preservation with societal growth, SWAP ensures that both nature and communities can thrive. For more information on SWAP, visit this link:

https://wildlife.ca.gov/SWAP

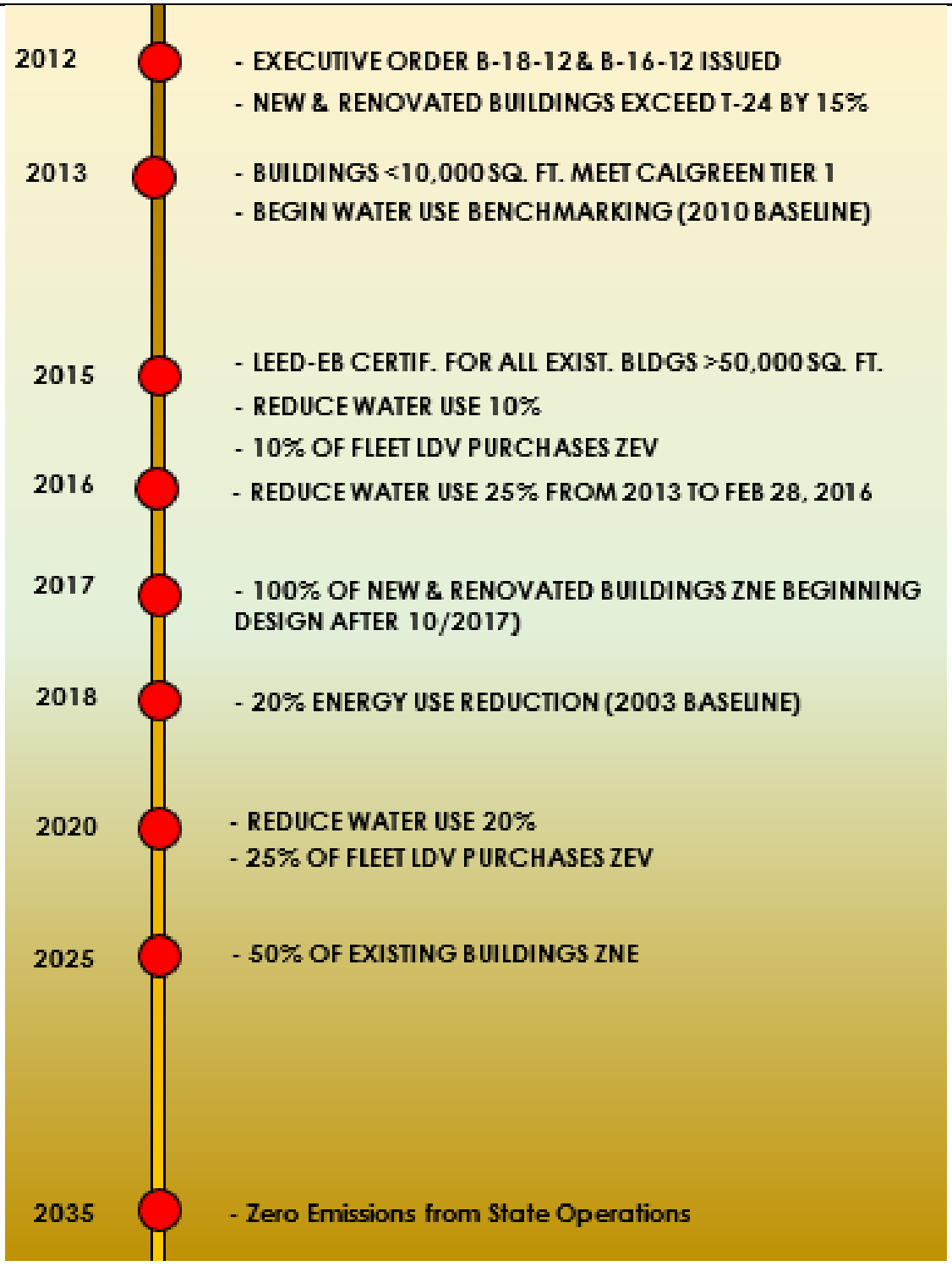
Through digital resources, scientific collaboration, public webinars, and strategic planning, CDFW remains committed to fostering a deeper understanding of California's environmental challenges and the solutions needed to overcome them. These efforts are not only shaping a more resilient natural world but also cultivating a more informed and engaged public—an essential partner in the journey toward sustainability.

APPENDIX A – SUSTAINABILITY LEADERSHIP

Insert Organization Chart of Department or Agency Sustainability Leadership and how connected to executive management.



APPENDIX B - SUSTAINABILITY MILESTONES & TIMELINE



APPENDIX C – ACRONYMS

Customize to include organizations and acronyms within your specific department

ACRONYM	DEFINTION
AB	Assembly Bill
ADR	Automated Demand Response
AMB	Asset Management Branch (at DGS)
BEV	Battery Electric Vehicle
BMP	Best Management Practices
CA	California
CALGREEN	California Green Building Code (Title 24, Part 11)
CEC	California Energy Commission
CRT	Cathode Ray Tube
DGS	Department Of General Services
DWR	Department Of Water Resources
EPD	Environmental Product Declarations
EHT	Extreme Heat Threshold
EMS	Energy Management System (Aka EMCS)
EMCS	Energy Management Control System (Aka EMS)
EO	Executive Order
EPP	Environmentally Preferable Purchasing
ESCO	Energy Service Company
ESPM	Energy Star Portfolio Manager
ETS	Enterprise Technology Solutions (A Division At DGS)
EUI	Energy Use Intensity (Source Kbtu/Sq. Ft.)
EVSE	Electric Vehicle Supply Equipment (Charging Equipment)
FMD	Facilities Management Division (A Division At DGS)
GCM	Global Circulation Model
GHG	Greenhouse Gas

ACRONYM	DEFINTION
GHGe	Greenhouse Gas Emissions
GSP	Groundwater Sustainability Plan
HD	Heavy Duty Vehicles
IEQ	Indoor Environmental Quality
kBTU	Thousand British Thermal Units (Unit of Energy)
LCM	The Landscape Coefficient Method
LD	Light Duty Vehicles
LEED	Leadership In Energy and Environmental Design
MAWA	Maximum Applied Water Allowance
MD	Medium Duty Vehicles
MM	Management Memo
MPG	Miles per Gallon
MWELO	Model Water Efficient Landscape Ordinance
OBAS	Office Of Business and Acquisition Services (At DGS)
OBF	On-Bill Financing
OFAM	Office Of Fleet and Asset Management (At DGS)
OS	Office Of Sustainability (At DGS)
PHEV	Plug-in Hybrid Electric Vehicle
PMDB	Project Management and Development Branch (At DGS)
PPA	Power Purchase Agreement
PUE	Power Usage Effectiveness
PV	Photovoltaic Vehicles
RCP	Representative Concentration Pathway
SABRC	State Agency Buy Recycled Campaign
SAM	State Administrative Manual
SB	Senate Bill

ACRONYM	DEFINTION
SCM	State Contracting Manual
SGA	Sustainable Groundwater Agency
SGMA	Sustainable Groundwater Management Act
SUV	Sport Utility Vehicle
WMC	Water Management Coordinator
VHSP(s)	Vehicle Home Storage Permits
WUCOLS	Water Use Classifications of Landscape Species
ZEV	Zero-Emission Vehicle
ZNE	Zero Net Energy

APPENDIX D - GLOSSARY

Backflow - is the undesirable reversal of the flow of water or mixtures of water and other undesirable substances from any source (such as used water, industrial fluids, gasses, or any substance other than the intended potable water) into the distribution pipes of the potable water system.

Backflow Prevention Device – a device that prevents contaminants from entering the potable water system in the event of back pressure or back siphonage.

Blowdown, Boilers - is the periodic or continuous removal of water from a boiler to remove accumulated dissolved solids and/or sludge. Proper control of blowdown is critical to boiler operation. Insufficient blowdown may lead to deposits or carryover. Excessive blowdown wastes water, energy, and chemicals.

Blowdown, Cooling Towers – Is the water discharged to remove high mineral content system water, impurities, and sediment.

Building Best Management Practices (BMPs) - are ongoing actions that establish and maintain building water use efficiency. BMPs can be continuously updated based on need and tailored to fit the facility depending on occupancy and specific operations.

Compost – Compost is the product resulting from the controlled biological decomposition of organic material from a feedstock into a stable, humus-like product that has many environmental benefits. Composting is a natural process that is managed to optimize the conditions for decomposing microbes to thrive. This generally involves providing air and moisture, and achieving sufficient temperatures to ensure weed seeds, invasive pests, and pathogens are destroyed. A wide range of material (feedstock) may be composted, such as yard trimmings, wood chips, vegetable scraps, paper products, manures and biosolids. Compost may be applied to the top of the soil or incorporated into the soil (tilling).

Cooling Degree Day (CDD) - is defined as the number of degrees by which a daily average temperature exceeds a reference temperature. The reference temperature is also typically 65 degrees Fahrenheit, and different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average

daily temperature below which space cooling (e.g., air conditioning) is not needed.

Critically Overdrafted - a condition in which significantly more water has been taken out of a groundwater basin than has been put in, either by natural recharge or by recharging basins. Critical overdraft leads to various undesirable conditions such as ground subsidence and saltwater intrusion.

Ecosystem Services - are the direct and indirect contributions of ecosystems to human well-being. They support directly or indirectly our survival and quality of life. Ecosystem services can be categorized in four main types:

- Provisioning services are the products obtained from ecosystems such as food, fresh water, wood, fiber, genetic resources, and medicines.
- Regulating services are the benefits obtained from the regulation of ecosystem processes such as climate regulation, natural hazard regulation, water purification and waste management, pollination, or pest control.
- Habitat services provide living places for all species and maintain the viability of gene-pools.
- Cultural services include non-material benefits such as spiritual enrichment, intellectual development, recreation, and aesthetic values.

Erosion Control Product – includes products such as compost filter socks, compost blankets and hydraulic mulch.

Environmental Product Declarations (EPD) - third-party verified reports that detail a product's impacts on the environment. The International Standards Organization (ISO) 14025 defines EPDs as a Type III declaration that "quantifies environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function." EPDs can be product-specific, factory-specific, or industry-wide.

Grass Cycling - refers to an aerobic (requires air) method of handling grass clippings by leaving them on the lawn when mowing. Because grass consists largely of water (80% or more), contains little lignin, and has high nitrogen content, grass clippings easily break down during an aerobic process. Grass cycling returns the decomposed clippings to the soil within one to two weeks acting primarily as a fertilizer supplement and, to a

much smaller degree, mulch. Grass cycling can provide 15 to 20% or more of a lawn's yearly nitrogen requirements

Heating Degree Day (HDD) - is defined as the number of degrees by which a daily average temperature is below a reference temperature (i.e., a proxy for when heat would be needed). The reference temperature is typically 65 degrees Fahrenheit, although different utilities and planning entities sometimes use different reference temperatures. The reference temperature loosely represents an average daily temperature *above which* space heating is not needed. The average temperature is represented by the average of the maximum and minimum daily temperature.

Hydrozone – is a portion of a landscaped area having plants with similar water needs that are served by one irrigation valve or set of valves with the same schedule.

Landscape Coefficient Method (LCM) - describes a method of estimating irrigation needs of landscape plantings in California. It is intended as a guide for landscape professionals.

Landscape Water Budget - is the calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Lifecycle Cost Accounting - includes initial investment costs, as well as lifetime operation and maintenance costs under changing climate conditions, including changing average conditions and increases in extreme events. It may involve applying non-market evaluation methods such as travel cost, avoided costs or contingent valuation to capture hard to quantify benefits and costs

Makeup Water - Makeup water, or the water replacing evaporated or leaked water from the boiler, is first drawn from its source, whether raw water, city water, city-treated effluent, in-plant wastewater recycle (cooling tower blowdown recycle), well water, or any other surface water source.

Model Water Efficient Landscape Ordinance (MWELO) - The Water Conservation in Landscaping Act was signed into law on September 29, 1990. The premise was that landscape design, installation, and maintenance can and should be water efficient. Some of the provisions specified in the statute included plant selection and groupings of plants based on water

needs and climatic, geological, or topographical conditions, efficient irrigation systems, practices that foster long term water conservation and routine repair and maintenance of irrigation systems. The latest update to MWELO was in 2015. MWELO applies to all state agencies' landscaping.

Mulch – Mulch is a soil topping consisting of a layer of material applied on top of soil. Examples of material that can be used as mulch include wood chips, grass clippings, leaves, straw, cardboard, newspaper, rocks, and even shredded tires. Benefits of applying mulch include reducing erosion and weeds and increasing water retention and soil vitality. Whenever possible, look for mulch that has been through a sanitization process to kill weed seeds and pests.

Natural infrastructure - is the "*preservation or restoration of ecological systems or the utilization of engineered systems that use ecological processes to increase resiliency to climate change, manage other environmental hazards, or both. This may include, but need not be limited to, flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planting to mitigate high heat days*" (Public Resource Code Section 71154(c)(3)).

Non-purchased Water – is water that a department uses that does not come from a 3rd party supplier. It may be water from domestic wells owned by the department or water that is taken from a river, lake, canal, or other source and used by the department. The water may be returned to source after use.

Trickle Flow – A device that allows users to reduce flow to a trickle while using soap and shampoo. When the device is switched off, the flow is reinstated with the temperature and pressure resumes to previous settings.

Soil Amendments and Soil Toppings - Soil amendments Include adding ingredients such as sulfur, or sand to change the original soil, soil conditioner for potting or plant mix, Soil toppings include organic materials used for water conservation; organic materials such as biosolids or other comparable substitutes such as livestock, horse, or other animal manure, food residues or fish processing byproducts; mechanical breakdown of materials.

Sprinkler system backflow prevention devices – are devices to prevent contaminants from entering water supplies. These devices connect to the

sprinkler system and are an important safety feature. They are required by the California Plumbing Code.

Submeter- a metering device installed to measure water use in a specific area or for a specific purpose. Also known as dedicated meters, landscape submeters are effective for separating landscape water use from interior water use, evaluating the landscape water budget and for leak detection within the irrigation system.

Urban Heat Islands - are areas with localized spikes in temperature, which impact human health, increase pollution, and increase energy demand. Urban heat islands occur during the hot summer months in areas with higher percentages of impervious surface and less vegetation. This is likely in areas with large parking lots, dense development, and lower tree density and shading. Urban heat islands can be mitigated (i.e., reduced) through tree planting and other greening measures, cool roofs (e.g., lighter roofing materials that reflect light), cooler pavements, and other measures.

Water Budget - A landscape water budget is the calculated irrigation requirement of a landscape based on landscape area, local climate factors, specific plant requirements and the irrigation system performance.

Water Energy Nexus - Water and energy are often managed separately despite the important links between the two. 12 percent of California's energy use is related to water use with nearly 10 percent being used at the end water use. Water is used in the production of nearly every major energy source. Likewise, energy is used in multiple ways and at multiple steps in water delivery and treatment systems as well as wastewater collection and treatment.

Water Shortage Contingency Plans - Each urban water purveyor serving more than 3,000 connections or 3,000 acre-feet of water annually must have an Urban Water Shortage Contingency Plan (Water Shortage Plan) which details how a community would react to a reduction in water supply of up to 50% for droughts lasting up to three years.

Water Use Classification of Landscape Species (WUCOLS)-. WUCOLS are used to help determine water budgets and irrigation schedules. Use this link to access the necessary information for your landscaping needs. WUCOLS Plant Search Database (ucdavis.edu)

Zero Energy Buildings - A zero-energy building is "an energy-efficient building where, on a source energy basis, the actual annual delivered energy is less than or equal to the on-site renewable exported energy". Department of Energy (DOE), September 2015.

APPENDIX E – DEPARTMENT STAKEHOLDERS

List individuals, offices, and divisions responsible for leading efforts related to each initiative identified in this report. Include their respective titles, roles, responsibilities.

Climate Change Adaptation

Understanding Climate Risk at Existing Facilities	
Administration Division, Business Management Branch (AD/BMB)	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist
Science Institute	Kevin Thomas, Acting Science Advisor Whitney Albright, Senior Environmental Scientist (Specialist)

Understanding Climate Risk at Planned Facilities	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist
Science Institute	Kevin Thomas, Acting Science Advisor Whitney Albright, Senior Environmental Scientist (Specialist)

Integrating Climate Change into Department Planning and Funding Programs	
Science Institute	Kevin Thomas, Acting Science Advisor Whitney Albright, Senior Environmental Scientist (Specialist)

Measuring and Tracking Progress	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist
Science Institute	Kevin Thomas, Acting Science Advisor Whitney Albright, Senior Environmental Scientist (Specialist)

Zero Emission Vehicles

Incorporating ZEVs Into the Department Fleet	
AD/BMB	Amy Mowrer, Branch Manager Don Ronalter, Assistant Branch Manager Tim Uhls, Fleet Manager

Telematics	
AD/BMB	Amy Mowrer, Branch Manager Don Ronalter, Assistant Branch Manager Mike Benton, Telematics Manager

Public Safety Exemption	
LED	Nathanial Arnold, Deputy Director, Law Enforcement Division
AD/Organizational Development Branch (ODB)	Shauna Hernandez, Branch Manager
Office of Spill Prevention and Response (OSPR)	Heather Geldart, Deputy Director

Outside Funding Sources for ZEV Infrastructure	
AD/BMB	Amy Mowrer, Branch Manager Don Ronalter, Assistant Branch Manager Tim Uhls, Fleet Manager

Hydrogen Fueling Infrastructure	
AD/Executive Management (EXEC)	Aaron Robertson, Deputy Director Melinda Peacock, Assistant Deputy Director
AD/BMB	Amy Mowrer, Branch Manager Don Ronalter, Assistant Branch Manager Tim Uhls, Fleet Manager
Lands and Facilities Engineering Branch (LFEB)	Yujie Jin, Branch Manager

Comprehensive Facility Site and Infrastructure Assessments	
LFEB	Yujie Jin, Branch Manager
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

EVSE Construction Plan	
AD/EXEC	Aaron Robertson, Deputy Director Melinda Peacock, Assistant Deputy Director
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

EVSE Operation	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Energy

Zero Net Energy (ZNE)	
LFEB	Yujie Jin, Branch Manager
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

New Construction Exceeds Title 24 by 15%	
LFEB	Yujie Jin, Branch Manager

Existing Buildings Energy Efficiency	
LFEB	Yujie Jin, Branch Manager

Energy Savings Projects	
AD/EXEC	Aaron Robertson, Deputy Director Melinda Peacock, Assistant Deputy Director
Regional Operations Division	Kevin Thomas, Deputy Director
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Demand Response	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Renewable Energy	
AD/EXEC	Aaron Robertson, Deputy Director Melinda Peacock, Assistant Deputy Director
Regional Operations Division	Kevin Thomas, Deputy Director
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Monitoring-Based Commissioning (MBCx)	
LFEB	Yujie Jin, Branch Manager

Building Controls	
LFEB	Yujie Jin, Branch Manager
AD/BMB	Amy Mowrer, Branch Manager Lisa Bays, Assistant Branch Manager Brandon Edens, Leased Facilities Unit Manager

Decarbonization

Greenhouse Gas Emissions	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Water Efficiency and Conservation

Indoor Water Efficiency Projects in Progress First initiative	
Regional Operations Division	Kevin Thomas, Deputy Director
Water Branch (WB)	Brooke Jacobs, Branch Manager

Boilers and Cooling Systems Projects in Progress	
Regional Operations Division	Kevin Thomas, Deputy Director

Boilers and Cooling Systems Projects in Progress	
WB	Brooke Jacobs, Branch Manager

Landscaping Hardware Water Efficiency Projects in Progress	
Regional Operations Division	Kevin Thomas, Deputy Director
WB	Brooke Jacobs, Branch Manager

Living Landscaping Water Efficiency Projects in Progress	
Regional Operations Division	Kevin Thomas, Deputy Director
WB	Brooke Jacobs, Branch Manager

Buildings with Urban Water Shortage Contingency Plans in Progress	
Regional Operations Division	Kevin Thomas, Deputy Director
WB	Brooke Jacobs, Branch Manager

Facilities Construction and Operations

Building Design and Construction	
LFEB	Yujie Jin, Branch Manager
AD/BMB	Amy Mowrer, Branch Manager Lisa Bays, Assistant Branch Manager Brandon Edens, Leased Facilities Unit Manager

LEED for Existing Buildings Operations and Maintenance	
LFEB	Yujie Jin, Branch Manager
AD/EXEC	Aaron Robertson, Deputy Director Melinda Peacock, Assistant Deputy Director
AD/BMB	Amy Mowrer, Branch Manager Lisa Bays, Assistant Branch Manager Brandon Edens, Leased Facilities Unit Manager

Indoor Environmental Quality	
AD/ODB	Shauna Hernandez
AD/BMB	Amy Mowrer, Branch Manager Lisa Bays, Assistant Branch Manager Brandon Edens, Leased Facilities Unit Manager

Integrated Pest Management	
Wildlife and Fisheries Division (WFD)	Chad Dibble, Deputy Director

Integrated Pest Management	
Regional Operations Division	Kevin Thomas, Deputy Director

Fossil Fuel Landscaping Equipment Replacement	
Regional Operations Division	Kevin Thomas, Deputy Director

Location Efficiency	
AD/BMB	Amy Mowrer, Branch Manager Lisa Bays, Assistant Branch Manager Brandon Edens, Leased Facilities Unit Manager

Waste Management and Recycling

Waste and Recycling Programs	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

SARC Report	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Recycling Program and Practices	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Organics Recycling	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Hazardous Waste Materials	
AD/BMB	Amy Mowrer, Branch Manager

Hazardous Waste Materials	
	Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Universal Waste Program	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Material Exchange Programs	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Waste Prevention Program	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Reuse Program	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Employee Waste and Recycling Training and Education	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Procurement

Goods and Services with the Greatest Potential to Green	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Christina Ellis, Acquisition Support Unit Manager

EPP BMPs	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Christina Ellis, Acquisition Support Unit Manager

Reporting on EPP Training and Outreach	
AD/ODB	Shauna Hernandez
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Christina Ellis, Acquisition Support Unit Manager

Reporting on State Agency Buy Recycled Campaign	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

Reducing Impacts	
AD/BMB	Amy Mowrer, Branch Manager Chelsea Tippin, Assistant Branch Manager Taylor Marsh, Sustainability Unit Manager Stephanie Mercado, Contracts, Procurement & Sustainability Specialist

APPENDIX F – SUSTAINABILITY STATUTORY REQUIREMENTS, EXECUTIVE ORDERS, AND MANAGEMENT MEMOS REFERENCES

The following legislative actions, executive orders, State Administrative Manual (SAM) Management Memos, resources, and guidance documents provide the sustainability criteria, requirements, and targets tracked and reported herein.

Recent Legislative Actions

Several pieces of legislation were signed in 2023 that codified several elements of the executive orders, or provided further requirements included in the policies. These include the following:

Senate Bill (SB) 416 (Laird, 2023): Requires all new building and major renovation projects larger than 10,000 gross square feet undertaken by state agencies, and for which the project schematic design documents are initiated by the state agency on or after January 1, 2024, to obtain the Leadership in Energy and Environmental Design or "LEED" Gold or higher certification, except as provided. Requires the state agency to obtain LEED Silver certification if the state agency concerned makes a finding that achieving LEED Gold conflicts with critical operational or security requirements, is demonstrably cost ineffective, or conflicts with California Building Code requirements. Authorizes certification to an alternative equivalent or higher rating system or standard, if any, only when approved by the Director of General Services.

Senate Bill SB 837 (Archuleta, 2023): The State Energy Resources Conservation and Development Commission as of January 1, 2024, shall consider revising the definition of "conditioned space, indirectly" for purposes of those regulations to include sealed and unvented attics, where the space is enclosed by the primary thermal and air barrier and directly adjoining conditioned space.

Assembly Bill (AB) 43 (Holden, 2023): Authorizes the state board to establish an embodied carbon trading system. Authorizes the state board to integrate the embodied carbon trading system into the framework for measuring the average carbon intensity of the materials used in the construction of new buildings, as described above, on or before December 31, 2026, and to implement the system on and after January 1, 2029. Authorizes the state board to adopt rules and regulations for the credit allocation approach, the anticipated carbon price in the scheme, and trading periods. Requires the state board to periodically review and update its emission reporting and compliance standard requirements, as necessary.

Other Significant Legislative Actions

- Assembly Bill (AB) 661 (Bennet, 2022): Requires a state agency, if fitness and quality are equal, to purchase recycled products instead of nonrecycled products whenever recycled products are available at no more than 10% greater total cost than nonrecycled products, and specified circumstances exist. Requires the Department of Resources Recycling and Recovery, in concurrence with the DGS and in consultation with impacted agencies, to update a list of products and minimum recycled content percentages, as determined to be appropriate, commencing January 1, 2026, and every 3 years thereafter. Requires the Department of Resources Recycling and Recovery to report a state agency that does not meet SABRC purchasing requirements in each product category to the DGS. The bill would require all state agency procurement and contracting officers, or their designees, to participate in mandatory annual training, as prescribed, conducted by the Department of Resources Recycling and Recovery. The bill would require the DGS and the Prison Industry Authority to prioritize the use of recycled content products.
- Senate Bill (SB) 1020 (2022): -*Clean Energy, Jobs, and Affordability Act of 2022*. States that eligible renewable energy resources and zero-carbon resources supply 90% of all retail sales of electricity to California end-use customers by December 31, 2035, 95% of all retail sales of electricity to California end-use customers by December 31, 2040, 100% of all retail sales of electricity to California end-use customers by December 31, 2045, and 100% of electricity procured to serve all state agencies by December 31, 2035, as specified.
    - Assembly Bill (AB) 2446 (Holden, 2022): Require the Air Resources Board, by July 1, 2025, to develop, in consultation with specified stakeholders, a framework for measuring and then reducing the average carbon intensity of the materials used in the construction of new buildings, including those for residential uses. The bill would require the framework to include a comprehensive strategy for the state's building sector to achieve a 40% net reduction in greenhouse gas emissions of building materials, as determined from a baseline calculated using a certain 2026 report, if that report is adequate, or as specified. The bill would require the strategy to achieve this target as soon as possible, but no later than December 31, 2035, with an interim target of 20% net reduction by December 31, 2030.
- Senate Bill SB 1203 (Becker, 2021): Requires the Department of General Services, in consultation with the state board, and to the extent feasible, to publish, on its internet website or other publicly available location, an inventory of the greenhouse gas emissions of state agencies for the prior calendar year, on or before July 1, 2024, and annually thereafter until the goal has been achieved. Requires DGS to develop and publish a plan, on or

before January 1, 2026, that describes required actions and investments for achieving net-zero emissions of greenhouse gases and an estimate of the costs associated with the planned actions and ensure that the required actions and investments are incorporated into the sustainability roadmaps of all state agencies. Requires the department to update the plan beginning June 30, 2028, and every 2 years thereafter until the goal has been achieved. Requires that, subject to an appropriation by the Legislature, the department to provide information, training, coordination, best practices, and other technical assistance to state agencies to help those state agencies implement the required actions and investments. Requires state agencies to incorporate the required actions and investments into their future budget proposals, as provided. Requires the department, beginning December 31, 2027, and biennially thereafter until the achievement of the above stated goal, to report to the Legislature on progress toward achieving that goal, as provided.

- Senate Bill SB 1335 (Allen, 2018): Enacts the Sustainable Packaging for the State of California Act of 2018, which would prohibit a food service facility located in a state-owned facility, operating on or acting as a concessionaire on state property, or under contract to provide food service to a state agency from dispensing prepared food using a type of food service packaging unless the type of food service packaging is on a list that CalRecycle publishes and maintains on its Internet Web site that contains types of approved food service packaging that are reusable, recyclable, or compostable.
- Assembly Bill (AB) 739 (Chau, 2017): Requires, beginning December 31, 2025, at least 15% of newly purchased vehicles with a gross vehicle weight rating of 19,000 pounds or more purchased by the department and other state entities for the state fleet to be zero emission, and beginning December 31, 2030, at least 30% of those vehicles to be zero emission. The bill would require, if the department finds, in a public hearing on or after December 31, 2026, that it cannot meet the needs of the state while meeting this requirement, the department to disclose this finding at the hearing and to the Legislature.
- Assembly Bill (AB) 2800 (Quirk, 2016): Requires state agencies to take the current and future impacts of climate change into planning, designing, building, operating, maintaining, and investing in state infrastructure. CNRA will establish a Climate-Safe Infrastructure Working Group to determine how to integrate climate change impacts into state infrastructure engineering. (Public Resources Code Section 71155)
- Assembly Bill AB 2812 (Gordon, 2016): Provide adequate receptacles, signage, education, staffing, and arrange for recycling services. Report annually on how each of these is being implemented

- Senate Bill SB 1383 (Lara, 2016): 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020, a 75 percent reduction by 2025, and 20 percent of currently disposed edible food is recovered for human consumption by 2025.
    - Agencies already in compliance with AB 1826 may need to further expand their organic waste recycling service to comply with the new requirements
    - Jan. 1, 2024, Tier 2 Commercial Edible food Generators will be required to donate edible food to a recovery organization.
- Assembly Bill (AB) 1482 (Gordon, 2015): Requires that the California Natural Resources Agency (CNRA) update the state's adaptation strategy safeguarding California every three years. Directs state agencies to promote climate adaptation in planning decisions and ensure that state investments consider climate change impacts, as well as the use of natural systems and natural infrastructure. (Public Resources Code Section 71153)
- Senate Bill (SB) 246 (Wieckowski, 2015): Established the Integrated Climate Adaptation and Resiliency Program within the Governor's Office of Planning and Research to coordinate regional and local efforts with state climate adaptation strategies to adapt to the impacts of climate change. (Public Resources Code Section 71354)
- Assembly Bill AB 1826 (Chesbro, 2014): Implement mandatory commercial organics recycling program (if meet threshold). Report annually on organics recycling program.
- Assembly Bill AB 2583 (Blumenfield, 2012): **Public Resources Code §25722.8**: Statute requires reducing consumption of petroleum products by the state fleet compared to a 2003 baseline. Mandates a 10 percent reduction or displacement by Jan. 1, 2012, and a 20 percent reduction or displacement by Jan. 1, 2020.
- Assembly Bill AB 341 (Chesbro, 2011): Implement mandatory commercial recycling program (if meet threshold). Report annually on recycling program.
- Senate Bill SB 1106 (Lowenthal, 2005): Have at least one designated waste management coordinator. Report annually on how your designated waste and recycling coordinator meets the requirement.
- Assembly Bill AB 75 (Strom-Marting,1999): Implement an integrated waste management program and achieve 50 percent disposal reduction target. State Agencies report annually on waste management program.

- **Assembly Bill (AB) 4**: Passed in 1989. The State Agency Buy Recycled Campaign (SABRC) statutes are in Public Contract Code Section 12153-12217. The intent of SABRC is to stimulate markets for materials diverted by California local government and agencies. It requires state agencies to purchase enough recycled-content products to meet annual targets, report on purchases of recycled and nonrecycled products, and submit plans for meeting the annual goals for purchasing recycled-content products.

Executive Orders

The governor issued the following executive order relevant to chapters of this roadmap:

- Executive Order B-16-12

  EO B-16-12 directs state agencies to integrate zero-emission vehicles (ZEVs) into the state vehicle fleet. It also directs state agencies to develop the infrastructure to support increased public and private sector use of ZEVs. Specifically, it directs state agencies replacing fleet vehicles to replace at least 10 percent with ZEVs, and by 2020 to ensure at least 25 percent of replacement fleet vehicles are ZEVs.

- Executive Order B-18-12

  EO B-18-12 and the companion *Green Building Action Plan* require state agencies to reduce the environmental impacts of state operations by reducing greenhouse gas emissions, managing energy and water use, improving indoor air quality, generating on-site renewable energy when feasible, implementing environmentally preferable purchasing, and developing the infrastructure for electric vehicle charging stations at state facilities. The Green Building Action Plan also established two oversight groups – the staff-level Sustainability Working Group and the executive-level Sustainability Task Force – to ensure these measures are met. Agencies annually report current energy and water use into the Energy Star Portfolio Manager (ESPM).

- Executive Order B-29-15

  EO B-29-15 directs state agencies to take actions in response to the ongoing drought and to the state of emergency due to severe drought conditions proclaimed on January 17, 2014. Governor Brown directed numerous state agencies to develop new programs and regulations to mitigate the effects of the drought and required increased enforcement of water waste statewide. Agencies were instructed to reduce potable urban water use by 25 percent between 2013 and February 28, 2016.

- Executive Order B-30-15

In 2015, the governor issued EO B-30-15, which declared climate change to be a "threat to the well-being, public health, natural resources, economy and environment of California." It established a new interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 and reaffirms California's intent to reduce GHG emissions to 80 percent below 1990 levels by 2050. To support these goals, this order requires numerous state agencies to develop plans and programs to reduce emissions. It also directs state agencies to take climate change into account in their planning and investment decisions and employ life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies are directed to prioritize investments that both build climate preparedness and reduce GHG emissions; prioritize natural infrastructure; and protect the state's most vulnerable populations.

Executive Order B-37-16

- The Department of Water Resources (Department) shall work with the Water Board to develop new water use targets as part of a permanent framework for urban water agencies. These new water use targets shall build upon the existing state law requirements that the state achieve a 20% reduction in urban water usage by 2020. (Senate Bill No. 7 (7th Extraordinary Session, 2009-2010).) These water-use targets shall be customized to the unique conditions of each water agency, shall generate more statewide water conservation than existing requirements, and shall be based on strengthened standards for:

    a. Indoor residential per capita water use.

    b. Outdoor irrigation, in a manner that incorporates landscape area, local climate, and new satellite imagery data.

    c. Commercial, industrial, and institutional water use; and

    d. Water lost through leaks.

2. The Department shall strengthen requirements for urban Water Shortage Contingency Plans, which urban water agencies are required to maintain. These updated requirements shall include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. While remaining customized according to local conditions, the updated requirements shall also create common statewide standards so that these plans can be quickly utilized during this and any future droughts.

State Administrative Manual & Management Memos

The following section of the State Administrative Manual (SAM), and associated Management Memos (MMs) currently impose sustainability requirements on the department under the governor's executive authority:

- SAM Chapter 1800: Energy and Sustainability
- SAM Chapter 1900
- SAM Chapter 4100
- SAM Chapter 3600, Section 3627
- MM 15-03: Minimum Fuel Economy Standards Policy
- MM 16-07: Zero-Emission Vehicle Purchasing and EVSE Infrastructure Requirements

State-wide Action Plans

- 2016 Zero-Emission Vehicle Action Plan

  The plan establishes a goal to provide electric vehicle charging to 5 percent of state-owned parking spaces by 2022. It also advances the ZEV procurement target to 50 percent of light-duty vehicles by 2025.
- Safeguarding California Implementation Action Plans:

Directed under EO B-30-15, the Implementation Action Plans outline the steps that will be taken in each sector to reduce risks from climate change.

- AB 32 Scoping Plan: The scoping plan assumes widespread electrification of the transportation sector as a critical component of every scenario that leads to the mandated 40 percent reduction in GHG by 2030 and 80 percent reduction by 2035.

State Resources and Guidance Documents

California has invested significant resources in understanding the risks of climate change, water efficiency, strategic growth, and state actions available to respond to and reduce these risks. These include the following:

- Safeguarding California: The state's climate adaptation strategy organized by sector. Each sector identifies risks from climate change and actions to reduce those risks.
- Planning and Investing for a Resilient California: Prepared under direction of EO B-30-15, this document provides a framework for state agencies to integrate climate change into planning and investment, including guidance on data selection and analytical approach.

- California's Climate Change Assessments: California has completed three comprehensive assessments of climate change impacts on California. Each assessment has included development of projections of climate impacts on a scale that is relevant to state planning (i.e., downscaled climate projections). These data are available through Cal-Adapt, an online data visualization and access tool.
- Water Use Reduction Guidelines and Criteria: Issued by the California Department of Water Resources February 28, 2013, pursuant to Executive Order B-18-12. Each applicable agency was required to take actions to reduce water use in facilities and landscapes that are operated by the state, including owned, funded, or leased facilities. State-operated facilities are defined as facilities where the agency has direct control of the buildings' function, maintenance, and repair. For leased facilities, the Green Building Action Plan directed at that time that new and renegotiated leases include provisions for water conservation, reporting water use, and installation of sub-meters to the extent possible and economically feasible.
- Strategic Growth Council (SGC) Resolution on Location Efficiency: Location efficiency refers to the greenhouse gas emissions arising from the transportation choices of employees and visitors to a building as determined by the Smart Location Calculator. Adopted on December 6, 2016, the resolution directs members of the SGC to achieve a 10 percent improvement in the Smart Location Score of new leases compared to the average score of leased facilities in 2016.
- EDP Compliance Guide Environmental Product Declarations (EPD) are third-party verified reports that detail a product's impacts on the environment.

Tables of Applicable Statutory Requirements, Executive Orders and SAM and Management Memos

Table F-1 Statutory Requirements, Executive Orders, Management Memos, and the State Administrative Manual and the Applicable Roadmap Chapters

Legislation, Executive Orders, & Management Memos	Year Enacted	Climate Adaptation	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement
SB 32	2015	X			X				
SB 246	2015	X							
SB 416	2023						X		
SB 837	2023						X		
SB 1016	2008						X		
SB 1020	2022	X		X	X				
SB 1106	2005							X	
SB 1168	2014					X			
SB 1203	2021	X			X				
SB 1319	2014					X			
SB 1335	2018							X	
AB 32	2006	X	X		X				
AB 43	2023	X			X				
AB 75	1999							X	
AB 197	2016	X			X				
AB 262	2017								X
AB 341	2011						X	X	
AB 498	2002								X
AB 661	2022							X	
AB 739	2017		X						
AB 939	2021							X	
AB 1343	2010							X	
AB 1482	2015	X							
AB 1739	2014					X			
AB 1826	2014							X	
AB 2396	2016						X	X	
AB 2446	2022				X				
AB 2800	2016	X							
AB 2812	2016						X		
EO B-16-12	2012		X				X		
EO B-18-12	2015		X	X		X	X		
EO B-29-15	2015					X			

Legislation, Executive Orders, & Management Memos	Year Enacted	Climate Adaptation	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement
EO B-30-15	2015	X	X	X			X		
EO B-37-16	2016					X			
MM 15-03	2015		X						
MM 16-07	2016		X						
Public Resources Code 25722.8	2001		X						

Table F-2 Action Plans, and State Resources and Guidance Documents and the Applicable Roadmap Chapters

Action Plans, and State Resources and Guidance Documents	Year	Climate Adaptation	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement
2016 ZEV Action Plan	2016		X						
Cal-Adapt website		X							
California's 4th Climate Change Assessment	2018	X							
Planning and Investing for a Resilient California	2018	X							
Safeguarding California	2014	X							

Action Plans, and State Resources and Guidance Documents	Year	Climate Adaptation	ZEV	Energy	Decarb	Water	Facilities	Waste	Procurement

APPENDIX G LIST OF TABLES AND GRAPHS