Sustainability Roadmap 2018-2019: Zero Emission Vehicles

Progress Report and Plan for Meeting
the Governor's Sustainability Goals
for California State Agencies

Department of Fish and Wildlife

Edmund G. Brown Jr., Governor

December 2017

Department of Fish and Wildlife Sustainability Roadmap 2018-2019: Zero Emission Vehicles

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Acronyms

EO	Executive Order
EVSE	Electric Vehicle Supply Equipment (charging equipment)
GHGe	Greenhouse Gas Emissions
MM	Management Memo
SAM	State Administrative Manual
ZEV	Zero Emission Vehicle
DGS	Department of General Services
CDFW	Department of Fish and Wildlife
OFAM	Office of Fleet and Asset Management
RESD	Real Estate Services Division

EXECUTIVE SUMMARY

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. 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 wildlife areas and ecological reserves, CDFW operates 24 fish hatcheries to provide sportfish stock for anglers in California. The department 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.

The activities staff undertake to accomplish this unique mission takes them to remote, often off-road, areas of California – from harsh lava-bed terrain, coastal wetlands, high-mountain streams, lakes and meadows, and arid deserts. In order to reach areas where the wildlife live and thrive, the use of 4-wheel drive pickups and sport utility vehicles (SUV) are the normal mode of transportation and make up 90 percent of the total fleet. These vehicles also regularly tow equipment such as trailered boats, snowmobiles, all-terrain vehicles or large tanks of fish.

The composition of CDFW's fleet poses some challenges in working toward the Zero Emission Vehicle (ZEV) goals. The most prominent of these challenges is the current lack of market availability of ZEV's of any variety with both 4-wheel drive and towing capabilities; however, we are optimistic that the current trend of global ZEV innovation will bring these vehicle types to the marketplace in the near future at comparable costs.

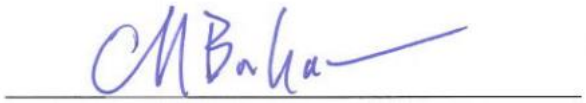
As CDFW is challenged in meeting the ZEV goals the department is taking a more holistic approach to reducing greenhouse gas (GHG) emissions from the fleet. Fleet emissions make up a significant piece of the department's carbon footprint. Therefore, CDFW is looking at every way possible to reduce GHG emissions including adding more ZEVs, using low emitting fuels, creating ZEV car pools to increase the use of ZEVs, as well as reviewing internal operations to see if changes can be made that would decrease the use of fossil fuel vehicles.

CDFW is anxiously awaiting the telematics contract from the Department of General Services (DGS) and plans to purchase the software for the entire fleet as soon as it is available. It is the hope that using telematics will give the department more accurate data on the use of its vehicles.

Finally, CDFW has put in a request for services with DGS to assess priority sites for Electric Vehicle Supply Equipment (charging equipment) (EVSE) installations. CDFW is ensuring that current electric vehicle charging needs are met while addressing future infrastructure needs as well. CDFW is working with DGS to apply for funds appropriated in the Budget Act of 2017 to begin installation of EVSE at state facilities to help pay for these assessments and installations. CDFW identified thirty-five prospective locations that have the potential to provide electric

vehicle charging. As of December 2017, feasibility assessments have been completed at three of these locations to determine the viability of providing electric vehicle charging and determining any anticipated cost. CDFW anticipates completing the remaining assessments by early to mid-2018.

Despite the challenges, CDFW is committed to meeting the Governor's mandates and to reducing fleet GHG emissions as much as possible and will take all actions feasible to accomplish these goals.



Charlton H. Bonham
Executive Director

SUSTAINABILITY GOALS

The Governor has directed California State Agencies to demonstrate sustainable operations and to lead the way by implementing sustainability policies set by the state. Sustainability includes the following general initiatives:

- Greenhouse Gas Emissions Reductions
- Building Energy Efficiency and Conservation
- Indoor Environmental Quality (IEQ)
- Water Efficiency and Conservation
- Monitoring Based Building Commissioning (MBCx)
- Environmentally Preferable Purchasing (EPP)
- Financing for Sustainability
- Zero Emission Vehicle (ZEV) Fleet Purchases
- Electric Vehicle Charging Infrastructure
- Monitoring and Executive Oversight

The Governor has issued numerous executive orders directing sustainable state operations. The orders relevant to zero emission vehicles are:

Executive Order B-18-12

Executive Order (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 onsite 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.

Executive Order B-16-12

EO B-16-12 directs state agencies to integrate 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 ten percent with ZEVs, and by 2020 to purchase at least 25 percent replacement fleet as ZEVs.

Executive Order B-30-15

EO B-30-15 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 greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030, and reaffirms

California's intent to reduce greenhouse gas emissions by 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.

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.

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 2015.

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.

State Administrative Manual & Management Memos

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

Relevant Management Memos

- MM 15-03: Minimum Fuel Economy Standards Policy
- MM 15-07: Diesel, Biodiesel, and Renewable Hydrocarbon Diesel Bulk Fuel Purchases
- MM 16-07: Zero-Emission Vehicle Purchasing and EVSE Infrastructure Requirements

FLEET VEHICLES

Introduction to the Department of Fish and Wildlife Fleet

This ZEV Report and Plan demonstrates to the Governor and the public the progress the department has made toward meeting the Governor's sustainability goals related to Zero Emission Vehicles. This report identifies successful accomplishments, ongoing efforts, outstanding challenges and future efforts.

The Mission of the California Department of Fish and Wildlife (CDFW) 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. In order to meet this mission, CDFW employees utilize vehicles in a variety of applications including law enforcement, emergency response, land management, fish hatchery support, scientific functions and administrative support. Through these applications vehicles can be used for driving remote off-road terrain, towing equipment/supplies weighing over one thousand pounds, and traveling long distances.

CDFW staff vary greatly in the functions of their work and require a variety of vehicles to accomplish such. Wildlife Law Enforcement Officers and spill prevention and response employees primarily use 4-wheel drive pickups and sport utility vehicles (SUV) to access remote areas of the state, patrol areas, and ensure regulatory compliance of laws over wildlife lands and waterways. These areas are commonly off-road environments in rough terrain. Often Officers are stationed in remote home-offices across the state and use their vehicles daily, whereas spill and prevention staff tend to travel between their office and target locations. Vehicles used for these functions often must tow trailered boats, all-terrain vehicles (ATV) and snowmobiles for patrol and emergency response in remote off-road areas.

Scientific and non-scientific field employees also use 4-wheel drive pickups and SUVs to access remote areas of the state. However, their duties consist of conducting field-studies of fish and wildlife populations, surveying habitats, conducting surveys of hunters and anglers, transporting supplies and a variety of additional activities. CDFW staff at fish hatcheries use vehicles for transporting equipment and deploying fish into lakes/waterways. Vehicles are used daily in peak season and less often during off-season. Similar to law enforcement these vehicles must be able to tow or carry large loads such as fish tanks, trailered boats, ATVs, sprayers, pumps, and a variety of scientific equipment.

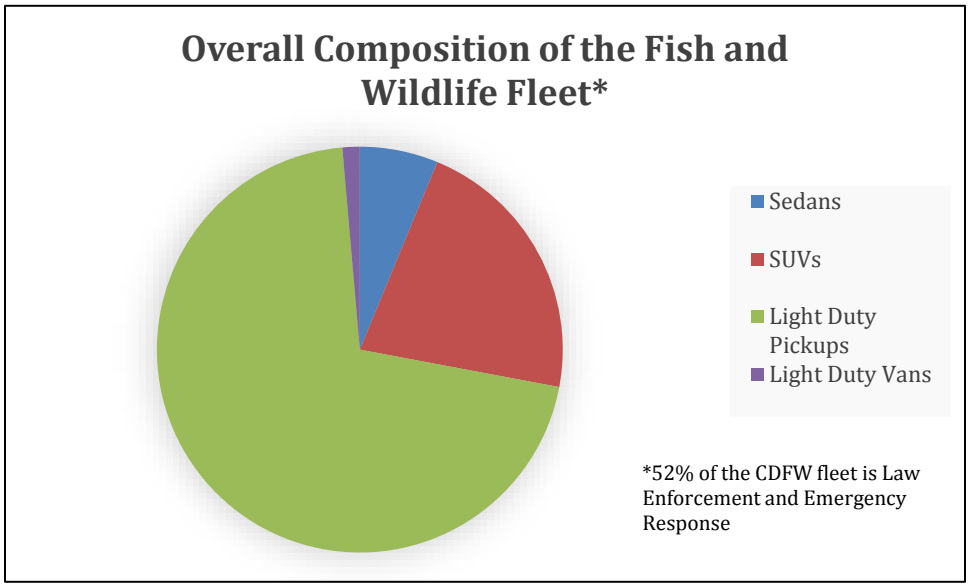
Administrative staff working from regional headquarters and field offices use sedans, SUVs and vans to travel to meetings and perform routine day-to-day functions. These vehicles are often pooled and are also used by scientific staff when trucks are not needed.

When CDFW staff access remote areas or go off-road, they face various road conditions that vary by climate, weather, and topography. Common road conditions include dirt roads, mud,

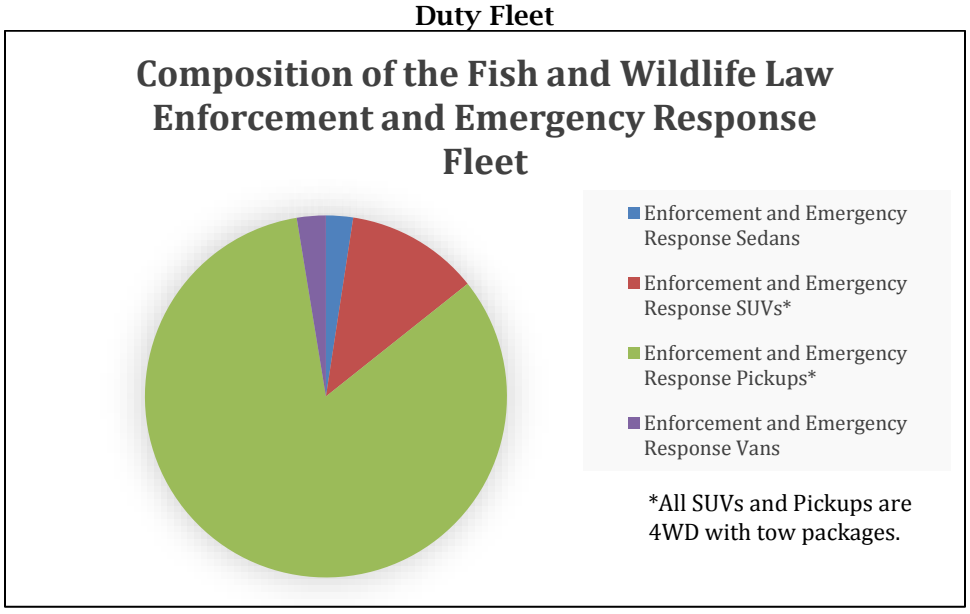
flooded surfaces, uneven surfaces, and rocky or sandy roads. In addition, it is common for CDFW staff to travel one-way distances that can exceed two hundred miles.

The following graphs 1A, 1B, and 1C show the breakdown of CDFWs fleet and some of the main areas that make up the fleet.

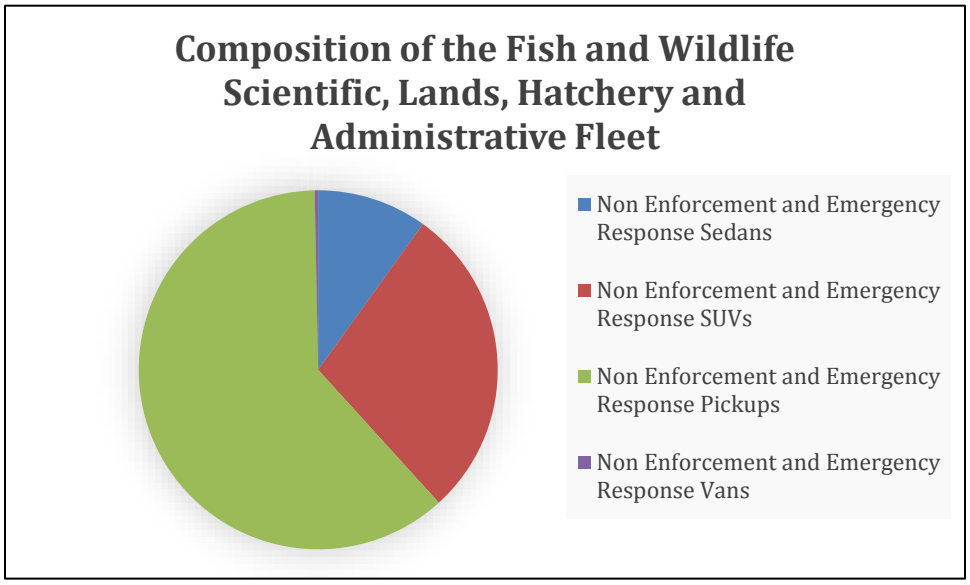
Graph 1A: Overall Composition of Department's Light Duty Fleet



Graph 1B: Composition of Department's Law Enforcement and Emergency Response Light Duty Fleet



Graph 1C: Composition of Department's Scientific, Lands, Hatchery and Administrative Fleet



The average Mileage per Gallon (MPG) of petroleum and alternate combustible fuels was 16.65 MPG in 2016. This number has increased over time due to replacements of older fleet units with more fuel efficient models. In 2012 the MPG was at 15.45, in 2013 it was 15.59 MPG, in 2014 it was 15.77 MPG and in 2015 it was 16.1 MPG.

A reduction in CDFW Greenhouse Gas (GHG) Emissions has resulted; from 20 Million lbs. of CO2 in 2012 to 19 Million lbs. of CO2 in 2016

Table 1: Total Purchased Fuel in 2016

Purchased Utility	Quantity	Cost ($)
Gasoline	1,177,807 Gallons	$ 3,088,436
Diesel	75,623 Gallons	$ 257,218
Renewable Diesel	49,605 Gallons	$ 42,289
TOTAL GGE	**1,303,035 Gallons**	**$ 3,387,943**

Incorporating ZEVs into the State Fleet

A widespread shift to Zero Emission Vehicles is essential for California to meet its GHG emission goals. State departments are now required to incorporate larger numbers of ZEVs in their vehicle fleets. Starting in Fiscal Year (FY) 17/18 the percentage of new light duty vehicles that must be Zero Emission Vehicles increases by 5 percent each year, reaching 25 percent in FY 19/20 and 50 percent in FY 24/25.

As stated before due to the makeup of the fleet and the nature of work conducted at CDFW, incorporating ZEVs can be challenging. Majority of CDFW's fleet are used for, off-road trips to remote areas, responding to emergencies, or for carrying heavy equipment. For these types of vehicles, they need the ability to have a 4-wheel drive system, enough torque for hauling, large carrying capacity, high clearance, and ability to drive long distances. The type of work that uses these vehicles include patrolling remote areas, carrying spill response supplies, towing off-road vehicles, hauling fish and fish supplies, and carrying large land maintenance equipment. Currently there are no ZEV 4-wheel drive pick-ups available.

For applications that do not require hauling or carrying heavy equipment, plug-in hybrid electric vehicles (PHEV) all-wheel drive SUVs are a viable option. There are some PHEV all-wheel drive SUVs are available, and CDFW will incorporate those into the fleet whenever feasible.

Vehicles used for administrative functions are typically sedans, SUVs and vans, and are utilized by staff to travel to meetings, run errands, etc. These functions are the department's best option for battery electric vehicles (BEVs). For trips that are out of range for the current department ZEVs, hybrid vehicles will be considered as the next best option.

Vehicles that have reached or exceeded specified mileage and age thresholds are eligible for replacement. Currently ZEVs are available on statewide commodity contracts in the sub-compact, compact, mid-size sedans and mini-vans vehicle classes.

Despite the challenges in meeting the ZEV requirements, the department is committed to seriously reducing GHG emissions from the fleet and intends to incorporate more hybrids, alternative fuels and other actions that will help to reduce the department's footprint.

Table 2: Vehicles in Department Fleet Currently Eligible for Replacement based on currently published replacement criteria by mileage.

	Sub-Compact Sedan	**Compact Sedan**	**Midsize Sedan**	**Mini Van**	**Other Vans**
# of vehicles eligible for replacement	0	0	14	3	0
	Large 2WD SUV	**Medium 2WD SUV**	**Small 2WD SUV**	**Large 4WD SUV**	**Medium 4WD SUV**
# of vehicles eligible for replacement	8	16	0	38	34
	Small 4WD SUV	**Half-Ton 2WD Pickups**	**Half-Ton 4WD Pickups**	**Small 2WD Pickups**	**Small 4WD Pickups**
# of vehicles eligible for replacement	0	29	192	2	10

# of vehicles replaceable by current EVs on contract	# of vehicles replaceable with no currently available EVs
17	100

Table 2 shows the vehicles in the fleet that are eligible for replacement based on mileage. The figures cited above are subject to change given:

- Availability of funding to replace eligible vehicles
- Replacements of out-of-service vehicles not meeting mileage, but approved by OFAM inspectors.

Table 3 shows the estimated number of ZEVs that have been or are anticipated to be added to the department fleet in coming years.

Table 3: ZEV Additions to the Department Fleet (Projection)

Table Header Format	**13/14**	**14/15**	**15/16**	**16/17**	**17/18**	**18/19**	**19/20**	**20/21**	**21/22**
Battery Electric Vehicle	0	7	3	2	7	0	0	0	0
Plug-in Hybrid Vehicle	5	19	11	4	8	12	12	17	17
Fuel Cell Vehicle	0	0	0	1	1	0	0	0	0
Percent of total light duty purchases (non-exempt)	5%	16%	12%	10%	15%	20%	25%	30%	35%
Required ZEV Percentage	N/A	10%	10%	10%	15%	20%	25%	30%	35%
Total number of ZEVs in Fleet	5	26	40	47	55	71	88	105	117

Telematics Plan

Telematics is a method for monitoring vehicle use. Using GPS and on-board diagnostics, telematics provides valuable information that often results in fuel savings and improved vehicle utilization. Telematics is especially important for verifying that Plug-in Hybrid Vehicles are maximizing the use of electric fuel rather than gasoline. The rule requiring 50 percent of ZEVs purchased to be BEVs is not in place for fleets making use of telematics for all ZEVs.

CDFW anticipates a future statewide contract administered through the Department of General Services (DGS) for telematics transponders and applicable software. The ability for the data transmitted by the telematics units to be accessible via cellular, Wi-Fi and satellite will be critical due to the remote areas of operations. Once released CDFW does intend to purchase and use telematics for the entire fleet.

Public Safety Exemption

The composition of CDFW law enforcement and emergency response fleet is comprised of 4-wheel drive pick-ups and SUVs with towing ability. Because there are no immediately available ZEVs offering off-road and towing options, there are no plans to have a CDFW ZEV operated by sworn officers.

Enforcement vehicles are authorized emergency vehicles pursuant to California Vehicle Code §165. They are equipped with light bars, radios, computers, spot-lights, a tow package and various other electronic equipment beyond a normally outfitted vehicle. These vehicles are used often in off-road environments and must have the ability to safely and quickly reach a reported crime in progress or pursue suspicious vehicles.

Emergency response vehicles, pursuant to California Vehicle Code §21055, are driven in response to emergency calls involving spills of toxic substances. Sites of reported spills must be reached as soon as possible in order to minimize impacts on the public, water supplies and fish and wildlife habitat. Emergency response vehicles are equipped with radios, computers, spot-lights a tow package and various other electronic equipment beyond a normally outfitted vehicle.

ZEV INFRASTRUCTURE

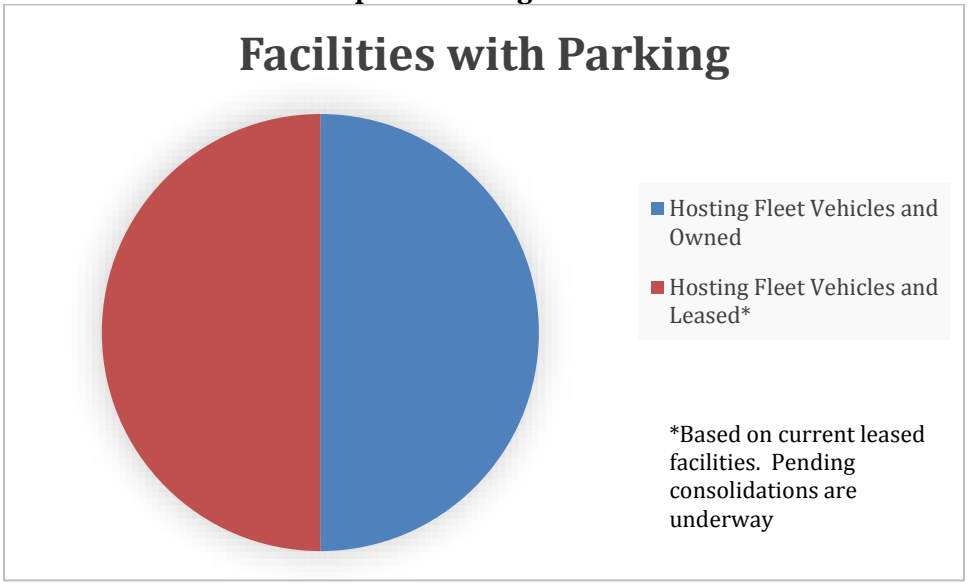
Introduction to the Department of Fish and Wildlife Parking Facilities

CDFW's facilities consist of three basic types: offices/labs, wildlife areas/ecological reserves and fish hatcheries. The offices and labs are generally mixed use and house scientific, enforcement 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. Eleven of these facilities are State owned and 33 are leased. All office and lab facilities host fleet vehicles.

Wildlife areas and ecological reserves (lands) are CDFW owned and are managed by lands staff that perform habitat restoration and maintenance projects year round. There are 24 staffed wildlife areas and ecological reserves. All of these facilities are open to the public for their use and enjoyment. 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.

Fish hatcheries are operated by staff that breed and rear sportfish from eggs to fingerlings to be planted in California lakes and streams. There are 24 fish hatcheries. Fifteen are owned and operated by CDFW and nine are owned by other entities and operated by CDFW. These facilities are open to the public for viewing and for educational purposes. All hatcheries host fleet vehicles and the parking is generally mixed use among CDFW fleet, employees, and visitors. Visitors stay anywhere from 30 minutes to two hours depending on the time of year.

Graph 2: Parking Facilities



Given the nature of the department's fleet operations and the length of stay for visitors and employees, it has been determined that it is appropriate for L2 chargers to make up the majority of chargers used in employee designated parking areas. However, CDFW is considering using a mix of L1 and L2 chargers for fleet parking for a variety of reasons. The use of L3 chargers (DC Fast-Chargers) is being considered for the larger offices, which would potentially reduce the numbers of planned L2 chargers and free up more non-dedicated parking stalls, Currently, there is no funding available for the L3 fast chargers which makes installing those less feasible.

Based on estimates of future ZEV fleet purchases and a count of visitor and workplace parking spaces, it has been determined that the department will need approximately 90 chargers to adequately serve fleet vehicles and achieve the goals established in the ZEV Action Plan. This number is based on the need for charging of fleet and workplace vehicle charging needs projected for the next five years. Table 4, lists the sites that have the most potential for installing chargers, however site assessments will determine the final numbers and locations.

Table 4: High Priority EVSE Sites

Facility Name	Total Parking Spaces	Existing L1 Chargers	Existing L2 Chargers	New L1 Chargers Needed	New L2 Chargers Needed
REGION 1 HQ Redding	101	0	0	0	8
REGION 2 HQ Rancho Cordova	299	0	2	0	5
REGION 3 HQ Napa	74	0	0	0	6

Facility Name	Total Parking Spaces	Existing L1 Chargers	Existing L2 Chargers	New L1 Chargers Needed	New L2 Chargers Needed
REGION 5 HQ San Diego	70	0	0	0	1
REGION 6 HQ Ontario	20	0	0	0	3
BELMONT OFFICE	26	0	0	0	2
LOS ALAMITOS OFFICE	75	0	0	0	2
MONTEREY OFFICE	44	0	0	0	3
FRESNO OFFICE	120	0	3	0	5

Outside Funding Sources for EV Infrastructure

CDFW has been in contact with Pacific Gas and Electric (PG&E) in order to take advantage of incentive programs expected to be offered in late 2017, which could benefit three CDFW locations. CDFW has also engaged San Diego Gas and Electric (SDG&E) and ask that they engage the lessor to take advantage of the incentives offered through that utility. Southern California Edison (SCE) currently does not have a program but hopes to have one in place sometime during 2018. CDFW is waiting to see if any of the locations will qualify under that program.

The department actively monitors sites such as Grants.gov in hopes of taking advantage of any funding opportunities with state government eligibility. The funding would allow the department to set up an Architectural Revolving Fund (ARF) account for DGS contractors to assess and install chargers or to pay for infrastructure upgrades and charger installs as part of tenant improvements during new or renewed leased facilities. Finally, CDFW has applied for funding for assessments through DGS' BCP process and is awaiting further direction from DGS.

The department is also working with CarbonBlu, to assess the fleet and look for grant and other funding opportunities.

Hydrogen Fueling Infrastructure

Hydrogen Fuel Cell Electric Vehicles (FCEV) are a type of ZEV that runs on compressed hydrogen fed into a fuel cell "stack" that produces electricity to power the vehicle. A fuel cell can be used in combination with an electric motor to drive a vehicle and tends to have a larger range that most of the electric cars available to the state. Given the remoteness of the locations of many CDFW sites, FCEV are a good alternative to electric cars for the department. The two major obstacles of these vehicles is the lack of hydrogen fueling stations throughout the state and the price of the vehicles is much higher. Currently the department has two FCEV and is

requesting approval from DGS-OFAM of a third on the FY2017/18 Fleet Acquisition Plan. CDFW has identified the following sites that potentially serve as hydrogen fueling stations for future FCEVs.

Sacramento Area:

- 1515 S. River Road, West Sacramento, CA 95691
- 6141 Greenback Lane, Citrus Heights, CA 95621

Belmont Office Area:

- 248 South Airport Blvd., South San Francisco, CA 94080
- 17287 Skyline Boulevard, Woodside, CA 94062

San Diego Office Area:

- 5494 Mission Center Rd, San Diego, CA 92108
- 3060 Carmel Valley Road, San Diego, CA 92130

Ontario Office Area

- 1850 Holt Boulevard, Ontario, CA 91761
- 12600 East End Ave., Chino, CA 91710

Los Alamitos Office Area:

- 16001 Beach Blvd, Huntington Beach, CA 92647
- 3401 Long Beach Blvd, Long Beach, CA 90807

There are currently no plans to install hydrogen fueling stations at any CDFW facilities.

Comprehensive Facility Site and Infrastructure Assessments

Site Assessments are conducted to establish the cost and feasibility of installing EV infrastructure. The table below lists the facilities that have been assessed.

CDFW currently has an active project with DGS to have infrastructure assessments completed for CDFW owned facilities. One assessment has been completed, although no cost information was given. Table 5 displays the results of the first site assessment. Two more are scheduled for December 2017 with the rest to fall in 2018 as DGS schedule permits.

Table 5: Results of Site Assessments

Facility Name	L1 Chargers with Current Electrical System	L2 Chargers with Current Electrical System	Total cost for Project using Current Electrical System	L1 Chargers with Electrical System Upgrades	L2 Chargers with Electrical System Upgrades
Redding HQ	2 possible	2 possible	Not Given	N/A	N/A
Total					

EVSE Construction Plan

The 5-year Infrastructure Plan submitted by CDFW is the first major milestone toward activating EV charging infrastructure. This plan generally places a higher volume of level-2 chargers in main-offices and field offices where there is a higher potential for EV purchases and use based on the composition of the CDFW light duty fleet and number of employees and visitors that potentially use the chargers.

For leased facilities, a request for chargers will be part of new or lease renewal negotiations administered by DGS. No plans will be made to install chargers for programs at leased facilities that are planned for closure and relocation over the next 5 years.

CDFW is currently working with DGS to perform site assessments for each owned site to identify needed electrical infrastructure upgrades that may be required to support the chargers. Completing these assessments is the second critical milestone of the plan.

Following the assessments, DGS or its contractors will design the construction plans consistent with the Americans with Disabilities Act (ADA) and state and local fire codes. These contractors will perform the electrical work and install chargers purchased using the state contract.

Mobile solar-powered EV chargers will be used when it is more cost-effective than improving electrical infrastructure or if flexibility is required to accommodate EV purchases at leased facilities pending closure.

Wherever possible, CDFW will take advantage of EV charger incentive programs offered by electric service providers and apply for any eligible grant funding to offset the cost to CDFW.

EVSE Operation

Each install of an EV charger or bank of chargers will be metered separately from the buildings to allow for the collection of data for reporting purposes. Requirements that the meter reading be made available for reporting requirements by the lessor will be written into new and lease renewals and administered by DGS.

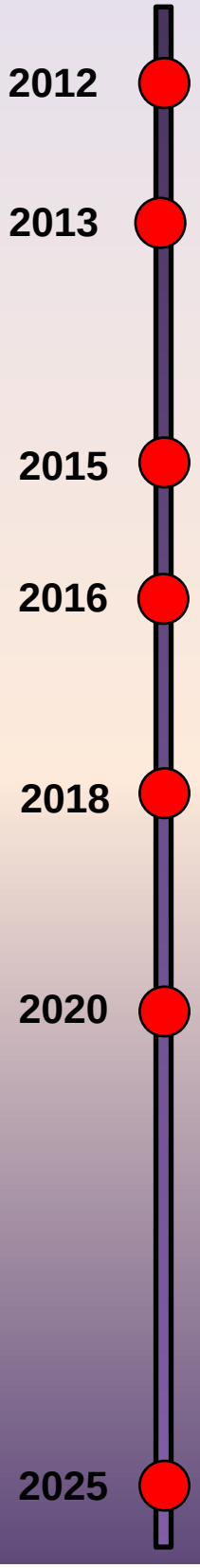
CDFW will collect the data from each site through the service provider or lessor and report this data to the DGS Office of Sustainability and Office of Fleet and Asset Management in their required format and timeline.

Generally, dedicated EV charging stalls will be mixed-use by domiciled and visiting CDFW Fleet, employees and visitors. Larger CDFW facilities with dedicated CDFW fleet parking will have stalls in restricted areas for exclusive CDFW fleet use.

Planned use of charge-point will allow CDFW to be reimbursed for employee personal use and visitor use as well as minimize concerns over inappropriate gifting of public funds. This will also make the chargers more available for CDFW fleet vehicles when needed.

Enforcement of posted time-limit and stall use may be an issue to be considered by each individual site. CDFW looks forward to a standardized statewide enforcement policy to be developed and provided by DGS.

SUSTAINABILITY MILESTONES & TIMELINE



2012

- EXECUTIVE ORDER B-18-12 & B-16-12 ISSUED
- 15% NEW & RENOVATED BUILDINGS EXCEED Title 24

2013

- BUILDINGS <10,000 SQ. FT. MEET CALGREEN TIER 1
- BEGIN WATER USE BENCHMARKING

2015

- LEED-EB FOR ALL EXISTING BUILDINGS >50,000 SQ. FT.
- 10% WATER USE REDUCTION
- 10% OF FLEET PURCHASES ZERO EMISSION VEHICLES

2016

- 25% WATER USE REDUCTION FROM 2013 TO 2016
  special drought mandate

2018

- 20% ENERGY USE REDUCTION

2020

- 50% OF NEW & RENOVATED BUILDINGS ZERO NET ENERGY
- 20% WATER USE REDUCTION
- 25% OF FLEET PURCHASES ZERO EMISSION VEHICLES

2025

- 100% OF NEW & RENOVATED BUILDINGS ZNE
- 50% OF EXISTING BUILDINGS ZNE

DEPARTMENT STAKEHOLDERS

Incorporating ZEVs Into the Department Fleet	
Individual / Manager	Title
Michael Boll Amy Manasero Tyrone Williams	Fleet and Asset Manager Assistant Branch Chief Branch Chief

Telematics	
Individual / Manager	Title
Michael Boll Amy Manasero Tyrone Williams	Fleet and Asset Manager Assistant Branch Chief Branch Chief

Public Safety Exemption	
Individual / Manager	Title
Michael Boll David Bess Thomas Cullen Tyrone Williams	Fleet and Asset Manager Deputy Chief, Law Enforcement Division Administrator, Office of Spill Prevention and Response Branch Chief

Outside Funding Sources for ZEV Infrastructure	
Individual / Manager	Title
Michael Boll Amy Manasero Tyrone Williams	Fleet and Asset Manager Assistant Branch Chief Branch Chief

Hydrogen Fueling Infrastructure	
Individual / Manager	Title
Diane Brown-Tapia Gabe Tiffany	Sustainability Manager Deputy Director

Comprehensive Facility Site and Infrastructure Assessments	
Individual / Manager	Title
Diane Brown-Tapia Gabe Tiffany	Sustainability Manager Deputy Director

EVSE Construction Plan	
Individual / Manager	Title
Diane Brown-Tapia Gabe Tiffany	Sustainability Manager Deputy Director

EVSE Operation	
Individual / Manager	Title
Michael Boll Amy Manasero Tyrone Williams	Fleet and Asset Manager Assistant Branch Chief Branch Chief