

2014 Green Bonds

Second Annual Report



JOHN CHIANG

California State Treasurer

December 2016

1

Overview

3

The Bond Sale

4

Use of Proceeds

5

Programs & Projects

5 Goods Movement Emission Reduction Program

7 Public Transportation Modernization, Improvement, and Service Enhancement Account Program

10 Integrated Regional Water Management Grant Program

12 Delta Levee System Integrity Program

13

Resources

The following is a list of the 2014 Green Bond eligible project categories:

- ✓ **Air Pollution Reduction:** Projects which reduce emissions to the air by promoting public transportation, including intercity rail projects and commuter or urban rail, buses, and waterborne transit. This category may also include emission reduction projects from activities related to the movement of freight along California's trade corridors and the retrofit of buses and trucks to reduce diesel exhaust.
- ✓ **Clean Water and Drinking Water:** Projects designed to improve the quality of drinking water, reduce pollution in the State's water supply according to State and federal standards, or improve water supply reliability.
- ✓ **Energy Efficiency and Conservation Projects in Public Buildings:** Projects designed to reduce energy costs in existing public buildings or create new energy-saving Leadership in Energy and Environmental Design (LEED) certified buildings, including educational facilities.
- ✓ **Protection of Rivers, Lakes, and Streams:** Projects which protect and restore rivers, lakes and streams, their watersheds and associated land, water, and other natural resources.
- ✓ **Protection of Beaches, Bays, and Coastal Waterways:** Projects which protect beaches, bays and coastal waters and watersheds, including projects to prevent contamination and degradation of coastal waters and watersheds, and projects to protect and restore the natural habitat of coastal waters and lands.
- ✓ **Forest and Wildlife Conservation, and Open Space Protection:** Projects which protect and conserve forests and wildlife habitat, and projects that include land protection programs and open space acquisitions.
- ✓ **Flood Prevention:** Projects which repair, rehabilitate, reconstruct, or replace levees, weirs, bypasses, and facilities of the State Plan of Flood Control, and projects which improve or add facilities to the State Plan of Flood Control to increase levels of flood prevention for urban areas. This category may include projects designed to manage stormwater runoff to reduce flood damage and where feasible, provide other benefits, including groundwater recharge, water quality improvement, and ecosystem restoration. This category may also include projects which protect, create, and enhance flood protection corridors and bypasses.
- ✓ **Sustainable Communities and Climate Change Reduction:** Projects which improve the sustainability and livability of California's communities through investment in natural resources, including urban greening projects that reduce energy consumption, conserve water, improve air and water quality, and provide other community benefits; and acquisition and development of new parks and expansion of overused parks.

2014 Green Bond Terms				
Maturity Date (October 1)	Principal Amount	Interest Rate	Yield to Initial Purchaser	CUSIP ²
2028	\$35,000,000	3.00%	3.150%	13063CNP1
2028	\$65,000,000	5.00%	2.900% ¹	13063CNR7
2037	\$100,000,000	3.75%	3.840%	13063CNQ9
2037	\$100,000,000	5.00%	3.370% ¹	13063CNS5

Figure A

¹ Priced to October 1, 2024 call date at par.

² Copyright 2014, American Bankers Association. CUSIP® is a registered trademark of the American Bankers Association.

The 2014 Green Bonds provided funds for Green Projects, repaid certain commercial paper notes which funded Green Projects, and paid costs of issuance. The 2014 Green Bonds were issued with the terms displayed in **Figure A**.

As listed in **Figure B**, the State issued the 2014 Green Bonds as three series of bonds under two voter approved GO bond acts.

As of the date of this report, Moody's Investors Service, Standard & Poor's Global Ratings, and Fitch Ratings rate the 2014 Green Bonds Aa3, AA-, and AA- respectively.

2014 Green Bonds Series

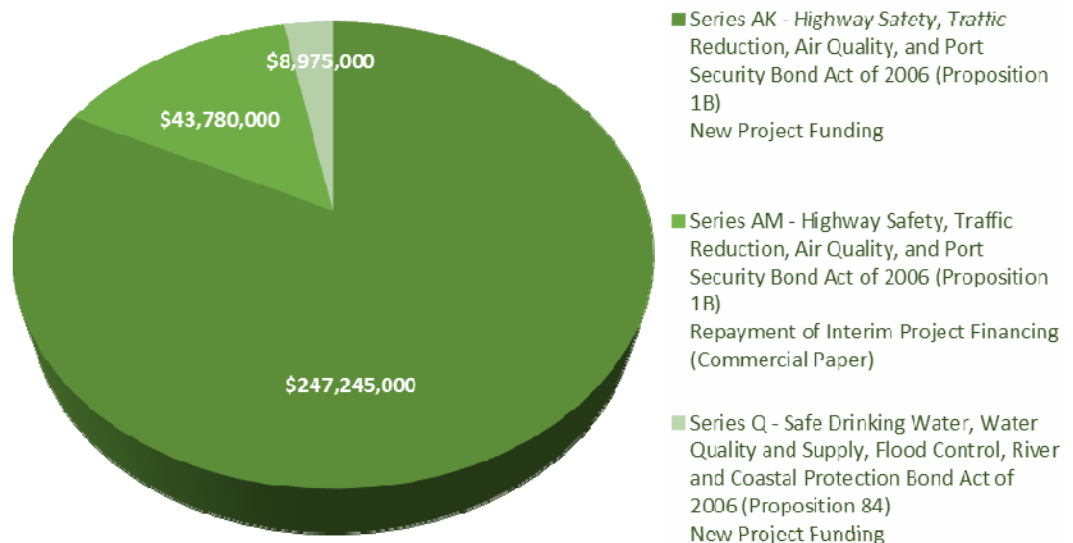


Figure B

2014 Green Bond Project Categories

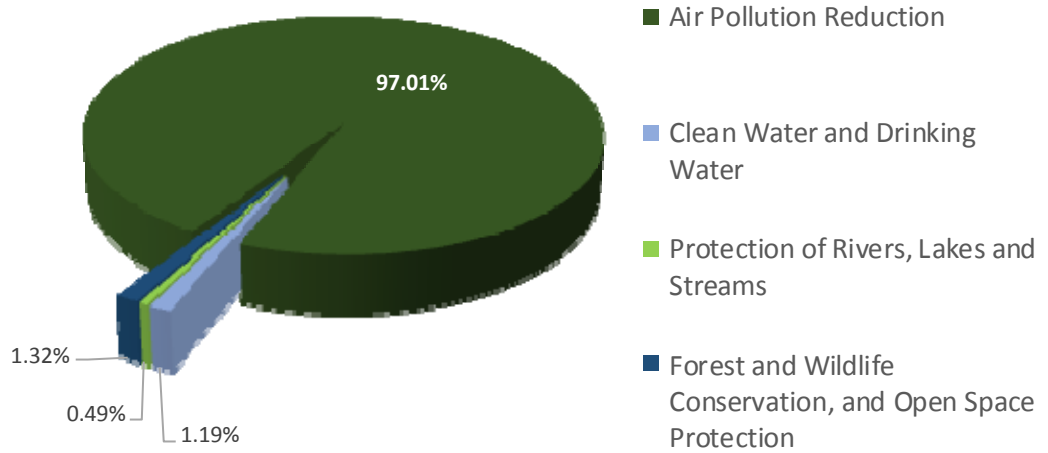


Figure C

The 2014 Green Bond proceeds have been allocated among four of the eight eligible project categories as shown in **Figure C**. Until proceeds are disbursed, specific programs and/or projects may be added or deleted which may result in changes to project category allocations. Any programs and/or projects added will comply with the eligible categories described earlier in this report.

As of June 30, 2016, a total of \$294.3 million had been disbursed, leaving approximately \$5.5 million remaining to be disbursed (**Figure D**). Amounts allocated to costs of issuance are excluded from these figures.

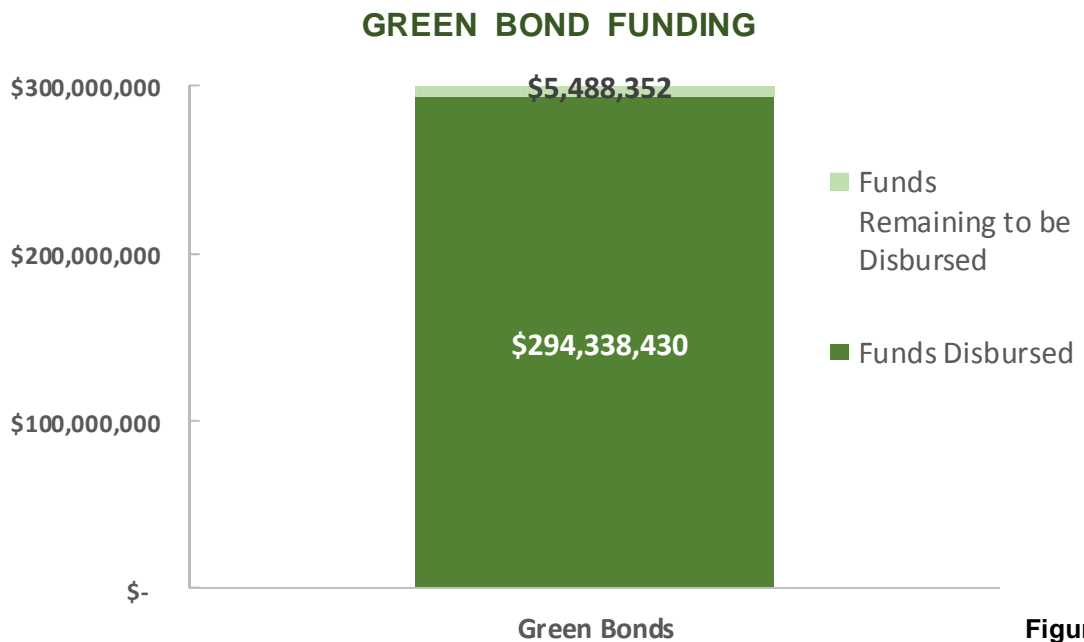


Figure D

The following is a summary of the programs and projects funded by the 2014 Green Bonds. In some cases, the 2014 Green Bonds may only provide partial funding for the specific program and/or project. Additional State funding may have been, or will be, provided for in one or more additional GO bond sales.

As described previously, while the 2014 Green Bond proceeds have been allocated to the purposes identified below, until proceeds are expended, specific programs and/or projects may be added or deleted. Any programs and/or projects added will comply with the eligible categories described in this report.

Proposition 1B: Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006

The following programs and projects have been allocated 2014 Green Bond funding under Proposition 1B:

Program Goods Movement Emission Reduction Program – Administered by the California Air Resources Board (ARB) in partnership with local agencies (such as air quality districts and seaports), the program targets the reduction of diesel air pollution emissions and health risk from freight movement along California’s priority trade corridors. Under this program, local agencies provide financial incentives to owners of equipment used

in freight movement to upgrade to cleaner technologies. Projects funded by this program must achieve “early or extra emission reductions” that are not required by a law or regulation. The types of freight transport equipment targeted by this program include: heavy-duty diesel trucks; transportation refrigeration units (TRUs) truck stop or distribution center electrification infrastructure; locomotives; ships at berth (e.g., shore power); commercial harbor craft; and cargo handling equipment at freight facilities.

Projects South Coast Air Quality Management District (SCAQMD): Heavy-Duty Trucks
SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. As of September 2016, SCAQMD had been awarded a total of

\$507.3 million in grants for the Goods Movement Emission Reduction Program from Proposition 1B. This amount includes \$40.3 million from the 2014 Green Bonds. When fully implemented, SCAQMD expects the projects to reduce 2.3 million pounds, or 1,150 tons, of particulate matter (PM 2.5) and 87.6 million pounds, or 43,800 tons, of nitrogen oxides (NOx). Emission reductions for grants funded through 2013 are calculated over the life of their grant term (e.g., two to five years for trucks and 10 years for ships at berth).

The Goods Movement Emission Reduction

Program targets California’s priority trade corridors: Los Angeles/ Inland Empire; the Central Valley; the Bay Area; and the San Diego Border area.

-Source: ARB

Emission reductions for grants funded after 2013 take into consideration ARB’s regulations and include only the portion of the emission reductions that are early or extra to these regulations. **Figure E** (combined with San Joaquin Valley Air Pollution Control District) displays the equipment upgrades and replacements completed as of June 2016. SCAQMD expects approximately 1,000 trucks, 70 cargo handling equipment, and 11 locomotives to be upgraded or replaced by December 2018.

Amount Allocated: \$40,315,736.46
All proceeds disbursed.

San Joaquin Valley Air Pollution Control District (SJVAPCD): Heavy Duty Trucks

The SJVAPCD is the air pollution control agency for the following eight counties in the Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare and the San Joaquin Valley Air Basin portion of Kern. As of September 2016, SJVAPCD had been awarded a total of \$189.5 million in grants for the Goods Movement Emission

Reduction Program from Proposition 1B. This amount includes \$3.5 million from the 2014 Green Bonds. When fully implemented, SJVAPCD expects the projects to reduce 1.3 million pounds, or 650 tons, of particulate matter (PM 2.5) and 42 million pounds, or 21,000 tons, of nitrogen oxides (NOx). Emission reductions for grants funded through 2013 are calculated over the life of their grant term (e.g., two to five years for trucks and 10 years for ships at berth). Emission reductions for grants funded after 2013 take into consideration ARB’s regulations and include only the portion of the emission reductions that are early or extra to these regulations. **Figure E** (combined with SCAQMD) displays the equipment upgrades and replacements completed as of June 2016. SJVAPCD expects approximately 300 trucks and 10 locomotives to be upgraded or replaced by December 2018.

Amount Allocated: \$3,464,263.54
All proceeds disbursed.

Goods Movement Emission Reduction Program
Replacements & Upgrades (as of June 2016)

South Coast Air Quality Management District & San Joaquin Valley Air Pollution Control District



Figure E

Program
Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) Program – Administered by the California Department of Transportation, the PTMISEA Program allocates funds for public transportation projects that protect the environment and public health, conserve energy, reduce congestion, and increase mobility and access.

Projects
Los Angeles County Metropolitan Transportation Authority (Metro): Mid City/Exposition Light Rail Transit Project-Phase 2 (Figure F)
 The Exposition Transit Corridor, Phase 2

federal, State, and local sources. The project received a total of \$136.0 million of grant funding from the PTMISEA Program under Proposition 1B. This amount includes \$106.4 million from the 2014 Green Bonds.

Major construction for the Expo Line began in 2012 and opened for operations May 20, 2016. Metro forecasts the Expo Light Rail ridership in LA County to increase by 14%, with a projected ridership of 64,000 daily riders by 2030 on the Expo Light Rail Line from downtown LA to Santa Monica. Metro projects a reduction of 66,000 daily vehicle miles traveled (VMT). In addition, Metro calculates averted



Metro Mid City/Exposition Light Rail Transit Project-Phase 2

Figure F

Project extends the Metro Expo Line, connecting Santa Monica to downtown Los Angeles (LA), Pasadena, San Fernando Valley, South Bay, and Long Beach. The 6.6-mile extension will add seven new stations serving diverse LA neighborhoods.

greenhouse gas emissions (GHG) of 284 million metric tons of carbon dioxide equivalent (MT CO₂e) due to people choosing transit over driving and reduced congestion.

Amount Allocated: \$106,381,005.00
All proceeds disbursed.

The total estimated project cost is \$1.3 billion, with funding provided by a mix of

Los Angeles County Metropolitan Transportation Authority (Metro): Regional Connector Transit Corridor Project (Figure G)

The Regional Connector Transit Project plans to extend the Metro Gold Line from the Little Tokyo/Arts District Station to the 7th Street/Metro Center Station in downtown LA, allowing passengers to transfer to Blue, Expo, Red, and Purple Lines, bypassing Union Station. The 1.9 mile underground extension will provide a one-seat ride for travel across LA County, with passengers traveling without transferring lines. This new extension will also add three new stations, offering an alternative transportation option to already congested roadways.

The total estimated project cost is \$1.4 billion, with funding provided by a mix of federal, State, and local sources. The project received a total of \$135.1 million of grant funding from the PTMISEA Program under Proposition 1B. The amount includes \$58.8 million from the 2014 Green Bonds.

Metro forecasts the project opening in 2021 with a projected ridership increase of 17,700 of new transit riders by completion and an average of 88,200 daily boardings. Metro calculates the averted GHG at 93 MT CO₂e due to people choosing transit over driving and reduced congestion.

Amount Allocated: \$58,816,439.53
All proceeds disbursed.



Metro Regional Connector Transit Corridor

Figure G

San Francisco Municipal Transportation Agency (SFMTA): Central Subway Project (Figure H)

The Central Subway Project will extend the Muni Metro T Third Line through SoMa (South of Market), Union Square, and Chinatown. Four new stations will be built along the 1.7-mile alignment that will improve transportation to and from some of the city’s busiest and most densely populated areas.

The total estimated project cost is \$1.6 billion, with funding provided by a mix of federal, State, and local sources. The project received a total of \$307.8 million of grant funding from the PTMISEA Program under Proposition 1B, which includes \$81.9 million from the 2014 Green Bonds.

The project commenced in 2013 and SFMTA projects opening in 2019. Once complete, SFMTA expects the project to increase ridership by an average of 35,100 daily boarding’s by 2030. SFMTA calculates the project will result in a 1,730 daily net reduction of VMT.

Additional benefits of the Central Subway Project include reduction of air and noise pollution, use of environmentally clean light rail vehicles, enhancement and preservation of the environment by reducing traffic congestion, improving accessibility to San Francisco’s transit system, and reducing the use of single occupancy vehicles. The Central Subway Project will reduce emissions related to vehicular traffic and greenhouse gases and will increase the use of electric energy from renewable hydroelectric power, resulting in a decrease in energy consumption of 1.05 billion BTUs annually.

Amount Allocated: \$81,880,405.00
All proceeds disbursed.



SFMTA Central Subway Project

Figure H

Proposition 84: Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006

The following programs and projects have been allocated 2014 Green Bond funding under Proposition 84:

**Program
Integrated Regional Water Management (IRWM) Grant Program**

Administered by the Natural Resources

Agency through the Department of Water Resources, the IRWM Grant Program funds projects that help local public agencies meet the long-term water needs of the State, including the delivery of safe drinking water and the protection of water quality and the environment. Project goals include increasing water supply, improving water and groundwater quality, conserving and reusing water, rehabilitating watersheds, improving water habitats, and flood management. IRWM approved projects also help mitigate climate change by reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions.

Projects
County of Ventura: Watershed Coalition of Ventura County-Ventura County Waterworks District No. 16 Piru Treatment Plant Tertiary

The Piru Treatment Plant tertiary upgrade will provide significant water supply and economic benefits to the Piru disadvantage community, reducing the need to purchase ground or surface water, or pump groundwater. -Source: Watersheds

Coalition of Ventura County

Upgrade

Funding will be used to construct tertiary treatment facilities to improve water quality at existing percolation ponds and provide recycled water suitable for irrigation reuse. The plant will treat approximately 500,000 gallons per day (GPD) and prevent the percolation of high chloride and total dissolved solids into the groundwater system.

Amount Allocated: \$355,506.91

Amount Disbursed as of June 30, 2016: \$205,303.86.

Victor Valley Water Reclamation Authority: Mojave-Victor Valley Wastewater Reclamation Authority Subregional Reclamation Project
Funding will be used to construct the Hesperia Water Reclamation Plant and Apple Valley Water Reclamation Plant to recycle Title 22 compliant water for percolation to groundwater and to

customers for unrestricted landscape irrigation. The plant will treat and supply approximately 2 million GPD and eliminate the discharge of effluent into the Mojave river.

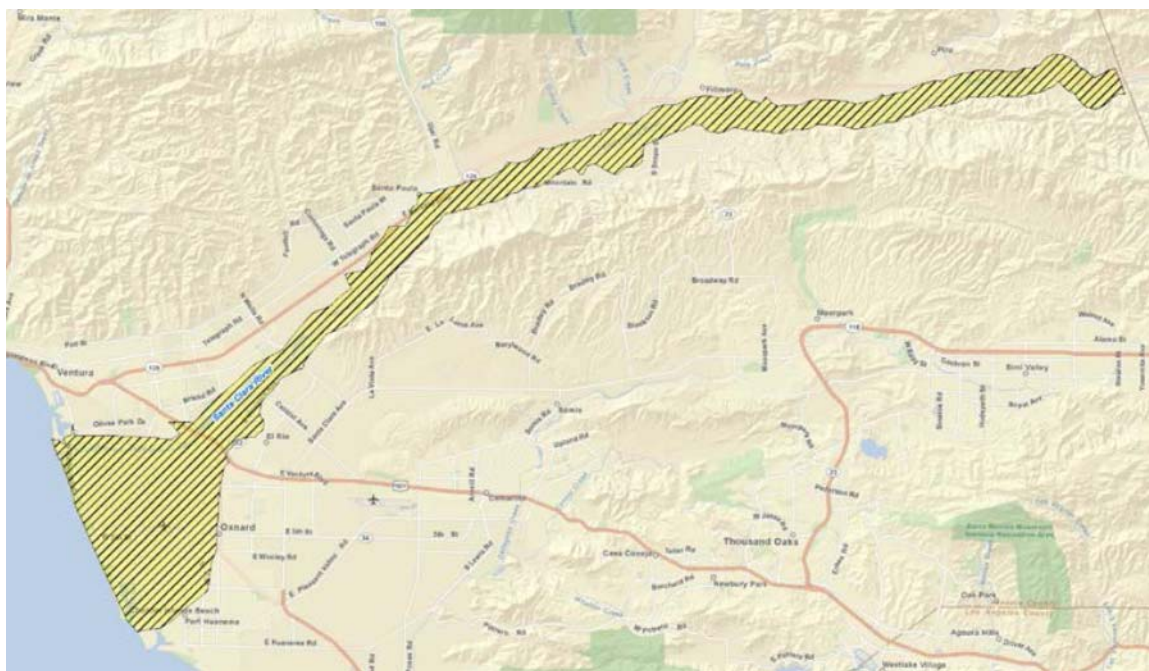
Amount Allocated: \$2,700,000.00
Amount Disbursed as of June 30, 2016: \$2,700,000.00.

County of Ventura: Watershed Coalition of Ventura County-The Nature Conservancy Natural Floodplain Protection Project (Figure I)

Funding will be used to acquire property easements to preserve a critical section of the remaining undeveloped 500-year floodplain in the Santa Clara River

Mojave Water Agency: Mojave-Hi-Desert Water District Wastewater Treatment and Reclamation Project

Funding will be used to construct a wastewater treatment facility and collection system to serve the residents of the Yucca Valley area. The treatment facility will process 4 million GPD, restoring nearby surface water quality and



Santa Clara River Watershed Natural Floodplain Protection Location Map

Figure I

Watershed. Protecting the floodplain from development will ensure that the land can continue to provide natural flood control for high river flows at relatively low cost, with no infrastructure requirements, and no need for future construction and maintenance of levees. At the same time, the easements will preserve an important area of natural aquatic and riparian habitat.

Amount Allocated: \$1,459,574.59
Amount Disbursed as of June 30, 2016: \$68,887.33.

preventing groundwater pollution.

Amount Allocated: \$506,389.59
Amount Disbursed as of June 30, 2016: \$506,389.59.

Program

Delta Levee System Integrity Program-

Administered by the Natural Resources Agency through the Department of Water Resources (DWR), and the California Department of Fish and Wildlife (CDFW). The Levee System Integrity Program funds projects that reduce risk to land use and associated economic activities, water supply, agriculture and residential use, infrastructure, and the ecosystem from the effects of catastrophic breaching of Delta levees. Many projects directly affect the California Action Plan and EcoRestore.

Project

Dutch Slough: Dutch Slough Tidal Restoration Project

The Dutch Slough Tidal Marsh Restoration Project is a cooperative partnership between the DWR, State Coastal

Conservancy, CDFW, Natural Heritage Institute, Ironhouse Sanitary District, Reclamation Districts 2137 and 799, and the City of Oakley that will restore tidal marsh habitats on 1,120 acres of land in the western Delta (**Figure J**) to provide habitat for native wildlife and improve health of the Delta ecosystem. This is an EcoRestore project.

In addition, the project will provide approximately two miles of public-access trails, a fishing pier, and other recreational and educational opportunities.

Amount Allocated: \$3,947,461.34

Amount Disbursed as of June 30, 2016: \$0

Dutch Slough Tidal Restoration

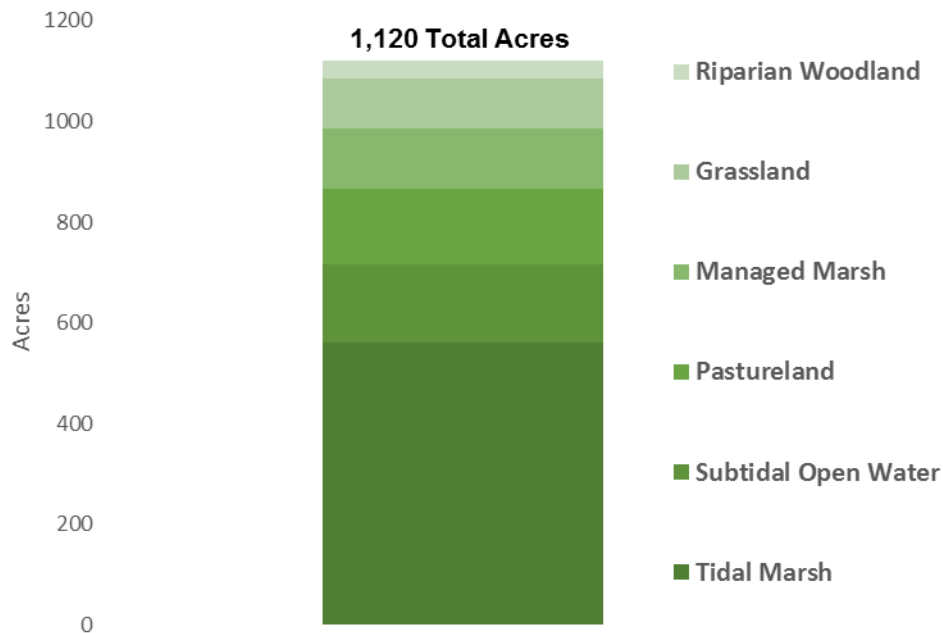


Figure J

California State Treasurer's Office

Investor Relations

(800) 900-3873

InvestorRelations@treasurer.ca.gov

<http://www.treasurer.ca.gov>

California Environmental Protection Agency

Air Resources Board

<http://www.arb.ca.gov>

California Department of Transportation

<http://www.dot.ca.gov>

California Department of Water Resources

<http://www.water.ca.gov>

Additional information for projects mentioned in this report may be found on the respective administering agency's website.



JOHN CHIANG

California State Treasurer

915 Capitol Mall, Room 110,
Sacramento, California 95814

(916) 653-2995

www.treasurer.ca.gov