



# Sonoma Water

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Final Report

## Appendix E. Potential Funding Sources

October 2021



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## SECTION 1

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# Introduction

This appendix describes the range of potential funding sources that could be available to support implementation of adaptation strategies identified in Sonoma Water’s Climate Adaptation Plan (CAP). The attached tables list various funding mechanisms that may be appropriate to support climate adaptation projects for Sonoma Water. Note that the state and federal funding landscape is changing rapidly and the sources will be updated periodically.

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## SECTION 2

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# Potential Funding Sources

Most adaptation strategies require external funding in order to support advanced planning, design, and implementation. Even non-infrastructure-based adaptation strategies require some level of funding to support incentives, policy and ordinance changes, partnerships, or changes in institutional approaches. Sonoma Water has been successful in the past in leveraging state and federal grants to support system improvements, mitigate impacts from local hazards, and advance science and policy changes, and should build upon this success to access available funding for climate adaptation strategy implementation. As Sonoma Water moves toward climate adaptation strategy implementation, each strategy should be mapped to potential local, state, and federal funding opportunities.

Leveraging funding sources and building upon past success must include Sonoma Water's continued emphasis and investment in state and federal legislative advocacy and coalition building as well as continued investment in strong and strategic partnerships. Policy and plan alignment along with strategic partnerships are key to competitive funding opportunities, driving funding to realize multi-benefit projects and mutually beneficial outcomes on the ground.

Local funding opportunities include Sonoma Water's funds that are traditionally used to support the agency's Capital Projects Plan, including the Water Transmission Fund, Water Supply Fund, Administration and General Fund, Internal Service Funds, Flood Control funds, and sanitation district and zone-specific funds. Some climate adaptation projects, especially those that are infrastructure asset-level improvements, may be best funded using these local sources of funding due to the efficiency of delivery.

Under California's unexpected budget windfall in 2021, the governor's budget for 2021-22 has introduced substantial funding to support climate resilience. The current enacted budget includes \$15 billion in investments to address and reduce the state's multi-faceted climate risks, ranging from water supplies, wildfires, heat, and sea level rise. More detail on the specific funding programs benefiting from the budget windfall are provided in more detail in the sections below and summarized in Table 1.

In addition to California's general fund allocations, state bonds may become available in 2022 for additional funding to support climate resilience. Assembly Bill-1500, "Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, and Workforce Development Bond Act of 2022", if approved by the voters, would authorize the

issuance of bonds in the amount of nearly \$7 billion to finance projects for safe drinking water, wildfire prevention, drought preparation, flood protection, extreme heat mitigation, and workforce development programs.

As with state funding opportunities, several recent policy changes have made, or will soon make, significant federal funding opportunities available. The recently passed \$550 billion federal Infrastructure bill (Infrastructure Investment and Jobs Act, HR 3684) includes \$50 billion for Resilience and Western Water Infrastructure that should be available to support various climate adaptation projects. In addition, changes have made significant federal funding opportunities available to support hazard mitigation, pre-disaster preparedness, and climate resilience. The Federal Emergency Management Agency (FEMA) has introduced the new Building Resilient Infrastructure and Communities (BRIC) grant program, and continued their ongoing Flood Mitigation Assistance program, Hazard Mitigation Grant Program (HMGP), and Hazard Mitigation Post Fire program. Annual BRIC funding increased from \$500 million to \$1 billion in 2021 and is slated to receive an additional \$1 billion under the federal Infrastructure Bill. FEMA's Hazard Mitigation Grant Program (HMGP) also awards grant funding for natural hazard mitigation projects. HMGP funding is allocated to the state following federally declared disasters, with California receiving \$484 million for the 2021 fiscal year.

Through USDA Natural Resources Conservation Service, federal funding appropriations to its Small Watershed Program are instrumental and necessary to fund critical flood infrastructure upgrades associated with the federally sponsored Central Sonoma Watershed Project. Although not a grant program, this external funding source will supplement Sonoma Water funds to plan, design, construct, and monitor these aging facilities for public health and safety and climate resiliency into the future.

.Finally, innovative funding approaches could also be considered to support implementation of some climate adaptation strategies. A growing trend is the development of watershed basin funds, resilience funds, or forest funds to support a distributed set of actions across the natural landscapes. Funds such as “environmental impact bonds” or “forest health” funds leverage private capital through so-called “impact investing” funds to accelerate project implementation or to expand the scale of investment beyond a more traditional slow pace of government funding. Sonoma Water, with regional partners, should investigate the development of a “watershed resilience fund” to support implementation of watershed measures for natural flood attenuation, sediment management, pre- and post-wildfire risk reduction, water quality, and groundwater recharge benefits identified in the recommended watershed resilience program.

## 2.1 Funding Options

There are multiple sources of funding that may be in alignment with the range of potential adaptation measures that are included in the CAP. Full funding of the CAP strategies will require a portfolio of funding sources. The funding source descriptions, and accompanying tables provide a broad overview of the major categories of funding and examples of specific sources



under each category that could be applicable to the various types of adaptation strategies. The categories described below, and included in the accompanying tables, include Grants (State and Federal), Fees, Debt and Credit Tools, Private Sources, Value Capture Mechanisms, and a catch-all category of “other innovations” that includes non-traditional sources such as carbon auction revenues, credit trading, and payments for ecosystem services.

## 2.1.1 Legislative, Regulatory, and Budgetary Funding Sources: Grants

### 2.1.1.1 State Funding Sources

#### Existing State Bonds

Existing state bonds Proposition 1 and Proposition 84 have a cumulative \$210 million in remaining uncommitted grant funds – a portion of which is aligned with potential Sonoma Water CAP adaptation strategies. Many of these funds are targeted for flood protection, water supply enhancements, and achieving multiple benefits that include flood protection, water quality improvements and ecosystem benefits. There is a high likelihood that many of the adaptation strategies to be developed by the CAP could align with these available funds. Table E-1 provides more details on the remaining funds for each of these propositions and how well they are aligned with the range of contemplated adaptation categories.

#### Future State Bonds

With the evidence of climate change and its impacts, including extended droughts and extreme precipitation events, it is clear throughout the State that water infrastructure at every scale (state-wide, regional and local), is in need of investment beyond what the existing bonds are able to provide and beyond what rate payers are able and willing, at least at this juncture, to absorb. AB-1500, the Safe Drinking Water, Wildfire Prevention, Drought Preparation, Flood Protection, Extreme Heat Mitigation, and Workforce Development Bond of 2022 is currently planned to go before voters in 2022. As the name suggests, it addresses a range of climate resilience categories, including drought resilience, wildfire prevention, flood control, and coastal risks. Table E-1 provides more details on the exact spending categories laid out in the measure. An additional water bond may be in development in the coming years to replace the water bond that was pulled from the ballot in 2020 due to the economic upheaval of the COVID-19 pandemic. It could be advantageous for Sonoma Water to continue to engage with the bond advocates and developers, to the extent appropriate, to assure that this next bond includes funding that applies to at least a segment of the anticipated adaptation strategies needed to ensure a resilient future for Sonoma Water.

#### State General Funds—2021 Budget

Under California’s unexpected budget windfall in 2021, the governor’s budget for 2021-22 has introduced substantial funding to support climate resilience over the next several years. The current enacted budget includes \$15 billion in investments to address and reduce the state’s multi-faceted climate risks, ranging from water supplies, wildfires, extreme heat, and sea level rise. This includes over \$5.1 billion for immediate drought response and long-term resilience, \$1.5 billion to address wildfire risks, and \$3.7 billion for climate resilience over the next three to

four years. As part of these programs, climate adaptation and resilience planning grants will be made available for local governments and some funding will support the continuation and expansion of regional climate collaboratives. Much of the funding is being apportioned to various departments under the California Natural Resources Agency, including California Department of Water Resources (DWR), Department of Conservation, and Coastal Conservancy. Sonoma Water should leverage its CAP and recommended strategies to access available funds starting in Fall 2021.

One stream of funding that has already come online is DWR's emergency drought funding grant programs, one of which is the Urban and Multi-Benefit Drought Relief grant program. Draft guidelines were released in September 2021, and the solicitation period is anticipated to open in October 2021. In total, DWR's drought relief grant programs are funded at \$500 million in the 2021 budget, with applications accepted through 2023.

#### 2.1.1.2 Federal Funding Sources

Over the last several years the Federal Emergency Management Agency (FEMA) has administered multiple grant programs that are aligned with resiliency planning as well as resiliency projects both pre- and post-disaster through their Hazard Mitigation Assistance (HMA) grant programs. FEMA's suite of HMA grant programs includes the new Building Resilient Infrastructure and Communities (BRIC) grant program, which replaced the former Pre-Disaster Mitigation grant program in 2018. The BRIC program's goal is to support community capacity building and reduce risk to people and property from future hazard events. The program's budget increased from \$500 million to \$1 billion in 2021, with an additional \$1 billion included in the current version of the Federal Infrastructure Bill. FEMA's HMA programs also include the Flood Mitigation Assistance program and the Hazard Mitigation Grant Program (HMGP). The Flood Mitigation Assistance program has a budget this cycle of \$160 million for projects that reduce the risk of flood damage to buildings that are part of the National Flood Insurance Program. The HMGP program provides grants to local governments, and other eligible applicants, for planning or implementation activities that mitigate the anticipated damage from natural hazards. HMGP funding is made available to a state, tribe, or territory after a Presidential Disaster Declaration, and the amount of funding available is a percentage of the total federal assistance amount provided for recovery from the presidentially declared disaster. In 2021 the HMGP program will receive \$3.46 billion in federal funding nationwide. Additionally, the FEMA Public Assistance Program, which provides direct support to rebuild after a presidentially declared disaster, can include implementing one-time hazard mitigation measures during the rebuild of damaged facilities. Other major federal sources of funding are through from U.S. Bureau of Reclamation (USBR) Water SMART grants, U.S. Department of Agriculture (USDA) Watershed Programs, and the U.S. Army Corps of Engineers (USACE) flood risk management and restoration programs. These sources and others are described in more detail in Table E-1.

While the Biden administration is expanding funding for resilient infrastructure, future federal funding for infrastructure is uncertain, whether or not it is linked to climate change/resiliency, and depends on political will at the federal level. It will be crucial to track the

federal budgets and appropriations closely and consider partnering with other Counties and/or other jurisdictions through organizations such as the National Association of Counties (NACO) to advocate on behalf of infrastructure/resiliency spending.

#### Federal Infrastructure Bill

The recently passed \$550 billion federal Infrastructure Bill includes several funding categories for climate change resilience through the US Army Corps of Engineers, FEMA, US Department of Agriculture, and the US Forest Service. This includes \$50 billion for Resilience and Western Water Infrastructure that should be available to support various climate adaptation projects and \$1 billion for climate change resilience grants. While the ultimate adoption of the bill to law is still uncertain, it could represent a significant infusion of funding into various federal grant programs. Table E-1 summarizes the specific categories covered in the current version of the bill.

#### 2.1.2 Direct Fees, Debt Tools, and Credit Assistance

Table E-2 summarizes funding mechanisms related to Direct Fees, Debt Tools and Credit Assistance. It is important to note that Sonoma Water itself does not necessarily have the legal authority for each of the listed funding mechanisms. They are included in the table, however, to provide a broad summary of funding tools that generally are available.

Direct Fees can include a number of sources including user fees and charges, property taxes/general fund revenues, public benefit funds, and transfer fee funds.

Debt tools that could be used to fund implementation of adaptation measures could include general obligation bonds, revenue bonds, green bonds, pooled bond financing, revolving loan funds, and private activity bonds. These types of bonds could be paired with grants or other funding mechanisms to provide a required local match or used to fund complete projects or programs.

Credit assistance tools are available through on-bill financing and the Water Infrastructure Finance and Innovation Act Program (WIFIA). The WIFIA is administered by the U.S. Environmental Protection Agency (USEPA) and was created to provide federal credit assistance (e.g., secured loans or loan guarantees) for large projects that face financing challenges due to their size or complexity.

#### 2.1.3 Private Sources/Equity

Examples of tools in this category include public-private partnerships (P3), impact bonds that focus on public benefits such as environmental, social, and economic benefits, pay-for-success/performance programs, and infrastructure investment funds as described on Table E-3. As above, it is important to note that Sonoma Water itself does not necessarily have the legal authority for each of the listed funding mechanisms. They are included in the table, however, to provide a broad summary of funding tools that generally are available.

### 2.1.4 Value Capture Mechanisms

Value capture mechanisms include tools such as developer fees or impact fees, linkage fees, creation of special districts/improvement districts, tax increment financing as shown on Table E-4

### 2.1.5 Innovative Funding Strategies

There are several “non-traditional” funding sources and strategies that are emerging as alternatives to traditional grants, bonds and fees and that could have alignment with aspects of the Sonoma Water CAP. These strategies generally require greater investment to build a program that will result in either outcomes or funding, but also generally have broader benefits. These may be most appropriately aligned with Regional Resiliency Land Use Strategies. These are summarized on Table E-5.

## 2.2 Ongoing Funding Identification

As the Sonoma Water CAP continues to evolve and especially as risks and adaptation strategies are identified, this list of potential funding sources will be refined and a funding strategy that is specific to Sonoma Water can be developed. Ongoing coordination with key influencers at both the State and Federal level could be beneficial in both creating funding opportunities and being alerted to opportunities that may arise. Potential areas of engagement could include:

**NACO** – as previously discussed, the National Association of Counties provides an ongoing opportunity to work with other Counties to advocate for federal funding for resiliency/infrastructure related funding. Sonoma Water should consider the appropriate investment, in terms of engagement in NACO, and determine if providing leadership and content for advocacy would be beneficial, as the federal picture continues to evolve.

**ARRCA** - The Alliance of Regional Collaboratives for Climate Adaptation (ARCCA), a coalition of the Local Government Commission, represents leading collaborative networks from across California that strive to build regional resilience to climate impacts. ARRCA is a useful forum to share best practices and resources, and advocate jointly for State funding.

**ICARP, Technical Advisory Council** - Governor Brown signed Senate Bill 246 (Wieckowski, PRC 71354) in 2015, which directs the Office of Planning and Research (OPR) to form the Integrated Climate Adaptation and Resilience Program (ICARP). ICARP is designed to develop a cohesive and coordinated response to the impacts of climate change across the state. The Program has two components – a [Technical Advisory Council \(TAC\)](#) – intended to bring together local government, practitioners, scientists, and community leaders to help coordinate activities that better prepare California for the impacts of a changing climate. We understand from OPR staff that the TAC intends to tackle the issue of the funding gap that many jurisdictions are facing with respect to adaptation and resiliency. The second component of the Program is the development of a State [Adaptation Clearinghouse](#): A centralized source of information and

resources to assist decision makers at the state, regional, and local levels when planning for and implementing climate adaptation projects to promote resiliency across California.

**Strategic Growth Council and California Climate Investments** – Both of these bodies are engaged in the distribution of California’s cap and trade auction revenues to various projects and programs that have a nexus with reducing greenhouse gas emissions in the State.

<https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/auctionproceeds.htm>

While it is unclear currently whether anticipated adaptation strategies will include emissions reductions for Sonoma Water, it would be worthwhile to track the types of investments being made with the auction revenues. Additionally, as the auction revenues grow and low hanging GHG fruit is addressed, there could be a broadening of eligible projects to include adaptation or resilience efforts.

**County and Regional Forums:** Sonoma Water should continue to participate and collaborate with local and regional forums to develop partnerships, identify funding opportunities, and to leverage existing and new funding in the climate resiliency arenas.

Table E-1. Possible Funding Sources – Sonoma Water Climate Adaptation Plan: State and Federal Bond/Grants (as of September 2021)

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
<b>Prop. 1</b>		<b>\$199.6 Million Total Remaining</b>		
Chapter 6: Protecting Rivers, Lakes, Streams, Coastal Waters and Watersheds		\$101.8 million remaining under Ch. 6		
	Wildlife Conservation Board: Enhanced Stream Flow	\$5.7 million remaining	Projects that enhance stream flow	<b>Medium</b>
	Secretary for Natural Resources: Watershed and urban rivers enhancement	\$0.25 million remaining	Multi-benefit watershed and urban river enhancement projects in urban watersheds that meet at least two of the objectives: groundwater recharge and water reuse; reduce energy consumption; green infrastructure to treat runoff; create or restore native habitat; increase regional and local resiliency and adaptability to climate change	<b>High</b>
	California Department of Fish and Wildlife: Watershed restoration projects statewide	\$56.6 million remaining	Watershed restoration projects statewide	<b>Medium</b>
	Ocean Protection Council: Multi-benefit ecosystem and watershed protection and restoration projects	\$.12 million remaining	Multi-benefit water quality, water supply and watershed protection/restoration projects for watersheds in and around those under the oversight of the Ocean Protection Council.	<b>Medium</b>
	State Coastal Conservancy: Multi-benefit ecosystem and watershed protection and restoration	\$2.8 million remaining	Multi-benefit water quality, water supply, and watershed protection and restoration projects for the watersheds in areas under the influence of the State Coastal Conservancy	<b>Medium</b>

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
Chapter 7: Regional Water Security, Climate, and Drought Preparedness Programs		\$6.8 million remaining under Ch. 7		
	DWR: Integrated Regional Water Management	\$29.3 million remaining for SF Bay hydrologic region; \$8.5 million remaining for North Coast hydrologic region	Eligible projects include planning, disadvantaged community involvement, implementation, and companion grant programs that support sustainable groundwater planning and water-energy programs and projects. Planning grants: for IRWM regions to develop or update an IRWM plan; Implementation grants: implementation of an IRWM plan	Medium
	SWRCB: Multi-benefit stormwater management projects	\$1.9 million remaining	Multi-benefit storm water management projects (green infrastructure, rainwater and storm water capture, and storm water treatment facilities); must be included and implemented in an adopted IRWMP, or included in a Storm Water Resource Plan, respond to climate change, contribute to regional water security, and contain a minimum of two benefits as listed in Section III.G. – Storm Water Management Benefits.	High
Chapter 9: Water Recycling		\$11.2 million remaining under Ch. 9		
	SWRCB: Water recycling and advanced treatment technology projects	\$6.7 million remaining	Grants or loans for water recycling and advanced treatment technology projects that include contaminant and salt removal projects; groundwater or seawater desalination treatment, storage, conveyance, and distribution facilities	High

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
Chapter 10: Groundwater Sustainability		\$7.9 million remaining under Ch. 10		
<b>Prop 84</b>		<b>\$9.5 Million Total Remaining</b>		
Chapter 2: Safe Drinking Water and Water Quality Projects		\$6.0 million remaining under Ch. 2		
	DWR: Integrated Regional Water Management	\$1.0 million remaining	Grants for projects that assist local public agencies to meet the State’s long term water needs, including delivery of safe drinking water and the protection of water quality and the environment. Must implement integrated regional water management plans and meet various other requirements in §75026, §75027 and §75028.	<b>Medium</b>
Chapter 3: Flood Control		\$3.4 million remaining under Ch. 3		
	DWR: Flood Control Projects	\$3.3 million remaining (Inconsistency on DWR website)	Available to DWR to fund the State’s share of the nonfederal costs of flood control and flood prevention projects.	<b>Medium</b>
<b>AB-1500, Potential 2022 State Bond</b>		<b>\$6.7 billion</b>		
Chapter 2: Wildfire Prevention and Climate Risk Reduction		\$1.1 billion		
	Cal OES pre-hazard mitigation grants	\$300 million	For a pre-hazard mitigation grant program to prevent wildfires and reduce the risk of wildfires to communities by increasing community hardening	<b>Medium</b>



Funding Tool		Eligible Projects		Adaptation Strategies Alignment
	California Natural Resources Agency: Watershed improvement projects	\$150 million	For watershed improvement projects that include the use of prescribed fire and improve water supply or water quality	High
	California Natural Resources Agency: multi-benefit grants	\$150 million	For block grants to city, county, district, and regional park and open space entities for projects that reduce the risk of fire, flood, or drought to safeguard public lands and communities. Minimum awards for these block grants are \$150,000 for cities and districts and \$300,000 for counties and regional entities	Medium
Chapter 3: Protecting Coastal Lands from Sea Level Rise and other Climate Risks		\$1.2 billion		
	State Coastal Conservancy: Coastal protection	\$515 million	For projects to protect, restore, and increase the resilience of beaches, bays, coastal dunes, wetlands, coastal forests, and coastal watershed resources	Medium
Chapter 4: Ensuring Safe Drinking Water, Drought Protection, Flood Protection		\$1.6 billion		
	State Water Resources Control Board: Safe, reliable drinking water	\$300 million	For grants or loans to provide clean, safe, and reliable drinking water. At least \$30 million is set aside for developing and implementing regional or countywide drought contingency plans	High
	CA Natural (?) Resources Agency: Protection/restoration of rivers, lakes, streams	\$80 million	For multi-benefit river and urban stream parkway projects	Medium
	Department of Water Resources: Multi-benefit flood management	\$200 million	For flood management projects that are components of multiple benefit flood management system improvements. Preference shall be given to natural infrastructure projects	High

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
	State Water Resources Control Board: Water recycling projects	\$300 million	For grants or loans for water recycling projects. A 50% local cost share is required	High
Chapter 7: Responding to Extreme Heat		\$640 million		
Chapter 8: Regional Climate Resilience		\$1.06 billion		
	Strategic Growth Council: Regional Climate Networks	\$850 million	For reduction in the risk of climate impacts to communities, including wildfire, sea level rise, flood, and extreme heat events. Funds shall be available to regional climate networks, at least 60% of which shall be allocated based on population. The remaining funds can augment grants to the extent a regional climate network’s plan addresses specified priorities (e.g., protecting vulnerable populations)	Medium
	Strategic Growth Council: Transformative Climate Communities	\$100 million	The Transformative Climate Communities program funds development and infrastructure projects that achieve major environmental, health, and economic benefits in disadvantaged communities.	Low
<b>California State Budget—Climate Change 2021-22</b> ( <a href="http://www.ebudget.ca.gov">http://www.ebudget.ca.gov</a> )		<b>\$15 billion over 4 years</b>		
Drought Response and Water Resilience		\$5.1 billion over 4 years		

Funding Tool			Eligible Projects	Adaptation Strategies Alignment
	Immediate Drought Support	\$727.7 million	<p>These investments will fund emergency drought relief projects that help secure and expand water supplies; small supplier and rural community drought contingency planning and preparedness projects; and local water resilience capacity building that includes outreach to disadvantaged communities. In addition, funding will support the repair and enhancement of the state's water data infrastructure; the state cost-share of a federal desalination research hub; equipment; resources to help address drought impacts on state wildlife areas; and address the increased need for permitting and species monitoring.</p> <p>The budget allocated \$300 million to DWR to deliver grants for interim and immediate drought relief to urban communities and for multi-benefit projects. These grants are intended to provide water to communities that face the loss or contamination of their water supplies, to address immediate impacts on human health and safety, and to protect fish and wildlife resources. The 2021 Urban and Multi-benefit Drought Relief Grant Program is anticipated to accept applications in October 2021.</p>	High
	Drinking Water, Wastewater, Water Supply Reliability	\$1.4 billion over 4 years	General Fund and special funds over five years to expand and protect water supplies by protecting drinking water and wastewater infrastructure, supporting local water recycling and groundwater supply projects, and modernizing water rights data infrastructure.	High
	Restoration of Natural Areas and Ecosystems	\$236.4 million over 4 years	Supports multi-benefit ecosystem and watershed protection and restoration projects, watershed resilience; address drought impacts on fish and wildlife and to support removal of impediments to fish passage, and support projects that improve biodiversity and climate resilience by increasing coastal and marine ecosystem health.	Medium
	Groundwater Sustainability and Water Conveyance	\$200 million over 4 years	Supports major canals damaged by subsidence in order to facilitate movement of water across and within regions and Sustainable	Medium

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
			Groundwater Management Act implementation through groundwater projects and the State Water Efficiency and Enhancement Program.	
Wildfire and Forest Resilience		\$1.5 billion over 3 years	Package includes spending for resilient wildlands (e.g. forest health and stewardship of state-owned lands), wildfire fuel breaks (e.g. fire prevention grants), and community hardening and defensible space.	High
Climate Resilience		\$3.7 billion over 3 years		
	California Natural Resources Agency—Urban Greening/Urban Forestry	\$250 million over 3 years	For urban greening projects	Low
	Strategic Growth Council—Community Resilience Centers/Extreme Heat and Community Resilience Program	\$200 million over 3 years		Unknown

Funding Tool		Eligible Projects		Adaptation Strategies Alignment
	Various--Extreme Heat Set Aside	\$300 million over 3 years	For programs and activities including but not limited to: Heat resilient infrastructure, built, natural, and social, including, but not limited to, projects that support the installation of cool surfaces, reduce indoor and outdoor school temperatures through nature-based solutions and cool building or cool surface materials, reduce outdoor temperatures along key active transportation corridors in heat-vulnerable communities, or use nature-based solutions and cool surface materials in new and existing low-income residential projects in heat-vulnerable communities.	<b>Unknown</b>
	Various—Multi-benefit and Nature Based Solutions Set Aside	\$768 million over 3 years	For programs and activities including but not limited to: activities that support healthy urban streams and rivers, restoration and stewardship projects that restore or manage the land to improve its resilience to climate impacts and natural disasters, activities to accelerate climate smart management of California’s natural and working lands, projects that are adjacent and accessible to urban populations and disadvantaged communities.	<b>Unknown</b>
	State Coastal Conservancy—Coastal Protection and Adaptation	\$500 million over 3 years	For grants or expenditures for the protection and restoration of coastal and ocean resources from the impacts of sea level rise and other impacts of climate change. Eligible projects include, but are not limited to, projects to protect, restore, and increase the resilience of coastal and ocean ecosystems and coastal watersheds. The State Coastal Conservancy may coordinate with the Ocean Protection Council on project implementation. Eligible projects include Coastal resilience projects along the coast, including coastal wetlands and watersheds, beaches, dunes, bluffs, bays, fisheries, and other wildlife, and projects that build resilience for coastal communities, public access, and critical infrastructure, among others.	<b>Low</b>

Funding Tool			Eligible Projects	Adaptation Strategies Alignment
	Strategic Growth Council— Transformative Climate Communities	\$420 million over 3 years	For the Transformative Climate Communities Program	<b>Low</b>
	Strategic Growth Council— Regional Climate Collaboratives	\$20 million over 3 years	The Regional Climate Collaboratives (RCC’s) would support the Transformative Climate Communities, administered by the Strategic Growth Council. The RCC program assists under-resourced communities, as defined, in a region to access statewide public and other grant moneys for climate change mitigation and adaptation projects.	<b>Low</b>
	Office of Planning and Research—Climate Adaptation and Resilience Planning Grants	\$25 million over 3 years		<b>Unknown</b>
	Cal EPA—Environmental Justice Initiative	\$25 million over 3 years		<b>Unknown</b>

Funding Tool			Eligible Projects	Adaptation Strategies Alignment
	Office of Planning and Research/Strategic Growth Council—Regional Climate Resilience (planning and implementation)	\$250 million over 3 years	For grants that support regional climate adaptation planning and action plans that prioritize projects or actions that are necessary to respond to the greatest climate risks facing the region, particularly in the most vulnerable communities. Plans shall utilize, to the extent appropriate, existing state, local, or regional planning documents, including, but not limited to, the Regional Forest and Fire Capacity Program plans, the Climate Ready Program plans, state conservancy climate resiliency plans, safety elements of general plans, local hazard mitigation plans, sustainable communities’ strategies, long range transportation plans, regional housing needs assessments, and groundwater sustainability plans. The Office of Planning and Research, through the Integrated Climate Adaptation and Resiliency Program, shall develop guidelines on prioritized and required content for these plans. These plans shall use natural infrastructure to respond to climate vulnerabilities where feasible.	High
<b>Federal Grant Programs</b>				
	FEMA Building Resilient Infrastructure and Communities (BRIC) Grant Program	\$1 billion for 2021 cycle	The BRIC Program, started in 2018, replaced FEMA’s Pre-Disaster Mitigation grant program. The BRIC Program prioritizes mitigating risk to public infrastructure, incentivizing investments in disadvantaged communities, mitigating risk to one or more lifelines, incorporating nature-based solutions, enhancing climate resilience and adaptation, and incentivizing the adoption and enforcement of the latest published editions of building codes.	High

Funding Tool			Eligible Projects	Adaptation Strategies Alignment
	FEMA Flood Mitigation Assistance Program	\$160 million for 2021 cycle; renewed each year.	FEMA provides grants through the Flood Mitigation Assistance (FMA) Program to assist with the planning and implementation of flood mitigation projects that include measures to reduce flood losses by elevation, acquisition, or relocation of National Flood Insurance Program (NFIP)-insured structures. Eligible activities include property acquisition and structure demolition, property acquisition and structure relocation, structure elevation, dry floodproofing of non-residential structures, minor localized flood reduction projects, and flood mitigation planning. All project activities performed must have the effect of reducing the risk of flooding to NFIP insured properties, buildings, and structures.	Low
	Economic Development Assistance Grants Department of Commerce, Economic Development Administration	\$ amount unavailable; Generally renewed each year.	This program helps communities in economic decline revitalize, expand, and upgrade their infrastructure to promote economic growth. These changes help attract new industry, encourage business expansion, diversify local economies, and generate long-term private sector jobs and investments. Projects are prioritized in areas that exhibit economic distress at the time that the application is submitted. Economic distress is determined based on the level of unemployment, per capita income, or special need. Projects outside these areas will be considered if they directly benefit the distressed area.	Medium
	Water SMART Grants (DOI, Bureau of Reclamation)	~\$73 million across the western states in 2020; renewed each year	Proposals must seek to conserve and use water more efficiently, increase the use of renewable energy, improve energy efficiency, benefit endangered and threatened species, facilitate water markets, carry out activities to address climate-related impacts on water or prevent any water-related crisis or conflict. In 2021, the WaterSMART program awarded \$15.4 million for Drought Resiliency Projects, \$42.4 million for Water and Energy Efficiency Grants, and \$2.1 million for Cooperative Watershed Management Projects.	Medium



Funding Tool		Eligible Projects		Adaptation Strategies Alignment
	FEMA Hazard Mitigation Grant Program	\$3.46 billion federally; \$484 million allocated to California	The Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures. Funds are made available after <b>a major disaster declaration</b> . The purpose of the HMGP is to reduce the loss of life and property damage due to natural disasters.	High
<b>Federal Infrastructure Bill</b>				
	USACE: multipurpose aquatic ecosystem restoration	\$1.9 billion	For aquatic ecosystem restoration projects of which \$1B is set aside for multi-purpose projects or multi-purpose programs that include aquatic ecosystem restoration as a purpose	High
	USACE: inland flood risk management	\$2.5 billion	At least \$750M for multi-purpose projects or multi-purpose programs that include flood risk management as a purpose, prioritizing projects with overriding lifesaving benefits and projects that directly benefit disadvantaged communities	Medium
	FEMA: Hazard Mitigation revolving loan funds	\$500 million	Provides capitalization grants to states to establish revolving loan funds for projects designed to reduce risk from disaster, natural hazards, and other environmental harm. Bill provides \$100 million per year until FY 2026.	High
	FEMA: Building Resilient Infrastructure and Communities Grants	\$1 billion	For Building Resilient Infrastructure and Communities (BRIC) Program which supports pre-disaster and hazard mitigation activities undertaken by states, U.S. territories, Indian tribal governments, and local communities	High
	Flood Mitigation Assistance Program	\$3.5 billion	For the Flood Mitigation Assistance Program which helps provide financial and technical assistance to states and communities to reduce the risk of flood damage to homes and businesses through buyouts, elevation, and other activities.	Medium

Funding Tool			Eligible Projects	Adaptation Strategies Alignment
	USDA: NRCS Watershed Programs	\$618 million over 5 years	Provides \$500M for Watershed and Flood Prevention Operations (WFPO) and \$118M for Watershed Rehabilitation Programs (WRP). WFPO helps units of federal, state, local, and tribal governments protect and restore watersheds up to 250,000 acres. This program provides for cooperation between the Federal government and the states and their political subdivisions to work together to prevent erosion; floodwater and sediment damage; to further the conservation development, use and disposal of water; and to further the conservation and proper use of land in authorized watersheds. The WRP helps project sponsors rehabilitate aging dams that are reaching the end of their design lives. This rehabilitation addresses critical public health and safety concerns.	High
	US Forest Service	\$1.6 billion over 5 years	Funding for various wildfire risk reduction program, including \$514 million over 5 years for hazardous fuels reduction projects, \$500 million over 5 years for Community Defense Grants, and \$88 million over 5 years for State Fire Assistance Grants. State Fire Assistance Grants are aimed at hazardous fuels reduction and maintenance projects on non-federal land, Community Wildfire Protection Plans (CWPP) and other community hazard mitigation and planning, and prevention and mitigation education and outreach opportunities for landowners and residents in at-risk communities.	Medium
	US Bureau of Reclamation	\$100 million over 5 years, \$50 million each to Upper and Lower Colorado Basins	For drought contingency planning among the 7 states that make up the Upper and Lower Colorado Basins. Funds to prepare for increasingly harsh drought conditions, and contingency operations.	Low

Note: Individual funding program amounts may not sum to the total program amount as only the relevant programs are listed.

Table E-2. Possible Funding Sources - Sonoma Water Climate Adaptation Plan: Direct Fees, Debt Tools and Credit Assistance

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Direct Fees</b>			
User Fees and Charges	User fees include the fees charged for the use of public infrastructure or goods (e.g., a toll road or bridge, water or wastewater systems, or public transit). Fees are typically set to cover a system's operating and capital expenses each year.	Public infrastructure or goods that can collect a user fee (e.g., a toll road or bridge, water or wastewater systems, or public transit). Fees can then be used to cover debt service for improvements to the system.	<b>Medium</b>
Property taxes/general fund revenues	For uses that don't have revenue generating potential, the County could devote General Fund revenues, generated from property taxes or General Fund operating reserves/surpluses, to help get activities started. With voter approval, special taxes could also be considered which could enable a dedicated source of funding.	For current general fund revenue, uses that do not have revenue-generating capability.	<b>Medium</b>
Public benefit funds	Public benefit funds are the collection of funds generated by a small surcharge on a customer's service bills.	Have mostly been used to support energy efficiency and energy renewal projects.	<b>Low</b>
Transfer fee Fund	Private fees levied in certain real estate transactions where a transfer of property ownership occurs, typically as a percentage of the transaction price. Community Preservation Funds (CPF) are tax programs implemented by states and municipalities to fund their open space protection and enhancement. New York's was established largely with a transfer fee. CPF is then used to purchase land or development rights from willing sellers in order to protect community character.	Likely will have greater support if it is framed around a use with a clear public benefit and one that may increase property value. Could consider framing around community resilience.	<b>Low</b>

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Debt Tools</b>			
General obligation bonds	Bonds issued by municipalities that represent an obligation of the full faith and credit of the property owners within the municipality.	Can also be used for projects that do not generate revenue; either for large projects or grouping several to many smaller projects together as transaction costs are expensive.	Medium
Revenue bonds	Bonds issued by municipalities that are secured by a dedication of an identified revenue stream (e.g., water and sewer system bonds are typically repaid through user fees from system customers).	Assets that will generate reliable revenue.	Medium
Green bonds	Bonds that are issued specifically to address projects that accomplish identified 'green' objectives, such as clean power and carbon reducing projects. There are various levels of green certification, with the most rigorous requiring independent certification and ongoing monitoring. Green bonds appeal to some classes of investors who are specifically interested to support sustainable solutions as part of their investment portfolio.	Projects that investors see as "green", but generally utilize underlying type of bond (aka, general obligation or revenue). Several utilities in the US have issued green bonds to address stormwater management issues.	Medium
Pooled bond financing	States act as bonding agency on behalf of multiple municipal entities, typically for similar or related projects (e.g. water or wastewater projects, public building projects).	Could have applicability if projects include multiple jurisdictions.	Medium

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
Private activity bonds (PAB)	Private activity bonds (PABs) are federal land state-tax-exempt securities issued by state or municipal governments to provide financing for private entities. The federal government imposes a limit on how many PABs each state can issue annually based on the state's population. Frequently, the issuer is just a conduit while the private entity is responsible for paying principal and interest on the bonds. Interest on qualified PABs is tax-exempt. From the perspective of the private entity, PABs are similar to corporate debt, but the borrower benefits from the lower cost of tax-exempt debt.	For a private activity bond to be tax exempt, 95% or more of the net bond proceeds must be used for one of the several qualified purposes such as: facilities for the furnishing of water, sewage facilities, and facilities for the furnishing of local electric energy or gas. PABs can also be used for bicycle transportation and pedestrian walkways along urban and rural principal arterial routes, and preservation of abandoned railway corridors.	<b>Low</b>
<b>Credit Assistance</b>			
On-bill financing	Utilities bill customers a monthly fixed charge to recoup costs of required property-level upgrades.	Typically used for energy efficiency and other improvement benefits that stay with the property, not the resident or current property owner. Could consider using to fund flood risk reduction or water supply demand reduction benefits.	<b>Medium</b>
Water Infrastructure Finance and Innovation Act Program	Water Infrastructure Finance and Innovation Act Program (WIFIA) was created to provide federal credit assistance (e.g., secured loans or loan guarantees) for large projects that face financing challenges due to their size or complexity.	Can only assist projects that exceed \$20 million in total costs. WIFIA can support both governmental and nongovernmental agencies.	<b>Medium</b>

Table E-3. Possible Funding Sources - Sonoma Water Climate Adaptation Plan: Private Sources

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Private Sources</b>			
<b>Public-private partnership</b>	Public-Private Partnership (P3) is defined as “a contractual agreement between a public agency (federal, state, or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public.	Depending on the nature of prioritized adaptation strategies, there may be utility in seeking a P3 arrangement for Sonoma County.	<b>Medium</b>
<b>Impact bonds/ Social impact bonds</b>	A bond instrument in which the payment is contingent on the outcomes agreed upon by the investor and issuer. Impact bonds have a broader range of public benefits, including environmental, social, and economic. Private investors assume the risk for improvement to outcomes. SIBs reference a category of investments focused more squarely on social impacts.	Require negotiated criteria for measuring success in determining funding; could have multiple measures of success.	<b>Medium</b>
<b>Pay for success</b>	Similar to social impact bonds. A pay for success or pay-for-performance option is a contractual relationship in which the private sector is engaged to accomplish a public objective, with incentives for the private entity for performance above an agreed-upon minimum performance level.	Could be linked with impact bonds and be adapted to resiliency related adaptation strategies. For example, this could be used to incentivize wine grape growers to adopt best conservation and stormwater management practices.	<b>Medium</b>
<b>Infrastructure Investment Funds</b>	A pool of funds collected from many investors to invest in infrastructure, often in the form of a public-private partnership. An infrastructure investment fund can be the financing tool that pays for a public project’s capital cost under a public private partnership.	Have supported projects in a broad range of sectors such as transportation (e.g. toll roads, airports, ports, and transit), regulated utilities (e.g. water and power), cable and wireless communication, and social infrastructure (e.g. schools, hospitals, public and military housing,	<b>Medium</b>

		and civic buildings); seek projects with stable, predictable, and long-term income streams.	
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Table E-4. Possible Funding Sources - Sonoma Water Climate Adaptation Plan: Value Capture

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Value Capture</b>			
<b>Developer fees and exactions or impact fees/tap fees</b>	Developer fees and exactions include: Impact fees, which include system development charges and connection or facility fees and negotiated exactions and agreements.	Impact fees impose a fee on developers to fund additional service capacity required by the development. The primary use of tap fees is to cover the cost of tying water meters for new connections to existing lines. Some jurisdictions also use tap fees to cover the cost of sewer line inspections. Could be considered to fund any identified redundancy or expansions needed to assure resilience.	<b>Medium</b>
<b>Value capture</b>	Value capture is the identification and capture of increased land value resulting from public investment in infrastructure.	Most applicable for situations where substantial increases in land value are likely in response to public investment.	<b>Low</b>
<b>Special districts/ Improvement districts</b>	A value capture tool that can include benefit assessment districts, business improvement districts, business improvement areas, business revitalization zones, community improvement districts, local improvement districts, special services areas, and special improvement districts, are formed to include a geographical area in which property owners or businesses agree to pay an assessment to fund a proposed improvement or service from which they expect to directly benefit.	Commonly used to fund infrastructure such as sewer, water, utilities, or streets. Special districts can be used either for pay-as you- go improvements or to finance the issuance of bonds backed by the assessment revenue; can be used to fund infrastructure that does not generate revenue, so the tool is applicable to a wide variety of uses. However, there must be a clear benefit to property owners who will be paying the assessment. Because assessments do not need to be tied to revenue generating infrastructure, they are particularly useful for streetscaping and other beautification projects that provide benefits to an entire district. Could consider a "resiliency district"	<b>High</b>

Tool	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Tax increment financing</b>	Enables the public sector to “capture” growth in property taxes (or sometimes sales taxes) from new development and increasing property values. Tax increment is collected for a set period, usually between 15 and 30 years. It can be used either on a pay-as-you-go basis over time or can be bonded against to provide an upfront source of revenue.	Most common uses of TIF are for environmental clean-up, land assembly, or local infrastructure; to help pay for major development initiatives or infrastructure investments that catalyze private investment and increase property values; can be applied to infrastructure that does not generate revenue. Typical items financed include street improvements; sidewalks; street lighting; utilities, including water lines, storm and sanitary sewers, and plant expansions; parks and open space; and off-street parking.	<b>Medium</b>



Table E-5. Possible Funding Sources - Sonoma Water Climate Adaptation Plan: Innovative Funding Strategies

Tools	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<b>Innovative Funding Strategies</b>			
<b>Greenhouse emissions allowance auctions</b>	AB32 created auction revenue stream. Eligible projects include those that contribute to reducing GHGs.	Need to demonstrate how adaptation strategies have nexus with reducing emissions	<b>Low</b>
<b>Stormwater/ green stormwater infrastructure credit trading programs</b>	Cities/counties/agencies enable and administer a market in which developers who accomplish documented stormwater management objectives are allowed to sell credits to property developers who need to accomplish stormwater management objectives on site for new development.	Requires local stormwater ordinance/legislation to create market and sufficient new growth to create demand for credits. Need to investigate if these conditions exist in Sonoma Water service area and align with stormwater adaptation strategies.	<b>Low</b>
<b>Green Stormwater Infrastructure Bank</b>	An alternative to credit trading, enables developers to purchase retention credits from the green stormwater infrastructure bank that invests in large green stormwater infrastructure projects.	Would be focused on larger sites being developed by a single entity.	<b>Low</b>
<b>Carbon credits</b>	Potential for adaptation strategies to lead to creation of carbon credits through forestry protocols, agriculture or other. Revenues from sales of credits could either accrue to landowners or, if funded by public sector, be reinvested in resiliency efforts.	Protocols are rigorous, would require well suited adaptation. Could also consider innovative approaches to funding the development of credits such as various sources of private funding (philanthropy, impact funds, etc.)	<b>Low</b>

Tools	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
<p><b>Regional Conservation Investment Strategy: AB 2087 (2016)</b></p>	<p>Ability to create a regional community investment strategy within Sonoma County to direct conservation funds to conservation priorities. Funding streams could include mitigation fees, state or federal conservation grants, payments for ecosystem services, philanthropic grants, private equity. The current program consists of three components: regional conservation assessments, regional conservation investment strategies, and mitigation credit agreements.</p>	<p>Need to demonstrate how adaptation strategies have nexus with regional conservation priorities, i.e. forest management practices as part of investment strategy.</p>	<p><b>Medium</b></p>
<p>Blue Forest beneficiary repayment bond</p>	<p>Blue Forest’s innovative financial bonds finance climate resilience solutions with private capital. Once the capital is deployed, beneficiaries of the project repay investors over time. Blue Forest’s main financial instrument is the Forest Resilience Bond, which applies this approach to forest restoration projects, where benefits include reduced wildfire risk and associated emissions, improved water quantity and quality, increased hydropower generation, and job creation. However, their approach may be applicable to other resilience measures. Beneficiary stakeholders may include water agencies, power utilities, state agencies, local governments, recreation, insurance, USFS.</p>	<p>Requires deep stakeholder engagement to reach agreement on estimated benefits and develop a unique investment structure, Blue Forest’s pilot projects are related to forest restoration projects, application to other infrastructure investments would need further exploration.</p>	<p><b>Medium</b></p>
<p>Payments for Ecosystem Services</p>	<p>Doesn't "create" funding per se but is an implementation tool to achieve desired land use management objectives. Funding could come from any number of sources and directed to land stewards in exchange for specific land management</p>	<p>TBD depending on adaptations required. These types of strategies could be especially compatible for partnerships with regional entities.</p>	<p><b>Medium</b></p>

Tools	Explanation	Notes on Applicability	Alignment with Adaptation Strategies
	practices that contribute to desired outcomes, such as reduced fire risk, stormwater management improvement, green infrastructure that increases groundwater recharge or improves water quality.		
Build NACO Coalition to Advocate for Federal Funding	There is an opportunity for Sonoma County to continue its leadership role through work with NACO by identifying "sister" counties also facing climate change challenges. The goal could be to work together regionally and nationally to identify both best practices and advocate for needed funding to assure resiliency of critical infrastructure for their counties.		<b>High</b>

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## SECTION 3

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