Sustainable Conservation

An Exploration of Funding Mechanisms for Accelerating Habitat Restoration in California

A Report for Sustainable Conservation

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Executive Summary

Efficient, cost-effective habitat restoration is integral to California achieving its ambitious climate resiliency goals, especially the state's pledge to conserve 30% of terrestrial and marine habitat by 2030. Funding, permitting, and completing a habitat restoration project can be technically challenging, expensive, and time-consuming. Since restoration is a state and, in some cases, a global priority, how to sufficiently fund this work is a pressing question. Robust and continued fiscal investment in habitat restoration benefits the state as a whole – supporting climate resiliency, a thriving restoration economy, and an increased connection between California's communities and their local environments. Despite California's environmental leadership and prior investment, habitat restoration still lacks a steady, sustainable funding stream. This lack of sufficient funding, combined with structural inefficiencies in current funding mechanisms, acts as a significant barrier to meeting state goals.

California funds habitat restoration in numerous ways:

- General obligation bonds are a primary funding source for restoration
- County parcel or point of sale taxes have successfully created steady funding locally for restoration projects as well
- Private finance, philanthropy, and additional mechanisms like the Greenhouse Gas Reduction Fund help contribute to restoration funding

Outside of California:

- Hawai'i created a green tourist tax on nightly hotel stays and short-term rentals to fund climate resiliency efforts
- Oregon provides steady funding through the lottery fund, with 7.5% of funding going to restoration and watershed enhancement projects
- Debt for Nature Swaps is an innovative fiscal strategy used to incentivize climate resiliency through debt relief for government commitments towards conservation and restoration
- Payments for Ecosystem Services incentivize local landowners to restore and protect their land through direct payments for sustainable land management practices

Sustainable Conservation's Accelerating Restoration team was interested to hear perspectives from experts, project proponents, and funders throughout California on funding mechanisms for habitat restoration and what more could be done to create stable, adequate funding. Interviewees were asked about their experience navigating California's funding system, their ideas surrounding how to create more sustainable funding, and their general perspectives on commonly used funding mechanisms in the state.

Interview Findings:

Interviewees from a diversity of organizations agreed that there are persistent issues with the bond system, while acknowledging its necessity. Ideas for a sustainable funding stream for habitat restoration ranged from using advanced payments and block grants, and creating an online permitting dashboard, to introducing a new point of sale tax and carving out distinct funding from the general fund.

The importance of building the restoration economy and broadening the restoration narrative emerged as a key theme. Often, restoration's impact is only talked about in environmental terms, instead of highlighting the important impact it has on California's economy and communities. Restoration can be a positive tool to improve public safety, and the restoration economy supports a just transition away from extractive industries and broadens communities involved in this work. As the restoration economy grows, government and industry investment will follow and bolster dedicated resources for restoration. A dedicated workforce will increase the pace and scale of habitat restoration and support local job markets.

There are several ways funding systems can be updated to reduce the burden on agency staff, improve process efficiency, and accelerate restoration on the ground. Increased use of advanced payments for grants and block grants can help project proponents get restoration on the ground sooner and avoid unnecessary slowdowns. Investment into a successful online permitting system for state environmental agencies could reduce the burden on agency staff and save all parties time and resources. Fixing current structural inefficiencies and fine tuning

the systems used for permitting, granting, and supporting restoration can help restoration happen more efficiently and at less expense.

A steady funding source outside of bonds is needed to meet California's ambitious restoration and climate adaptation goals. Introducing an additional point-of-sale tax on plastic water bottles or carving out dedicated general funds for natural resources, instead of paying more bond interest, should be explored as a potential area for further exploration. Moving away from the state's reliance on bonds is crucial, although bonds should not be abandoned all together.

Funding mechanisms for habitat restoration are a complex topic and there is no simple solution. As California continues to advance its climate resiliency and habitat restoration goals, investment in new funding mechanisms and innovations in the current grant and funding systems are necessary to ensure this work can get done.

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1. Introduction

Sustainable Conservation is an environmental non-profit that works to advance the collaborative stewardship of California's land, air, and water for the benefit of nature and people. Sustainable Conservation's Accelerating Restoration team's mission is to accelerate the pace and scale of restoration in California, allowing the implementation, maintenance, and monitoring of restoration projects to become more efficient while safeguarding California's natural resources. The team has done this primarily through working collaboratively with agencies and project proponents on the ground to develop expedited permitting tools and associated technical resources.

Restoration-specific permitting has resulted in cost and time savings for project proponents and agencies that optimize the use of efficient permitting tools. As the work continues through permitting and technical assistance, the team is also interested in how barriers like insufficient or disparate funding sources impede habitat restoration. This paper seeks to explore funding mechanisms for habitat restoration in California to inform the Accelerating Restoration team's next strategic plan.

Insufficient funding for restoration and natural resources hinders our ability to meet state and global restoration and biodiversity goals. Current funding systems struggle with how the funding gets to projects on the ground, how state agency staff mitigate a lack of sufficient funding, and who is included or excluded in California's current funding landscape. This paper will review existing local, regional, and state funding pathways in California, funding mechanisms used out of state, and propose strategies to create steady, sustained funding for restoration.

Climate Change's Impact in California

As climate change continues to alter temperature and precipitation patterns, California's ecosystems, flora, and fauna are increasingly in peril. California's investment in protecting biodiversity is key to combatting climate change. Californians depend on the state's rich ecosystems – both for cultural resources, tourism, and agriculture (California Governor's Office of Emergency Services, 2020). Climate change has already had a significant impact on the health and safety of California's ecosystems and communities. Annual temperatures have risen by 1 degree Fahrenheit throughout the state, with some areas having a temperature increase of 2 degrees Fahrenheit. The state is also experiencing both frequent drought and increasingly intense storms. California's snowpack has declined and is expected to continue to decline by more than a third by 2050. Extreme weather events like wildfire are increasing in intensity as well. Most of California's most destructive wildfires have occurred since 2015. In the past century, sea level has risen by 6-8 inches along the California coast. In addition, 31-67% of Southern California beaches are projected to be lost by 2100 if adaption and mitigation is not implemented. These issues often compound – leading to worse health and environmental outcomes (California Climate Adaptation Strategy, n.d.). Globally, biodiversity is declining at an alarming rate, and humans continue to have a significant and negative impact on the Earth. 50% of land surface has been so altered, it is no longer recognized as "natural". As populations continue to grow, society must think critically about conserving and protecting environments to combat climate change and safeguard remaining resources (Obura, 2023).

The Impact of Natural Infrastructure and Habitat Restoration on Climate Resiliency

Habitat restoration, natural infrastructure, and healthy ecosystems are vital to public safety and combatting climate change. As outlined in California's Climate Smart Lands Strategy, "healthy landscapes can sequester and store carbon, limit future greenhouse gas emissions into the atmosphere, protect people and nature from the impacts of climate change, and build resilience to future impacts of climate change" (CNRA, 2022). Investment into nature-based solutions and natural infrastructure supports the states' decarbonization efforts, improves public health and safety, and protects California's biodiversity. Furthermore, it states that "our natural and working lands are a critical yet underutilized sector in the fight against climate change". Degraded landscapes, like the loss of peat wetlands in the Sacramento-San Joaquin Delta, can emit carbon as can major disaster events like wildfires. Restoring certain degraded ecosystems can result in carbon sequestration (Ocean Visions, n.d.). Additionally, restoration, as example of a nature-based solution, can delivery key services, like flood and heat mitigation and water storage, while protecting and enhancing biodiversity (CNRA, 2022).

Natural Infrastructure: Natural infrastructure refers to the use of rebuilt or existing natural landscapes to increase climate resiliency, often resulting in economic, environmental, and social benefits (Luedke, 2019),

Nature-based Solutions: Restoring or using nature to increase ecosystem, human, and infrastructural resilience to climate impacts (Luedke, 2019).

International Commitments to Restoration

The importance of protecting biodiversity is underscored by international and statewide commitments to conservation, restoration, and biodiversity. The United Nations environmental program declared 2021-2030 the Decade of Ecosystem

Restoration (United Nations Decade of Restoration , n.d.). The Kunming-Montreal Global Biodiversity framework, adopted at COP 15, set international targets to have 30% of degraded ecosystems under effective restoration by 2030 (Convention on Biological Diversity, 2022). The Bonn Challenge set a goal to restore 350 million hectares of degraded and deforested landscapes by 2030 (The Bonn Challenge, n.d.). In 2020, California issued The Nature Based Solutions Executive Order N-82, which made conservation and restoration a statewide priority by committing to conserving at least 30 percent of California's land and coastal waters by 2030 (California Governor, 2020). California's Nature Based Solutions Executive Order also solidified the state's recognition that a loss of biodiversity is a major threat to the state's long-term vitality and created the California Biodiversity Collaborative (California Governor, 2020). California has made terrific headway with 30x30 - to date the State has conserved 26.1% of terrestrial areas and 21.9% of marine areas (California Natural Resource Agency, 2025). California's commitment to 30x30 has helped motivate the state to fund restoration and support restoration practitioners to meet this ambitious target.

Reduced Federal Funding and Commitments for Conservation

As federal commitments to conservation are rolled back, California and other states have continued to progressively lead in conservation and restoration efforts and uphold the 30x30 goals. In 2021, the Biden Administration followed California by issuing an Executive Order to achieve 30x30 at the national scale (O'Shea, Poole, & Smith, 2021). This was quickly terminated by the Trump Administration in 2025 (Villagomez & Hidayat, 2025).

Federal funding cuts under the Trump administration and roll backs of Biden administration funding have increased funding scarcity and turbulence. Since taking office, the Trump administration has cut the budget for several federal

agencies, including the EPA. The Trump administration has also tried to repeal prior Inflation Reduction Act and Infrastructure Investment and Jobs Act funding (Kelly & Smith, 2025). Given the retraction of federal funding and commitments, California must step up to provide more funding for restoration.

Restoration Funding Worldwide

International, national, and statewide commitments towards restoration cement the importance of this work, and the subsequent need for adequate funding. Despite global investment, there is still a significant funding gap to meet global, national, and statewide restoration targets. The World Bank estimated that funding for global restoration totals $124-142 billion per year compared to an annual need of $722-967 billion per year to meet restoration goals (World Bank Group, n.d.). A 2020 report by The Nature Conservancy, the Paulson Institute, and the Cornell Atkinson Center for Sustainability found similar results. They found that, in 2019, the world spent $124-143 billion on biodiversity conservation financing. In contrast, annual government spending on agricultural, forest and fishery subsidies that degrade nature is up to 4 times higher than spending that benefits nature. To reverse the decline in biodiversity, they estimate that there is a global biodiversity funding need of $722-967 billion a year, putting the average funding gap around $711 billion per year (Paulson Institute, The Nature Conservancy, Cornell Atkinson Center for Sustainability, 2020**.** While this gap is large, the report states that it can be closed for less than one percent of annual global gross product (The Nature Conservancy, 2020). With this gap in mind, it is important to think about how California can utilize every potential financial mechanism to achieve the state's biodiversity goals.

2. Methods

To gain an in-depth and multifaceted perspective on this topic, extensive research was conducted through literature review and independent research. Government websites, policy papers, planning documents, journal and research articles, webinars, and conference proceedings were reviewed to understand the diversity of funding mechanisms mentioned in this paper, and the global and national context related to funding for habitat restoration.

A range of restoration practitioners, agency staff, and associated policy and funding experts were interviewed, primarily via video calls. Over twenty individuals were interviewed from across the state. The Accelerating Restoration team created a brief list of relevant interviewees as a starting place. Independent research was completed as well to ensure a range of relevant organizations and agencies were included. Former Sustainable Conservation CEO, Ashley Boren, was also interviewed to learn more about her perspective and individuals she thought were integral to speak to. Interviewees were also asked if there was anyone crucial who should be consulted on this topic. The interviews were recorded and transcribed in Teams. The transcriptions were edited for clarity and then analyzed by question to pull out key themes and quotations.

3. California's Current Funding Landscape

This paper primarily focuses on funding for voluntary habitat restoration. Funding for voluntary habitat restoration in California comes from a variety of different financial mechanisms – mainly using local taxes or fees, statewide bonds, philanthropy, and private finance to support projects. Each funding mechanism is unique, with specific limitations and benefits. This is not an exhaustive list, but

rather an overview of some of the primary mechanisms and only includes mechanisms at the state and local level. Restoration projects associated with mitigation requirements for development, as opposed to voluntary restoration, are not part of this analysis. Federal funding mechanisms were not included in the research scope because Sustainable Conservation primarily operates within California and does not get closely involved in influencing federal funding for restoration.

Bonds

State bonds are one of California's most successful and significant funding streams for habitat restoration. The state has passed several climate focused bond initiatives – most recently Proposition 4, a ten-billion-dollar climate bond passed in 2024. Prior propositions, specifically Proposition 1, Proposition 84, and Proposition 68, have provided a critical influx of funding for restoration. These bonds are general obligation bonds. California's general obligation bonds can be passed by voters with a simple majority vote or by the State Legislature with a two-thirds majority vote. (California Department of General Services, 2017). The state sells General Obligation bonds to investors and repays the debt and interest through the General Fund over time (LegalClarity California, 2026). The General Fund is mainly funded through different taxes like personal state income taxes, sales taxes, and corporate taxes. These bonds are repaid generally over 30 years (Ellison, 2024).

Proposition 84, the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act was passed in 2006. Proposition 84 authorized the Legislature to appropriate **$5 billion** for safe drinking water, water quality, and the environment (CNRA, n.d.). Restoration projects were embedded within Proposition 84 funding distribution for categories like Parks, Coastal and

Wildlife Conservation as well as Water Quality and Watershed Protection (LegalClarity California, 2025)

Proposition 1, the Water Quality, Supply, and Infrastructure Improvement Act, was passed in 2014. This **$7.5-billion-dollar** bond focused on water supply, restoration of key species and habitat, and sustainable management of the water resource system (CDFW, n.d.). Proposition 1 proposed $1.495 billion of the bond to be spent on multi-benefit ecosystem, watershed protection, and restoration projects (Ballotpedia, n.d.)

Proposition 68, the California Drought, Water, Parks, Climate, Coastal Protection, and Outdoor Access for All Act was passed in 2018. Proposition 68 authorized **$4 billion** for projects related to community climate resilience and adaptation, coastal and rural protection and improvement, recreation, and drought and water tolerance and retention (CDFW, n.d.). Proposition 68 had restoration programming embedded within overall allocations of the $1.5 billion for natural resources conservation and climate resilience. Specifically, the Wildlife Conservation Board (WCB) received $275 million for habitat restoration, public access improvements, and other ecosystem related programs. Restoration funding was also included in the $443 million that went to climate preparedness and coastal protection (CA Measure 68: Parks, Water, and Environment Bond, 2026).

Proposition 4, the **10-billion-dollar** Climate Bond, is the largest single investment in climate resilience in California's history (Sonoma Land Trust, 2024). Voters passed it overwhelmingly in 2024. Proposition 4 provides dedicated and reliable funding for climate resilience, nature-based solutions, and restoration. This funding will directly support California's ambitious climate targets – namely 30x30 and achieving net carbon neutrality by 2045 (Rivero, 2025). Proposition 4's proposal had $1.2

billion directed towards land conservation and habitat restoration (Legaslative Analysts Office, 2024).

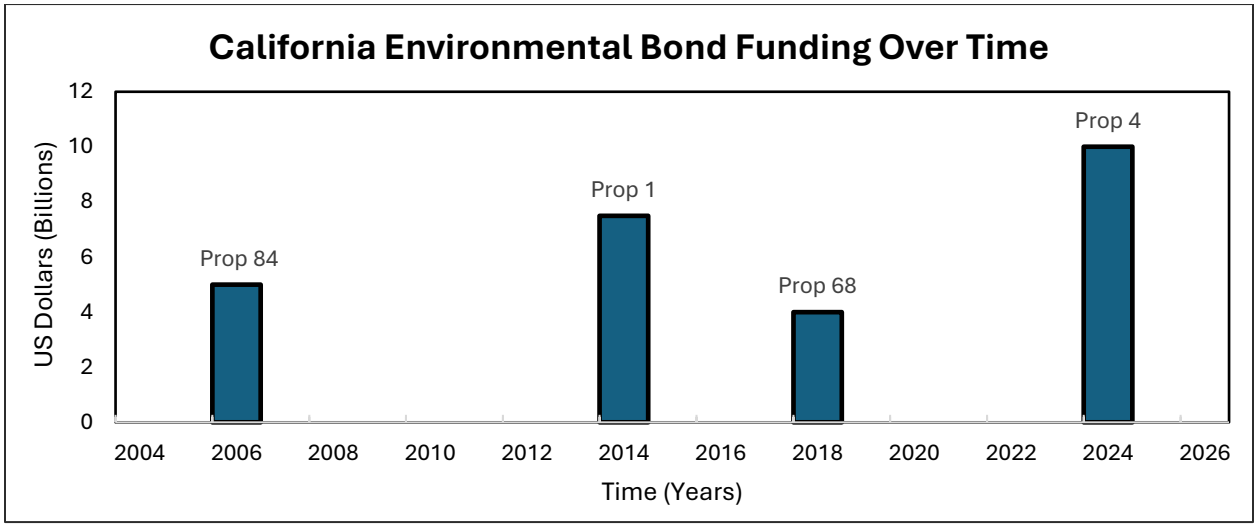

Figure 1. California Environmental Bond Funding from 2004-2026.

California Wary of Being Too Reliant on Climate Bonds

Bonds are complex – they are a key aspect of our funding system but are heavily impacted by economic and political factors. This turbulence causes stop and starts in funding and increases competitiveness over scarce resources. Additionally, the bond process can be lengthy, arduous, and costly to promote, as it is challenging to have a single bond meet the state's needs. There are also concerns around bond fatigue for California's voters. California voters have demonstrated their sustained commitment to the environment, but as the cost of living continues to rise, some worry that voters may be less inclined to support these bonds. Finding additional financial mechanisms and improving structural issues regarding the bond system is crucial to building sustainable funding for restoration in California.

Interviewees from a diversity of backgrounds agreed that the bond system was ineffective at matching the current demand for restoration funding. An interviewee described the bond system "more as a limitation rather than a problem." They

added that “it's great that we have this bond money and, in some ways, it's appropriate because it's building capital projects.” California’s environmental bonds are well utilized to fund restoration projects, especially as these large-scale projects can carry a high price tag. The reliance on bonds as a central funding mechanism for restoration, however, creates issues as bonds are not a steady funding stream. To this point, an interviewee called the bond system a “stopgap,” saying that our reliance on bonds reflects “a failed process” and that they are “insufficient even for one organization, let alone for 100 organizations across the state.” Not only is there uncertainty about when, and if, there will be a future climate bond, but distributing the funding is also a challenge. Although Proposition 4 is a resounding commitment to combatting climate change, more funding is needed for a larger swath of organizations. Another interviewee remarked that California’s bond system is a “good faith attempt to fix a structural failure, but the same political forces that created the structural failure are the ones that engineer the lack of timeliness.” California shouldn’t abandon bonds altogether. They have been instrumental to restoration, but the state can innovate current financial systems to make funding sources more reliable.

Local Measures

Passing local county or regional restoration measures has been a considerable lever to increase funding for restoration. Local measures like the Bay Area’s Measure AA, Santa Cruz’s Measure Q, and Marin County’s Measure A have created dedicated and sustained funding for restoration through parcel and point of sale taxes. These funds support local agencies and non-profit organizations, as well as local landowners, tribes, and agricultural groups, to increase work on the ground and meet 30x30 goals at the local level.

So far, these local measures only exist in the Bay Area and Santa Cruz County. Interviewees indicated a desire to see similar measures passed in other counties but recognize that it may not be realistic or doable to pass these measures across the state. One interviewee remarked that "Measure A was wonderful, but it probably happened in one of the few places it can actually happen". Many factors must be considered to determine if a parcel or point of sale tax would be successful, helpful, or doable. The size of the current tax base, economic health of a county, and predominant industries or natural resources are key factors that determine if these types of taxes would be passable. One interviewee said that "if you want to be able to do a ballot measure or a tax measure at some point, then doing it to a population that's very small creates a higher burden for the tax base… how do we replicate this in a way that there's enough planning and resources and also not an additional stressor to the funding base." Working to find other counties or regions where these taxes could be introduced is important, but these measures may not be the right mechanism for counties across the state.

The San Francisco Bay Restoration Authority funds shoreline restoration projects through the **Measure AA** parcel tax. The San Francisco Bay Area Restoration Authority was created by the California Legislature in 2008 through AB 2954 to support new funding mechanisms for restoring and protecting Bay Area wetlands within the nine counties. Measure AA, the San Francisco Bay Clean Water, Pollution Prevention, and Habitat Restoration Measure, was voted on by residents of the nine counties in 2016 and passed with a 70% approval rate across the region. Measure AA is a 20-year, $12 parcel tax. It raises $25 million annually and is estimated to raise a total of $500 million over 20 years to fund restoration projects and enhance Bay Area environments (Association of Bay Area Governments, n.d.). (San Francisco Bay Restoration Authority, n.d.). Since Measure AA's inception, it has authorized

over $200 million to spend on 47 projects (San Francisco Bay Restoration Authority, 2025). The creation of the San Francisco Bay Area Restoration Authority solidified an important governance structure that helps the Authority receive more funding and support. As put by one interviewee “when regions are coordinated and they have a governance structure, they are very likely to funnel money… because they're already prioritizing. So, the US EPA awarded the region over $50 million in 2023 for already having that structure in place.” This structure is an important foundation that helps the Authority gain fiscal support.

Measure Q is the **Santa Cruz County** Safe Drinking Water, Clean Beaches, Wildfire Risk Reduction, and Wildfire Protection Initiative. Measure Q was approved by voters in 2024 and is funded through an annual $87 parcel tax. It is expected to generate $7 million annually. Measure Q supplies dedicated funding for the Resource Conservation District of Santa Cruz County, as well as a local land stewardship partner, the four local cities within Santa Cruz County, and the County itself. It also creates a competitive grant program to help fund restoration projects (Santa Cruz County, n.d.). The Measure Q Grant Program focuses on advancing community resilience, environmental health, and access to parks and open space. It is divided into two tiers, with tier 1 providing dedicated funding to help organizations expand their work and test new ideas, and tier 2 focusing on multi-benefit projects. The inaugural grant cycle was just completed, with 18 grants totaling over $2.7 million awarded in June 2026 (Santa Cruz County, n.d.). An interviewee who worked closely on Measure Q described it as a “long-term vision for sustained funding for conservation in the county” and has helped them create a “stable baseline”. They shared that their hope “is that it's going to enable all of our community to be able to access and leverage more of the state and federal funding

much more efficiently." They also shared the importance of Measure Q being a citizen initiative – which means it is "in perpetuity unless voted down by voters".

Marin County has implemented **Measure A**, a quarter-cent sales tax. This tax funds protection, preservation, and expansion of open space and agricultural land. Most of the funds go to maintaining parks and open space, with some funding going to sustainable agriculture, conservation easements, and a smaller percentage towards a grant program and dedicated funding to the Marin Resource Conservation District. (Marin Agricultural Land Trust, n.d.). Measure A was originally approved by voters in 2012 and renewed in 2022. In 2024-2025, Measure A raised over 17 million in sales tax revenue (Marin County Civil Grand Jury, 2026). An interviewee stated that "Measure A gave us the ability to not play defense but play offense".

Although not specifically focused on restoration, **Sonoma County** voters created the **Sonoma County Agricultural Preservation and Open Space District** (Ag + Open Space) in 1990 to protect and conserve land. Ag + Open Space is funded through a quarter-cent sales tax. Over the last thirty years, the Ag + Open Space has permanently protected more than 10% of the land area in Sonoma County. The Ag + Open Space District mainly protects land through acquisition of conservation easements but also purchases land in fee (Sonoma County Ag + Open Space, 2021).

Greenhouse Gas Reduction Fund and Cap-and-Invest:

The California Air Resources Board (CARB) introduced the Cap-and-Trade Program, now known as Cap-and-Invest, in 2012. Cap-and-Invest is central to California's goal of achieving carbon neutrality by 2045. Cap-and-Invest establishes a declining cap on emissions over time and distributes tradable credits to emitters. Emitters purchase credits during quarterly auctions overseen by CARB. These credits can be

banked for future use or traded with other entities that cannot meet their greenhouse gas emission allotments. The revenue created by Cap-and-Invest auctions funds the Greenhouse Gas Reduction Fund (GGRF) and California Climate Investments Programs, which distributes this funding throughout the state (University of California, Berkeley Law).

In 2024, California Climate Investments distributed $1.9 billion to 117 climate programs across the state (California Climate Investments, 2025). California Climate Investments funds a diversity of programs focused on decarbonization, work force development, clean transportation options, community capacity building, climate-smart agriculture, restoration, and forestry, among other things (California Climate Investments, n.d.). California Climate Investments funds the Wetlands and Watershed Restoration Program, some of which included Mountain Meadow Restoration, Sherman Island restoration in the Sacramento-San Joaquin Delta, and the Ocean Ranch Restoration project. As of October 2025, this program has implemented $55.5 million dollars across 29 projects (California Climate Investments, n.d.). The Little Egbert Multi-Benefit Project, a flood conveyance improvement and habitat restoration project in the Sacramento-San Joaquin Delta, received over $125 million from California Climate Investments for planning, environmental compliance, and construction, including support for staff and consultants (DWR, n.d.), (DWR).

Recently, detrimental changes have been made to the Cap-and-Invest Program by CARB, which may result in less revenue from the Program. Under this overhaul, the quarterly auction revenue used to fund state climate programs will drop from approximately $4 billion a year to $2 billion a year. Now, certain companies, specifically those that pledge to invest in clean energy, would be able to purchase free pollution permits. Half of these free permits are reserved for the fossil fuel

sector. Pressure from rising gas prices and the oil industry is a major driver of these changes. These changes will certainly limit the available funds from Cap-and-Invest, which were already contentious and competitive (Lazo, 2026). These proposed changes not only cut the GGRF in half but also threaten the state's 2030 greenhouse gas emission reduction targets. These changes could defund priority programs and significantly shrink funding for additional programs like California Climate Investments (Shobe, 2026). This would be a significant blow to restoration and decarbonization programs funded by GGRF and California Climate Investments and would leave many programs scrambling to find new funding sources.

Cannabis Tax Grant Program for Restoration

The Cannabis Restoration Grant Program (CRGP) is overseen by CDFW and funded through the California Environmental Restoration and Protection Account. This program provides funding for ecosystem restoration and ecological health across the state. Its programs are focused on restoration, remediation, and the cleanup of habitats degraded by cannabis cultivation, research focused on native species and ecosystem resilience, and partnerships with tribes, non-profits, and public agencies focused on natural resource protections (CDFW, n.d.). The CRGP has invested over $84.9 million in 54 grant funded planning and implementation projects across its programs (CDFW, 2026).

The Role of Private Finance

Conservation Finance has been increasingly seen as a potential tool to raise capital and funding for projects related to conservation and biodiversity. Historically, state and national government have been the largest funding sources for conservation and biodiversity (Cosma, Rimo, & Cosma, 2023). As the link between biodiversity, nature, conservation, and the economy is more evident, there is more financial

incentive for the private sector to invest in safeguarding biodiversity. The loss of biodiversity could cost at least 4% of GDP in some countries by 2050. Conservation finance frameworks can be used to reduce conservation costs, improve and establish risk management practices, disincentivize harmful practices, and incentivize positive actions (Cosma, Rimo, & Cosma, 2023). For the private sector and traditional business, investment in safeguarding biodiversity offers opportunities to achieve net zero targets, manage risks related to nature, and invest in innovative business opportunities as the climate crisis puts more pressure on our natural resources (World Bank, 2024).

Funding Mechanisms Used in Other States and Countries

California has been a leader in championing restoration, raising significant funding for habitat restoration and conservation. There are, however, other states and countries creating successful funding mechanisms for restoration. Oregon and Hawai'i have created unique dedicated funding streams, and countries like Costa Rica have used creative mechanisms to incentivize local landowners to achieve restoration targets.

Oregon has successfully created a steady funding stream for habitat restoration through its **lottery funds**. Administered by the Oregon Watershed Enhancement Board, 7.5% of Oregon's lottery funds go to watershed enhancement and restoration projects (Oregon Lottery, n.d.). Although the annual revenue for restoration from the Lottery Funds is smaller than California's bond funds, it is steady and dedicated funding source that is reliable for restoration practitioners in the state.

In 2025, **Hawai'i** enacted a "green fee" through a **tourist tax** added to hotel stays and short-term visits. Visitors to Hawai'i will pay a .75% increase on nightly hotel

and short-term rentals. This fee will raise Hawai'i's transient accommodations tax (TAT) to 11%. This fee is estimated to raise around $100 million annually. Hawai'i is the first state to enact a green fee charge to hotel stays and short-term visits to protect the local environment (Honoré, 2025). This progressive mechanism will carve out additional funding for environmental conservation, sustainable tourism and climate resiliency (Green Fee Advisory Council, n.d.). This is a unique and exciting model to mitigate tourism's strain on natural resources, build climate resilience, and create a dedicated funding source for restoration and conservation.

In 2024, **New York** and **Vermont** established **Climate Superfunds** as a new polluter pay model. Both bills hold large fossil fuel companies financially accountable for some cost of the climate crisis and would establish funds to pay for climate adaptation projects. Vermont was the first state to pass a Climate Superfund – legally holding fossil fuel companies that have sufficient connection to the state responsible for their greenhouse gas emissions from 1995 to 2024. Vermont is still in the process of determining how to calculate the cost and impact of these carbon emissions on the state. New York was the next state to enact a Climate Superfund, focusing on companies that had sufficient contact with the state and who have emitted more than a billion tons of greenhouse gas emissions between 2000 and 2024. Both states have since faced legal challenges from the U.S. government, which claims that polluter pay laws impede on federal affairs (Hu, 2025). California tried to introduce a similar model, the Polluters Pay Climate Superfund Act of 2025, but it failed in committee. (CAL MATTERS, n.d.). Neither program has been implemented yet to date. Despite New York and Vermont's legal hurdles, this is an interesting funding model and revenue creator.

One strategy **Costa Rica** employs are **Payments for Ecosystem Services (PES)**. The PES program pays landowners for the ecosystem services their lands produce

when they adopt sustainable land management techniques. It makes direct cash transfers to private landowners for multi-year long contracts for several types of activities including reforestation, sustainable forest management, and forest protections. The funding for landowners mainly comes from Costa Rica's tax on fuel and water bills. PES has helped Costa Rica combat deforestation and incentivized landowners to adopt more sustainable practices. The PES program has invested 524 million USD, with 18,000 families and more than 1.3 million hectares under PES contracts (United Nations, n.d.)

Debt-for-nature swaps are another exciting funding mechanism being used to fund climate adaptation and restoration projects. This mechanism provides debt relief in return for government commitments towards climate goals and related projects (Whiting, 2024). In 2023, Ecuador engaged in one of the world's largest debt-for-nature swaps through the sale of a blue bond that converted $1.6 billion of debt into approximately $12 million per year for conservation efforts in the Galapagos Islands (Jones & Campos, 2023). Ecuador worked with Credit Suisse to convert its prior debt into a $656 million loan that will be repaid over time until 2040. This transaction also includes a long-term conservation finance commitment of over $323 million from inception to 2040 (Pew, 2023). This financial mechanism provides dedicated funding for conservation efforts and financial benefits for the country. It will reduce the country's commercial debt by $1 billion dollars and save the government another $1 billion over time by reducing interest (Debt for Nature Coalition, n.d.). Although Ecuador's debt conversion has been the largest ocean conservation debt refinancing to date, other counties like Bolivia, Brazil, Costa Rica, and Peru have also engaged in debt conversion for nature (Pew, 2023).

4. Areas For Further Exploration

Building Support to Fund Restoration

Citizens are empowered to care about nature and support funding for climate resiliency when they have personal connections to the local environment. Creating narratives that can connect citizens across the state, both to each other and to the environment, is crucial to developing Californian's understanding about why restoration is important to invest in. Expanding and increasing access to nature is equally vital – as access to nature across the state is not unilateral. Despite current support for restoration, restoration practitioners must continue to broaden their communities and coalitions to build the political will needed to fund this work. Necessary to achieve this is continued work to diversify restoration leaders and practitioners, empower local community groups, and connect communities to restoration work in their backyards and across the state.

Multiple interviewees mentioned issues with the current restoration narrative and their desire to see it better encompass the benefits restoration has on the state. Often, we only tout restoration's environmental impacts without spending the same time speaking about how it impacts the state. When asked what their solution would be to create a steady funding stream for restoration, one interviewee said it would be to "have employed the best communication strategists to create sort of that statewide narrative that helps people really connect to the significance and the need for restoration." An interviewee added that part of their proposed solution would be to "give each legislator the understanding and desire to make resources and restoration a priority." Another noted that they view the lack of sufficient funding for restoration as a "societal issue" due to "our disconnect". One said that Californian restoration practitioners need to do a "a better job of actually

demonstrating and visualizing for folks' what restoration even is." This is strong evidence pointing towards the need to update and improve how restoration practitioners talk about their work, both for a lay audience and for the legislature. A strong and diverse narrative can help close these gaps and connect citizens across the state to restoration work. Our narratives about restoration should highlight its role in community safety and ability to improve communities' quality of life, its positive impact on the economy and workforce development, and its effect on climate resilience.

The Importance of the Restoration Economy

The restoration economy and workforce were mentioned by multiple project proponents as key topics that need to be better communicated, especially regarding how restoration can be a vehicle for "economic benefit." One interviewee mentioned that "we don't talk about it in economic terms because… it's just… another layer of work we have to do." The administration of restoration projects can be a tremendous amount of work, especially for smaller-scale organizations. With limited funding and often overburdened staff, finding the time and funding necessary to monitor this additional metric can be difficult. Despite this lift, collecting data on the economic impact of a restoration project, both during project implementation and after project completion, is important to bolster the claim that restoration is good for the economy. Increasingly, restoration projects are starting to think critically about their impact on the economic workforce and are including these metrics in their communication and reports.

Formal recognition of the restoration economy and workforce is needed to solidify the positive role restoration can play in supporting Californians. Despite compelling data that restoration positively impacts the economy, there is still a perception that the environment and the economy are forever opposed. The Ecological Workforce

Initiative is working to establish ecological restoration as a formal sector so that this work can be measured to support greater buy-in from the state. In their 2026 Report, they sum this issue up well, saying "the rubber meets the road, however, when it comes to efforts to regulate or fund the protection and restoration of the environment, because those regulations are seen as at odds with economic interests" (Ecological Workforce Initiative, 2026). They argue that formal recognition of the restoration economy through the Federal Bureau of Economic Analysis is needed to move this work forward. They describe this importance, saying "on the economic front, job creation clearly matters—and there are more jobs being created today in ecological restoration than in coal mining, timber harvesting, or in numerous other industries with a seat at the table. Yet the jobs created by ecological restoration funding are not recognized by the economic system as attributable to the policies and programs that create them in the first place." (Ecological Workforce Initiative, 2026). The restoration economy is vital for California – it offers a "just transition" away from historically extractive industries, like coal mining and timber harvesting. To complete the transition away from these industries, and to create compelling policies to support restoration, this workforce needs to be formally recognized by both the state and federal government.

Organizations like the Ecological Workforce Initiative were created with the recognition that there is a growing need for "high quality, standardized training for equipment operators and laborers" to meet the demand for ecological restoration projects. At the Ecological Workforce Initiative, they recognize that restoration serves the economy, community, and the environment (Ecological Workforce Initiative, n.d.). As a skilled workforce continues to develop, and recognition of this workforce grows, the rate, scale, and efficiency for restoration projects will improve. An interviewee articulated this, saying "the more restoration money we have and

the more sustainable that funding is, the more… construction firms are going to be doing restoration projects and the more they can specialize in them and invest in a workforce that works on restoration rather than traditional development." At a time when California, and the country, is facing an affordability crisis *and* a climate crisis, the restoration economy offers stable workforce development and climate resilience at the same time. Creating a stable California workforce to help combat the climate crisis pays dividends for both community and the environment.

Redwoods Rising: A Case Study in Working with Local Voices

Redwoods Rising is a Save the Redwoods League Initiative done in collaboration with the National Park Service and California State Parks. It is a prime example of how restoration can go hand in hand with supporting rural economies and communities. Redwoods Rising is working to restore over 70,000 previously logged acres in Redwood National and State Parks. Not only is Redwoods Rising focused on restoring these old-growth redwoods forests, but this project also centers on creating economic resilience in the communities who call the North Coast counties home (Ok-Soo, 2025). In 2024 alone, Redwoods Rising supported 200 jobs in the local economy, with many of these jobs in tree-harvesting and construction. Redwoods Rising reports they pay a higher wage than the average job in Del Norte and Humbolt counties as well. Since 2019, over $97 million has been raised to invest in local restoration work. They also prioritize working with local contractors and vendors to ensure that investment is made locally. For example, they report that 90% of contractor hours were filled by workers from Humbolt and Del Norte counties. For rural areas, natural resources can be an important economic avenue for local communities. As restoration continues, increased park visitation only returns more funds to local economies through related tourism, like nightly hotel stays or restaurant spending. Redwoods Rising has made a substantial effort to

report on and communicate its impact on the local economy as a key metric of success (Save The Redwoods League, 2025). More restoration practitioners should make a concerted effort to support the workforce where their projects take place, and report on their economic impact.

Restoration as a Tool for Public Safety

In addition to restoration's positive economic impact, it can also be a tool for community safety and security. One state agency interviewee mentioned that their organization has shifted to talking about restoration under the lens of public safety, communicating that habitat restoration is one tool used to ensure that communities are protected from natural disasters. They said, "the recognition of the benefits of the work are now extending beyond single species or single habitat types to more about the community safety implications." They have been able to make a "stronger case for investment" by talking about the public safety benefits of restoration. They added that "our communities are demanding action to protect them from fire and from floods and we know that healthy functioning ecosystems can have those benefits. So, it is really important for us to be framing the work in that way." As climate disasters continue to worsen in impact and increase in frequency, restoration supports climate resilience. Helping community members connect the dots between restoration projects and climate resilience demonstrates why this work is necessary and adds another data point for why more restoration should receive continued investment.

Restoration as a Tool for Environmental Justice

Restoration practitioners must continue to expand their communities and coalitions to include a broader and more diverse swath of Californians. Restoration is being done all around the state, but often what's happening on the ground isn't

communicated to the greater community the work may impact. By including and educating communities about what's happening on the ground, we support their agency and empower them to be further involved in this restoration work. One interviewee said, "what are we doing to educate our new environmental stewards… and being more proactive and bringing others along?" They added that "education" was one of the most important tools to further investment in restoration. This can be an important challenge, as building connection and community involvement takes time and funding – which may not be included in grants or traditional funding mechanisms.

Not only does restoration often exclude the communities it impacts, but restoration practitioners also often only represent a small subset of Californians. Multiple interviewees spoke about the barriers to inclusivity in restoration work as being a significant issue. One interviewee said, "the field itself is very exclusive to a very small subset of humans". Another added that "this field is selected for people who are affluent… almost all my peers have burned out. That's a terrible thing." Continuing to combat systemic barriers to inclusion is crucial to building community support on the ground and creating more successful climate solutions. Improving environmental education about why restoration is important, how it can impact local communities, while strengthening community involvement, will help increase widespread support for this work.

Fiscal System Innovations

There are many ways to improve the systems used to grant, permit, and fund restoration to lower burdens on agency staff and project proponents, improve efficiency, and minimize barriers to getting this work done. Below are several

proposals to innovate the system – by providing advanced payments for grants, providing more regional block grants, and moving towards online dashboards.

Advanced Payments

One strategy to improve California's funding system is to continue investments into advanced payment for grants. This advanced system pays grantees up front, rather than having organizations reimbursed during the project. One interviewee said that "if there was a way to advance funding for capacity building, then I could imagine that the…conveyor belt of planning to implementation dollars gets set up". In 2022, the Newsom administration signed legislation to create an Advanced Pay Pilot model to improve access to funding for lower-resourced organizations and communities (State of California Strategic Growth Council, 2022). The state authorized 6 state agencies including the Wildlife Conservation Board (WCB) and the Department of Forestry and Fire Protection (CAL FIRE) to administer advanced payments limited to 25% of the total grant amount unless the state agency determines it should receive a larger allotment. WCB was able to grant California State Parks $12.5 million for Rindge Dam Removal and Malibu Creek Ecosystem Restoration planning, with 100% of the grant advanced (California Department of Finance, 2025). This project is still in the permitting process, so implementation has yet to begin.

Having the funding upfront helps organizations gain momentum on restoration and minimizes barriers for small-scale organizations that may not have the capital to sustain project implementation, organizational, and staffing costs at the same time. Another interviewee indicated their support for this mechanism, adding "the advanced payments on grants, we've come a long way with that. That's huge. I would love to see more of that." Conservation finance organizations like Blue Forest have filled this gap through the creation of the Forest Resilience Bond, which raises

funds from private capital to provide advanced payments for restoration practitioners. Blue Forest offers an innovative financing model that supports project proponents by providing them with interest free loans, acting as an advanced payment when their reimbursements are delayed. This cash flow helps the work keep moving at pace and avoid slowdowns. Blue Forest was able to create a system to avoid this problem – it would be beneficial if more agencies adopted similar imaginative models that leverage capital to increase efficiency on the ground (Blue Forest, n.d.).

Barriers to Restoration: The Lack of Funding for Agency Staff

Another barrier to accelerating restoration is a lack of funding for agency staff who are administering project grants and permits. Many agencies have had to raise their fees to fill the gap made by unfunded mandates, agency staff cuts, and federal funding turbulence. Most interviewees acknowledged that this is an issue – one stated that "the funding of the projects is being done in a way that's really limiting to staff". To this point, an interviewee from a state agency said that they saw that their staffing levels "go with the boom-and-bust cycle." Another state agency interviewee stated that "there isn't a sustainable funding source for staff that manage grants." The turbulence of funding impacts project proponents and agency staff alike. Instrumental to addressing the funding gap for habitat restoration is creating financial mechanisms that can supply dedicated funding to agency staff who permit projects and administer grants.

Many indicated that this was a significant issue and that solely creating more funding for agency staff may not fix larger inefficiencies. One interviewee said the lack of agency funding is "used as a distraction" from larger, structural issues with the funding system. As restoration efforts continue to grow, more demand is being put on agency staff from agencies across the board. The Cutting the Green Tape

FY24-25 Report to the Legislature reported that “CGT staffing challenges increased during FY24-25 with high demand for CGT staff time and several vacancies pending budget resolution.” The report added that “CDFW may need to augment and supplement the capacity and efforts of the CGT Program to grow and meet future demands for increased restoration work throughout the state as new tools and expectations change” (CDFW, 2025). Additionally, staff turnover was mentioned by several interviewees as being a key structural barrier. Interviewees reported that staff turnover leads to having to create new relationships, which often puts restoration practitioners back at square one with their permit applications. More sustained and dedicated funding for restoration, as well as improving the grant and administration systems, can help minimize the burden on agency staff.

Further Investment into Online Dashboards

Adjustments and advancements can be made to state agency systems to improve efficiency for staff, freeing up funding for further investment. Creating an online dashboard for project proponents to upload their permitting and planning materials and track their permitting status would save agency staff significant time. Although some California agencies have an online dashboard, they are often complicated, underutilized, and may not be available for all permitting pathways. One interviewee said that “technology and… using dashboards, using AI even to summarize where a permit is at and its application process is so important.” The State of Virginia has been a major leader in permitting reform and has made notable headway through the Department of Environmental Quality’s development of the Virginia Permit Transparency system (VPT). The VPT is used by ten Virginia state agencies and manages over 200 different types of permits. The VPT has resulted in significant time savings – the Department of Environmental Quality reported a 65% reduction in processing times (Environmental Policy Innovation

Center). Although the development of these tools is an investment, it can pay dividends in staff time saved and improve agency staff capacity, as well as providing clarity for project proponents. Similar improvements should be made in California to improve permitting efficiency, save agency staff time, and reduce associated permitting costs.

Continued Usage of Block Grants

Improvements can also be made to the way agencies administer funding. One grant mechanism that multiple interviewees spoke of was block grants. Block grants are fixed sums granted for broad-purpose projects. They are generally considered more flexible as the funding can be used for a variety of purposes once distributed by the block grant recipient (Kenton, 2026). Block grants are mainly used by both State and Federal governments to fund things like education, housing, and healthcare (Kenton, 2026). California has started to provide more environmentally focused block grants. For example, The Sierra Meadows Partnership and associated Block Grant, which includes Point Blue Conservation Science and other collaborators, is funded through the WCB (Point Blue Conservation Science, The Sierra Meadows Partnership, WCB, 2025). The block grant has awarded over 20 million dollars in funding to 56 restoration programs. These projects will work to restore over 4,00 acres of critical Sierra meadow habitat (Point Blue Conservation, n.d.). The Sierra Meadows Partnership reports clear benefits from the block grant structure. In a 2023 WCB board meeting, it was stated that “through the efficiencies made possible by a block grant, the Project will advance potential meadow restoration projects that will have the greatest degree of multiple benefits” (Point Blue Conservation Science, The Sierra Meadows Partnership, WCB, 2025). One interviewee approved of block grants because of the efficiencies and collaboration across communities they provided, stating that agencies could “provide a

block grant of up to $20 million versus having to do 30 individual project applications with 30 different sets of invoices." Another remarked that "block grant funding is critical" for finding ways to create sustained funding streams. Current state investment in regional block grants was described as a "great" move and an area that interviewees would like to see further invested in.

Re-Imagined Cap and Invest

Cap and Invest funds, through the GGRF and California Climate Investments should provide more funding for restoration and nature-based solutions, as both can result in reduced greenhouse gas emissions. Multiple interviewees indicated a desire to see more GGRF funding used for restoration. Describing their idea for more sustainable funding, one interviewee from a state agency said, "I would say restoration and nature-based solutions are a critical part of achieving our climate objectives and therefore a greenhouse gas reduction fund should include, you know, 30% of the total revenue stream going to fund that source." Further, they said their organization was "really hopeful that ourselves and others can be successful through… the Greenhouse Gas Reduction Fund… trying to get… some portion of that to go to nature-based solutions… is really appropriate and necessary." It would, however, require substantial political support to allocate more funding for restoration from GGRF, with one interviewee saying, "the political opposition to that is very strong."

Despite the political uplift it may take, this funding structure could be a great mechanism to meet California's 30x30 goals, as restoration and other nature-based solutions can help reduce carbon emissions. Analysis of GGRF spending found that some of the programs that have resulted in the largest emissions reductions receive a very small percentage of funding. The study found that the three most cost-effective programs have delivered 53% of the GGRF emissions reductions,

while having been responsible for only 6% of implemented funding to date. These three programs were the Sustainable Agricultural Lands Conservation Program, the Dairy Digester Research and Development Program, and the Forest Health Program (Conservation Strategy Group, 2023). Shifting more funding to programs, like restoration, that result in reduced emissions is necessary. Unfortunately, the political feasibility of this change is very low, especially after recent overhauls of the Cap and Invest Program (Lazo, 2026).

The Sale of Carbon Credits

The sale of carbon credits from wetland establishment and restoration is also an exciting potential avenue for further development. If projects could sell credits generated by the carbon they store, this could unlock an additional funding stream. The Sacramento-San Joaquin Delta is a particularly interesting area for this type of carbon offset program. The Department of Water Resources (DWR) has worked with other state agencies to produce long-term datasets on carbon in the Delta. This data was used by the Delta Conservancy to create a protocol to develop carbon credits at scale, which has been adopted by the American Carbon Registry (ACR). This carbon credit is a verified reduction in greenhouse gas emissions that can be generated through the ACR and then sold to organizations that are looking to offset their emissions. DWR has yet to sell any credits – however, the development of this protocol and the long-term research on the impact of wetland restoration on reducing carbon emissions is promising (Mavens Notebook, 2026). One interviewee is excited about this prospect – noting that they were hopeful DWR would sell credits soon. They went on to say, “we're very confident that the value that they're going to get for those credits is going to come close to the agricultural commodities that they're losing.” This type of “carbon farming” - where the commodity is carbon storage and or capture, could offer monetary benefits to

restoration or sustainable land management work and could continuously create funding as projects evolve.

New Mechanisms for Steady Funding

A central issue to the lack of sufficient funding is the knowledge that there is no clear ratepayer for restoration. One interviewee phrased this conundrum well, saying “there's no rate payer for the environment, the wastewater people, the electricity people, the water people, they all have ratepayers and the environment just doesn't have a ratepayer and that is a huge issue.” It is unclear who exactly should pay directly for restoration and where to generate an equitable source of funding for this work. The lack of clear funding source is key to unlocking a more sustainable funding stream for this work. Another interviewee remarked that creating a dependable funding stream isn’t just “about sustaining ourselves. We don't have anything to leverage. We don't have anything to borrow against.” To that point, they added “If you had ratepayers or if you had some sort of reliable revenue stream, then you could borrow against it.” Despite restoration currently lacking a rate payer, there are still many creative mechanisms that could be employed to generate new funds.

Using the General Fund for Restoration

Securing more steady funding for natural resources and restoration from the general fund is politically challenging but it could save the state significant debt service costs. One state agency interviewee said, “I would calculate the amount that we actually have paid out of the general fund for the bond payback as well as the interest on the bond payback… I would take the interest away from that and… say we're going to pull this out of general fund for the next 10 or 15 years.” Funding restoration with general obligation bonds does come with a higher price tag of

interest. The state pays back the interest on these bonds over several years, and often the interest is equal to the principal cost of the bond.

- For Proposition 68, the state sold $4.1 billion in general obligation bonds, but it was estimated to cost the state $7.8 billion with interest, with $3.8 billion in interest payments over the bond's life (California Secretary of State, n.d.).
- The Pacific Institute analyzed the impact of Proposition 1 and estimated that the total cost will exceed $14 billion over 30 years. Proposition 1 had a $7.5 billion general obligation bond principle (Cooley, Gleick, & Donnelly, 2014).
- Proposition 84 was a $5.4 billion dollar bond but in total will cost the state $10.5 billion over thirty years to pay off, with $5.1 billion in bond interest (California Attorney General).
- Proposition 4 is estimated to cost the state $400 million annually for the next 40 years to repay the bond and pay back the interest (Legislative Analyst's Office, n.d.).

This is a considerable amount of debt the state takes on with a high price tag. If the state agreed to pay a certain percentage out of the general fund directly, instead of general obligation bonds, it would be more cost-effective in the long term. Bond usage is appropriate to fund restoration projects, as bonds are a great tool to cover the high price of these larger restoration and climate projects. Spreading the cost of these projects over time helps generate the necessary revenue to complete these large, costly projects. It is not feasible to have the general fund match exactly the amount of these bonds – but potential steady general fund dollars could help reduce this overall reliance on bonds. Dollars from the general fund can, however, be changed at any time if the state needs it – making it somewhat unreliable to solely depend on.

A Case Study of How Different State Agency Programs Fund Restoration and Support Agency Staff

Interviews with agency staff illuminated how specific creative mechanisms can create stability for staff and sustained funding for restoration. One of these mechanisms is the Timber Reduction and Forest Restoration Fund. Created in 2012 through the passage of Assembly Bill 1492, the Fund created a 1% point of sale tax on lumber and engineered wood products. This fund pays for state agency permitting, oversight, timber production, and environmental protection for California's forests. It funds approximately 206 agency staff at the California Natural Resource Agency (CNRA), the Board of Forestry and Fire Protection, CAL FIRE, the Department of Fish and Wildlife (CDFW), the Department of Conservation's California Geological Survey (CGS), and State and Regional Water Quality Control Boards (CNRA, n.d.). The overall annual budget varies year by year but generally ranges from $69-230 million (CNRA, CalEPA, 2025). The Fund is integral to creating an independent, sustainable form of funding for permitting and restoration work as well as supporting agency staff.

If an additional point-of-sale tax is created for a similar commodity, this type of mechanism could be replicated for agencies who are fee-based. During interviews with state agency staff, there were discussions regarding creating a similar tax for plastic bottles or other plastic goods. One source estimated that in 2020, 12 billion plastic water bottles were sold in California – a 1% point-of-sale tax for plastic water bottles could generate 120 million dollars annually (Rogers, 2020). Key to this funding mechanism would be the creation of safeguards to ensure it does not unnecessarily burden those without access to clean drinking water who rely on bottled water. Plastic is a particularly palatable area as a funding source, as California has led the way to regulate plastic and is set to generate a Plastic

Mitigation Fund. The Plastic Pollution Prevention and Packaging Producer Responsibility Act, SB 54, was passed in 2022, which created the Plastic Pollution Mitigation Fund (PPMF). The PPMF is set to raise $500 million annually for the next ten years (Surfrider Foundation, n.d.). The current Act has the funding divided into two sections – with 60% of funding going towards monitoring and reducing the environmental justice and public health impacts of plastic, and the remaining 40% used to mitigate the impacts of plastics on California ecosystems and communities, including the restoration, recovery, and protection of the natural environment (CalEPA, n.d.). SB 1180, the Plastic Pollution Prevention and Packaging Producer Responsibility Act: California Plastic Pollution Mitigation Fund, is working to add more scaffolding to the Mitigation Fund to ensure this funding makes the most impact. If an additional point-of-sale tax could be levied for the consumer purchase of plastic goods, there may be even more funding raised for restoration activities (LegiScan, n.d.).

5. Closing Remarks

The boom-and-bust cycle of funding for habitat restoration is insufficient and not dependable. There is consensus that California needs a steady, sustainable funding stream that can avoid economic and political turbulence. Multiple interviewees expressed that natural resources were consistently the first cut, and the last thing funded by the legislature. There is, however, no perfect solution to solve this problem. Interviews with restoration experts across the state demonstrate that despite the scale of this issue, there are exciting opportunities to improve and innovate the funding system.

Interviewees agreed that the current funding is insufficient to meet the state's restoration goals. There is less clarity, however, about where this funding should

come from, or how much funding is needed. Aptly put by an interviewee, “I don't know that it's so clear... I think you could pull a number out of the sky and say... if we had $100 million every year to go to... resources agency for XY&Z purposes, that would help.... Would it be the silver bullet? Probably not.” No clear path forward makes this work complicated, especially as California continues to rebalance the cost of climate with the overall cost of affordability. The Accelerating Restoration team must think expansively and holistically about how to approach this issue and how to position the impact of restoration from a multi-faceted lens – expanding data collection and messaging to include its impact on local communities and economies. The Accelerating Restoration team should continue to look critically at the systems that drive restoration, as their improvement will increase the overall pace and scale of this work. California continues to be a leader in combatting the climate crisis and funding mechanisms are another arena in which the state can drive positive change.

Acknowledgements

Below is a list of study participants' affiliations. The findings of this study do not reflect the official views of any of the organizations below.

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