Advancing the Restoration of San Francisco Bay

Program Design for H.R. 610: San Francisco Bay Restoration Act

MPA in Environmental Science and Policy

Fall 2021

ACKNOWLEDGEMENTS

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FINAL REPORT

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Executive Summary

Urban development, industrialization, and climate change have instigated many environmental problems that plague nearly every major metropolitan region in the United States and across the globe. The San Francisco Bay is no exception; over 150 years of human activity has caused severe environmental degradation to the delta system, wetlands, and other natural ecosystems of the Bay Area. The Bay's water, soil, and ecosystems currently have high concentrations of pesticides, invasive species, various metals, and toxic substances that far exceed state standards. These environmental issues exacerbate the Bay Area's economic challenges, as the already depleted system must prepare for continued population growth, increased water demand, and the adverse effects of climate change.

Several groups, committees, and stakeholders have attempted to tackle some of the issues in the Bay. However, restoration of the Bay is no small task; the region encompasses nine counties, 101 municipalities and supports nearly eight million people that live across almost 7,000 square miles of land. In addition, the diversity of environmental issues and the hundreds of relevant stakeholders have made restoring the region a complex and expensive process.

H.R. 610, the San Francisco Bay Restoration Act, aims to address these issues by creating a permanent program within the Environmental Protection Agency (EPA) dedicated to restoring the San Francisco Bay ecosystem. The Bill authorizes $25 million per year for five years to establish a program that identifies, funds, and manages priority restoration projects. It also will help leverage state and local funds that will further fund the Bay's restoration and habitat protection projects. The newly established program office is responsible for creating an annual priority project list and distributing funding to projects that fall within four main restoration categories: water quality improvement; wetland, riverine, and estuary restoration and protection; endangered species recovery; and adaptation to climate change. The program aims to address these targets through the allocation of grants as well as internal projects. The program must review the plan at least once every five years for revisions.

Our proposed program for H.R. 610 will have four guiding elements and six key phases instrumental to the Bill's successful establishment and equitable implementation. The four main guiding elements refer to establishing a centralized program office, engagement of local stakeholders, and implementation through grants and office coordinated projects.

The program office will be managed by the Director of office and operate under Region IX of the EPA. This office will work closely with local stakeholders and partners, such as the San Francisco Bay Restoration Authority and the San Francisco Bay Estuary Partnership, to develop and analyze the annual priority project list and distribute funds appropriately and equitably. In addition, the program will establish foundational staff responsible for the various goals of the legislation. The management team will be responsible for assisting the Director in compiling the annual priority project list, developing implementation plans, and monitoring the overall progress of the Bill's goals. This team includes grant managers, environmental planners, and indigenous and community outreach specialists.

Projects will be chosen for the annual priority project list through an application process. Stakeholders and groups of various sizes and backgrounds are encouraged to apply. Some projects selected will be existing initiatives in the Bay that require more funding to succeed. Others will be new office-coordinated projects that the program office will closely develop, support, and monitor. The annual budget allocation will be based on the number of projects and resources necessary for success.

The first year of this program will primarily be dedicated to establishing an office, hiring necessary staff, and developing the first annual project priority list. In future years, programs will be fully implemented, projects will be fully staffed and funded, and performance reviews will be conducted to assess the overall progress of restoring the Bay. Through this program design, H.R. 610 will utilize stakeholder collaboration, efficient program management, and accountability through community engagement to ensure an equitable restoration of the San Francisco Bay.

Encompasses

101

municipalities

Supports

19th

largest economy in the world

Provides water for

700

square miles of agricultural fields

Assimilates water from

50

municipal sewage treatment plants

Introduction

The Importance of San Francisco Bay

The San Francisco Bay is the largest estuary on the West Coast of North America (SFEP, 2021). Estuaries are dynamic transition zones between inland freshwater and marine environments. These biodiverse systems exchange nutrients between rivers and the sea, supporting unique coastal ecosystems and providing essential habitats to many species. San Francisco Bay is home to over one thousand different plants and animals, including endemic, threatened, and endangered species. As an ecologically productive wetland system, the San Francisco Bay Estuary provides ecosystem services such as food, water regulation, and flood prevention that Bay Area communities rely on.

Furthermore, the Bay shoreline spans hundreds of miles, encompassing nine counties and over 101 municipalities that support the world's 19th largest economy. The San Francisco watershed provides a water supply for over 700 square miles of agricultural fields, provides habitats to hundreds of coastal and marine species, and houses critical economic resources: California's water supply infrastructure, ports, deep-water shipping channels, highways, railroad corridors, and energy lines (EPA, 2021). It also provides countless ecosystem services, such as assimilating the wastewater of 50 municipal sewage treatment plants and moderating the regional climate (Cloern & Jassby, 2012).

The Problem

Despite its environmental and social value, centuries of economic development, that drove much of the success of the San Francisco metropolitan area, have degraded the estuarine ecosystem. Industrial development, shipping spills, agriculture, invasive species, and sewage pollution are responsible for habitat destruction and poor water quality. Loss of habitat, such as wetlands, damages the Bay's ability to filter water, support populations of native species, and mitigate serious flood risks.

CASE STUDY

The decline of the Chinook salmon in San Francisco Bay

An illustrative example of the environmental problem impacting local livelihoods is the fishing industry. The Bay's fisheries have been reduced by approximately 5% to 10% of their former size due to water pollutants and freshwater diversion to support the agricultural industry. California's fisheries of Chinook salmon, one of the most important species in the San Francisco Bay, is currently collapsing. For thousands of years, millions of Chinook salmon traveling between sea and river have transported vast amounts of rich ocean nutrients inland, feeding whales, seals, birds, bears, wolves, coyotes, humans, and coastal vegetation. Chinook salmon need cool water and running streams to survive, migrate to the ocean, and return to spawn- conditions that are heavily influenced by climate change. As temperatures warm and streambeds dry, fewer juvenile salmon survive their migration to the ocean, and survivors are met with unfavorable water temperatures. The collapse of the Chinook Salmon will create a cascade of negative impacts throughout the ecosystem (Tobias, 2020). The salmon industry alone generates approximately $1 billion for the region and will continue to suffer without additional government intervention (Teh, 2021). Additionally, Bay area tourism accounts for over $11 billion annually for the Bay Area, depending on the Bay's overall health and state (Friends of the Estuary, N.D.). Fisheries like the Chinook salmon have been relying more on external intervention to supplement fish populations, such as injections of hatchery juveniles into the ecosystem (Romaine, 2021).

Additionally, the increased risks that climate change pose exacerbate these environmental issues. For example, rising sea levels from climate change directly threaten coastal Bay Area communities. Problems such as this one will only worsen as other effects from climate change become more prominent in the coming years. The degradation of San Francisco Bay impacts the natural environment and the health, well-being, and livelihoods of the millions of people living in the region. And perhaps most notably, specific economic sectors and communities have and will continue to experience these effects disproportionately. The local fishing industry, for example, has been subject to a reduction of annual yields due to changing temperatures and pollution.

The San Francisco Bay Conservation and Development Commission (BCDC, 2021) has identified eight specific groups that Bay pollutants impact the most: renters, very low-income, non-U.S. citizens, people with disabilities, communities of color, single-parent households, people 65 and older and living alone, and individuals without a high school degree (BCDC, 2021). These groups are often located in low-lying areas near the Bay, like Oakland, Alameda, and Marin County. These regions are at higher risk of rising sea levels, polluted groundwater, and hazardous legacy compound pollutants resurfacing. In addition, members of these communities already endure other environmental stressors such as the close presence of smokestack factories, refineries, shipyards, and chemical plants, which cause air pollution and generate higher than average levels of nitrate pollution in their drinking water (Beck et al., 2018, 2015). The continued ecological degradation of San Francisco Bay will deepen these existing social inequalities across Bay Area communities.

In this context, H.R. 610 seeks to coordinate federal, state, and local resources towards the common goal of a just and equitable ecosystem rehabilitation while strengthening its resilience to climate change. In this report, we outline our recommended program design for implementing the San Francisco Bay Restoration Act, focusing on the first year of tasks for the program. To best meet restoration and community needs and ensure long-term program success, we propose a negotiated model that prioritizes a centralized program office with local stakeholders to implement collaborative restoration projects and grant funding. All operational aspects, including budgeting, staffing, and performance management, are included in this report.

Algal blooms deplete oxygen levels in water and can result in "dead zones"

Litter on Damon Creek, San Francisco, Calif.

The Legislation

In January 2021, Congresswoman Jackie Speier introduced H.R. 610 to the House of Representatives (Congresswoman Jackie Speier, 2021). H.R. 610 is an amendment to the Federal Water Pollution Control Act of 1948, the first major law enacted by Congress to address water pollution issues in the United States. The legislation made it unlawful to discharge any pollutant from a point source into navigable waters, among many other provisions (EPA, 2021). H.R. 610 amends this legislation to define goals related to water pollution, environmental justice, climate change adaptation, and the general degradation of the land and wildlife in San Francisco Bay (Fox, 2021). In addition, the Bill will develop projects supporting the restoration and protection of San Francisco Bay through a grant program. The program will collate a catalog for research and implement projects to enhance conservation under the National Estuary Program for the San Francisco Bay estuary (United States Congress, 2021).

Even though there have been important advancements towards restoring the Bay in recent years, there is a lack of a coordinated and integral approach to the problem regarding resources, capacities, and governance structures, among others. A 2017 academic report, published by UC Davis and supported by The National Science Foundation, found that multi-level cooperation is lacking in the Bay's restoration. A centralized agency must be given the authority to help coordinate efforts. The report highlights how tackling sea-level rise in the Bay would be bolstered by this type of coordination. At the moment, disjointed actors are impeded by uncoordinated efforts (Lubell, 2017).

At the local level, there are nine counties and 101 municipalities within the jurisdiction of the Bay. This includes dozens of federal stakeholders like the National Oceanic and Atmospheric Administration (NOAA), U.S. Army Corps of Engineers, U.S. Department of Agriculture (USDA), Council on Environmental Quality (CEQ), the Department of the Interior, and U.S. Fish and Wildlife Service. There are also many non-federal entities including the Delta Stewardship Council and the Save the Bay Foundation. All of these organizations have played roles in water quality improvement and ecosystem restoration efforts in the San Francisco Bay and can be leaned on for guidance and idea generation(EPA, 2012).

Even though federal entities developed an Interim Federal Action Plan for coordinating national restoration efforts across the entire watershed over a decade ago, the U.S. Government Accountability Office concluded that not all entities adhere to this plan (GAO, 2018). The GAO also found that even though there are multiple federal and non-federal projects with a wide range of restoration efforts —i.e., water quality improvement and ecosystem restoration—which involve multiple entities, these projects vary in geographic scope and timespan creating stratifications that hinder long-term progress.

Key Provisions of the Bill

Administrative Requirements

The Bill sets up a San Francisco Bay Program Office in the EPA at its region nine headquarters. The EPA will appoint a director to the office who will have relevant experience and credentials related to the environmental issues of the Bay Area. The Director will coordinate projects, research, and ventures essential for implementing the San Francisco Bay Plan. The Director will also collaborate with the Estuary Partnership, the State of California, local municipal governments in the watershed, the San Francisco Bay Restoration Authority, and other pertinent partners associated with the insurance and rebuilding of the San Francisco Bay estuary (United States Congress, 2021). The program managers will review the restoration plan every five years and make revisions as needed to adapt to changing conditions. H.R. 610 seeks to coordinate federal, state, and local resources towards rehabilitating and preserving the ecosystem while strengthening its resilience to climate change. The Stakeholders, Collaborators, and Outreach in this program include:

Government Officials: any officer, employee, or individual acting in an official capacity for a Governmental Authority or agency. These include, but are not limited to: federal agencies such as the Department of Interior and Department of Fish and Wildlife, members of Congress, and EPA employees (particularly those in Region 9).

State of California: members of this stakeholder group include, but are not limited to: the state governor, members of the state legislature, state resource agencies such as the California Department of Water Resources, the secretary of state, and employees of state transportation agencies.

Local Governments located in the watershed: local government members of the >100 municipalities and 9 counties in the Bay Area including managers and conservation specialists of local water and wastewater districts, city council representatives, city employees, mayors, parks and recreation departments, city public transportation employees, and public works departments.

San Francisco Bay Restoration Authority: a regional agency created to fund shoreline projects that will protect, restore, and enhance San Francisco Bay. The authority consists of a Governing Board of local elected officials, an Advisory Committee, an Oversight Committee, and staff from state and regional agencies.

Native American tribes: the Ohlone tribe is the primary group of Native Americans. Other Indigenous groups include the Graton Rancheria community, Kashaya, Patwin, and Mishewal Wappo in the North Bay, and the Bay Miwok in the East Bay. Collaborating with these groups is essential to an equitable restoration of the Bay.

Goals and Projects

The Bill will enforce a conservation plan for San Francisco Bay to expand and reinforce the types of wetland and estuary projects underway by nonprofit and government agencies to re-establish a more natural shoreline and a healthier ecosystem, emphasizing native biota recovery, conservation, restoration, and habitat improvement. The project categories include:

Water Quality Management

Projects in this category will identify the main issues impacting waterways and the coastal and marine environment from human land-based activities. These projects will prioritize halting or reversing trends of declining water quality in the San Francisco Bay, Delta, and watershed. Projects will consist of:

- Fertilizer reduction in agricultural areas- reducing pesticide and runoff, implementing no-till farming, and drip irrigation
- Urban planning and infrastructure- vegetation buffers to reduce urban runoff, wastewater treatment system upgrades
- Reducing industrial waste runoff
- Coastal and river cleanups

Endangered Species

Recovery and protection of endangered species involve work that restores endangered and protected species to the point that they no longer require the protection of the national Endangered Species Act. San Francisco Bay is home to many endangered species that have been severely threatened due to habitat destruction, pollution, disease, competition from invasive species, intense or illegal harvesting, and changing climate. Projects in this category will focus upon:

- Invasive species removal
- Develop recovery plans for site-specific management of species
- Enhanced programs that restrict and protect against invasive species introduction
- Programs that strengthen the protection of habitats of endangered species

Wetland, riverine, and estuary restoration and protection

Recovery of these ecosystems will improve water quality, moderate groundwater levels, and control erosion. Wetland restoration projects will focus on:

- Re-planting and placement of native species
- Removing underground drain tiles, plugging open ditches, or building small dikes to reduce drainage and restore the natural landscape
- Building water-control structures that regulate and improve the flow of water in the wetland area
- Protection of existing land from further degradation or development
- Coastal and river cleanups
- Projects that focus on single-use plastic reduction and promote improved recycling in communities

Adaptation to Climate Change

The rapidly changing climate in San Francisco Bay urgently needs adaptation plans that prepare and help communities adjust to these changes. The unique geography of the Bay makes it susceptible to aggressive wildfires, flooding, and sea-level rise. Projects will include:

- Improved fire preparedness plans, such as controlled burns or other fire management programs
- Strengthened sea walls, drain pumps, and pipes in preparation for sea-level rise
- Updated infrastructure and community planning to supply vulnerable communities
- Transitioning agricultural practices to more weather-resistant crops
- Levee and flood wall systems, and elevating bridges to defend against future flooding

Funding

The San Francisco Bay Act appropriates $25,000,000 for each year from 2022 through 2026, totaling $125,000,000 over the program's course. In addition, there will be a matching of 25% of non-federal resources for any project performed under the program. In adding this stipulation, a sizable portion of the funds used for restoration projects is sourced from local revenues via taxpayer dollars, fostering a greater sense of community engagement and accountability for project and grant managers. It also ensures that those directly benefiting from restoration projects pay a fair share.

CASE STUDY

Parcel Tax as a Non-Federal Resource

On June 7th, 2016, residents of the nine-county San Francisco Bay Area voted with a 70% majority to pass a parcel tax of $12 per year, known as Measure AA, to raise approximately $25 million annually for twenty years to fund shoreline projects to protect and restore San Francisco Bay (San Francisco Bay Restoration Authority, N.D). This is a type of non-federal sourcing that would meet the criteria of the 25% from non-federal sources required by the Bill.

This tax is levied on parcels within the nine counties of the Bay area with no exemptions for low-income or senior citizens. Each county includes a line item for this parcel tax in the property tax Bill. A board of seven people governs the Authority, and an oversight committee handles the financial matters to ensure compliance. The special tax administrator, a private company, named NBS audits and tracks the actual parcel data (San Francisco Bay Restoration Authority, N.D).

Since the inception of the parcel tax, several projects have received funding to restore the Bay. Some of the projects funded between 2017-2020 under Measure AA are the Montezuma Wetlands Restoration Project ($1,610,000), the Sonoma Creek Baylands Strategy ($172,000), and the South Bay Salt Ponds Restoration Project ($8,021,370), among others (San Francisco Bay Restoration Authority, N.D).

Environmental Justice Implications

Environmental justice, defined as the fair treatment and meaningful involvement of all people regarding ecological restoration efforts, is an integral part of H.R. 610. The Bill states that there must be frequent communication between the Estuary Partnership, local Native American tribes, and other non-federal stakeholders (United States Congress, 2021). Such stakeholders include local fisheries that have seen yield declines due to water pollution and changing biota, state parks, and other protected lands and recreational businesses that have experienced an impact on productivity from the Bay's degradation. In addition, Amendment 2-17 to the Bay Plan establishes a section specifically devoted to social equity through access to public land, water access, shoreline protection, and climate change mitigation regardless of color or socioeconomic status. This amendment establishes definitions and guidelines of environmental justice efforts to avoid miscommunication (Bennett, 2019). These efforts are not unique to San Francisco Bay. In the case of the restoration of Puget Sound, a technical report that defined "human wellbeing" as a measure of success became a cornerstone of restoration efforts. The report outlines performance indicators related to human health and quality of life to measure project success (Stiles, 2015). An examination of the Puget Sound Restoration Project found that the most significant achievements stemmed from collaborative planning on multiple levels including recognizing tribal treaty rights and inputs and considering the impacts on those most directly reliant on and living close to the Bay such as fisheries, farmers, and local landowners (Christie, 2018).

Implementation of H.R. 610 will also build on the Biden Administration's Executive Order 14008 of 2021, which helps coordinate state, local, and federal resources towards the goal of uplifting disadvantaged communities. EO 14008, or the Justice40 Initiative, aims to guarantee that at least 40% of the overall benefits from clean energy and climate investments go to disadvantaged communities. Building on this initiative will be essential to achieving the environmental justice goals of H.R. 610.

Tribal citizens at an Occidental Arts and Ecology Center (OAEC) traditional ecological knowledge workshop

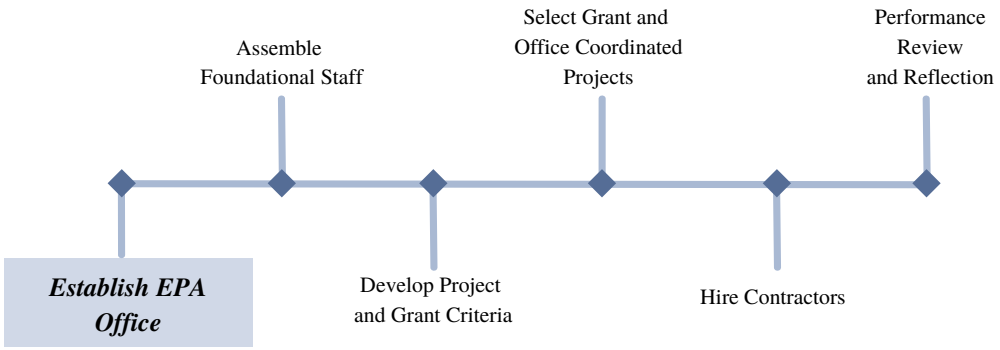
Program Design

The two largest challenges in delivering an equitable restoration of San Francisco Bay in past decades have been insufficient coordination among stakeholders and a lack of adequate funding. To address these challenges, we propose a program model that depends upon a strong working relationship between the newly established program office, San Francisco constituents, and essential stakeholders of various levels in the Bay. In addition, our proposed model aims to incorporate input from the community and its institutions at every step in the decision-making process. These two levers are critical to ensuring a swift, equitable, and coordinated restoration of the Bay.

To achieve these goals, our model has four main components. The first component is establishing a centralized program office that oversees project coordination and assesses project and grant priorities. The second component is for the new office to work directly with established partners in the Bay to build upon their existing restoration efforts. The third component of the program develops an independent grant project program that will fund existing or new initiatives from local stakeholders and communities according to their preferences, necessities, and priorities. The fourth and final component is related to developing other projects, which the office will directly coordinate. These four components will be implemented through six main phases in the first year of this program.

Centralized program office	Stakeholder Engagement	Independent Grant Program	Office Coordinated Projects

Phase I

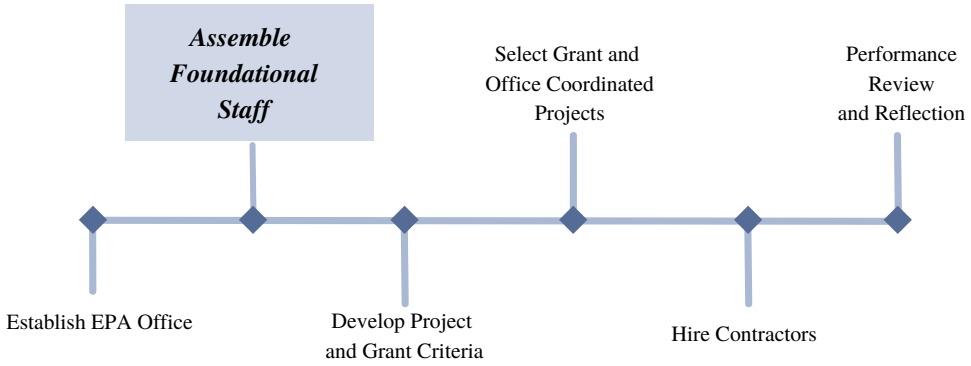


The first implementation phase of our program is establishing a centralized program office that oversees project coordination and assesses project and grant priorities. A centralized program office, run by a Director appointed by the Region IX EPA Administrator, will ensure strategic coordination between the dozen of federal agencies, 101 municipalities, nine counties, and local non-state initiatives. The San Francisco Bay program office will follow the models of programs like the Chesapeake Bay, Great Lakes, and Puget Sound. Under the second component of our program design, the program office must ensure the permanent and adequate participation of local stakeholders through developing the annual list of priority restoration projects and soliciting ideas and feedback. The program will also analyze the successful efforts of other actors in the Bay, including efforts to be improved upon. Thus, the program will be able to develop metrics and benchmarks to track progress towards the overall restoration of the Bay. While startup costs can often be expensive and time-consuming, working with established partners will reduce costs and increase the efficiency of program implementation. Further, the program ensures consistency and collaboration by enhancing and supporting many existing efforts rather than starting from scratch.

	Q1		
	Week		
Task	1	2	3
Establishment of office space (by Administrator)			
Floor plan, setup of furniture & equipment, COVID-19 precautions, other steps needed for integration			

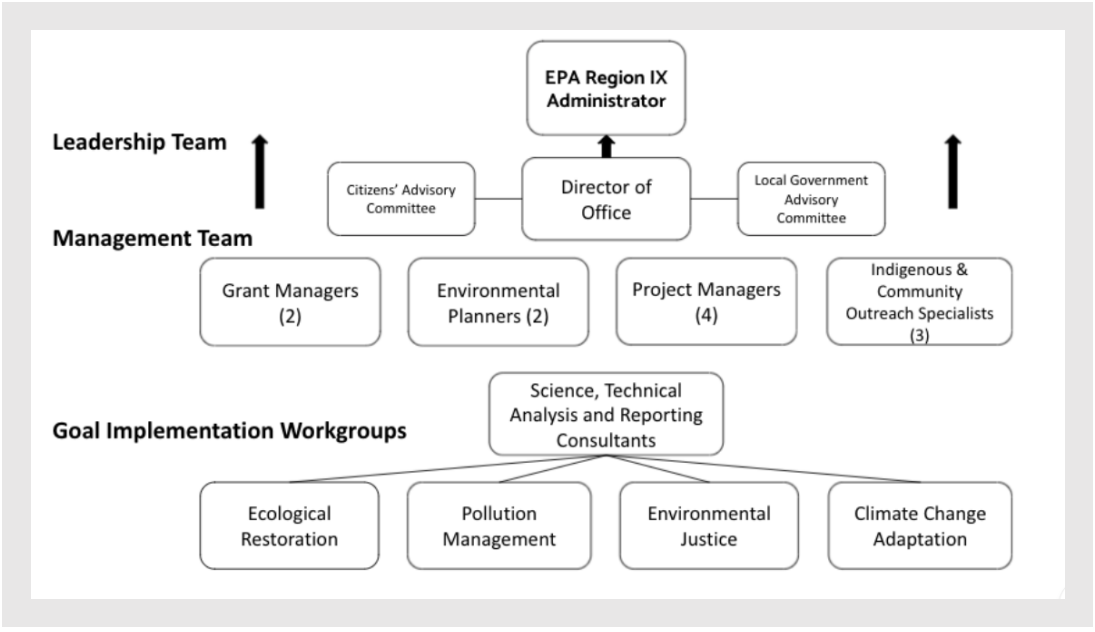
Phase I calendar

Phase II



To deliver the program design for the implementation of H.R. 610, there will be an organizational, staffing, and contracting plan that will clearly define the expected roles within the program. The organization is broken into several teams and groups of permanent employees and consultants who will serve a temporary position to accomplish the goals set by H.R. 610. The program office will be composed of three levels of teams: a leadership team, a management team, and goal implementation workgroups, as shown in the organizational chart.

The management team will assist the Director in a variety of ways, including: developing and implementing a management & conservation plan and developing office coordinated project and grant criteria; compiling the annual list of priority projects with input from other relevant stakeholders; and developing key performance indicators to be used in monitoring progress. The management team will consist of two Grant Managers (following the third component of our program design), two Environmental Planners, two office coordinated Project Managers (per the fourth component of our program design), and two Indigenous & Community Outreach Specialists. Role-specific responsibilities are indicated on the next page.



Environmental Planner	Project Managers	Grant Manager	Indigenous & Community Outreach Specialists
Create, review and help orchestrate remediation plans Enforce relevant environmental regulations and ensure project plans comply with federal, state, and local environmental standards Ensure project implementation is consistent with existing environmental laws, zoning restrictions, and construction codes	Oversees office coordinated project construction and implementation Monitor and evaluate project progress to stay on schedule with the Bay Office's annual priorities	Access the merit of perspective restoration projects Draft project proposals Research new funding and business opportunities for restoration projects Monitor grant budgets and reporting	Conduct community outreach in conjunction with community-based organizations and other stakeholders Direct digital communication and outreach concerning projects and other updates relevant to estuary maintenance Develop close working relationships with local Indigenous groups Organize public-affairs events, including town halls and similar events to gather public comments

Working under each Management Team will be implementation workgroups that will support the respective goals of office coordinated projects. As a means of third-party quality assurance, these teams will follow unbiased feedback from the Science, Technical Analysis, and Reporting (STAR) team, a group of consultants used to give an impartial review of the progress being made, and give guidance in decision making. Specific areas of goal implementation will be Ecological Restoration, Pollution Management, Environmental Justice, and Climate Change Adaptation.

Young volunteers at West River, Chesapeake Bay

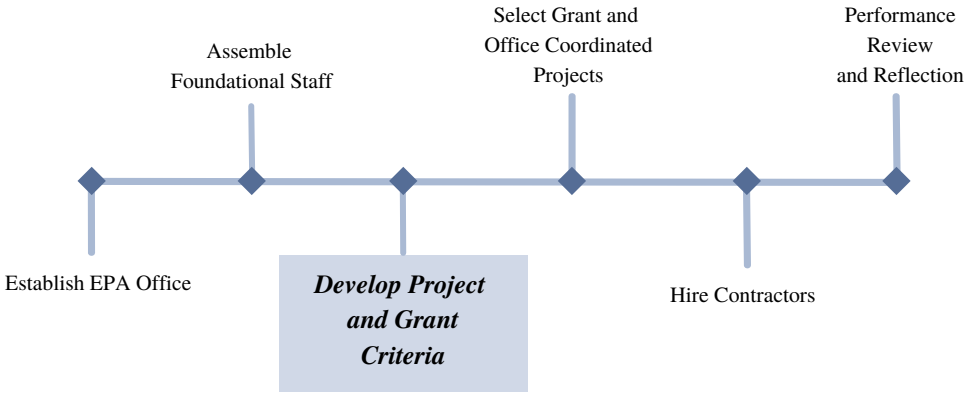
CASE STUDY
Chesapeake Bay Program Office

The Chesapeake Bay Restoration Program is widely considered successful for incorporating key organizational elements such as advisory groups composed of stakeholders and other volunteer organizations. These frameworks will be essential is understanding how to effectively communicate between the San Francisco Bay Office and stakeholders, especially in the first year of the program when the structure is first implemented. Success in the Chesapeake was also driven by strong stakeholder relationships between state, federal, and local actors. For example, the Chesapeake Bay Watershed Agreement was considered a success due to partnerships between state actors, federal agencies, and other stakeholders (Chesapeake Bay Program, 2020). Because of this, it is essential to emphasize a cooperative effort between all of the San Francisco actors, such as the Region IX EPA office and the San Francisco Bay Estuary Partnership. The Science, Technical Analysis, and Reporting (STAR) team is a direct adaptation of a Chesapeake Bay Watershed Agreement tool and is intended to give an unbiased review of the progress and guide decision making (Chesapeake Bay Program,2020).

	Q1													Q2
	Week													
Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Appointment of Director														
Hiring of permanent staff (4 Project Managers, 2 Grant Managers, 2 Environmental Planners, 3 Indigenous & Community Outreach Specialists														
Create and review job descriptions														
Internal job posting (EPA & Government only)														
External job posting to fill remaining roles														
Interviewing & hiring														
Background checks														
Building access & onboarding														
Role specific training														

Phase II calendar

Phase III



The two main mechanisms of implementing our program design are an independent grant project program and the development of other projects, which the Office will directly coordinate. This approach will allow the Office to provide adequate funding to existing initiatives and local stakeholders and communities and implement projects controlled and designed by the management team itself. This also allows for the program office to cover any gaps in the Bill's criteria of restoration projects that are not already covered by independent grants. It will also allocate resources to projects that will benefit from the expertise of the established teams. The grant and office project managers will need to develop criteria for selecting grants and office coordinated projects through anticipated funding allotments and Request for Application solicitations. Request for Application solicitations, or RFA's, are public announcements in order to generate restoration ideas and aim to prioritize ideas that are important to the local community. Outreach specialists will create their outreach strategy and share the draft RFAs created by the project managers with local stakeholders for comment and feedback, in accordance with the second component of our program design. The office Director and advisory committees will then incorporate the collected stakeholder feedback into a reformatted and finalized RFA ready for public notice. This group will also determine the criteria for selecting RFA submissions projects.

	Q2							
	Week							
Task	15	16	17	18	19	20	21	22
Process Initialization								
Prepare RFA solicitation for internal projects & grants								
Submit for stakeholder review								
Incorporate feedback & reformat RFA criteria for each								

Phase III calendar

Case Study: Grant projects

Community-Based Restoration and Stewardship: Eden Landing Ecological Reserve

The Eden Landing Ecological Reserve comprises approximately 6,400 acres of restored salt ponds, diked marshes, and transitional areas to uplands managed for resident and migratory waterbirds and tidal habitats and species (California Department of Fish and Wildlife). Over the past decade, volunteers from several Bay Area communities, led by the Save The Bay initiative, have collaboratively removed thousands of pounds of garbage, eradicated invasive weeds, and planted native plant species to restore the tidal salt marsh habitat. Nonetheless, they need $100,000 in additional funding to achieve the restoration objectives proposed (San Francisco Bay Joint Venture, 2019). This is an example of a local project that could receive funding through the independent grant program established by H.R. 610.

Eden Landing Ecological Reserve sign


Volunteer weeding

Case Study: Office Coordinated Project

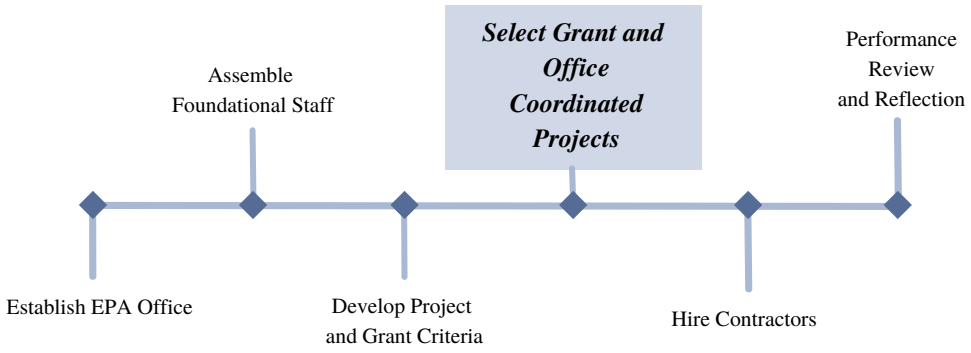
Pescardero Marsh & Butano Fish Passage

The Pescadero Marsh in San Mateo County is a sanctuary for the threatened Central California Coast steelhead (California Trout, N.D). Nonetheless, the marsh suffers from poor water quality and sedimentation, both of which are challenges of actively managing the lagoon. For this reason, the San Mateo Resource Conservation District has determined the need to restore and enhance the Shallow, tidally responsive habitat and fish passage through channel reconstruction between the marsh and Butano Creek, which would cost around $ 1,850,000 (San Francisco Bay Joint Venture, 2017). This restoration is expected to provide a solution to flooding and benefit sensitive fish species, both of which are important criteria of H.R. 610. This is a project that one of the program office project managers could direct with the help of hired consultants and contractors to execute the restoration plan.


California Steelhead


Butano Fish Passage

Phase IV



Proposals will be collected through the EPA office established in the first year of program implementation. The proposal process will begin when the EPA program office releases a Request for Application (RFA) form through an online portal. Local agencies, resource managers, and other appropriate groups will be notified of the RFA at the beginning of each application cycle. The EPA program office will work with the San Francisco Bay Estuary Partnership and other partnerships established to ensure proper outreach to the appropriate stakeholders. Additionally, the program office will have a dedicated portion of its website for the application process and clear, detailed information regarding eligibility for the grant and instructions on how to apply.

Once the application period has closed each year, all proposals submitted will be reviewed internally by the program office and project managers for each category as outlined in the Bill. Projects will be selected based upon availability of funds, relevance to the highest priority each year, and the project's scope.

After the grant submission deadline closes, applicants can still work on grant proposals and submit applications. All applications for projects submitted past the deadline will roll into the following year for consideration. The time a project is submitted will not affect the eligibility or likelihood of receiving a grant. However, priority categories may change each year, so applicants will be advised to submit proposals for higher priority categories.

The final priority project list will be created after projects are selected from proposal submissions, and the program budget will be finalized using this list. Funds will then be distributed adequately to appropriate recipients, and project activities will correspond to the respective project manager in the program office. This may include the State of California and the 100+ municipal governments that occupy the surrounding Bay area.

Budget

The Budget and Revenue Plan of the San Francisco Bay Area Restoration Act establishes a tangible framework of financial operations given the constraints within the Bill. The plan is broken into several categories, which fall into two main classes: Personal Services (PS) and Other Than Personal Services (OTPS). The class Personal Services consists of costs associated with the administrative staff, while Other Than Personal Services costs are associated with the actual restoration activities. Restoration activities are broken down into Grant Projects and Office Coordinated Projects and must adhere to the four criteria as outlined by the Bill.

Monetary Allocation

1.$25,000,000 for 5 years, totaling $125,000,000.

2.No more than 5%, or $1,250,000, of total funds may be spent on administrative costs (e.g., payroll, permanent staff).

3.The remaining 95% will be spent on grants and projects.

a. No less than 25% of the cost of any project, activity, or study carried out using amounts provided shall be provided from non-federal sources.
b. The remaining 75% or less may come from the federal sources provided by the Bill.

First Year Breakdown

The budget breakdown for the program's first year amounts to $20,060,824. This comprises $1,519,700 in administrative costs and $18,541,124 in grants. You will notice that the administrative costs exceed the 5% budget allocation by 12%, or $269,700 with the intent of sourcing it from local tax revenues to cover first year administration expenditures.

First Year Budget: $20,060,824	
Administrative costs: $1,519,700 (Appendix A)	Grants, Office Coordinate Projects: $18,541,124
Personal Services: $860,000	Contractors: $659,700

Potential Grants and Office Coordinated Projects

The San Francisco Bay Restoration Authority has provided grants for restoration projects under the Measure AA grant program since its inception in 2017. The approved list of projects for the fiscal year 2020-2021 is listed below. It is assumed the legislation can fund projects of the same magnitude that addresses the main components of the Bill, notably: i.) water quality improvement and reduction of marine litter; ii.) climate change adaptation; iii.) habitat protection and restoration (wetland, riverine and estuary); and iiii.) nearshore and endangered species recovery (United States Congress, 2021).

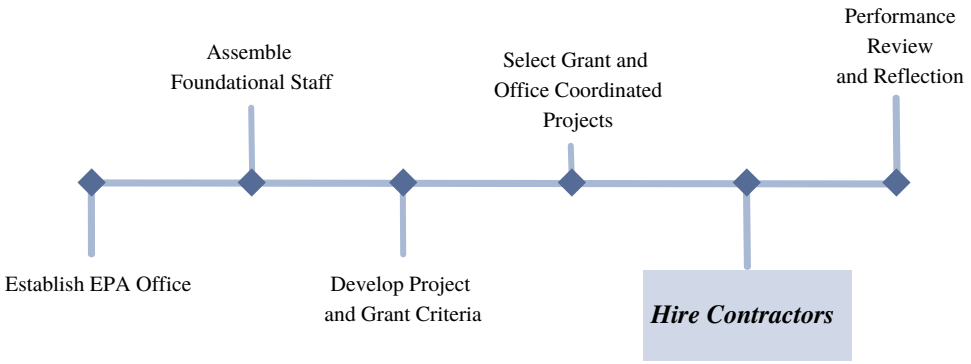
The estimated cost for these restoration projects is approximately $13.5 million. H.R. 610 will coordinate with local stakeholders and amplify the efforts of restoration, protection and aims to address environmental justice issues in the process by incentivizing underserved communities. In addition, it is assumed the Bill can allocate funds upwards of $5 million for community grant programs during its first fiscal year i.e. 2022-2023.

Recommended Projectst List 2021	Grant Amount	Type
Suisun Marsh Fish Screen Rehabilitation Phase 1	$454,624	HR
American Canyon Wetlands Restoration Plan	$450,000	HR
Hayward March Restoration Design	$500,000	HR
Burlington Shoreline Park Project	$500,000	HR
Greenwood Gravek Beach Design Project	$380,000	CCA
Long Beach Restoration Design Project	$514,500	CCS
Oakland Shoreline Leadership Academy Project	$180,000	CCA
Terminal Four Wharf Removal Project	$2,300,000	CCA
Heron's Head Park Shoreling Resilience Project	$297,000	CCA
Colma Creek Restoration and Adaptation Project	$595,000	WQI
Calabazas/San Tomas-Aquino Creek-Marsh Connection	$3,370,000	WQI
Invasive Spartina Removal and Tidal Marsh Restoration	$4,000,000	ISR

HR: Habitat Restoration, CCA: Climate Change Adaptation, WQI: Water Quality Improvement, ISR: Invasive Species Reduction

Phase IV calendar

Phase V



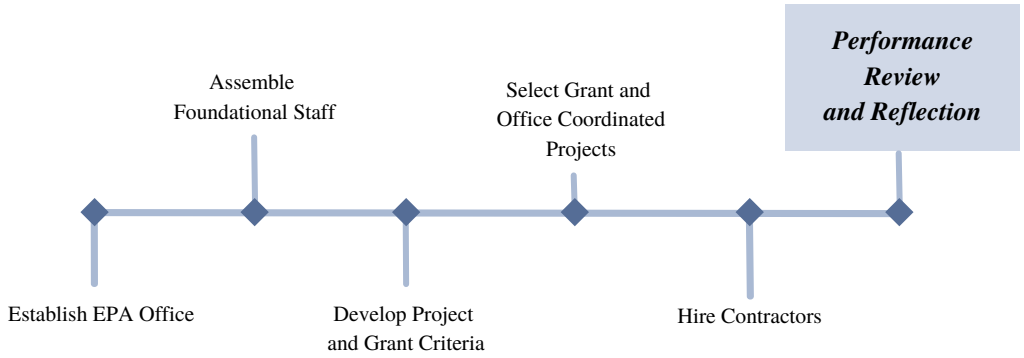
Task teams will be assigned each year depending on the projects selected from the priority project list. These teams will vary in size depending on the year, mainly due to the scope of resources needed for each project in any given category. Teams will report directly to the office Director who will supervise each team and provide support. These teams will be composed of at least one environmental planner, a project manager, and two indigenous and community outreach specialists. The team will be responsible for communicating between the stakeholders and the goals of the program office.

Contractors and consultants will be hired on a need-based schedule, depending on the scope of given projects, for temporary employment. Hiring consultants aims to enhance the coordination between federal programs, state actions, and local agencies while also providing subject-matter expertise. They will be hired by the program director on a temporary basis within the first year to assess the program process. The consultants will be a part of the pilot science, technical analysis, and reporting (STAR) team. The STAR team verifies the efficacy of implementation practices and provides unbiased support to tasks teams.

	Q3				Q4							
	Week											
Task	36	37	38	39	40	41	42	43	44	45	46	47
Hiring preparation												
Create interview timeline, process and questions												
Plan onboarding training process												
Contractor Hiring Process												
Resume sifts and interview procedure												
Onboarding Administrative Tasks												

Phase V calendar

Phase VI



Performance reviews will be carried out primarily through regular meetings between office staff, stakeholders, and third-party project managers. The frequency of review sessions will vary across projects as necessary. All grants and projects will also be responsible for filling out various forms to report on progress throughout the year. The first form will be progress reports used by the EPA, sent every three months (Appendix B).

The first report is due three months from the project's start date. The other form will be the Federal Financial Report (FFR), also known as SF-425, which is the current form used by Federal financial assistance recipients to report allowable costs incurred on their award-supported projects. This form is used for interim and final reports required of the recipients to be completed annually.

Meetings	Metrics

• Monthly meetings between management team and office Director
• Quarterly meetings between office staff & Citizens' and Local government Advisory Committees
• Grant Projects: quarterly meetings with grant managers
• Office coordinated projects: weekly contractor meetings
	• Grants and office projects
	  ◦ Complete **quarterly** progress reports
	  ◦ Complete **yearly** restoration performance reports
	  ◦ Complete **yearly** SF-425

After collecting data, the management team (environmental planners, project managers, grant managers, and Indigenous & Community Outreach Specialists) will jointly evaluate each project according to a point system.

Improving	71-100
No Change	26-70
Declining	0-25

The management team will communicate the project evaluations to the Director during monthly meetings. With this information, the management team and Director will jointly discuss project trends, progress towards goals, opportunities for improvement, and ways to move forward. After each meeting, the Director will send a status report to the EPA Region IX Administrator summarizing performance information and any noticeable changes in performance that need special attention. Also, the project managers will go back to the grantees with feedback after the monthly meetings with the Director.

Finally, grantees and internal workgroups must submit a final draft report (Appendix C) to their Project or Grant Manager within 30 calendar days after the project end date. The Manager will respond with suggested edits as necessary. The report's final version will be due within 90 calendar days after the project´s end date.

Stakeholder Conference

A stakeholder conference is an end-of-the-year event that aims to ensure transparency of the new bureau by involving the community of San Francisco Bay. The conference assembles stakeholder committees, environmental nonprofits, indigenous representatives, and the EPA Region IX Director in a mission to share data collected during the year among them. In addition, the stakeholders have the freedom to communicate their concerns to make sure operations align with their problems and recommendations.

The agenda of the conference starts with a presentation of performance data collected during the year to update local stakeholders of the work of the regional bureau during the year. The exhibition is followed by a restoration analysis of grants and project data. After the restoration analysis, stakeholders share impressions and concerns recorded by the regional bureau staff. The event's outcome is a year-end overall performance evaluation and report of the program that reflect the data, observations, and comments of the stakeholders.

	Q4				
	Week				
Task	48	49	50	51	52
Create task performance evaluation framework					
Evaluate Internal Projects & Grant Progress Against Framework					
Post Mortem Reporting					
Communicate project evaluations to office director					
Overall progress discussion, future project planning within team					
Office director meet with EPA region IX administrator to discuss plans and assemble final output for Year End Stakeholder Conference					
Host Year End Stakeholder Conference					

Phase VI calendar

CONCLUSIONS

San Francisco Bay faces many significant environmental issues which need to be addressed by a coordinated restoration plan. H.R. 610 will provide federal funding for the maintenance of the San Francisco Bay Estuary through the program that this Bill outlines. By establishing effective coordination between the government and local partners, the bill further reinforces both existing and forthcoming projects to develop natural shorelines and healthier ecosystems. The proposed solutions include stronger pollution regulation, habitat restoration, invasive species management, and climate change adaptation. These solutions will improve water quality, increase the acreage of functioning wetlands, protect native species, and build coastal resilience. H.R. 610 will support the recovery of a significant ecological area and fully support the wild species, human communities, and industries that rely on it. If implemented appropriately, the San Francisco Bay Restoration Act will be a significant step towards an equitable restoration of the bay.

Appendix

Appendix A

Administrative Costs
Line Item Budget
The following line item budget shows a breakdown of estimated administrative costs of implementing the bill for the first year. These costs must not exceed 5% or $1,250,000.

Personal Services (PS)	**(in thousands)**			
Administrative Staff	**Quantity**	**Pay Scale**	**Yearly Rate (USD)**	**Expected Expense 2021**
Personnel				**$690**
Project Managers	4	GS-12	$75	$300
Grant Managers	2	GS-11	$60	$120
Environmental Planners	2	GS-11	$60	$120
Indigenous & Community Outreach Specialists	3	GS-10	$50	$150
Other than Personal Services (OTPS)				
Travel				**$6**
EPA Conference	# of days: 4			$4
Chesapeake Bay Program Conference	# of days: 2			$2
Supplies				**$5**
Equipment				**$21**
Total				**$860**
% of Total Budget:				**3.44%**

Appendix B

PROGRESS REPORT OUTLINE

Name of Organization:
Project Title:
Grant/Project ID Number:
Project Period: (Start date – End date)
Grant Award Amount/Project Budget: (Amount received by EPA)
Reporting Quarter: (First, Second, Third, Forth, etc.)
Project Leader/Contact Information (Name, Phone Number, Email)

Brief Project Description
Project Tasks, Objectives & Accomplishment

Task 1: (from work plan) Accomplishments:Detail accomplishments related to this quarter's activity. Provide measurable results, as appropriate.

Funding Status: Provide information on money drawn down, remaining account balance, any changes that needed to be made to the budget, etc.

Upcoming Events/Assistance Required: List any upcoming events related to the project or organizations involved, request any additional assistance needed by your EPA Project Officer - including technical assistance such as GIS mapping, soil sampling, etc.

Appendix C

FINAL REPORT OUTLINE

Name of Organization:
Project Title:
Grant/Project ID Number:
Project Period: (Start date – End date)

I. Project Purpose

II. Project Accomplishments

III. Project Challenges and Lessons Learned

IV. Project Evaluation

V. Project Sustainability

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Picture Acknowledgements

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