



Bothin Marsh Preserve, Mill Valley. October, 2022. Photo credit: BRRIT.

2024 Annual Report

Bay Restoration Regulatory Integration Team (BRRIT):
September, 2024

Introduction

This annual report reviews the cumulative activities and performance of the Bay Restoration Regulatory Integration Team (BRRIT) from its inception in August 2019 through April 2024 and highlights its activities and performance over the May 2023 to April 2024 reporting period.

The BRRIT was formed to improve the permitting process for multi-benefit habitat restoration projects and associated flood management and public access infrastructure in the San Francisco Bay and along the shoreline of the nine Bay Area counties (excluding the Delta Primary Zone). The BRRIT consists of representatives from the U.S. Army Corps of Engineers (USACE); U.S. Fish and Wildlife Service (USFWS); NOAA's National Marine Fisheries Service (NOAA Fisheries); San Francisco Bay Regional Water Quality Control Board (Water Board); California Department of Fish and Wildlife (CDFW); and San Francisco Bay Conservation and Development Commission (BCDC). The U.S. Environmental Protection Agency (EPA) participates on the BRRIT on an ad hoc basis. All seven agencies have agency managers on the Policy and Management Committee (PMC), which works closely with the BRRIT to collaboratively identify and resolve policy issues and conflicts.

To be placed on the BRRIT Project List, projects must qualify for Measure AA funding (the 2016 San Francisco Bay Clean Water, Pollution Prevention and Habitat Restoration Measure) and be entered into [EcoAtlas](#). The San Francisco Bay Restoration Authority (SFBRA) solicits proposals for restoration projects to participate in the BRRIT pre-application and permitting process and determines whether projects are eligible for BRRIT review.

Highlights of the BRRIT's First Five Years

In the last five years, 32 multi-benefit restoration projects have come to the BRRIT, and we have fully permitted ten of those projects. Projects eligible for the BRRIT focus on restoring and creating tidal marshes and other Bay habitats, enhancing shoreline protection using nature-based engineering designs, improving habitat and water quality, and enhancing public access across the counties surrounding the Bay. Once constructed, these projects will restore/enhance up to approximately 3,500 acres of tidal habitats around the Bay and provide increased sea level rise resiliency. The 32 projects (Figure 1) are geographically distributed across most of the counties on the San Francisco Bay shoreline (six in Alameda County, five in Contra Costa County, seven in Marin County, one in Napa County, five in Santa Clara County, three in San Francisco City and County, four in San Mateo County, and one project which spanned both San Mateo and Alameda Counties). Valuable new restoration projects continue to be added to the BRRIT project list each year.

The BRRIT agencies work together to increase flexibility within their existing regulatory mandates to allow more efficient project permitting. When conflicting policies pose potentially significant delays to permitting these important restoration projects, the BRRIT staff work within their agencies to elevate these policy issues.

The PMC and BRRIT have worked together to address several challenging issues from the Permit and Policy Improvement List (see below under Policy and Management Committee, and attached as Appendix 1), including: permitting fill in waters for habitat restoration; identifying permitting options for state fully protected species; using programmatic permitting efforts where appropriate; developing resources, tools, and the [BRRIT website](#) to help guide project proponents during pre-application and permitting processes; assisting with development and testing of Southern California Coastal Water Research Project's Aquatic Resource Type Conversion Evaluation Framework; and developing a process for project proponents and BRRIT staff to elevate challenging issues when needed to the PMC for resolution. In addition, the PMC and BRRIT have formed subgroups to focus on particularly challenging issues.

May 2023 – April 2024

The BRRIT continues to make progress permitting multi-benefit habitat restoration projects. This year, in addition to facilitating permitting for restoration projects, the BRRIT has focused on improving agency coordination to assist project proponents on maximizing public access amenities while minimizing species impacts, updating our process for soliciting feedback from project proponents about how the BRRIT can best serve the restoration community, and resolving potential conflicts between post-construction vegetation maintenance activities and sensitive special-status species that may be present.

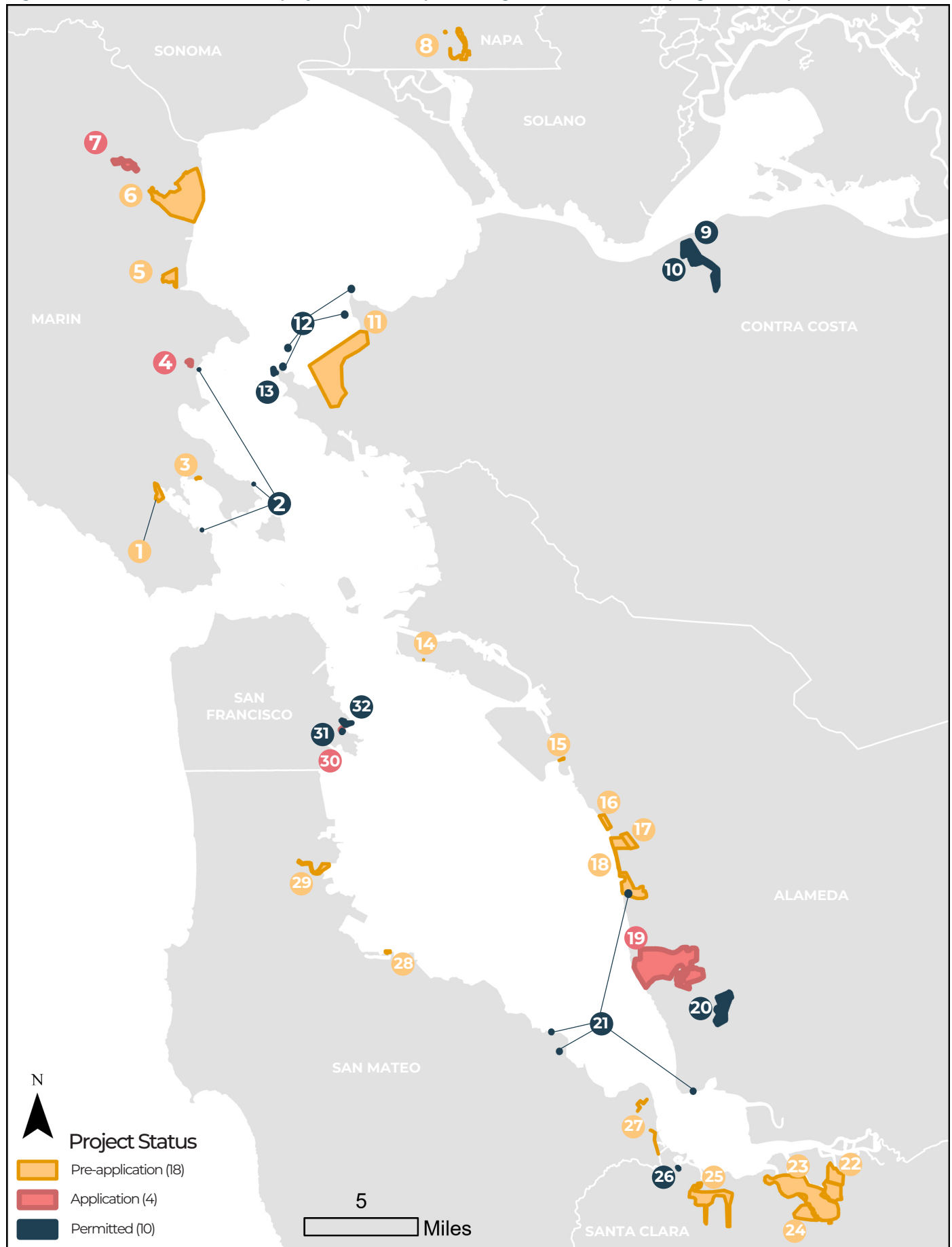
Projects. Of the 32 projects on the BRRIT Project List, 18 projects are currently in the pre-application phase, 4 projects are in the application phase, and the BRRIT has fully permitted 10 projects. Implementation of these projects will contribute toward achieving voter-approved Measure AA priorities.

Performance. BRRIT representatives consistently met their agency-specific timelines for issuing permits and consultations (100% for all agencies) and issued all permits in time to meet project proponents' construction schedules. Further, the BRRIT continues to receive overall positive feedback from project proponents based on verbal feedback.

Outreach. The BRRIT continues to engage with the restoration community. During this reporting period, the BRRIT maintained and updated the [BRRIT website](#) with information on the BRRIT process, as well as highlighting resources and newly available restoration permitting tools and soliciting feedback from BRRIT project proponents through updated satisfaction surveys and a newly developed one-on-one interview process.

Policy/Process. The PMC supports and collaborates with the BRRIT on project-specific challenges, policy, and administrative and process issues. This report provides an overview of the PMC's work this reporting period, including work on the Permit and Policy Improvement List.

Figure 1. Multi-benefit restoration project locations, permitting status, and SFBRA programs and priorities.



Project locations and extents displayed on the map are approximate and are based on data from EcoAtlas, where it was available. In some cases, these may not reflect actual project locations and extents. For more information about these projects, visit <https://www.sfbayrestore.org/brrit-project-list>.

Figure 1. (continued) Multi-benefit restoration project locations, permitting status, and SFBRA programs and priorities.

HABITAT RESTORATION, PROTECTION, OR ENHANCEMENT PROGRAMS AND PRIORITIES					
	Project	Safe, Clean Water and Pollution Prevention	Vital Fish, Bird, and Wildlife Habitat	Integrated Flood Protection	Shoreline Public Access
1	Bothin Marsh Evolving Shorelines Project*	●	●	●	●
2	Reef Design Innovations for Living Shorelines		●		
3	Greenwood Gravel Beach Design Project*		●	●	
4	Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project*		●	●	●
5	McInnis Marsh Habitat Restoration*	●	●	●	●
6	Bel Marin Keys Unit V Wetland Restoration	●	●	●	●
7	Novato Deer Island Tidal Wetlands Restoration*		●	●	●
8	City of American Canyon Wetlands Restoration Project*	●	●	●	●
9	Lower Walnut Creek (LWC) Restoration Project*		●	●	●
10	Pacheco Marsh (LWC North Reach) Public Access Improvements				●
11	North Richmond Shoreline Living Levee*		●	●	●
12	Assessing Ocean Acidification in SF Bay Oyster and Eelgrass Beds		●		
13	Terminal 4 Wharf, Warehouse, and Pilings Removal Project*	●	●		
14	City of Alameda De-Pave Park*		●	●	●
15	San Leandro Treatment Wetland Project*	●	●	●	
16	Long Beach Shoreline Restoration Project*		●	●	●
17	EBDA First Mile Horizontal Levee	●	●	●	●
18	Restore Hayward Marsh Project*		●		●
19	South Bay Salt Pond Phase 2 at Eden Landing*		●	●	●
20	Coyote Hills Regional Park - Restoration and Public Access Project*	●	●		●
21	Invasive Spartina Project - High Tide Refuge Islands*		●		
22	Beneficial Reuse of BART Silicon Valley Phase II Tunnel Excavated Material in Marsh Restoration at Former Salt Ponds	●	●	●	
23	Valley Water Calabazas and San Tomas Aquino Creek Marsh Connection Project*	●	●	●	●
24	Pond A4 Resilient Habitat Restoration Project		●	●	●
25	South San Francisco Bay Shoreline (Sunnyvale) Project, Permanente Creek to Guadalupe River	●	●	●	●
26	Palo Alto Horizontal Levee Pilot Project	●	●	●	●
27	Strategy to Advance Flood Protection, Ecosystems and Recreation (SAFER) Bay Project*	●	●	●	●
28	Bay Rise Park*	●	●		●
29	Colma Creek Restoration and Adaptation Project*	●	●	●	●
30	India Basin Shoreline Park, Phase 3	●	●		●
31	900 Innes Remediation Project*	●	●		
32	Heron's Head Park Shoreline Resilience Project*		●		●

*Denotes projects that have been awarded funding by the SFBRA Governing Board or will be recommended by SFBRA staff for funding in the near future.

Project Status

- Pre-application (18)
- Application (4)
- Permitted (10)

Benefits of the BRRIT Pre-application Process

The pre-application process is one of the primary benefits that the BRRIT brings to the restoration community. Project proponents establish a working relationship early in the project planning process with dedicated representatives from six regulatory agencies and continue to work with these staff members through project development, permitting, construction, and monitoring.

During pre-application, the BRRIT members and the project teams work through specific design questions or potential permitting challenges that may arise from individual regulatory agency policies. The BRRIT initially screens projects to determine which of the restoration permitting tools described below could be used for the proposed project. Project proponents who may not be familiar with the permitting process are given support as they prepare their permit applications to ensure that they include all the information needed for each agency's permit applications. This has improved the completeness of the applications received by the BRRIT, which improves the timeliness of permit issuance. The BRRIT encourages project proponents to initiate the pre-application process early and seek additional feedback as often as needed.

The BRRIT has continued to provide concise, consolidated comment letters to project proponents within a month of pre-application meetings. These letters focus on topics discussed in the pre-application meetings and include our recommendations for developing designs that minimize adverse environmental impacts while maximizing restoration benefits, developing appropriate minimization measures, and preparing complete applications. During this reporting period, the BRRIT has implemented some changes to the pre-application process in response to project proponent input that will benefit other projects, including:

- The BRRIT has provided increased flexibility in scheduling pre-application meetings, especially as projects advance closer to application submittal target dates.
- In response to some concerns about the length of the consolidated comment letters that the BRRIT sends following pre-application meetings, we have been working to combine agency comments where possible and focus subsequent letters only on the latest project updates.
- The BRRIT has encouraged applicants to submit draft materials for review prior to their application submittal. More project proponents are taking advantage of this opportunity to get feedback on draft monitoring plans, designs, biological assessments, cultural resource reports, and other documents. BRRIT review of these documents during pre-application saves time when the applications come in.
- The BRRIT is using lessons learned from restoration projects that have completed construction and are conducting monitoring to inform pre-application meetings with other projects. We discuss these lessons learned below and how projects benefit from this feedback.

Permitting Tools

The BRRIT maintains a [Resources and Tools](#) feature on its website that is available for project proponents and the public to clarify each agency's policies, regulations, and permitting requirements, as well as to provide guidance on topics related to sea level rise adaptation, monitoring, species conservation, and environmental justice. The Resources and Tools page now includes links to information on the Cutting the Green Tape Program (a statewide initiative prioritizing efficient funding processes and permitting mechanisms for habitat restoration) as well as restoration permitting tools that are available to eligible restoration projects, including:

- USFWS's Programmatic Biological and Conference Opinion on the California Statewide Programmatic Restoration Effort (Restoration PBO)
- State Water Resources Control Board's Statewide Restoration General Order (SRGO)
- State Water Resources Control Board's General Water Quality Certification for Small Habitat Restoration Projects
- CDFW's Restoration Management Permit (RMP) and the Statutory Exemption for Restoration Projects (SERP) for streamlining compliance with the California Environmental Quality Act (CEQA)
- Expedited Letter of Concurrence for NOAA Fisheries Section 7 informal consultations (eLOC)

During pre-application, the BRRIT reviews whether projects are eligible for any of these restoration permitting tools and advises project proponents as to how they can modify their projects to benefit from these initiatives. In addition, several BRRIT agencies are investigating and/or advancing additional permitting efficiencies and consultation efforts, including:

- Letter of Permission (LOP) for restoration projects that utilize nature-based design concepts (USACE South Pacific Division)
- New Regionwide permits for smaller restoration projects (BCDC)
- Programmatic Biological Opinion for Restoration Projects in the San Francisco Bay (NOAA Fisheries and NOAA's Restoration Center)

As shown in Figure 2, so far eight projects have taken advantage of one or more restoration permitting tools (including four fully permitted projects, two in application phase, and two in pre-application phase), as follows:

- Two projects used the USFWS' Restoration PBO (Palo Alto Horizontal Levee Pilot Project and Novato Deer Island Tidal Wetland Restoration Project)
- One project used the State Water Resources Control Board's SRGO (Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project)
- Three projects used the State Water Resources Control Board's General Order for Small Habitat Restoration Projects (Palo Alto Horizontal Levee Pilot Project, Invasive Spartina Project- High Tide Refuge Islands, and Reef Design Innovations for Living Shorelines)
- Two projects used the CDFW's RMP (Palo Alto Horizontal Levee Pilot Project and Novato Deer Island Tidal Wetlands Restoration Project)
- Two projects used the CEQA SERP (Restore Hayward Marsh and Pond A4 Resilient Habitat Restoration Project)
- Three projects used the NOAA Fisheries' eLOC (Palo Alto Horizontal Levee Pilot Project, Pacheco Marsh [Lower Walnut Creek Restoration Project, North Reach (LWC North Reach)] Public Access Improvements, and Reef Design Innovations for Living Shorelines)

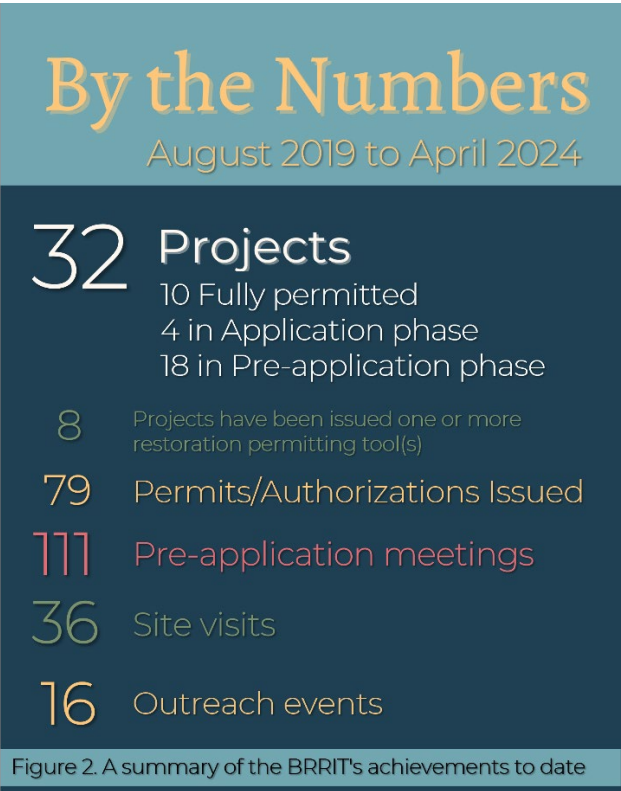
The BRRIT determined that at least 19 additional projects may be eligible to take advantage of these new permitting tools.

BRRIT Projects

The BRRIT completed permits and authorizations for two projects during this reporting period (Palo Alto Horizontal Levee Pilot Project and Pacheco Marsh [LWC North Reach] Public Access Improvements) for a total of ten projects fully permitted since 2019. Of the remaining 22 projects on the BRRIT Project List, four are in the application phase and 18 are in the pre-application phase. Figure 2 (below) notes cumulative BRRIT achievements, notably that 79 agency permits and authorizations were issued for 11 multi-benefit restoration projects (ten projects fully permitted and one project not yet fully permitted).

Project highlights this year include:

- **Terminal 4 Wharf, Warehouse, and Piling Removal Project** completed cleanup in December 2023 (Figures 3 and 4) and removed the remains of a derelict wharf, warehouse, over 2,000 pilings, associated structures, and marine debris as well as stabilized an eroding shoreline, while protecting existing eelgrass beds. NOAA Fisheries and USACE coordinated to rapidly reinstate consultation to extend the work window so that the project could be completed in one construction season. During post-construction monitoring, the City of Richmond (City) observed that segments of the enhanced rock slope protection had settled, and some rocks had shifted below the intended elevation. The City is currently investigating the cause of these slope stability issues and developing a comprehensive repair plan. In addition, some remaining debris from last year's demolition activities has been detected on the bay floor. The City plans to remove this debris in accordance with the permits previously approved.



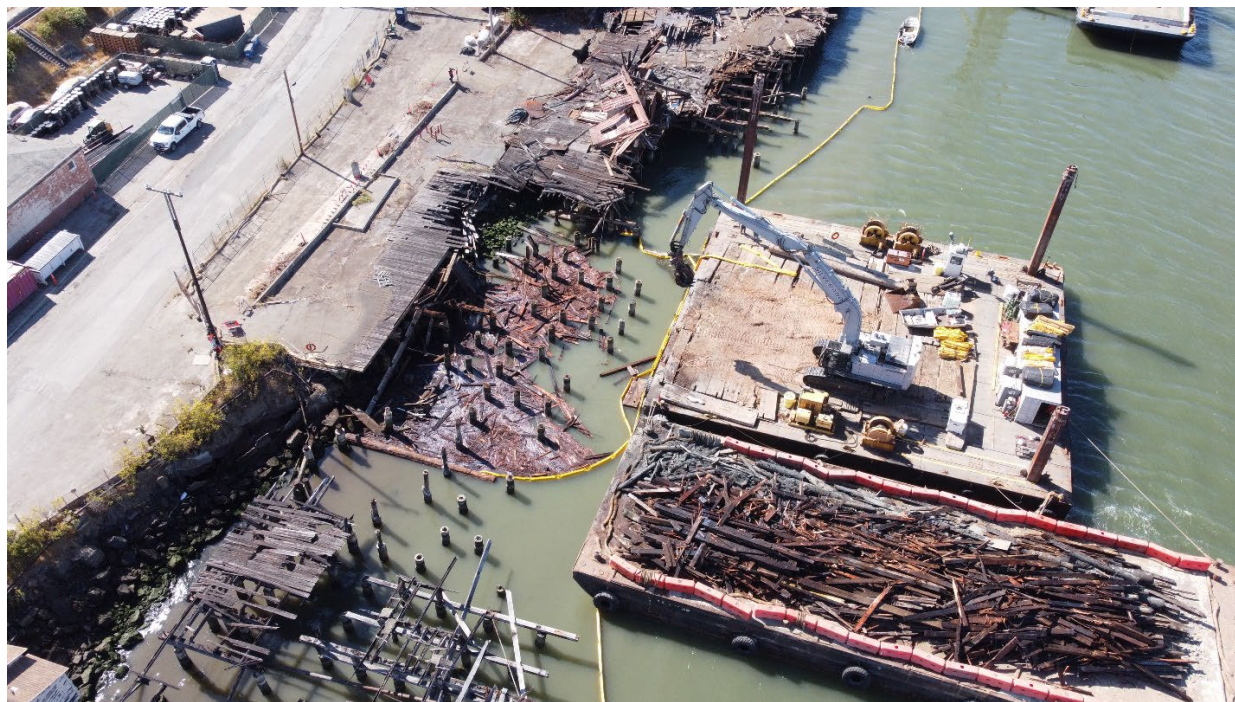
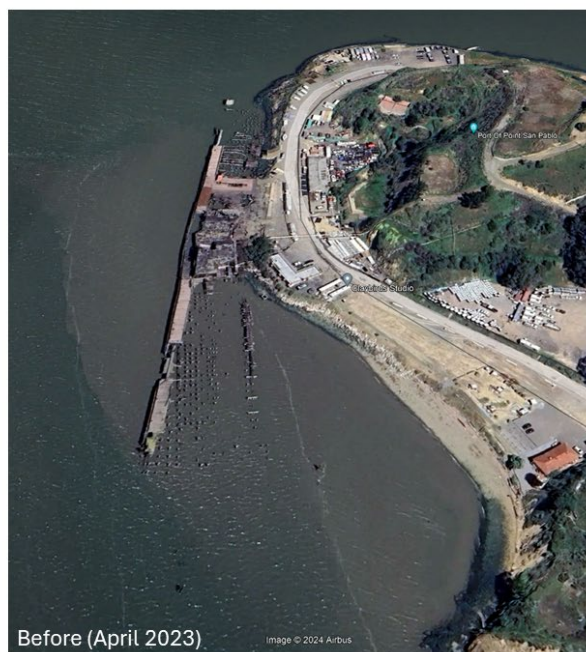
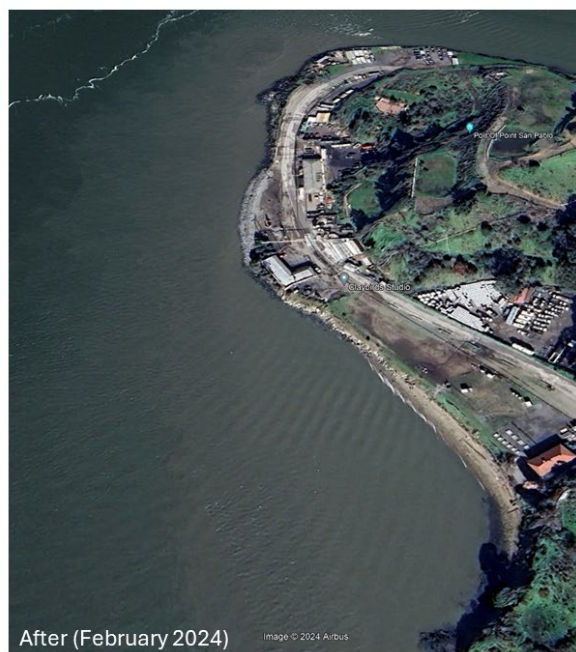


Figure 3. Site cleanup at Terminal 4 Wharf, Warehouse, and Piling Removal Project, Richmond, August, 2023. Imagery credit: Robert Stevens, CSWST2.



Before (April 2023)

Image © 2024 Airbus



After (February 2024)

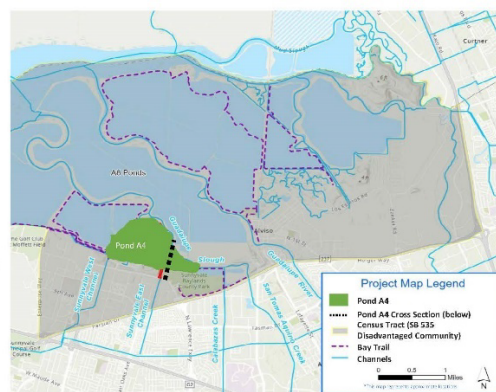
Image © 2024 Airbus

Figure 4. Before and after photos of Terminal 4 Wharf, Warehouse, and Piling Removal Project. Richmond. Imagery from Google Earth (July 2024)

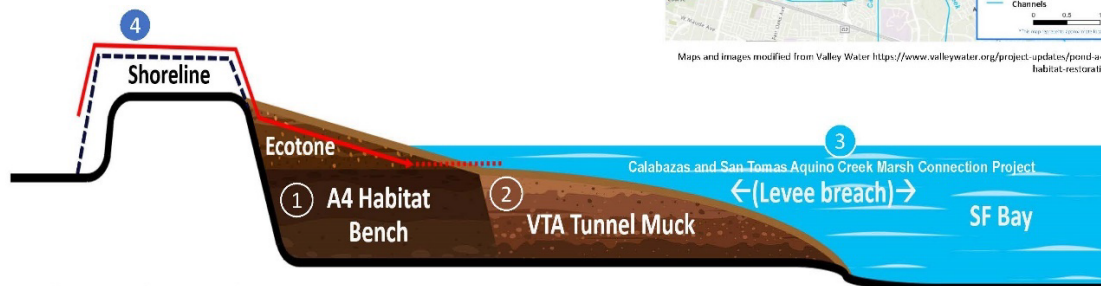
- Synergy of four overlapping South Bay restoration projects.** Project proponents for four separate but related multi-benefit restoration projects will submit applications to the BRRIT for permits and authorizations in the coming years. Figure 5 depicts the spatial overlap of these four projects located near Alviso that will be strategically phased to minimize effects to species and habitats and maximize construction-related efficiencies. Together, these projects will use a combination of beneficial reuse of dredged material and traditional tidal marsh restoration techniques such as levees breaches, to create a habitat bench, transitional ecotone and many acres of tidal marsh, ultimately resulting in approximately 300 to 400 acres of restoration at Pond A4 and the immediate area. The anticipated sequence of the projects will be: 1) Pond A4 Resilient Habitat Restoration Project (as early as 2025); 2) Beneficial Reuse of BART Silicon Valley Phase II Tunnel Excavated Material in Marsh Restoration at Former Salt Ponds (as early as 2026); 3) Valley Water's Calabazas/San Tomas Aquino Creek-Marsh Connection Project (as early as 2028); and 4) South San Francisco Bay Shoreline (Sunnyvale) Project, Permanente Creek to Guadalupe River (as early as 2035).

Synergy Between Four Projects in Pond A4

- 1 Pond A4 Resilient Habitat Restoration Project
Material placement for habitat bench and ecotone on the shoreline
- 2 Beneficial Reuse of BART Silicon Valley Phase II Tunnel Excavated Material
Sediment to elevate ponds for future tidal marsh establishment
- 3 Valley Water Calabazas and San Tomas Aquino Creek Marsh Connection Project
Connection Project
Realigning creeks and breaching levees for improved ecosystem function
- 4 South San Francisco Bay Shoreline (Sunnyvale) Project, Permanente Creek to Guadalupe River
Protecting communities from sea level rise; providing water quality improvement and habitat enhancement



Maps and images modified from Valley Water <https://www.valleywater.org/project-updates/pond-a4-resilient-habitat-restoration-project>



Cross Section of Pond A4

Figure 5. Conceptual phasing of four overlapping South Bay restoration projects coming soon to the BRRIT for permits/authorizations.

- Heron's Head Park Shoreline Resilience Project** (Figure 6) submitted a Year 1 Monitoring Report. The project featured a gravel beach with rock groins and large woody debris to stabilize the shoreline and protect existing tidal marsh. The project also included installation of 60 oyster reef balls to improve habitat for native oysters and other native species; planted the federally endangered California seablite (*Suaeda californica*); and conducted a pilot study to determine whether California seablite can be arbored to provide enhanced refugial habitat for the endangered salt marsh harvest mouse. The project met all success criteria in Year 1. The project is committed to long-term monitoring of oyster reef balls and gravel beach elements.



Figure 6. Aerial photo of Heron's Head Park Shoreline Park Resilience Project, San Francisco. Imagery from the project's Year 1 Post Construction Monitoring Surveys Report (Environmental Science Associates, January 2024).

- **Lower Walnut Creek Restoration Project** submitted a Year 2 Monitoring Report. The project met all success criteria in Year 2. Monitoring and treatment of high priority weeds will continue in Year 3 with the primary focus on managing perennial pepperweed (*Lepidium latifolium*). The project performed adaptive management in November 2023 to backfill two channels to repair observed erosion. The project restored and enhanced wetland habitats along four miles of Walnut Creek, improving habitat quality and connectivity over nearly 300 acres.

The project team worked with the BRRIT to develop measures for effective invasive plant control within sensitive species habitat. Through coordination with the project team and consideration of site-specific data and low-impact activities, CDFW amended the Streambed Alteration Agreement for this project to enable more effective vegetation management while minimizing adverse impacts to special-status species.

New Projects

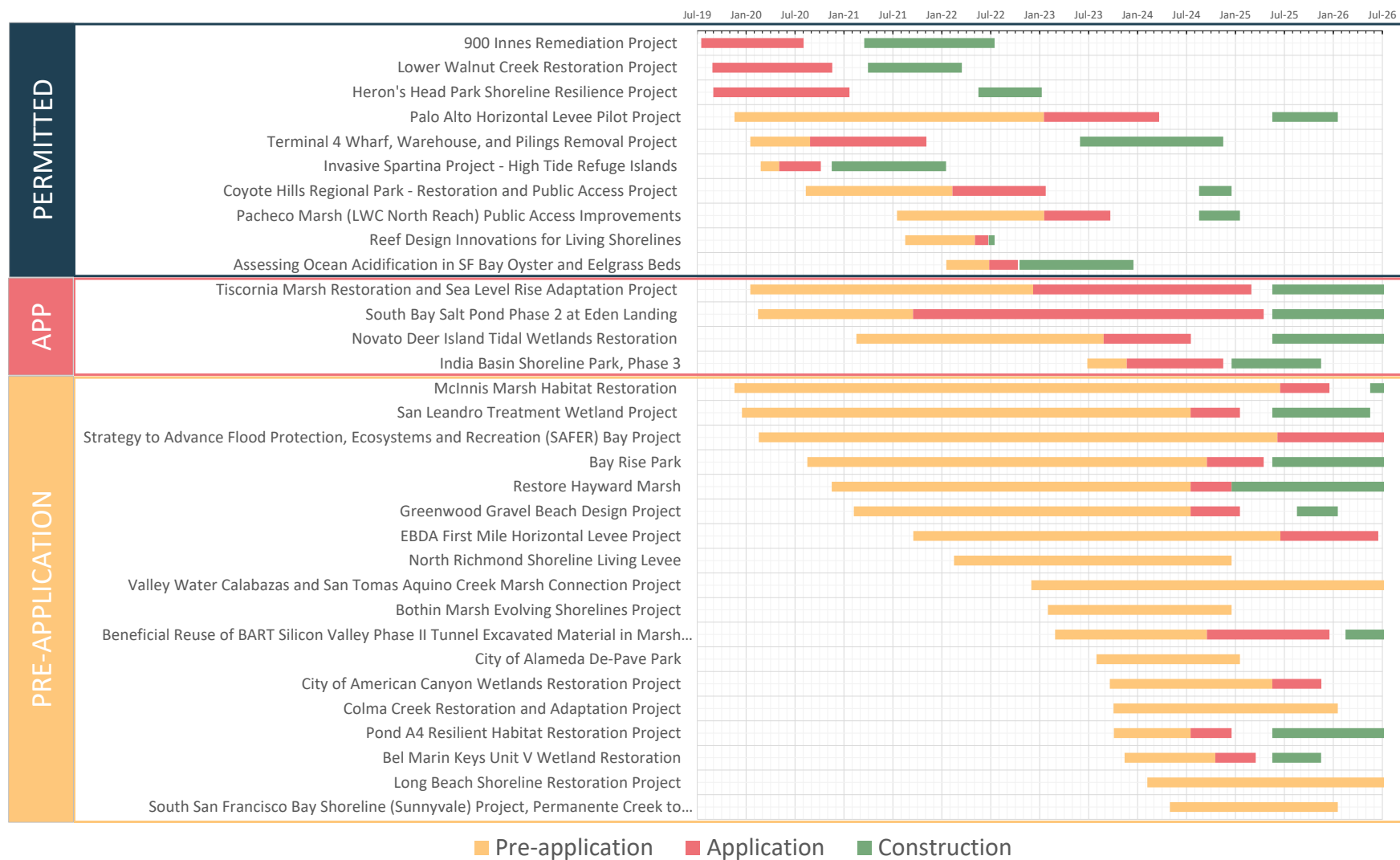
During this reporting period, the following four new projects were added to the BRRIT Project List:

- Bel Marin Keys, Unit V
- Colma Creek Restoration and Adaptation Project
- Long Beach Shoreline Restoration Project
- South San Francisco Bay Shoreline (Sunnyvale) Project, Permanente Creek to Guadalupe River

Figure 7 shows project schedules (pre-application to construction) for all BRRIT projects since the BRRIT's inception in August 2019. The length of the pre-application process and amount of pre-application coordination varies considerably and can depend on many factors outside of the BRRIT's control, including project complexity, funding constraints, and coordination with multiple interested groups such as landowners and public utilities. In addition, the BRRIT coordinates with project proponents after permit issuance, as needed. Based on current information, the BRRIT anticipates the following notable milestones over the next year: eight projects plan to submit permit applications; up to ten more projects could be permitted; three projects plan to start construction, and three projects plan to complete construction.

Current and future implementation of these 32 multi-benefit restoration projects will help move the San Francisco Bay community closer toward the collective goals of a healthier Bay, increased fish and wildlife habitat, improved flood protection, and increased and more equitable public access.

BRRIT Project Estimated Timelines



Notes:

Timelines are estimated based on latest information available to the BRRIT; may not reflect actual timelines.
 Tick-mark for each month represents the middle of the month, not the start.

Figure 7. BRRIT Project Estimated Timelines

BRRIT Performance

Table 1 includes performance metrics from August 2019 through April 2024, including those identified in the [BRRIT Memorandum of Understanding](#) (MOU) and agency-specific permitting timelines. The BRRIT improves the permitting process for restoration projects by providing guidance in advance of permit application submittal and by responding to project proponents in a timely manner throughout the pre-application and permit application phases. As in previous years, project timelines shift and the BRRIT pivots workload to meet the needs of projects with the most urgent timing constraints.

Key Takeaways

- The BRRIT consistently provided agency-coordinated guidance and feedback to project proponents in a timely manner following pre-application meetings, with 76% of responses sent within 30 days (the target timeframe set by BRRIT staff). Twenty-four percent of responses were delayed slightly beyond 30 days, due to the need for additional coordination on complex projects among BRRIT agency staff or with external organizations. Early feedback from the BRRIT has helped to inform design modifications to further avoid and minimize impacts to aquatic habitat, avoid conflicts with public access components, and incorporate appropriate avoidance and minimization measures.
- The BRRIT has been responsive and met the MOU criteria to provide project proponents with notification of permit application completeness or incompleteness within 30 days of receipt (100% for all agencies).
- Permit issuance was delayed for five projects due to delays in submittal of permit application fees, property interest documentation, and local discretionary approvals; delays in completion of the Section 106 National Historic Preservation Act consultation process; and a request from one project proponent to delay permit issuance. Therefore, the BRRIT did not meet the MOU performance metric of issuing at least 80% of agency permits within 120 or 210 days of permit application submittal (for simple and complex projects, respectively). It is important to note that this metric only applies to seven of the ten permitted projects that were able to take advantage of the BRRIT pre-application process. The BRRIT and PMC are considering revising this MOU metric in the future to account for external factors that can delay permit issuance.
- Overall, the pre-application process has improved the completeness of permit applications the BRRIT has received, thereby improving the timeliness of permit issuance. With ten projects fully permitted and a total of 79 permits and other authorizations issued, the BRRIT completed Federal Endangered Species Act consultations and issued all permits within their agency-specific statutory timelines and in time to meet project proponents' construction schedules.

BRRIT Performance Metrics (August 2019 - April 2024)			
Metric	Description	MOU Target	Percentage Achieved
Pre-Application Meeting Response	BRRIT provides pre-application meeting comments within 30 days	N/A	76%
Permit Application Response	BRRIT notifies project proponent of application completeness/incompleteness within 30 days	N/A	70% (7 of 10)
USACE Requests USFWS/NOAA Fisheries Consultation*	USACE requests ESA consultation with USFWS and NOAA Fisheries within 15 days of permit application submittal	90%	89% (16 of 18)
USFWS Response to Consultation Request	USFWS responds within 15 days of receiving consultation request	N/A	100% (11 of 11)
NOAA Fisheries Response to Consultation Request	NOAA Fisheries responds within 15 days of receiving consultation request	N/A	87% (13 of 15)
Permit Issuance for Simple Projects**	Projects with all BRRIT permits issued within 120 days of application submittal (only includes projects that participated in pre-application)	80%	50% (2 of 4)
Permit Issuance for Complex Projects**	Projects with all permits issued within 210 days of application submittal (only includes projects that participated in pre-application)	80%	0% (0 of 3)
Successful Timing of Permit Issuance	Projects with all permits issued within 120/210 days and/or in time to meet project construction schedule	N/A	100% (10 of 10)
Individual Agency Mandates to Issue Permits/Consultations (August 2019 - April 2024)			
Agency	Time to issue after application considered complete	Percentage Achieved	
USACE	Permits issued within 60 days (Nationwide Permits) or 120 days (Individual Permits)	100%	
NOAA Fisheries	Consultations issued within 60 days (Letter of Concurrence) or 135 days (Biological Opinion)	100%	
USFWS	Consultations issued within 60 days (Letter of Concurrence) or 135 days (Biological Opinion)	100%	
BCDC	Permits issued within 90 days	100%	
CDFW	Streambed Alteration Agreements issued within 60 days (Draft) or 30 days (Final)	100%	
Water Board	Permits Issued within 60 days	100%	
*Total numbers of consultations differ between agencies as consultations do not always involve all three agencies and may not be initiated at the same time. Other consultations were initiated more than once.			
**Complex projects are those that require an Environmental Impact Report-level of CEQA review, a NEPA Environmental Assessment or Environmental Impact Statement, and/or may affect: federal or state threatened or endangered species. All other projects are simple.			

Table 1. Summary of BRRIT performance to date, including metrics identified in the MOU and agency-specific permitting timelines.

Project Proponent Feedback

The BRRIT developed a [performance survey](#) (available under the [BRRIT Process](#) section of our website) to seek feedback from project proponents on their experience during the pre-application process, with the goal of better serving the restoration community. Since the BRRIT's inception, we have received limited feedback - only six respondents have completed performance surveys out of 32 projects. We have received no completed surveys during the 2023-2024 reporting period. However, verbal and email feedback received from project proponents during this reporting period indicate an overall appreciation for the BRRIT process and for the time and support that the BRRIT dedicates to working with project proponents.

The BRRIT has worked closely with SFBRA staff to solicit increased and more detailed feedback. Together, we updated the performance survey with more targeted questions to be more reflective of project proponent's experience through both the pre-application and permitting processes. In addition, we recently developed one-on-one interview questions for project proponents, to be administered by SFBRA staff.

Feedback received during the only two interviews conducted so far acknowledged several benefits of engaging with the BRRIT. Benefits included meeting with regulatory agency staff as a coordinated group early in project planning and design; establishing consensus around project goals and objectives; learning about and utilizing restoration permitting tools; and receiving consolidated and clear feedback to identify challenges and complex issues that may arise later in the permitting process. The two interviewees also noted that in their experience, the BRRIT process generally did not reduce the level of effort (as compared to non-BRRIT projects) for permitting, and often required follow-up with individual agencies on specific issues. Other issues that the interviews raised included the challenge of putting together bid package requests in advance of having all of the final permitting conditions available; the need for regulatory agency staff to more effectively identify and resolve conflicting guidance prior to engagement with the applicants; the challenge with permitting artificial reef projects due to differing agency policies; and lack of alignment with restoration permitting tools with other non-restoration permitting timelines.

Depending on the specific needs of a given project, the BRRIT maintains flexibility to meet with project proponents as a whole group (ensuring collective sharing of information, efficient discussion, and reduced likelihood of conflicting guidance), but often meets individually or as a subset with project proponents to discuss targeted issues, as appropriate. For example, USFWS, CDFW, and BCDC staff frequently meet with project proponents to discuss public access issues and compatibility with species requirements.

While the BRRIT provides many avoidance and minimization measures early on in pre-application consolidated comments letters, it can be necessary to modify and include additional measures in final permits, depending on project design changes and feasibility. For discussion related to artificial reef permitting, please refer to the Accomplishments and Progress section under the Policy and Management Committee.

The BRRIT strives to provide the appropriate level of assistance based on the project proponent's needs, and we are hopeful that updated performance survey and interviews will help generate more feedback that can continue to facilitate improvement of our process and maximize the effectiveness of our assistance to project proponents.

Challenges and Recommendations

Permitting multi-benefit restoration projects is complex and the BRRIT's primary role is to help project proponents navigate the permitting process. Below we identify challenges common to many projects and provide recommendations to help avoid delays in permit issuance.

Beneficial Reuse

The beneficial reuse of sediment and soil is an important strategy for marsh restoration and to help marshes adapt to rising sea level. Although a considerable amount of sediment has been used for tidal wetland restoration projects, including ecotones, islands, and other habitat features, much more material will be needed to meet the demand for all the planned and ongoing tidal marsh restoration projects. Potential sources of material include dredged sediment from maintenance of navigation channels and flood control channels as well as upland soil from construction projects. One of the challenges to beneficial reuse is obtaining enough material.

Factors that contribute include cost, travel distance, timing differences between sediment availability and need for sediment, and sediment quality. With the increasing demand for soil/sediment, some BRRIT projects are proposing or requesting changes to risk analyses and/or screening criteria to increase the potential for beneficial reuse.

Recommendation: The purpose of sediment screening criteria is to ensure that material is suitable for beneficial reuse and will not cause adverse effects to aquatic receptors. Since screening criteria are based on either ambient concentrations or toxicity data showing concentrations above which adverse effects to aquatic receptors are likely, simply revising the screening criteria may not be protective of aquatic receptors or the environment. Instead, using more sophisticated analytical methods to evaluate the suitability of sediment or soil, such as the 95% upper confidence limit or the hazard quotient method, may be appropriate for some projects. We recommend that project proponents work with the relevant agencies early during the permitting phase to discuss this issue.

Invasive Plant Control in Protected Species Habitat

Invasive plant control is critical for the successful establishment of native plant communities at restoration projects. To be effective, invasive plant control must be implemented when invasive plants are detected and before they become more widely established, timed appropriately so that plants are treated before they set seed, and repeated annually to treat recurring infestations. Invasive plant control methods can be restricted where special status species may be present. These restrictions, such as buffers around nest locations and use of only non-motorized equipment, can limit the extent and effectiveness of invasive plant control. Therefore, it can be challenging for some projects to meet success criteria for invasive plant control while adhering to species protection measures.

Recommendation: Project proponents should discuss this potential challenge with the regulatory agencies during pre-application and permitting before issues arise after project construction during the monitoring phase. This is especially important for projects that have limited methods for invasive plant control (e.g., projects that cannot use herbicides). The agencies can work with project proponents to discuss site-specific conditions, proposed work activities, and invasive plant control methods to develop measures that are protective of special status species while allowing for effective invasive plant control. For example, we recently worked with two projects to modify species protection measures or success criteria for invasive plant control in consideration of site conditions and constraints.

Other Collaborative Initiatives, Outreach, and Learning

In this reporting period, the BRRIT participated in multiple collaborations with other agency staff, outside agencies, and members of the restoration community, including the following:

- The BRRIT continues to support the Wetland Regional Monitoring Program's (WRMP) initiatives as active team members on the Technical Advisory Committee, the WRMP Fish and Fish Habitat (FFH) Subgroup, and the Steering Committee. The WRMP FFH Monitoring Guidance was ratified by the Steering Committee during this reporting period and represents a significant advancement toward improving regional monitoring efforts in the San Francisco Estuary by recommending standardized fish monitoring protocols and efficiencies for restoration practitioners and agency partners. Funding from the USEPA will allow initial monitoring to begin in 2025. The BRRIT attended the State of the Estuary Conference and California Estuary Monitoring Workshop to share the FFH Monitoring Guidance and enhance coordination between the WRMP and other restoration projects that may include monitoring.

- The BRRIT and PMC members collaborated with the San Francisco Estuary Partnership's [Regulatory Pathways for Nature Based Solutions](#) effort. The BRRIT and PMC members reviewed and/or contributed to the Call to Action, the White Paper, as well as the Conceptual Workplan.
- The BRRIT met with internal Tribal coordinators to discuss increased Tribal participation with BRRIT projects. Federal agencies have a trust responsibility to consult with federally recognized tribes, if requested, and to seek input on permit decisions from local Native American tribes. This is an ongoing effort for the BRRIT and will continue into the next reporting cycle.
- The BRRIT coordinates with the Cutting the Green Tape program (CGT) to determine project eligibility for CGT permitting tools and to assist project proponents with permit applications.
- In addition to these collaborative efforts, BRRIT members attended learning opportunities such as conferences, trainings, field visits, and field monitoring that provided important opportunities to learn from the restoration community. The BRRIT also participated in workshops for the [Southern California Coastal Water Research Project's Aquatic Resource Type Conversion Evaluation Framework](#), San Francisco Wetland Migration, and [Sediment for Wetlands Adaptation Project](#) to provide permitting and coordination perspectives and learn from experts on specific topics.

Policy and Management Committee

The Policy and Management Committee (PMC) sets the BRRIT's roles and responsibilities, works with SFBRA staff on budget and governing documents, and collaborates on process and policy improvements. The PMC meets monthly with the BRRIT to discuss specific projects, provide guidance on overarching policy issues, and resolve administrative and process concerns. Members of the PMC participate in outreach to partners and restoration practitioners and provide updates to the SFBRA Oversight Committee. The PMC also participates in the Cutting the Green Tape initiative and other regional, state, and federal collaboration efforts, to share lessons learned and best practices from the BRRIT formation and implementation.

Permit and Policy Improvements

The PMC is tasked with identifying and resolving policy issues and conflicts that may arise during project review and permitting. The PMC is also tasked with identifying overarching issues that may require procedure development, coordination and direction from management, and elevation within and amongst agencies. The PMC prioritizes policy issues based on the significance of the issue to the review process, the overall benefit to the program, the benefit to regional restoration goals, and the capacity of the BRRIT and PMC. Rankings are not prescriptive and are intended to categorize issues to identify opportunities.

The Permit and Policy Improvement List (PPIL) is provided as an Appendix to the Annual Report and is updated to track progress on initiatives and accomplishments and identify new policy issues that the PMC is tracking for engagement. Between 2023 and 2024 there were a number of accomplishments and noteworthy progress made in resolving items on the PPIL. Major highlights are identified below.

Accomplishments and Progress

- **Artificial Reefs.** The California Artificial Reef Program (CARP) Plan will begin development in late 2024. In absence of a CARP Plan to guide policy and inform reef design and placement as described in [FGC §6420 -6425](#), a subgroup of PMC and

BRRIT members was formed to develop an approach to facilitate permitting artificial reefs and native oyster restoration pilot projects in San Francisco Bay. The subgroup builds on lessons learned from previous pilot projects based on research and guidance specific to environmental conditions and restoration goals in San Francisco Bay and considers other intended functions of artificial reef structures commonly proposed in projects. The subgroup is in the final discussions to adopt definitions and an interim framework for permitting projects with artificial reefs elements which the BRRIT will consider adopting to help provide additional clarity for agencies and project proponents. Results from the BRRIT subgroup will be integrated into the CARP Plan as appropriate.

- **Improving Coordination with Non-Agency Entities.** A continuing challenge is project proponents' ability to timely coordinate on their project designs with utilities and other infrastructure entities. Late coordination can result in delays and costs to change project designs that already have been reviewed by the BRRIT agencies. To that end, the PMC is establishing a path for regular engagement with Pacific Gas & Electric (PG&E), which has substantial infrastructure on the Bay's edge. This includes identifying a consistent point of contact at PG&E (following recent retirements) to facilitate individual project engagement at the beginning of a project's design process, and setting regular meetings to help identify and efficiently address issues that may affect a broader range of projects. We hope this new approach to collaboration with PG&E can be applied to other projects and relevant infrastructure entities.
- **Fill for Habitat and Sea Level Rise.** The PMC members agreed that the State of California Sea Level Rise Guidance 2024 Science & Policy Update was the appropriate projection to be used when designing projects such as horizontal levees.

Funding

The original budget for the BRRIT was \$1,250,000 per year (with annual increases for inflation) with just over \$7.1 million secured for five years. Funders are the SFBRA (\$650,000 per year for five years, with increases annually for inflation), State Coastal Conservancy (\$250,000 per year for five years plus one-time augmentation of \$559,000), Santa Clara Valley Water District/Valley Water (\$200,000 per year for five years), East Bay Regional Park District (\$75,000 per year for five years), and Bay Area Toll Authority (\$100,000 per year for five years, subject to availability of funds in annual budgets after the first year). In addition, the Water Board provides in-kind office space for the BRRIT to work and meet.

The actual expenditures for the BRRIT for the first 4.5 years from July 2019 to April 2024 totaled approximately \$4.6 million. This reduced cost for the first 4.5 years of operation is primarily due to an initial delay with executing agreements with USACE and the Water Board and reduced travel and office space expenses for the BRRIT members due to COVID-19 restrictions. Additionally, some agencies (e.g., USACE) billed less than budgeted due to most projects being in the less time intensive "pre-application" phase, and state agency staff had 9.23% salary reductions in 2020 and 2021. The annual budget for the first five years, once all six of the agencies were under agreement and salary cuts were over, was \$1,200,000 - \$1,700,000.

Approximately \$1,000,000 remains to be used for a sixth year of the BRRIT. Fundraising for five additional years is nearly complete with a total of \$8,400,000 secured from the State Coastal Conservancy, SFBRA, U.S. Environmental Protection Agency, and Valley Water. The Bay Area Toll Authority is still reviewing the BRRIT application for the requested \$500,000. The annual estimated budget for the next five years, after including salary increases and an expanded scope to include more tribal engagement and better progress tracking, is approximately \$1,800,000.

Moving Forward

Until the mid-19th Century, the San Francisco Bay supported vast, and expanding, tidal wetlands. Population growth, agriculture, and development in this region over the last two centuries has led to dramatic losses of these wetlands – from a peak of nearly 544,000 acres of fringing tidal marsh around 1850, to a low of 31,000 acres by 1986 ([Nichols et al 1986](#)¹). In addition to providing habitat for wildlife, tidal marshes provide natural shoreline protection in the face of sea level rise and storm surges. Accelerated sea level rise associated with anthropogenic global climate change further exacerbates the pressure on tidal marshes. In recent years, the San Francisco Bay has experienced the early effects of accelerated sea level rise. King Tides and larger, more frequent storms cause more flooding, resulting in damage to public infrastructure, and often with disproportionate harm to underserved communities. To minimize the effects of increasing rates of sea level rise, both on the human environment and the natural ecosystems of the Bay region, the race is on for increasing shoreline protection. The types of multi-benefit restoration projects that come to the BRRIT for permitting are the best defense. Based on provided project schedules, the BRRIT anticipates a significant increase in permit applications and may permit up to ten projects in this upcoming sixth year of our process. We continue to see more projects applying for eligibility to engage with the BRRIT. Despite the challenges facing the San Francisco Bay, and the challenges of our complex regulatory environment, the BRRIT continues to move forward with improving the permitting process for projects aimed at protecting natural resources in a manner that safeguards our communities and provides equitable access to our Bay.

¹ Nichols, F.H., J.E. Cloern, S.N. Luoma, and D.H. Peterson, The Modification of an Estuary, Science 231 (4738), 567-673, 7 Feb 1986.

Appendix 1

Permit and Policy Improvement List

SAN FRANCISCO BAY COORDINATED PERMITTING APPROACH

Policy and Management Committee

Permit and Policy Improvement List

Updated August 2024

The Policy and Management Committee (PMC) is part of the coordinated permitting approach agreement, which includes the Bay Restoration Regulatory Integration Team (BRRIT), and whose responsibilities are described in an interagency memorandum of understanding. The PMC is tasked with creating a system to identify and resolve policy issues and conflicts, and to identify a process for elevating issues that require agency policy shifts.

Prioritization will be based on the following criteria:

- **Benefit to review process and overall program:** impact upon the decision-making timeline.
- **Frequency of the issue:** it is a policy issue that comes up over and over.
- **Benefits to regional restoration goals:** Does it result in projects getting in the ground faster and more efficiently?
- **Capacity of BRRIT and PMC:** can be accomplished in the next 3-4 years with projected resources and staffing.

The permit and policy improvement list describes the status of priority issues with a commitment to make progress on and implement at least one initiative annually.

1. Issues that are **being addressed** during the current calendar year (initiatives currently underway, with an anticipated completion date in 2023).
2. Issues that **will be addressed** in the next one to three years (initiatives currently under way, with an anticipated completion date that may extend beyond 2023)
3. Issues and initiatives that **require further development** (no identified initiatives under way, or initial work has begun, but will not be completed until after 2023)
4. **Accomplished**, indicates issues that have been resolved.

The list will be revised annually for items and prioritization. New items will be considered as identified by the PMC, or brought to the PMC by the BRRIT or stakeholders.

POLICY ISSUE: Fill for Habitat	
Date initiated:	Priority: 2023
Agency and/or Legislative Fix? Agency fix.	
POC: Sahrye Cohen, EPA	Status: Being Addressed
Why is this an issue? Nature-based adaptation measures, such as habitat transition zones and oyster reefs, can result in the placement of fill material in aquatic habitat. The placement of fill material can cause conflict with Bay fill policies, which can vary by agency. For example, BCDC asks projects to use the minimum fill required to achieve the project goals, while the Water Board might ask a project to build in more resilience to the transition zone. The creation of oyster reef habitat can also cause conflict for CDFW which lacks a Statewide Artificial Reef Plan. In the absence of a Statewide Plan, CDFW cannot support artificial reef projects which can delay permitting for these types of projects. • Novel restoration methods have little empirical data to support optimal design • Agency conflicts are challenging to resolve. • This is a Sand in the Gears issue.	
Initiatives: BCDC's San Francisco Bay Plan was amended to allow greater amounts of fill for habitat restoration and pilot projects. - ACCOMPLISHED	
Updates 2020 and prior: • July 20, 2017, BCDC approved consideration of an amendment to the San Francisco Bay Plan to allow additional fill policies for habitat projects. Water Board, EPA, and USACE representative participation is intended to facilitate crosswalk policy discussions between BCDC and these agencies, specifically Clean Water Act Section 401 and 404 permitting. • The Bay Plan amendment process was completed on October 3, 2019. • On December 27, 2019, BCDC's San Francisco Bay Plan was amended to add policies to a variety of policy sections and allow greater amounts of fill for habitat restoration and pilot projects.	
Updates 2022: Agency representatives identified for workgroup to discuss how similar impacts can be evaluated under federal regulations.	
Updates 2023: EPA met with the Corps to discuss how fill impacts are evaluated under Clean Water Act Section 404. The Water Board adopted a non-regulatory Basin Plan Amendment on Climate Change and Aquatic Habitat Protection, Management, and Restoration to incorporate climate change information in its Basin Plan and provide information on how the Water Board permits dredge or fill activities associated with climate adaptation projects.	

Artificial Reefs. Representatives of CDFW’s Marine Region joined the PMC to work collaboratively with the State Coastal Conservancy, Water Board, and BCDC to identify interim measures to avoid permitting delays until a Statewide Plan is developed. Fill for habitat workgroup meeting to discuss how fill impacts are evaluated for ecotone and horizontal levees.
Initiatives: The Water Board is evaluating the need for a Basin Plan Amendment to provide clarifying information on how to first avoid, then minimize, and lastly compensate for unavoidable impacts to aquatic habitat within a climate change context.
Further discussion needed? • Coordination with the PMC would assist in creating permit review consistency.

POLICY ISSUE: Lack of Collaborative Decision-Making Among Agencies	
Date initiated:	Priority: 2023
Agency and/or Legislative Fix: Agency fix.	
POC: Luisa Valiela, EPA	Status: Being addressed
Why is this an issue? Applicants tend to find the permitting process for restoration projects extremely confusing when it appears agency requirements are redundant or mutually exclusive to each other. Examples raised: • differing risk tolerances occur between different agencies. • differing level of design needed to acquire a permit. • additional requirements beyond those required by the agency that is primarily responsible for a specific resource. • The Sand in the Gears document touches on this at items 6, 7, and 8.	
Initiatives: BRRIT outreach; information gathering through surveys to applicants; BRRIT internal coordination; using PMC elevation process	
Updates 2020 and prior to: BRRIT outreach; satisfaction surveys	
Updates 2021: BRRIT outreach; pre-application satisfaction surveys	
Update 2023: BRRIT and SFBRA are increasing the frequency of reminders to applicants to complete these surveys and reassessing and updating survey questions to better understand how the BRRIT can help applicants through the permitting process. SFBRA will start obtaining individual feedback from applicants BRRIT coordination and early feedback on public access and wildlife concerns: Greenwood Gravel Beach, Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project, Palo Alto Horizontal Levee Pilot Project, Lower Walnut Creek Restoration - North Reach Public Access Improvements	
Further discussion needed?	

POLICY ISSUE: Fully Protected Species	
Date initiated:	Priority:
Agency and/or Legislative fix? Agency fix and Legislative fix	
POC: Craig Weightman, CDFW	Status: Being addressed
Why is this an issue? For restoration projects CDFW can issue permits to take FPS under a Natural Community Conservation Plan (NCCP), for necessary scientific research, or via development of an internal MOU. CDFW is unable to issue permits to take or possess a fully protected species (FPS) as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code. • permitting pathways are unclear for restoration projects when FPS are involved. This is a common complaint amongst the restoration community. • restoration projects may have long- term benefits to special-status species, but project construction and establishment can have the potential to result in significant short-term impacts and under the State Fish and Game Code CDFW may be slow or unable to issue permits for take of FPS.	
Initiatives: • BRRIT assisting applicants by advising avoidance of FPS with conservation measures or in instances where that would not be cost effective or timeline feasible, by identifying mechanisms that CDFW uses to issue permits to take FPS (i.e., a NCCP or MOU). • CDFW will work with restoration projects to ensure recovery efforts for fully protected species are included in the restoration project. • Legislative fix is being explored outside of BRRIT and PMC to create a more time-effective permitting pathways with more certainty under certain circumstances for restoration projects.	
Updates 2021: Work with restoration projects to ensure recovery efforts for fully protected species are included in the restoration project.	
Updates 2023: Under the State of California’s Cutting the Green Tape Initiative to increase the pace and scale of environmental restoration, CDFW has developed several restoration permitting tools under CDFW’s Cutting the Green Tape Program. Such tools include a Restoration Management Permit (RMP) that consolidates “take” authorizations for restoration projects under a single streamlined permit. The RMP can authorize take of CESA-listed as well as state fully protected species. In addition, SB-147 was approved and filed with the State on July 10, 2023 as part of the governor’s California Infrastructure Trailer Bill package. SB-147 authorizes CDFW to issue a permit under CESA to authorize take of fully protected species for certain types of infrastructure projects with mitigation. Note that the list of project types included in the trailer bill does not include restoration projects.	

Updates 2023: Peggy McNutt to initiate legislative fix. Peggy M. will remain engaged with the PMC to request additional information as needed or to provide updates.

Further discussion needed? The PMC and EPA will follow up with Resources Legacy Fund to determine the status of their legislative efforts.

POLICY ISSUE: Develop Guidance for Project Applicants	
Date initiated:	Priority: 2023, continuous
Agency and/or Legislative Fix? Agency fix.	
POC: Jana Affonso, USFWS	Status: Being addressed
Why is this an issue? Restoration projects often have similar issues and, while knowledge may reside in particular project proponents or consultants, many applicants tend to become confused by the numerous information, data, and mapping requirements of federal and state regulatory and wildlife agencies. This issue can result in time-consuming delays.	
Initiatives: There is an opportunity to facilitate project development and permitting by providing FAQs and other guidance, such as typically approved management practices and conservation measures.	
Updates 2020 and prior: - Create resources and tools for applicants that could include a recommended checklist of items and information needed for a complete application. - Create FAQs and a flow chart.	
Updates 2021: - Created resources and tools for applicants that could include a recommended checklist of items and information needed for a complete application. - Provided a link to the USFWS’s Environmental Conservation Online System (ECOS) to view example Biological Opinions or to construct a Biological Assessment through the Consultation Package Builder. General avoidance and minimization measures can be obtained through these example BiOps. - Reorganized BRRIT website to provide more clarity on the permitting process and how the BRRIT can help. The website now includes tabs for BRRIT Process, BRRIT Projects, BRRIT Eligibility, Resources and Tools, Policy and Management Committee, and FAQs. - Added, under the BRRIT Process tab, a flow chart explaining the pre-application process.	
Updates 2022: More items were added under the Resources and Tools tab on the BRRIT website, including the “Permit application checklist”, “Helpful Links”, and a link to “Box” website for delivering large files to the BRRIT. Some examples of “Helpful Links” include links to regulatory overview websites for each agency, streamlined permitting tools, relevant recovery plans, sea level rise guidance, and the WRMP.	

- NMFS is developing a checklist for expedited informal consultation that will be available for regional use in SF Bay Area.

Updates 2023:

- **BCDC Permitting for a Resilient Shoreline.** BCDC is working to make improvements to its regulatory program as part of its overall efforts to implement the Bay Adapt Joint Platform. [Action 7](#) of the Joint Platform called for refining and accelerating regulatory approvals for resilient shoreline adaptation projects that align with regional goals. The effort includes work to: make BCDC permitting faster and more efficient, make the BCDC regulatory program easier to navigate, accelerate effective nature-based adaptation, work together with regulatory partners, and consider the role of BCDC's regulatory program in achieving desired adaptation outcomes. This effort is funded by a grant from the State Coastal Conservancy.
- BCDC is also receiving assistance to improve its regulatory program from the CA Department of Finance, through its Mission-Based Review (MBR) process. The goal of MBRs is to improve governmental programs through: analyzing the key requirements that drive the program's core mission; prioritizing limited resources to get the biggest return on investment; streamlining or eliminating functions within the program(s) that are not needed to support the core mission; and analyzing regional approaches to program delivery to eliminate or minimize disparities in staffing, standards, and levels of service. This will be an approximately 6-month process, which started in mid-2023.

Further discussion needed?

- Guidance documents can be shared publicly as they are available.

POLICY ISSUE: Monitoring	
Date initiated: 2020	Priority: 2023
Agency and/or Legislative Fix? Agency fix.	
POC: Keith Lichten, Water Board	Status: Requires further development
Why is this an issue? Monitoring requirements can be a significant project cost and associated funding can be difficult to obtain, as some grants may not fund or may limit expenditures for monitoring. Regionally relevant monitoring that advances tidal wetland restoration does not fully address site-specific monitoring needs, which can increase the overall monitoring burden for applicants. Scientifically robust and meaningful monitoring is expensive and may be deprioritized when compared to the project proponent’s primary goal of enhancing habitat conditions. Monitoring costs are an expense for multi-benefit restoration projects and nature-based solutions that traditional grey infrastructure projects do not have to bear. • Monitoring is challenging to fund, and therefore project proponents can support limiting mandated monitoring requirements to the minimum required for the regulatory agencies to ascertain their regulations are being followed. • Project proponents are typically unable to sustain significant monitoring programs on their own. • Individual projects are not necessarily well positioned to answer broader landscape-scale questions, such as those about specific species and habitats. Those broader questions are better considered through a regional monitoring program or similar arrangement. • Uncertainty associated with climate change and sediment availability exacerbates the challenges of evaluating project success, and site-specific monitoring can be at too small a scale to capture this issue. • This is a Sand in the Gears issue.	
Initiatives: • The Wetlands Regional Monitoring Project (WRMP) will develop a regional-scale monitoring program to evaluate wetland restoration project success and inform science-based decision-making. NMFS is working collaboratively to advance the fish monitoring component of this program. https://www.wrmp.org/ • Wetland Habitat Assessment Team (WHAT). BCDP’s internal habitat and restoration science and policy working group evaluates projects and monitoring reports and seeks regulatory program improvements.	
Updates 2020 and prior: The San Francisco Estuary Partnership developed a tidal wetland regional monitoring plan for the Bay Area that will help local, regional, state, and federal authorities evaluate the effectiveness of efforts to sustain healthy aquatic habitats and resources. Using an EPA grant and stakeholder input, the plan was completed in April 2020.	

Updates 2021: SFEP continued to develop an implementation plan that describes a funding and governance structure, and a data management plan. SFEP hosted two agency-focused workshops to introduce the WRMP to regional, state, and federal agencies. Additional workshops in 2021 included the restoration practitioner and planning communities.

Updates 2022: UC Davis, NMFS, and the Water Board launched the WRMP Fish and Fish Habitat Workgroups (FFH) Workgroup in 2021 to develop fish and fish habitat monitoring recommendations and standard operating procedures (SOPs) for wetlands in the greater SF Bay region. The FFH includes participation from multiple agencies and stakeholders and anticipates completion of initial Draft Recommendations in spring of 2022.

Updates 2023: The WRMP FFH Workgroup finished the draft monitoring recommendations and SOPs. The WRMP approved the Site Monitoring Network.

Agencies discussed the general information needed from applicants in order to determine if permits are needed for installation of monitoring equipment on a case-by-case basis.

Further discussion needed?

POLICY ISSUE: Wetland Habitat Type Conversion	
Date initiated: 2020	Priority:
Agency and/or Legislative Fix? Agency fix.	
POC: Jen Siu, EPA	Status: ACCOMPLISHED
Why is this an issue? To accomplish regional wetland restoration goals, it is necessary to convert one type of wetland habitat to another. For example, currently diked baylands or seasonal wetlands may be converted to tidal baylands. • When wetland-to-wetland conversion occurs in the process of restoring a site, some permitting agencies require compensatory mitigation while other agencies do not. • There are inconsistent approaches as regulators analyze projects and make mitigation decisions. • Regulatory decisions need to be supported by robust technical frameworks to avoid additional project costs, lack of regulatory certainty, conflicting requirements, and project delays.	
Initiatives: A multi-agency project is underway to develop a science-based framework for assessing habitat type conversion actions in the SF Bay Region and elsewhere. This framework would facilitate consistent and more transparent decision making. EPA/Corps are leading the effort with funding and staff while the other agencies are providing staff time. The PMC's goal was to use this effort to agree on a common decision-making approach by the end of 2019.	
Updates 2020 and prior: The final framework was distributed to agency partners on February 14, 2020. Pilot implementation of the final framework was planned for a project under the BRRIT's purview in 2020.	
Updates 2021: Pilot Project Conducted; Tool revisions based on pilot	
Updates 2022: Aquatic Resource Type Conversion Evaluation Framework v.2 finalized and published. http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/1110_ConversionFramework.pdf	
Date initiated: 2022	Priority:
Agency and/or Legislative Fix? Agency fix.	
POC: Jen Siu, EPA	Status: Being Addressed
Initiatives: Outreach, Adoption, and Implementation of the Aquatic Resources Type Conversion Framework.	

Updates 2022: Presentation at Joint Aquatic Science Meeting.

Updates 2023: Outreach, adoption, and implementation

- On May 16, 2023 EPA hosted a Workshop for regional, state, and federal agencies introducing the Aquatic Resources Type Conversion Framework
- Published article in April 2023 in Society of Wetland Scientists *Wetland Science & Practice*
- **Further discussion needed?** Outreach, Implementation, and Adoption planning. Additional peer review from Corps/ERDC.

POLICY ISSUE: Siting Public Access Within Multi-Benefit Habitat Restoration Projects	
Date initiated:	Priority:
Agency and/or Legislative Fix? Agency	
POC: Steve Goldbeck, BCDC development	Status: Requires further
Why is this an issue? BCDC is the only regulatory resource agency that includes public access requirements in its permits. Other agencies may require minimization of public access to protect habitat value. These potentially conflicting mandates create uncertainty for project applicants in designing a permittable restoration project and can result in project design delays.	
Initiatives: In 2012 BCDC amended the Bay Plan Public Access policies.	
Update 2023: The BRRIT has been successfully working among the member agencies and with applicants to reduce potential impacts from public access through appropriate siting, design, and management of public access areas and improvements. Examples include siting trails in appropriate areas to minimize wildlife impacts, using appropriate signage, implementing seasonal trail closures near sensitive areas, using “screening” vegetation to limit noise and visual impacts, and measures to avoid or minimize addition of predator perches when new structures are proposed. Example projects for which these measures will be used (all of which are currently in application or pre-application phase as of 8/9/2023) include: Greenwood Gravel Beach, Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project, Palo Alto Horizontal Levee Pilot Project, and Pacheco Marsh Public Access Improvements Project.	
Further discussion needed? Coordination between PMC members needed to research current reports, science, and recreation trends and coordinate with the agency point of contact to discuss potential solutions in order to assist BCDC in their approach to amending the Bay Plan to update its public access policies regarding wildlife.	

POLICY ISSUE: Upland Alternatives to Fill for Habitat	
Date initiated:	Priority:
Agency and/or Legislative Fix? Agency	
POC: Keith Lichten, Water Board development	Status: Requires further

Why is this an issue?

Do we always have to fill the Bay to create habitat? What are the instances when we want to consider Bay-adjacent uplands as part of that equation, and how?

Both federal and state regulations require consideration of upland fill before consideration of bay fill.

Initiatives: Improve coordination with the Corps/EPA/Water Board on alternatives for 404(b)(1) analysis.

Further discussion needed?

POLICY ISSUE: Protecting Single Species in the Context of Larger, Holistic Restoration Goals	
Date initiated:	Priority:
Agency and/or Legislative Fix? Agency	
POC: Jana Affonso, USFWS	Status: Requires further development
Why is this an issue? Legal requirements for a single protected species can preclude actions that are deemed beneficial to the larger system by all other agencies. Examples: • Snowy Plover habitat needs can preclude tidal restoration in certain areas, and concerns over fish entrapment can prevent certain types and locations of habitat connectivity. • In an urban estuary, multi-objective projects intended to achieve a balance between a range of habitat improvements for individual special-status species and a wide range of general habitat enhancements over a broad area may require some trade-offs.	
Initiatives:	
Further discussion needed?	

POLICY ISSUE: Short-Term Impacts of Wetland Restoration Activities vs. Long-Term Benefits of the Overall Wetland Restoration	
Date initiated: 2023	Priority: 2023
Agency or Legislative Fix? Agency	
POC: EPA	Status: Requires further development
Why is this an issue? Agencies necessarily and appropriately require careful analysis and disclosure of construction impacts and even short-term habitat losses that must be weighed against the magnitude, timing, and certainty of long-term benefits. Arguably, however, it is inefficient to treat the short-term impacts from implementing a voluntary restoration project in the same way as a project that would not bring the same significant long-term benefits. This is particularly true for noise- and other short-term disturbance effects (less so for actual habitat changes like excavating a channel through the marsh to connect the slough with a pond interior).	
Initiatives: The USFWS and NMFS's guidance is to incorporate measures into project descriptions to avoid and minimize short-term impacts as much as possible while recognizing the value of long-term benefits and encouraging proven, demonstrated restoration methods that benefit listed species. Add EPA language	
Updates 2021 thru 2023: The USFWS and NMFS worked with applicants in pre-application meetings to front-load avoidance and minimization measures into project descriptions and subsequently incorporated the benefits of restoration into Section 7 consultation documents.	

Further discussion needed?

POLICY ISSUE: Improving Coordination with Non-Agency Entities	
Date initiated:	Priority:
POC: Keith L.	Status: Requires further development
Why is this an issue? Where utilities, flood control districts, railroads, and other entities with easements are present, they can increase the complexity of project design, and coordination with them may result in delays to project authorization and construction. There is an opportunity to improve the timing and quality of communication to facilitate restoration project design and construction.	
Initiatives: BRRIT member agencies could develop procedures for more efficient and coordinated outreach to benefit permitting process. PMC representatives will work on outreach to PG&E to identify lead PG&E contacts and facilitate their participation in future restoration project designs, authorization, and implementation. This could be, for example, by identifying a role for them in the pre-application process for affected projects. For example, on the Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project, BRRIT members organized a meeting with PG&E and the applicant to successfully resolve a complicated issue related to proposed levee lowering, which would impact PG&E's ability to access its towers for maintenance.	
Further discussion needed?	

POLICY ISSUE: General Programmatic Efforts (E.g., Programmatic permits/guidance for applicants regarding piling removal).	
Date initiated:	Priority: 2023, continuous
Agency and/or Legislative Fix? Agency fix.	
POC: Jana Affonso, USFWS Partially accomplished	Status: Requires further development;
Why is this an issue? Programmatic approaches to permitting can enable a shorter permitting timeline for certain types of actions, but must be weighed against the time and effort to initially establish the programmatic approach	
Initiatives/Potential Initiatives: • Potential utilization/adoption of State of Washington's guidelines for pile removal • NMFS and USFWS Programmatic Biological Opinions for restoration projects • Potential RGP for living shoreline projects.	

Updates 2022: The USFWS' Programmatic Biological and Conference Opinion on the California Statewide Programmatic Restoration Effort (Restoration PBO) was completed. State Water Board State-Wide Restoration General Order (SRGO; August 2022)
Updates 2023: The USFWS appended the Palo Alto Horizontal Levee Pilot Project to the Restoration PBO. Identify projects that are on the BRRIT list and also part of larger statewide efforts Restoration PBO, SRGO, CDFW Cutting the Green Tape's Restoration Management Permit, etc). Evaluate how those state-wide initiatives interact with the BRRIT process in general. NMFS is planning to initiate a restoration programmatic for SF Bay in 2023.
Further discussion needed?

POLICY ISSUE: Elevation and Resolution of Issues	
Date initiated: 2019	Status: Completed 2020
Agency and/or Legislative Fix? Agency	
POC: N/A	Status: ACCOMPLISHED
An agreed-upon process for resolving issues elevated to the PMC from the BRRIT. The elevation process considers each agency's law, policies, and authority with a decision-making process prior to elevating issues.	

TOPICS FOR FUTURE DISCUSSION
Outreach to tribal communities and environmental justice communities for BRRIT projects
Restoring Watershed to Bay Connection to Improve Sediment Supply to Baylands
Advanced Mitigation for Restoration Projects and Shoreline Planning