



SAN FRANCISCO BAY
RESTORATION AUTHORITY

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TO: Advisory Committee
San Francisco Bay Restoration Authority

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SUBJECT: Overview of Lessons Learned from Completed Authority Projects

Staff is providing this overview of lessons learned from completed Restoration Authority (Authority) Projects to help better understand the barriers that grantees face while completing projects. Grantees provide “Lessons Learned” reports upon completion of Authority Projects. The present memo provides an overview of major lessons learned from the twenty-five completed Authority project phases (grant agreements). Following the overview, staff has highlighted a selection of lessons learned by project phase (e.g. planning, implementation, land acquisition) that may be of interest to the Advisory Committee (AC) for discussion.

I. Overview of Lessons Learned

A. Project Management and Budget

- Lack of staff capacity can present major issues. Grantees should ensure that they have enough staff to keep up with grant management tasks and allocate enough funding in the project budget for staff time. This may include report writing, tracking expenses, and collecting deliverables as a project task in the budget.
- Budgeting sufficient staff and contractor hours for the first few years of plant establishment is essential for meeting habitat goals.
- Building in contingency time and funding can help mitigate unforeseen problems.
- Anticipating potential delays and establishing clear internal deadlines for decision-making and project milestones helps the project advance as seamlessly as possible.
- Grantees should ensure time in the project schedule for Authority staff or other relevant parties to review draft plans and other deliverables.

B. Restoration Strategies

- Sites with erosion issues require more input from experts to adapt to address changing conditions, limitations to public access, and considerations for sediment supply.

- Grantees have been able to save on design costs by taking advantage of California Environmental Quality Act (CEQA) exemptions and working with the Bay Restoration Regulatory Integration Team (BRRIT). Project leads should stay abreast of exemptions and cutting green tape initiatives to take into account for project design.
- Design phases should account for timing of planned treatment of invasive spartina so that levee breaches do not spread invasive species.
- Federal and state Endangered Species Act requirements, such as allowable work windows and avoidance and minimization measures, can cause delays and the need to change restoration phasing, and that should be accounted for in project sequencing.
- Habitat restoration objectives can often conflict with other considerations in an urban setting, such as public access, vegetation management, bird strikes near airports, and mosquito abatement. Project leads should communicate with permitting agencies throughout the planning process and be prepared to explain these trade-offs to the public.

C. Interactions and Engagement with Partners

- Engaging with partners early and often, including Technical Advisory Committees, helps projects move forward quickly and smoothly.
- Meaningful and effective partnerships and collaborations take time to develop. It is helpful to establish relationships well before requesting a formal partnership, such as listing partners on grant applications.
- Identifying project roles and responsibilities between partners and grantees early is very important to the success and timing of the project.
- Choosing experienced contractors and partners with local knowledge and previous experience is beneficial.
- Inviting participating and permitting agencies to the project site allows them to better understand the project.
- Engaging with regulatory agencies early in the design process can speed up the permitting process.
- It is best practice to maintain consistent communication with the public, granting agencies, and tribes.
- When trying to work with tribal partners, clearly defining the role of the tribe and providing adequate compensation may increase tribal members' ability to participate.

D. Interaction and Engagement with the Public

- Engaging with the public early and often is important to incorporating their feedback into the project and gaining their support.

- Meaningful community engagement may include paying community-based organizations and community members for their time and services; consider this when creating a budget.
- To keep communities excited about habitat restoration, especially for multi-year projects, ensure they can engage in interim activities and benefits, and understand the long-term benefits of the eventual project.
- Offering translators, childcare, and food at events can be an effective method of getting the community to participate in meetings.
- Habitat restoration and public access goals of a project may be difficult to balance; be prepared for this when engaging with the public.
- Employing youth for project work can be challenging. For workforce development, organizations should pay youth and young adults a livable wage to provide more financial stability. Youth and young adults from economically disadvantaged communities may not have the financial security to accept low-pay stipends and short-term jobs, when other jobs in retail or similar industries pay significantly more and are permanent.

E. Interaction and Engagement with Landowners

- Landowner support can be a large barrier to project completion if they are not fully on board with the project scope or land management implications. Legal agreements can present barriers to project success, even for small-scale restoration projects.
- Landowners can also provide valuable insights about the conditions of the land and be valuable partners for making the project successful.

F. Monitoring

- It is challenging to find monitoring-specific funding, so long term assessment is not often completed. When possible, build in some level of monitoring into the budget for an implementation project.
- Shoreline condition, sediment behavior, and marsh health have been useful monitoring indicators. Long-term sediment supply and tidal channel evolution could be useful indicators for future projects.
- Pre-project monitoring allows staff to address potential project issues.

G. Grant Program Process

- Technical assistance with the grant applications is helpful to applicants.
- It is beneficial to have staff provide “bay-wide” perspectives to make connections for grantees with similar projects or shared goals.
- The scope of Community Grants may be vague and shift over the life of the grant, and grantees should communicate obstacles with staff to best accommodate changes.

II. Project Specific Lessons Learned

This section details specific lessons learned for a selection of completed projects by phase. These lessons are from specific projects and may be applied to other grantees executing similar projects.

A. Implementation Projects

Restoring wetland-upland transition zone habitat in the North Bay with STRAW

This project restored approximately 1.3 linear miles of critical wetland-upland transition zone habitat in the North Bay and engaged over 5,000 STRAW (Students and Teachers Restoring a Watershed) participants at four sites over the course of five years.

- Grantee could have avoided invasive species issues if there was an intensive site evaluation for challenging site invasives before finalizing a list of project sites.
- Volunteers were more motivated by planting unique species or taking on interesting tasks; program design should take into consideration volunteer motivation.
- Grantee over-budgeted for planning and under budgeted for maintenance; this would have been changed in hindsight.

Encinal Dune Restoration and Public Access

This project removed invasive ice plant, restored dune habitat, removed a rusting barge and other debris, stabilized eroding shoreline, and established a beach nourishment program for the sandy beach at Encinal Beach. The project also improved water access and created new trail linkages to the Encinal Boat Ramp and Alameda Point Trail.

- Dune seeding was damaged by flocks of pigeons, visitors, and dogs entering the site during and after construction. Grantee installed restoration in progress signs surrounding rope fence to help curb access during the establishment period to avoid further damage.
- Planting plugs in the dune area would have been more beneficial. Seeding was selected for cost savings, but due to environmental conditions, plugs would have been more effective.

Coyote Hills Restoration and Public Access Project

This project increased the area and habitat quality of wet meadow, seasonal wetland, willow thicket and mixed riparian forest, and established oak savannah grasslands habitat, riparian forest, and seasonal wetlands. The project also installed over 4 miles of trails, wildlife overlooks, parking, restrooms, picnic areas, interpretive exhibits, and an outdoor classroom for environmental education and naturalist programs as well as volunteer opportunities.

- The project would have benefited from building contingency into the schedule for reseeding or replanting due to climate variability or unexpected drought.
- Using contractors familiar with park district procedures and habitat goals reduces onboarding time and increases overall project efficiency.
- Early monitoring allowed staff to quickly address plant mortality and irrigation issues.
- Developing a detailed mobilization and traffic control plan during design to avoid field delays, and maintaining consistent communication with contractor is important.

Montezuma Tidal and Seasonal Wetlands Restoration Project – Phase 1 Tidal Wetlands Area

This project involved initial placement of dredged materials to raise the site elevation followed by additional construction activities and then breach of the existing dikes to enable tidal action on the site.

- It is important to design and permit for a range of elevations, especially involving the beneficial reuse of dredge sediment. Project monitoring confirmed that a range of elevations, specifically elevation heterogeneity over smaller scales resulted in a more natural diversity of habitat formation that better mimics the complexity of natural tidal systems.
- Marsh designs should plan for a range of sea level rise projections, especially for elevations above Mean Higher High Water to function as transition zone habitats and that may become high marsh in the future.
- Coarser grained sediments that settle nearer to the pipe outlet better mimic natural systems where coarser grained deposits are found around the perimeter of natural tidal system with more porosity and somewhat higher elevations.
- Minimize disturbances to existing vegetation wherever possible, including elevated patch areas where elevation diversity exists.
- Temporary berms are effective in containing placed sediments and do not need to be constructed to flood levee standards.
- Local tide gauge data has proven useful in large restoration projects to establish site design grades and to better understand seasonal water level dynamics.
- Dredged sediments have demonstrated benefits for the reestablishment of tidal marsh elevations for successfully promoting and supporting native vegetation and habitats.

B. Planning Projects

Colma Creek Restoration & Adaptation Project

This project prepared technical studies, undertook community engagement, performed design and engineering work, and developed a permitting and CEQA compliance

strategy. The restoration and sea level rise adaptation actions are expected to expand marsh habitat, increase flood protection, and provide public access at the mouth of Colma Creek in South San Francisco

- Grantee uncovered constraints including the underground Jet fuel line and land contamination during design stages. This caused a delay in gathering relevant data for the engaged authorities to review, navigate regulatory processes, and adapt their 35% Design Documentation drawing set. Project leads should be knowledgeable of the utilities on their project sites and their implications to prevent future delays but must be willing to adapt to unforeseen circumstances.
- Grantee initially had tribal interest, but tribe did not go through with the involvement. This may have been mitigated by better defining the Tribe's role and compensation for project involvement.
- Steering group meetings played a vital role in uncovering related projects and data and allowed for a better design approach and mitigation of risks.

North Richmond Living Levee and Collaborative Shoreline Plan

This project conducted technical studies and data collection; developed conceptual designs and associated cost estimates; and engaged the public, key stakeholders, and the regulatory community as the initial phase in determining feasibility and alignment options for a living levee.

- Identify one agency with jurisdiction across the scope of the project area to lead working with stakeholders and obtaining agreements from property owners defining entity roles and contributions. With large-scale, multi-phase SLR adaptation projects, grantees would benefit from stable funding sources, rather than only relying on cycles of grant funding, to move projects along.
- Grantee successfully implemented a community-led design process by subcontracting to a community-based organization with a strong presence and existing relationships in Richmond. Identifying community priorities and incorporating them into 30% designs allowed them to gain community support and proved to be a worthwhile venture.
- It was helpful to show residents and potential future project partners the big picture context and vision for Sea Level Rise adaptation in the area in addition to direct community benefits.

C. Acquisition Projects

San Pablo Baylands Collaborative Protection and Restoration (CPR) Project: Phase 3: Camp 3 Ranch Acquisition

This project acquired the 1,480-acre Camp 3 Ranch property in Sonoma County for habitat restoration and protection and open space preservation, with the potential to allow limited public access and recreation that is compatible with those purposes.

- It is important to commit time (sometimes years) to negotiation to ensure the landowner is on the same page about the property's appraised value.
- The largest barrier to purchasing the property was ensuring legal road access. Securing title insurance required having a complete legal history of the property.
- Careful review of acquisition documents can ensure that agreements do not include unnecessary conditions or commitments for the Grantee once they take title.

III. Next Steps:

Authority staff will continue to collect Lessons Learned Reports as a deliverable required under every grant agreement and can continue to add new learnings to an overview document such as this on a regular basis. Staff may provide this overview document to grantees as needed, or update and post it online periodically for grantees and the public to access. Staff invites the AC to advise on other ways to use the summary findings from Lessons Learned Reports.