San Francisco Bay Conservation and Development Commission
375 Beale Street, Suite 510, San Francisco, California 94105 tel 415 352 3600
State of California | Gavin Newsom – Governor | info@bcdc.ca.gov | www.bcdc.ca.gov

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TO: Design Review Board Members

FROM: Lawrence J. Goldzband, Executive Director (415/352-3653; larry.goldzband@bcdc.ca.gov)
Ashley Tomerlin, Senior Bay Design Analyst (415/352-3657; ashley.tomerlin@bcdc.ca.gov)

SUBJECT: **Shoreline Plants Guide Update, Project Briefing**
(For Design Review Board consideration on September 14, 2026)

Project Summary

Shoreline Plants, a Landscape Guide for the San Francisco Bay Area (Shoreline Plants) was published in 2007 as part of a suite of design guidelines to support public access to and along the San Francisco Bay shoreline. The BCDC design guidelines serve as companion documents to the McAteer-Petris Act and the San Francisco Bay Plan (Bay Plan), as well as other policy documents that inform the regulatory program within BCDC's Coastal Management Program.

Planting and landscape design play a critical role in protecting the shoreline, encouraging habitat for wildlife, and enhancing the shoreline public access experience for everyone. The current Shoreline Planting document provides planting design guidance to permit applicants, consultants, and the public, a wide-ranging user group with varying degrees of expertise. Updating the document allows for the opportunity to widely communicate information on best practices for multi-benefit landscapes in support of a healthier and more resilient San Francisco Bay to the spectrum of practitioners.

Funding for this project is provided through a National Oceanic and Atmospheric Administration (NOAA) Grant for Projects of Special Merit and BCDC's general fund. San Francisco Estuary Institute (SFEI) is the consultant.

Project Schedule:

- Public Engagement: September 2026 – June 2027
- Project Research: August 2026 – December 2026
- Administrative Draft: December 2026
- Public Draft for Comment: March 2027
- Final Document: June 2027 (NOAA grant award term ends)

Staff will provide regular updates to the Board on the progress of the document and will seek review and feedback as desired by Board members.

Plan Overview

The 2007 document was structured around the following three objectives, and the updated version will build upon these concepts.

Improve Habitat. Building biodiversity, supporting habitats, and restoring ecological services through planting design. Planting design can be a means to protecting, restoring, and enhancing habitats throughout the Bay. Beyond the immediate application of vegetation as habitat, planting design is also used to provide buffers and transitions between sensitive areas and adjacent uses where there may be a conflict between wildlife and public access or other site uses. There are many considerations that go into plant selection for buffering and in addition to listing suitable plant species, the guidance would include a discussion on the characteristics of certain types of plants and their applications in design.

Improve Public Access Experience. The Shoreline Plants guidance was initially created as part of a suite of design guidelines that support public access to and along the San Francisco Bay shoreline. The guidance recognized that plants can be used to celebrate what makes the San Francisco Bay area special and identifiable, that public access takes many forms and integration of a local plant palette appropriate to the use will reinforce the sense of place. Many native plants that characterize shoreline landscapes, such as pickleweed marshes or live oak groves, are familiar to residents of the region; using native vegetation strengthens personal connections with the regional landscape and provides the co-benefit of building habitat for the other species that call the Bay home. There are also many non-native species that have been used historically along the more developed shoreline areas that contribute cultural value and lend to the recognition of the Bay and its shore. Plants can also be used as a design element that enhances interaction with and enjoyment of the shoreline landscape through thoughtful and subtle wayfinding methods.

Stabilize Shoreline. When Shoreline Plants was written in 2007, erosion control was the impetus for shoreline stabilization. Since then, best available science has better identified the breadth of site issues resulting from sea level rise and climate change. Sea level rise is impacting the design conditions of shoreline sites as well as driving innovative approaches to shoreline protection. The update to the Shoreline Planting guidance would include discussion on the changing characteristics of shoreline sites as well as applications and implementation approaches of nature-based solutions using vegetation for building shoreline protection and stabilizing the shoreline to address coastal hazards as well as discussion for the impact an adapted shoreline has on plant selection. Many projects are small and may not necessitate engineering consultation but could benefit from the basic principles of using vegetation to stabilize or protect a shoreline. This guidance would not be a replacement for professional consultation but could inform vegetation selection in the application of smaller solutions.

Initial staff review and discussions identified expertise and topics not addressed in the 2007 document. In addition to the above three objectives, staff intend to engage with Tribal representatives to instill Traditional Ecological Knowledge (TEK) throughout the document. The document will also include discussion on:

- Maintenance of landscapes as it relates to design development, adaptive management, stewardship, succession planning, and commitment to operations.
- Contaminated sites and applications of phytoremediation were identified as a knowledge gap.
- Regulatory limitations and alternatives for planting levees and engineered structures.

Public Engagement Strategy

The development of Shoreline Plants in 2007 was led by staff and a consulting landscape architect; the document was peer-reviewed by a group of biologists, botanists, landscape architects, a wetland restoration expert, and a member of the California Native Plant Society.

However, since then, the Commission has adopted new Bay Plan policies for Environmental Justice and Social Equity (2019), that include seven guiding principles to integrate equity within the Commission's work:

- Recognize and acknowledge the California Native American communities who first inhabited the Bay Area and their cultural connection to the natural resources of the region.
- Maintain its commitment to ensuring that the Bay remains a public resource, free and safe for all to access and use regardless of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, genetic information, or disability.
- Continually strive to build trust and partnerships with underrepresented communities and community-based organizations.
- Endeavor to eliminate disproportionate adverse economic, environmental, and social project impacts caused by Commission actions and activities, particularly in disadvantaged and vulnerable communities.
- Ensure that the needs of vulnerable shoreline communities are addressed as the Commission assists all stakeholders plan for current and future climate hazards.
- Work collaboratively and coordinate with all stakeholders to address issues of environmental justice and social equity.
- Continually build accountability, transparency, and accessibility into its programs and processes.

Additionally, the California Natural Resources Agency's Tribal Consultation Policy and the Commission's Tribal Consultation Addendum highlight the three core principles of early, often, and meaningful engagement to encourage effective government-to-government consultation between BCDC and Tribes regarding the development of policies, programs, projects, plans, property decisions and activities that may affect Tribal communities.

To align with current Bay Plan policies and CNRA legislation, technical staff, the project consultant and the Commission's Environmental Justice Advisors are jointly developing an appropriate public engagement strategy for the project. Staff are also working with the Commission's Tribal Liaison, and 51 tribal consultation letters were mailed in August 2026 to tribes within the San Francisco Bay Area.

Proposed Research Framework

Research Goals

1. Develop Bayland plant species profiles based on historical ecology, to inform updates to plant lists and palettes, including species to avoid. Similar to the current guide, the updated Shoreline Plants will include information about whether plants are native (to the region or California), their associated plant communities, and common applications; and
2. Regional planting guidance, to ensure the updated Shoreline Plants reflects the best practices in designing for public access, shoreline adaptation, and habitat improvement.

Staff anticipate additional or expanding research topics to be identified through public engagement activities beginning in September 2026 and incorporated into the research framework as appropriate.

Research Overview

The four overarching research areas are (1) historical ecology, (2) landscape typologies and site conditions, (3) plant selection, and (4) maintenance, stewardship, and monitoring. A number of themes like habitat and wildlife value, climate adaptation and resilience, site safety, and TEK intersect and inform design across most, if not all site typologies. Under each research area, research topics are identified to indicate the content that will need to be developed or reviewed. These topics respond to the research goals above.

Research Area 1: Historical Ecology (related to "Bay History and Plant Communities" Section of the 2007 Guide).

This will be an inventory of Bay-specific habitat type and plant species profiles that will inform Research Area 3.

Research Area 2: Landscape Typologies and Site Conditions (related to "Typical Bay Shoreline Landscapes Today" Section of the 2007 Guide)

Common shoreline landscape typologies and associated planting strategies

- Natural Areas: wildlife buffer planting; deterrent or exclusion strategies
- Parklands: wildlife buffer planting; deterrent or exclusion strategies, view corridors
- Semi-Urban Areas: streetscapes, stormwater, view corridors, pocket marshes, and residential best practices
- Urban Areas: streetscapes, stormwater, view corridors
- Industrial Areas: contaminated sites, stormwater, deterrent or exclusion strategies

Intersecting themes

- Habitat and wildlife
- Climate adaptation and suitability
- Recreation design considerations
- TEK / Indigenous knowledge
- Security planting and sight lines for safety
- Waterwise, including brief discussion on artificial turf and the associated microplastic pollution

Research Area 3: Plant Selection & Sourcing (related to "Plant List" and "Plant Palettes" Sections of the 2007 Guide)

Plant list with the following proposed characteristics listed per species.

- Native status, common plant communities, and known locations (relates to Research Area 1),
- Plant type and form
- Biodiversity/wildlife support (e.g. butterflies, birds, other pollinators)
- TEK / Indigenous knowledge integration,
- Site conditions suitability/ climate responsiveness (salinity, soil, sun exposure, water needs, disturbance tolerance, disease susceptibility, toxicity, wind exposure, salt spray, stormwater/seasonal flooding, heat).
- Logistics: maintenance and management, and market availability

Specialized plant palettes

- Levees and engineered structures (with shallow or limited soil profile or low organic matter)
- Sites raised with imported, often engineered, soils
- Phytoremediation and remediation-related planting
- Do not plant list / Invasive plant species

Research Area 4: Maintenance, Stewardship, & Monitoring (related "Additional Information and Resources" Section of the 2007 Guide)

- Maintenance considerations to inform initial design decisions as well as post-installation site care, including expectations for plant life and replacement.
- Phased implementation, monitoring, and adaptive management
- Tribal co-management strategies
- Available resources including a list of plant nurseries, discussion on local sourcing and propagation (to preserve local genetic diversity), and discussion on seed versus containers

Board Questions

1. Are there any topic areas that are missing in the research framework that should be included? Or is there anything that is included that can be deprioritized?
2. Conceptual planting design and palettes are typically proposed for Board comment, but strategies for planting maintenance are often left for future review by staff. What design guidance or best practices could be included in the new version to ensure that robust maintenance plans are developed as part of a project.
3. Does the Board have suggestions for reference materials to be included in the research or other planting guidance documents that would be a good model for this update?