Mill Bend Preserve Conservation Plan Abstract

Redwood Coast Land Conservancy

Gualala, California
August 2022

Introduction

The newly protected Mill Bend Preserve is 113 acres that span the Gualala River and its estuary and extend into the hillside redwood forest at the gateway to the village of Gualala and Mendocino and Sonoma counties. The Preserve offers enormous opportunities for natural and cultural resource restoration and preservation and appropriate public access to a unique place on the California coast.

Several elements of the Redwood Coast Land Conservancy (RCLC) vision for a healthy, resilient, accessible Mill Bend Preserve are already in place. RCLC formally acquired the property in early 2021, with funding predominantly from the State Coastal Conservancy, California Natural Resources Agency, and the US Fish and Wildlife Service, and acquisition support from the Allemall Foundation, Mendocino Land Trust, Sonoma Land Trust, Sonoma County Regional Parks, Friends of Gualala River, Gualala Arts Center, and many other donors and stakeholders. The Preserve is now protected in perpetuity and available to support the ecological functions of and human connections to this landscape.

Funded by a grant from the State Coastal Conservancy, RCLC and environmental science and design consultant Prunuske Chatham, Incorporated have developed a conservation plan that describes immediate and on-going ecological needs and the framework for long-term management of the Preserve. The work that lies ahead includes restoring highly degraded portions of the land and estuary; developing thoughtful public access that expands opportunities while protecting and enhancing sensitive areas; managing the interacting everyday needs of plants, wildlife, and human visitors; and supporting the site's resilience to changing environmental conditions.

Overview

Habitats of redwood, bishop pine, and alder forests, willow thickets, coastal scrub, emergent wetlands, and the Gualala River estuary are recovering from historic industrial and timber harvest disturbance. Even while burdened with extensive invasive plant populations and residual soil damage, existing habitats support diverse

native plant and animal life, some of particular rarity. The Mill Bend Preserve Conservation Plan describes specific measures to restore habitat health, support native species, and adapt to climate change.

Public access improvements include approximately 2 miles of new trails, boardwalks through wetland and riparian areas, restrooms, and picnic areas. The existing California Coastal Trail can be extended from the Gualala Bluff Trail to the estuary via the upland Preserve to boost visitor experience and safety. More detailed designs have been prepared for improving recreational access to the estuary, including a durable access road and parking, a boardwalk into the willow forest, and off-channel backwater habitat. Interpretive signs are planned to inform visitors and support community engagement activities, such as guided walks.

In addition to undertaking restoration and public access improvements, ongoing stewardship of the Preserve will entail protecting sensitive species during disturbance, preventing the spread of pathogens and invasive species, facilitating climate change resilience, and managing wildfire hazards to protect community safety and surrounding properties.

Implementing these efforts will require extensive regulatory compliance and fundraising. Multiple agencies have jurisdiction over aspects of this sensitive environment, particularly with respect to aquatic and riparian resources, the coastal setting, and special-status species. The restoration and stewardship of these sensitive Preserve resources will be advanced as agency or foundation grants for coastal access development, fisheries restoration, and wetland protection become available.

As RCLC implements the Conservation Plan, new information, changing conditions, and emerging opportunities and constraints will certainly arise, and lessons learned will accumulate. The Conservation Plan will be reviewed every five years and updated as needed for adaptive management of the Preserve.

Conservation Goals

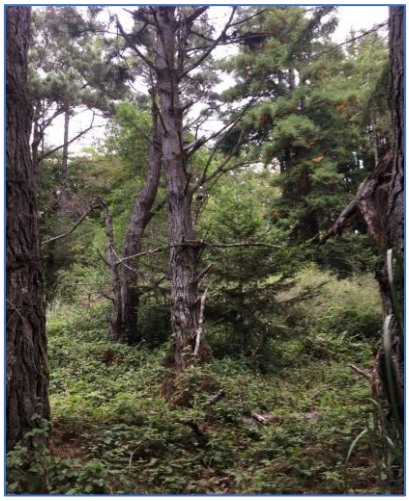
- Enhance habitat conditions in the estuary to support more robust salmonid populations.
- Restore native habitat to the upland mill site and other disturbed portions of the property.
- Protect and restore the site's biodiversity and ecological functions.
- Provide opportunities for visitors to learn from and appreciate the Preserve, in ways that are compatible with resource protection.

Key Habitat Management Considerations

Redwood Forest

- Control invasive species in forest openings and near rare plant populations.
- Protect wetland swales from ground disturbance.
- Protect wildlife values by limiting fragmentation and human presence.
- Protect rare plant species from disturbance such as informal trail uses, and aid population expansion.
- Manage refuse dumping and informal trail creation.

Bishop Pine Forest

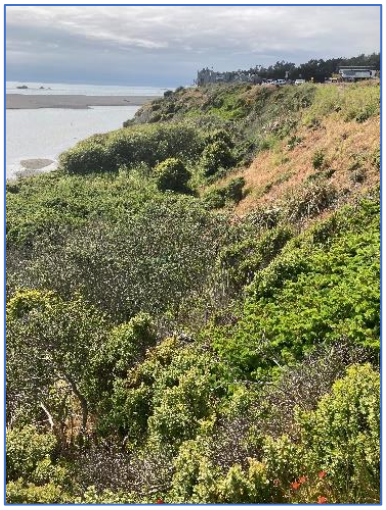


- Monitor for pest and disease problems, which are extensive in the region though not yet evident on the site, as well as signs of natural stand decline due to age.
- Encourage natural regeneration for this fire-dependent native species.
- Restore bishop pine forest to highly disturbed upland mill areas or other locations where natural regeneration has been limited over time.
- Manage fire hazards to structures and public safety relating to the forest.
- Protect wildlife resources, including bird nesting, during any vegetation management.

Alder Forest

- Manage invasive species in understory to improve limited native understory diversity in the Mill Bend area.
- Protect rich wildlife resources including movement opportunities to and from the river, structural habitat diversity, bird foraging and nesting resources.
- Improve resilience to long-term changes related to climate change and sea level rise.

Coyote Brush Scrub



- Manage invasive species.
- Facilitate native plant species diversity, including rare plant species.
- Protect wildlife, including nesting birds, during invasive plant removal.

Non-native Scrub

- Manage invasive species and restore appropriate native habitat types.
- Prevent the spread of invasive species from disturbed sites into more intact habitat.
- Protect wildlife, including nesting birds, during invasive plant removal.

Willow Thickets and Gravel Bars

- Manage invasive species.
- Protect wildlife species, including nesting birds and woodrats, during invasive species removal or other ground or vegetation disturbance.

- Manage vehicle access and parking.

Emergent Marsh

- Control informal public access through these areas
- Monitor shifts related to sea level rise and changing water conditions.
- Explore opportunities to expand this habitat type in conjunction with salmonid habitat restoration.

Submerged Aquatic Vegetation Beds

- Investigate shifts in location and species composition relating to climate change and sea level rise.
- Prevent disturbance to river substrate that might threaten submerged aquatic vegetation persistence (e.g., from unauthorized recreational activity, estuary enhancement efforts).

Grassland management

- Restore portions of the old mill site to native grassland and other native vegetation types.
- Prevent the spread of invasives including capeweed and hairy oat grass into more intact habitat.
- Protect special-status Pacific false bindweed stands.

Conservation Elements

Like the upland portions of the Preserve, the Gualala River estuary has been altered by the last 160 years of resource-extracting land uses both on site and in the watershed. The bar-built estuary is a dynamic, ecologically rich environment where fresh and marine waters mix to create unique, abundantly productive, high-priority habitat for federally listed steelhead and coho salmon and an array of habitats for birds, mammals, amphibians, reptiles, fish, and other aquatic species. The estuary and its critical ecological resources form a focal point of the Preserve.

Steelhead continue to persist in the watershed, but the population is well below historic levels, and may still be declining. Very few coho have been observed in the watershed in recent decades; a remnant population continues to persist in the North Fork Gualala River. Recovery of the coho population to sustainable numbers is a long-term goal for State and Federal agencies, as well as many in the local community. Limiting conditions for salmonids within the estuary include a lack of large wood for shelter, reduced wetland acreage, minimal access to the existing floodplain wetlands, and simplification of

channel features (e.g. insufficient and shallow pools and broad, flat gravel bars). To date, an initial evaluation of enhancement opportunities on the Mill Bend Preserve has been conducted, identifying the types and potential locations for salmonid habitat enhancement projects. It serves as the starting point for development of a more detailed and complete enhancement plan and site-specific designs.

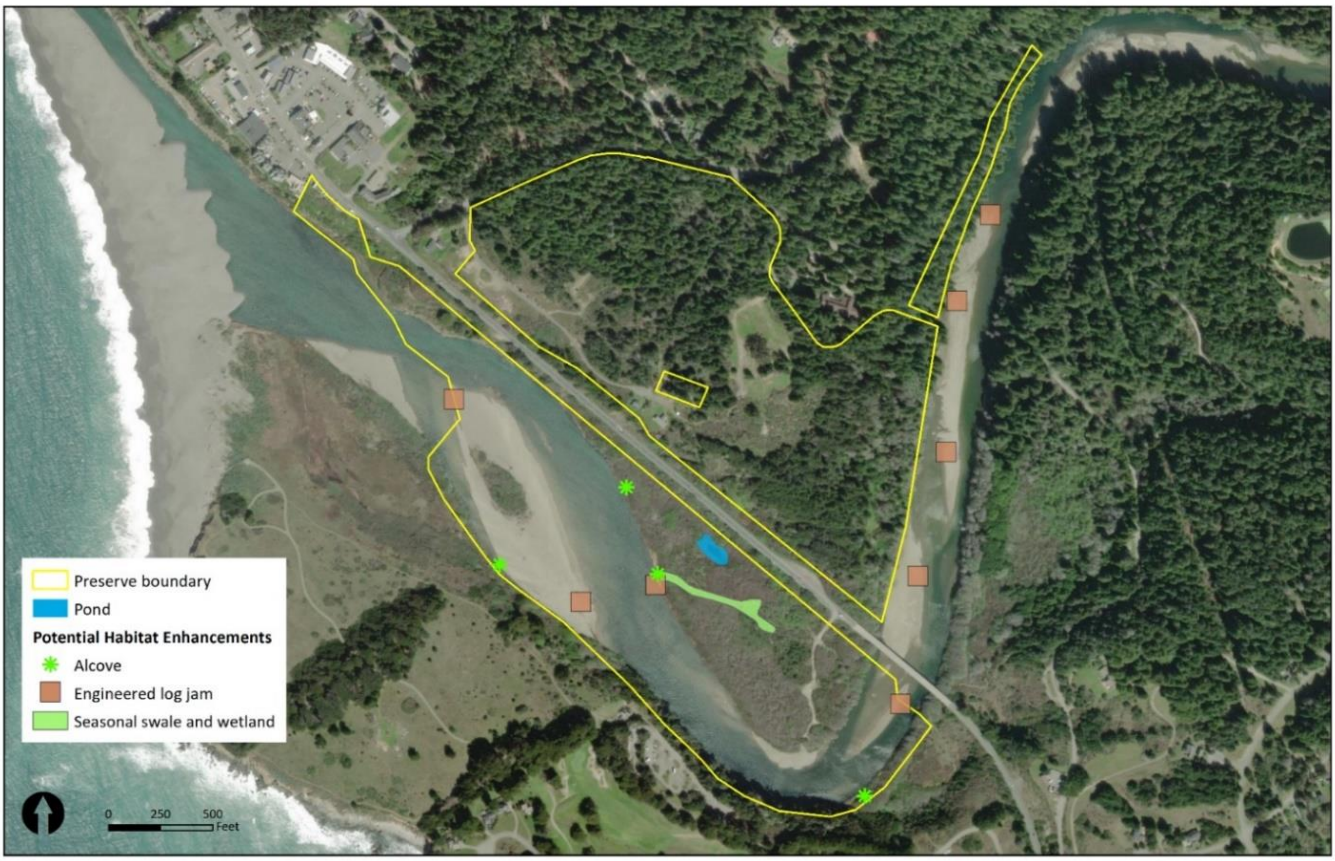
The increased habitat diversity created by features targeted to salmonids will also benefit other aquatic species that utilize the Preserve, including California red-legged frog, foothill yellow-legged frog and western pond turtle. These special status wildlife will benefit from projects that provide refuge from high flows and high velocities, create sheltered deep-water zones, provide complex habitat for predator avoidance, and improve foraging areas.

Estuary Enhancement Features

- Creating and maintaining diverse and accessible refuge elements, such as wood structures, alcoves, pools, and wetlands along the channel and gravel bar edges.
- Re-establishing larger features (engineered log jams) that work with the geomorphic processes (hydrology, tides, sediment transport dynamics, large woody debris delivery) to recreate complex channel and wetland habitats.

Potential Estuary Habitat Enhancement Projects

- In the upper estuary, above the Highway 1 bridge, reconfigure channel cross section geometry using large engineered log jams to improve sediment storage (increase gravel bar height and stability), promote vegetation establishment, trap wood, and build pools with complex cover elements.
- Install engineered log jams around the large mid-channel bar in the south-west edge of the Preserve to promote channel scour, fine sediment deposition, and vegetation establishment on the bar top. At this lower estuary bar the hydraulic structure would be placed at both the upstream and downstream ends of the bar to work with tidal and river currents.
- Increase the areal extents of emergent habitat activated during winter high flows and lagoon backwater conditions to increase shallow edge habitat by removing legacy sediment from floodplains. Projects could include removing sections of berms, creating a secondary channel through Mill Bend flat, or excavating alcoves and/or wetland benches in the Mill Bend flat.
- Improve instream and emergent habitats with large wood to provide cover for rearing salmonids. This includes the China Gulch tributary channel and small emergent marsh floodplain at its mouth.
- Establish native riparian vegetation on new emergent gravel bars and wetlands to provide food supply, velocity refugia, and shading to reduce solar warming.



Overview of Potential Habitat Enhancements. See Appendix F of the complete Mill Bend Preserve Conservation Plan for detail.

Other Enhancement Considerations

Any proposed project would avoid impacting existing perennial submerged aquatic vegetation beds, mature riparian trees, or high functioning emergent marsh. Partnership and coordination with Sonoma County Regional Parks will be required for nearly all habitat enhancement work within the estuary given the property ownership lines, implementation access approaches, and overlapping public use and safety concerns.

Planning for Preserve features that affect drainages, wetlands, riparian habitat, or water resources on the site will include careful planning to avoid impacts to special-status species. New public access features have been designed to avoid impacts and construction will include measures to protect habitat.

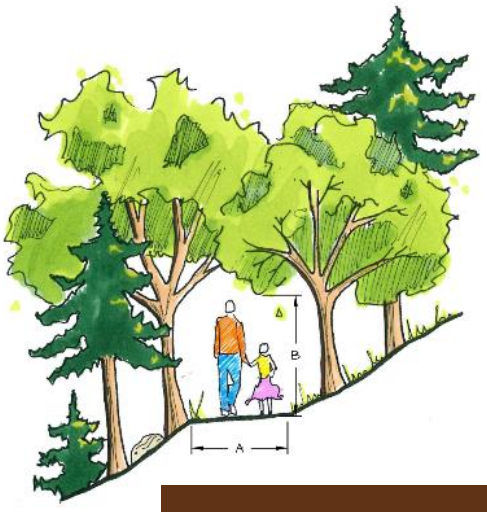
Projects that could alter water flow, armor stream/riverbanks, or remove/shade riparian vegetation will be designed to avoid or minimize potential impacts to habitat health and to comply with applicable regulations.

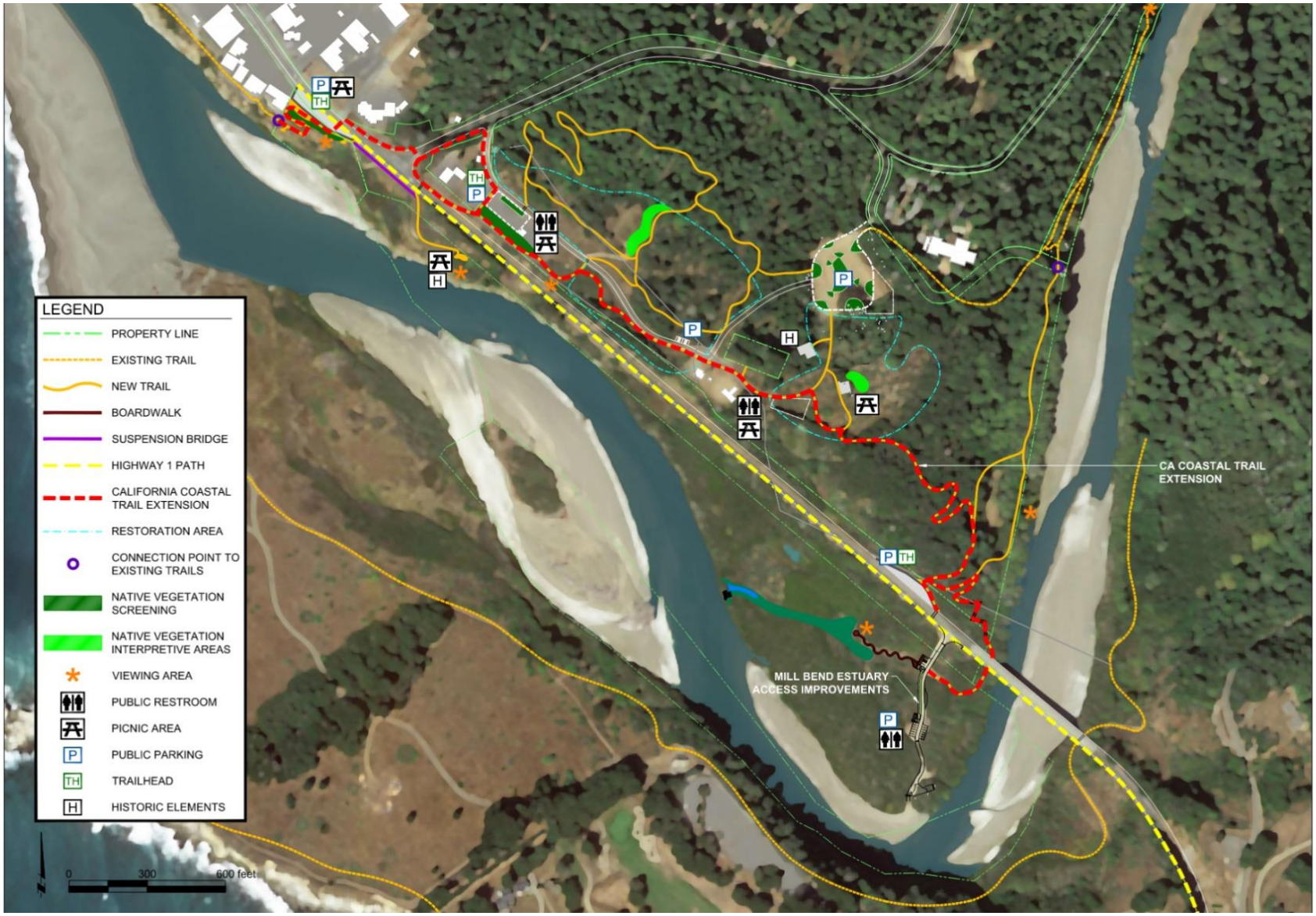
Redwood and bishop pine forest occur throughout the Preserve uplands. These vegetation types are in recovery from clearcutting and other intensive historic disturbance, are considered sensitive and support significant biodiversity and other ecological values. Public access amenities planned in these areas are designed to be low impact and integrate forest restoration actions.

Recreational Access Elements

Public access is planned to avoid areas of wetland habitat, however short lengths of trail are proposed through willow and alder riparian habitats, and other areas that experience seasonal flooding. These trail segments will be limited to extents where no other option exists for a safe, accessible pedestrian connection. Impacts to hydrology, soils, and wildlife of these segments will be minimized by boardwalks. A seasonal trail crossing under Highway 1 at the Gualala River bridge will follow the existing informal footpath and will use native surface for trail tread.

Existing informal trails to the estuary through wetland areas and on steep slopes will be decommissioned. Having a clear, well-defined, accessible trail system will help deter future trespass trails. Educational information will also help alert visitors to the importance of staying on trails for visitor safety and to protect sensitive habitats.





Overview of Planned Public Access Elements. Proposed initial elements are the California Coastal Trail extension (red dotted line) and Mill Bend estuary access improvements. See Exhibits 1 and 2 of the complete Mill Bend Preserve Conservation Plan for detail.