



Arroyo Burro Beach Interpretive Signs

Recipient: Santa Barbara County Community Services Department Parks Division

Project Period: 9/1/2022 – 1/26/2024

Award Amount: \$49,900

Project Number: #8006.22.074255

Summary of Accomplishments

The County of Santa Barbara Community Services Department's (County) goal is to connect people to opportunities; as such, our mission statement is to 'provide community, cultural and recreational resources that sustain and enhance quality of life for all who live, work and play in Santa Barbara County.' Arroyo Burro Beach Park is located on the coast of Santa Barbara, California and sees almost 1.25 million visitors per year. Installation of nine (9) colorful and moderately-sized interpretive panels along a well-traveled boardwalk that runs along a coastal creek and estuary helps accomplish the goal of connecting and educating people to our imperative local coastal flora, fauna, watershed and coastal processes.

The Arroyo Burro Creek and estuary are habitat for the endangered Southern California Steelhead Trout and the endangered Tidewater Goby, and supports numerous riparian plant and wildlife species. At any time, on any given day, multiple species of birds can be seen from the boardwalk. The newly installed interpretive signs are located at three separate lookout areas along the boardwalk and hence are able to embrace three themes overlooking the Arroyo Burro Estuary:

- Local Watershed – Lookout Area 1: This theme focuses on the upper watershed leading to the estuary and includes information on the physical characteristics of the watershed, native plants and animal species, the benefit of natural watershed processes in improving water quality, and factors that impact watershed health. There are three (3) signs at this themed overlook area.
- Local Estuary – Lookout Area 2: This theme focuses on the estuary and includes education on local bird species that can be observed, facts about the endangered Tidewater Goby and Steelhead Trout, and the benefits and unique ecosystem characteristics of local estuaries. There are three (3) signs at this themed overlook area.
- Coastal Waters – Lookout Area 3: This theme focuses on the shoreline and ocean ecosystems and includes information on wildlife species and geological factors that can be seen on the beach, fish that are present in the surf zone, and other unique facts about the Santa Barbara Channel. There are three (3) signs at this themed overlook area.

The interpretive signs along the Arroyo Burro Beach boardwalk, creek and estuary provide interesting facts about the watershed, estuary, and ocean ecosystems, and describe wildlife species that visitors will be able to observe from the boardwalk, and provides a unique interpretive opportunity to educate and enhance the

recreational experience for the visitors to this popular beach.

Project Activities

The five (5) primary activities conducted for this project involved a contractor assisting with the content development, design, manufacturing, and installation of the interpretive signs.

Task 1 – Sign content scoping and development:

This task involved a kickoff meeting to comment on initial ideas for sign content. Stakeholder groups such as the South Coast Watershed Resource Center and University of California Santa Barbara professors were be engaged to gather input on specific interpretive sign content including unique species that are regularly seen in the watershed, estuary, or along the coast.

Task 2 – Initial drafting and sketching of signs:

This task involved generating initial sketches of signs including content. The County and project partners reviewed and commented on draft content ideas. Comments were incorporated before moving on to graphics design.

Task 3 – Draft and finalize sign designs and graphics:

The draft content ideas were developed with graphics design and included thematic coloring and borders, pictures and illustrations. The design involved two (2) proofing phases where drafts were produced and reviewed by the County and project partners for comment on the overall design, layout, content, and colors. Design comments were incorporated and signs finalized.

Task 4 – Manufacturing of sign panels and purchasing of hardware:

The County signed off on the final sign designs before manufacturing of panels began. Panels are approximately 18” square in size so as not to impede with the overall views or backgrounds of the signs surroundings. The signs are approximately 1” thick with a powder coated aluminum back frame and mounted onto the existing boardwalk railing with tamperproof screws.

Task 5 – Sign installation along the Arroyo Burro Estuary boardwalk:

Signs were installed along the boardwalk leading from the parking area to Arroyo Burro Beach. Signs are attached to the existing railing along the boardwalk using mounting brackets and tamperproof hardware. Signs relating to the watershed were placed furthest from the coast, signs relating to the estuary were placed in the middle, and signs relating to the ocean and coast were placed closest to the beach.

There were no discrepancies between the activities conducted for the project and the activities agreed upon in the project funding agreement. Landscaping maintenance was not needed during installation as the sign locations were free of vegetation overgrowth.

Project Outcomes

The County was able to install the anticipated maximum number of properly sized interpretive signs that include factual flora, fauna and coastal process information to achieve the project’s recreational benefits.

There were no discrepancies between the final project outcome, compared to what was anticipated to happen.

The interpretive signs were colorfully created and moderately sized in order to more actively draw the public’s

eye to the recreational and educational interpretive signs. This is anticipated to be an unexpected benefit of increasing the number of visitors that view the interpretive signs.

The Future

Prior to this project's inception, the County of Santa Barbara Community Services Department Park Division had recently finished renovations and improvements at Arroyo Burro Beach Park, including a 2,100-foot boardwalk that was completed in 2017. The boardwalk connects the parking areas to the beach, and runs along Arroyo Burro Creek Estuary. The boardwalk was built with three (3) overlook locations with the intent of installing interpretive panels for the public's recreational and education benefit. This project served as the final phase of this effort.

Lessons Learned

While there were no challenges encountered on this project, the most important take away was engaging with local and state level environmental and educational entities for input and review of the flora, fauna and coastal process information to include on the interpretive panels.

Project Photos



Lookout Area 1 - Local Watershed Signs: Before, March 2017 (Left); After, aspect 1, June 2023 (Right). Lookout areas are numbered progressively (1,2, and 3) as visitors walk along the Arroyo Burro Beach Park boardwalk from the far parking lot to the ocean.



Lookout Area 1 - Local Watershed Signs: After, aspect 2, June 2023 (Left); After, aspect 3, June 2023 (Right)



Lookout Area 1 - Local Watershed Signs: After, public utilizing, June 2023



Lookout Area 2 - Local Estuary Signs: Before, March 2017 (Left); After, aspect 1, June 2023 (Right)



Lookout Area 2 - Local Estuary Signs: After, aspect 2, June 2023 (Left); After, aspect 3, June 2023 (Right)



Lookout Area 2 - Local Estuary Signs: After, aspect 4, June 2023



Lookout Area 3 - Coastal Waters Signs: Before, March 2017 (Left); After, aspect 1, June 2023 (Right)



Lookout Area 3 - Coastal Waters Signs: After, aspect 2, June 2023 (Left); After, aspect 3, June 2023 (Right)



Lookout Area 3 - Coastal Waters Signs: After, aspect 4, June 2023 (Left)

LOOKOUT AREA 1

OUR LOCAL WATERSHED

FRESHWATER MACROINVERTEBRATES

WHAT ARE MACROINVERTEBRATES?
Macroinvertebrates are small animals that are big enough to be seen with the naked eye. They have no backbone, but they do have a hard body. They can live in streams, rivers, and even in the soil.

IMPORTANCE
Macroinvertebrates have a significant role in the food chain by providing food for larger animals, recycling nutrients, and breaking down organic matter.

INDICATOR SPECIES
Pollution and urbanization can impact the diversity of macroinvertebrates found in the watershed. Scientists often use macroinvertebrate diversity to determine water quality, making them an indicator species. Some indicators of stream macroinvertebrates are dragonflies, damselfly nymphs, and stoneflies.






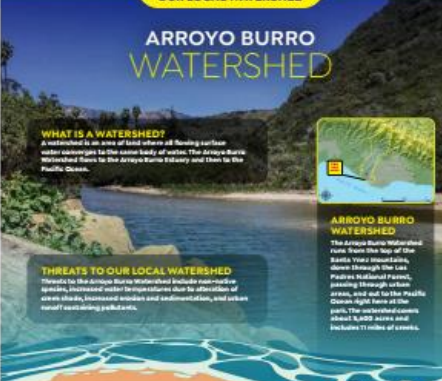
OUR LOCAL WATERSHED

ARROYO BURRO WATERSHED

WHAT IS A WATERSHED?
A watershed is an area of land where all the water that falls on it runs down to the same body of water. The Arroyo Burro Watershed flows to the Arroyo Burro Valley and then to the Pacific Ocean.

ARROYO BURRO WATERSHED
The Arroyo Burro Watershed runs from the top of the Santa Ynez Mountains, down through the Los Padres National Forest, past the Santa Ynez Valley, and all the way to the Pacific Ocean. It covers about 170,000 acres and includes 11 miles of creeks.

THREATS TO OUR LOCAL WATERSHED
Threats to the Arroyo Burro watershed include invasive species, increased water temperatures due to deforestation of watersheds, increased erosion and sedimentation, and urban runoff containing pollutants.

ARROYO BURRO BEACH COUNTY PARK

OUR LOCAL WATERSHED

SOUTHERN CALIFORNIA STEELHEAD TROUT

HABITAT
The steelhead trout is a fish that lives in the southern California coastal waters. It is a type of salmon that spends most of its adult life in the ocean but returns to rivers and streams to spawn. The steelhead trout is a very hardy fish that can live in a wide range of temperatures and water conditions.

ADAPTATIONS
Southern California steelhead trout have several adaptations that help them survive in their environment. They have a very strong sense of smell, which allows them to find their way back to their spawning grounds. They also have a very strong sense of sight, which allows them to find their prey.

THREATS
Threats to the southern California steelhead trout include habitat loss, overfishing, and climate change. Habitat loss is caused by the construction of dams and levees, which blocks their migration routes. Overfishing is caused by the use of gillnets, which catch a large number of fish, many of which are not the steelhead trout. Climate change is causing the ocean to warm, which is making it harder for steelhead trout to survive.

ABUNDANCE
In the 19th century, steelhead trout were very abundant in the coastal waters of southern California. However, their numbers have declined significantly since then. Today, they are considered an endangered species.




LOOKOUT AREA 2

OUR LOCAL ESTUARY

GREAT BLUE HERON

HABITAT
The Great Blue Heron lives in a variety of fresh water and marine coastal ecosystems such as the Arroyo Burro Estuary. They are found in marshes, swamps, and other wetland areas. They are also found in urban areas, where they often hunt for fish in ponds and lakes.

IMPRESSIVE SIZE
The Great Blue Heron can be up to four and a half feet tall with a 2-foot wingspan. Despite their impressive size, they only weigh up to 10 pounds because of their hollow bones.

LIGHTNING NECK SPEED
The Great Blue Heron is capable of striking its prey with great force in less than a second.




OUR LOCAL ESTUARY

ARROYO BURRO ESTUARY

WHAT DEFINES AN ESTUARY?
An estuary is an area where a freshwater river or stream meets the ocean. The salt water from the ocean mixes with the freshwater to create "brackish water."

THE IMPORTANCE OF ESTUARIES
Estuaries are important ecosystems because they are where many different species of plants and animals live. They are also where many different species of fish and shellfish live. Estuaries are also important because they help to filter out pollutants and sediments from rivers and streams before they get to the ocean, protecting the ocean for humans and marine life.

ARROYO BURRO ESTUARY
The Arroyo Burro Estuary is a coastal wetland that is home to many different species of plants and animals. It is also home to many different species of fish and shellfish. The Arroyo Burro Estuary is an important part of the Arroyo Burro Watershed.





ARROYO BURRO BEACH COUNTY PARK

OUR LOCAL ESTUARY

TIDEWATER GOBY

ENDANGERED SPECIES
The small goby lives in the coastal waters of southern California. It is a very hardy fish that can live in a wide range of temperatures and water conditions. However, its numbers have declined significantly since the 19th century, and it is now considered an endangered species.

THREATS
Threats to the Tidewater Goby include habitat loss, overfishing, and climate change. Habitat loss is caused by the construction of dams and levees, which blocks their migration routes. Overfishing is caused by the use of gillnets, which catch a large number of fish, many of which are not the Tidewater Goby. Climate change is causing the ocean to warm, which is making it harder for the Tidewater Goby to survive.

HABITAT
The Tidewater Goby lives in the coastal waters of southern California. It is a very hardy fish that can live in a wide range of temperatures and water conditions. It is often found in rocky areas, where it can hide from predators.




LOOKOUT AREA 3

OUR COASTAL WATERS


NEARSHORE COASTAL SPECIES

ROUND STINGRAY
Round stingrays are found in the coastal waters of southern California. They are a type of ray that has a flat body and a long tail. They are often found in shallow waters, where they feed on small fish and crustaceans.

CALIFORNIA SPINY LOBSTER
The California spiny lobster is a large crustacean that is found in the coastal waters of southern California. It has a long, spiny tail and a hard shell. It is often found in rocky areas, where it can hide from predators.

SOUTHERN CALIFORNIA SURFPERCH
Surfperch are one of the most common fish found in the surf zone. They are a type of fish that has a flat body and a long tail. They are often found in shallow waters, where they feed on small fish and crustaceans.





OUR COASTAL WATERS

SANTA BARBARA CHANNEL

UPWELLING
Upwelling is the process in which water from the bottom of the ocean moves up to the surface. This happens when the wind blows across the surface of the ocean, pushing the water away from the shore. This causes the water to rise, bringing up nutrients from the bottom of the ocean.

OUR UNIQUE OCEAN
The Santa Barbara Channel is a unique body of water that is home to many different species of plants and animals. It is also home to many different species of fish and shellfish. The Santa Barbara Channel is an important part of the Arroyo Burro Watershed.

TRANSITION ZONE
A cold northern California current and warm southern California countercurrent meet at the Santa Barbara Channel, creating a "transition zone." This mixing of cold and warm waters results in high species diversity.




ARROYO BURRO BEACH COUNTY PARK

OUR COASTAL WATERS

COASTAL GEOLOGY

TAR ON THE BEACH
When oil is spilled or escapes from a well, it floats to the top of the water. As it floats, it becomes thicker and stickier. When it reaches the beach, it can be very difficult to clean up. This is because the oil is so sticky that it can get into the sand and the rocks.

MONTEREY SEAL
The Monterey Seal is a type of seal that lives in the coastal waters of southern California. It is a very hardy animal that can live in a wide range of temperatures and water conditions. It is often found in rocky areas, where it can hide from predators.

COASTAL EROSION
Coastal erosion is the process in which the land is being worn away by the ocean. This happens when the waves crash against the shore, pushing the land away. Coastal erosion is a major problem in many areas of the world, and it is causing a lot of damage to the land and the buildings on the land.




ARROYO BURRO BEACH COUNTY PARK