

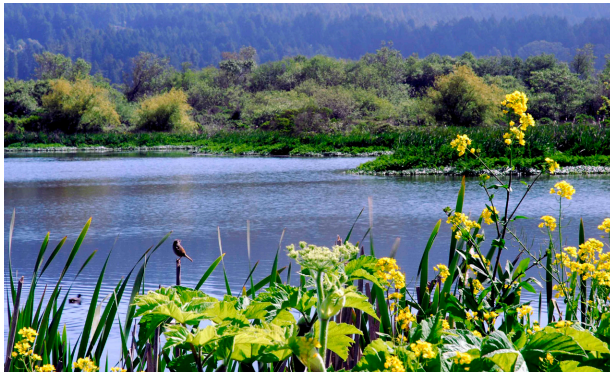
## 12 Skid

This huge concrete “bunker” was used as a skid for lumber mill operations. Logging trucks rumbled down this trail, which once was a paved road, and unloaded logs down the skid into the pond. Logs were then hauled by cables for processing at the lumber mill. Too massive to be broken up, this concrete structure was left as an historical reminder of the lumber mill days. To complete the loop, return to the Arcata Marsh Interpretive Center balcony for Stop #13.

## 13 Preservation

Nearly 90 percent of the original wetland areas bordering Humboldt Bay have been diked and drained or filled for transportation, agriculture, housing, and industry. The Lower 48 states have lost over half of their original wetlands, which were drained and converted to other uses.

The freshwater marsh and slough that you have just explored are examples of how degraded wetlands can be restored. After the great loss of so many wetlands, various types of manipulation and modification can help restore and save them. However, our first priority must be to preserve the remaining natural wetlands, so that future generations may enjoy them.



*Allen Marsh, one of the treatment marshes*

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## ARCATA MARSH & WILDLIFE SANCTUARY

# BUTCHER'S SLOUGH SELF-GUIDED TRAIL



**Arcata Marsh Interpretive Center**  
569 South G Street, Arcata, CA • 707-826-2359



*Log Pond and Butcher's Slough, bird's-eye view*

Welcome to the Butcher's Slough Self-Guided Trail. Come explore the sights and sounds of these marshlands. Give yourself about an hour for this easy, two-thirds-of-a-mile loop. After leaving the Arcata Marsh Interpretive Center, take the first trail on your left and follow the numbered sign posts. Let's go explore!

## 1 Butcher's Slough

Looking south past the amphitheater, you can view the Slough and the wastewater treatment plant beyond. Butcher's Slough is the tidally influenced portion of Jolly Giant Creek, which causes the slough to be brackish or salty.

Detritus (decomposed plant and animal matter) washes down from the surrounding land and makes estuaries rich in nutrients. This “detritus soup” feeds the billions of microscopic animals that form the base of the animal food chain in the marsh. This rich food supply attracts many birds to estuaries.

Can you spot a snowy or a great egret? These waders with their spear-like bills are excellent fishers. Both birds are mostly white. The snowy egret has a black bill, black legs, and yellow feet, while the larger great egret has a yellow bill, black legs, and black feet.

*Snowy egret*



*Great egret*



## 2 Lumber Mills

Peek up over the vegetation to discover that this sea of cattails is actually a freshwater marsh. Locally it's known as the Log Pond. Its name speaks to the pond's history. It was once a large pond full of floating logs waiting to be cut into lumber and plywood at the Durable Fir and Plywood Mills. The log pond and mills were expanded in 1950 then sold in the early 1960s to the Van Vleet Lumber Company. Poor lumber markets forced the mills to close by 1969.

The buildings deteriorated until 1976, when an extensive removal took place that included partially draining the log pond.

The Log Pond had filled with willow and alder by 1985, when restoration of its wetland habitat began. As you continue on this trail, you will find other remnants of the mills' history.



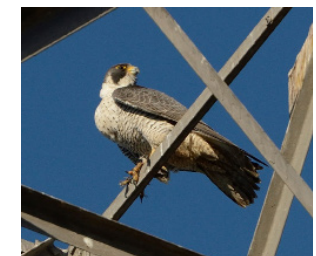
*Log Pond, circa 1960*

## 3 Views

Standing at this spot, look for a peregrine falcon or other raptor perched on the tower above Allen Marsh. From that high vantage point, shorebirds, waterfowl, songbirds, and rodents are all readily visible to sharp-eyed predators that can plan and launch their attacks before the prey is aware of danger.

When the mills were operating, the view from here was dramatically different. One would be looking across acres of concrete and asphalt, with stacks of lumber drying or waiting to be shipped out on the now-defunct rail line. Look along the south bank of Butcher's Slough to see sections of the rail line not yet covered by vegetation. The concrete was broken up and repurposed to build the trail along the west side of the Log Pond.

*Peregrine falcon*





## 4 Saltwater Plant Zonation

Due to the high salt content of the water and soil in this estuary, a limited number of plant species dominate this salt marsh. Saltmarsh plants are found growing in zones or bands that are determined by each plant’s ability to tolerate salty soils and submergence by tidal water. Pickleweed (*Salicornia pacifica*) dominates the lowest, wettest zone and is subject to daily submergence. This short, succulent plant derives its name from its stems, which resemble a string of small pickles. It is edible and, of course, tastes a bit salty.



Pickleweed

Higher zones of the marsh are covered with salt grass (*Distichlis spicata*). This short plant forms dense mats. See if you can pick out these plant zones as you look out over the salt marsh.

## 5 Birds of the Freshwater Marsh

Ahead of you is another view of the Log Pond. What birds do you see? Are there any mallards swimming? A green head and white neck band make the male mallard easy to identify. Watch for these dabbling ducks tipping “bottoms up” in the water to feed on macro-invertebrates or submerged aquatic plants.

Do you see any marsh wrens? These small birds commonly climb cattails to sing or investigate intruders. Their rapid song ends in a rattling *cut-cut-trrrr-ur*.

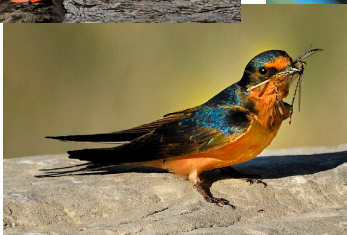
In the summer, when the afternoon breezes pick up, look for barn and cliff swallows dipping and darting gracefully with the wind. Barn swallows have a deeply forked tail and are blue-black above and cinnamon below. Cliff swallows have a squarish tail and a buffy patch on their rumps.



Mallard



Marsh wren



Barn swallow

## 6 Salty Living

Soil in the salt marsh is wet and salty, making it difficult for many plants to survive. Seaside arrow-grass (*Triglochin maritime*) produces elevated rhizomes or runners to keep it from being waterlogged. It spreads outward in rings, allowing other species to grow within its dead, elevated center, which increases biodiversity in the salt marsh. Dodder (*Cuscuta californica*) actually gets away from the salty soil by being parasitic, attaching to a plant with tiny suckers and living off the host.



Seaside arrow-grass



Dodder climbing on rush

## 7 Fish Ladder

This concrete structure, originally constructed for mill use, was adapted to be a fish ladder and fish trap. It was designed for rearing coastal cutthroat trout. This proved impractical because, even with aeration, oxygen levels in the water were not high enough to support the trout. Today, this fish ladder is sometimes referred to as the Frog Pond.

Marsh pennywort grows in dense, floating mats, providing cover for toads, frogs, and other invertebrates. Duckweed, a floating plant, forms lime-green carpets on the water’s surface. This tiny plant is a favorite food for ducks.



Duckweed, marsh pennywort & red-legged frog



Northern Pacific treefrog



Butcher’s Slough

## 8 Restoration

Butcher’s Slough estuary to the north and the freshwater marsh to the south were restored in 1985. Butcher’s Slough, which had been moved to the east side of the Log Pond when the mills were built, was rerouted to the more-natural course you see today.

There is an ongoing effort to remove non-native cordgrass (*Spartina densiflora*) that grows in the salt marsh, as this species can easily out-compete native species, resulting in reduced biodiversity.

The Log Pond, which had become a willow-and-alder thicket, was converted to a freshwater marsh containing both open water and vegetated areas. The pond’s banks were terraced to allow a greater variety of aquatic plants to grow in the marsh. This diversity of plants, in turn, supports a greater variety of wildlife.

## 9 Sounds of the Marsh

Listen! What sounds of the marsh do you hear? The buzz and drone of insects? Wind rustling through cattails and willows? Those odd grunts, wails, and chuckles you may hear belong to the American coot, one of the noisiest birds in the marsh. In winter, this gregarious bird frequently can be seen swimming in the marshes. Look for a slate-colored, duck-like bird with a black head and neck and white bill. If you are here at dusk, listen for the song of the northern Pacific treefrog: a distinctive “*shirk it, shirk it.*” You might even see one hopping among the black berry canes further down the trail. Do you see any black-crowned night-herons roosting in the willows?

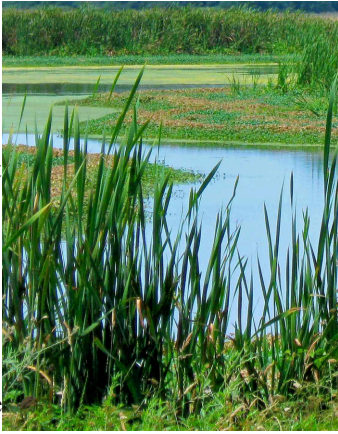


Black-crowned night-heron

## 10 Freshwater Plant Zonation

Did you notice that there is a greater variety of plants in this marsh than in the nearby salt marsh? This is due in part to its less-salty environment and more-stable water level, compared to tidal waters of the salt marsh.

Plant zonation also occurs in the freshwater marsh. Here, water depth determines where a plant can grow. Close to the shore, moist soil plants like bulrush (*Schoenoplectus acutus*) are able to tolerate the water-logged, swampy soil. Emergent plants like broadleaf cattail (*Typha latifolia*) occur in water up to 4 feet deep. As the water becomes deeper, floating plants and submergent plants become more common.



Freshwater marsh

## 11 Succession

When the mills were in operation, the log pond water level was maintained by pumping well water in. Now, the only source of water is rainfall, so the Log Pond reaches its maximum capacity during the winter, with the level dropping over the summer due to evaporation or potential leakage. Sediments wash in and detritus builds up without the flow of a current to flush them out. Succession is the change over time from one type of natural environment to another. As the Log Pond became shallower in places, plants like cattails and rushes were able to expand out into the formerly open- water areas. The north end of the Log Pond and most of No-Name Pond are now cattail marshes. The established cattails can allow willow and alder seedlings to get a start. A shallow, open-water pond can be converted to willows in 30 years.!



Cattail