

12 Skid

This huge concrete “bunker” was used as a skid for the lumber mill operations. Logging trucks rumbled down this trail, which 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 as they were drained and converted to other uses.

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



Allen Marsh, one of the wastewater treatment enhancement 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. Look for egrets, marsh wrens, and other creatures of the marsh. Find out how difficult it is to be a plant in a salt marsh. See historic remnants from the old lumber mill.

After leaving the Interpretive Center, take the first trail on your left and follow the numbered sign posts. Let's go explore!

1 Wetland

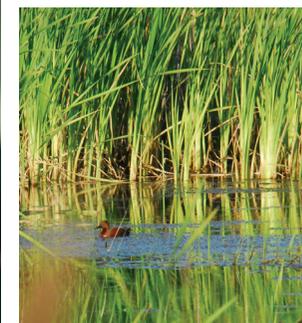
What is a wetland? It's a place that has been wet for enough time to develop specially adapted plants and soils. The term wetland encompasses swamps, bogs, mudflats, and marshes. This pond functions as a freshwater marsh. The overflow control structure allows excess water to flow to Butcher's Slough.

A wildfire burned approximately 2 acres of this area on August 31, 2014. Fire is not a common occurrence in California coastal wetland ecosystems, but this habitat can be susceptible to fire in drought years.

Cattail



Cinnamon teal in fresh-water wetland



2 Lumber Mills

This freshwater marsh, locally known as the Log Pond, was once a large pond full of floating logs waiting to be cut into lumber and plywood at the Durable Fir and Plywood Mills. As you walk around this pond, look for wood pilings sticking out of the water. These are remnants from the lumber mills. The log pond and mills were expanded in 1950 and 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.

3 Butcher's Slough

The creek below you is an estuary called Butcher's Slough. It is the tidally influenced portion of Jolly Giant Creek. Estuaries are salty or brackish areas where rivers meet the sea.

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. As you look out over the estuary, see if you can spot snowy or great egrets. 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



Log Pond, circa 1960

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.

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



Pickleweed

5 Birds of the Freshwater Marsh

What birds do you see? Are there any mallards swimming in the marsh? A green head and white neckband make the male mallard easy to identify. Watch for these dabbling ducks tipping "bottoms up" in the water to feed on macroinvertebrates 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 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 saltmarsh. 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



Western tiger-swallowtail on wild mustard



Rough-skinned newt



American coot

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, the oxygen levels were not high enough to support the trout.

The Log Pond supports many invertebrates, frogs, and newts. The luxuriant plant life around this pond provides shelter and nesting places for many birds.



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 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 animals and birds.

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 blackberry canes further down the trail.



Black-crowned night-heron

10 Freshwater Plant Zonation

Did you notice that there is a greater variety of plants here 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 reeds, 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 Marsh Pennywort & Duckweed

Mat formers and floating plants cover the water's surface with carpets of growth. Marsh pennywort shades out other plants and can eliminate the open water preferred by waterfowl. You've probably already noticed this plant, with its strawberry-plant-like leaves, growing in dense, floating mats near the water's edge. Duckweed, a floating plant, forms lime-green carpets on the water's surface. This tiny plant, which is only a few millimeters long, is a favorite food of ducks.



American bittern in reeds



Northern Pacific treefrog

Duckweed, marsh pennywort & red-legged frog