



Oregon Coordinated Aquatic Bird Monitoring:
Description of Important Aquatic Bird Site

Arcata Marsh & Wildlife Sanctuary
BCS number: 86-1

Site description author(s)

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Site location (UTM)

Datum: NAD83, Zone: 10, Easting: 408140, Northing: 4523657

General description

The 307-acre Arcata Marsh and Wildlife Sanctuary is located in the City of Arcata on the north edge of Humboldt Bay. The Sanctuary's habitats include freshwater, brackish and tidal wetlands; adjacent salt marsh and mudflat habitat in Humboldt Bay; and grassy and wooded uplands. Upland areas include rocky trails; grasslands dominated by nonnative annual grasses; a shrub layer dominated by *Baccharis pilularis*, *Rubus discolor*, and *R. ursinus*; and tree cover comprised of *Salix*, *Alnus rubra*, and a variety of conifers. Emergent vegetation in some of the freshwater wetlands includes *Typha latifolia*, *Scirpus acutus*, and *Hydrocotyle ranunculoides*.

Boundaries and ownership

Boundaries:

The Arcata Marsh and Wildlife Sanctuary is bounded by Humboldt Bay and the USFWS Humboldt Bay National Wildlife Refuge to the south, McDaniel Slough and the California Department of Fish and Game Mad River Slough Wildlife Area to the west, South G Street to the east, and private property to the north.

A coordinate point in Allen Marsh is X 5982769.981 Y 2203207.509 (NAD 83 SP California Zone 1).

Ownership:

The Arcata Marsh and Wildlife Sanctuary is owned by the City of Arcata.

Water levels

Water levels in the freshwater ponds fluctuate with the season, with deeper water occurring in the rainy season, which typically begins in October and continues through April. Three of the freshwater ponds receive effluent from the City of Arcata's wetland wastewater treatment system. These ponds have an average depth of three to four feet.

Klopp Lake and Butcher's Slough are tidally influenced, though the influence in Klopp Lake is muted and the water surface elevation does not fluctuate more than two feet on average.

Focal species use and timing

Focal Group/Species	Wintering	Breeding	Migration
Secretive Marsh Bird Group	Present	Present	Present
Colonial Nesting Bird Group	Present	Present	Present
Migrating Shorebird Group	Present	Present	Present
Ground-based Waterbird Group	Present	Present	Present
American Bittern	Present	Present	Present
American White Pelican	Absent	Absent	Absent
Barrow's Goldeneye	Absent	Absent	Absent
Black Tern	Absent	Absent	Absent
Black-crowned Night Heron	Present	Present	Present
Black-necked Stilt	Absent	Absent	Absent
Bufflehead	Present	Absent	Present
California Gull	Present	Absent	Present
Caspian Tern	Absent	Absent	Present
Clark's Grebe	Present	Absent	Present
Common Loon	Present	Absent	Present
Dusky Canada Goose	Absent	Absent	Absent
Eared Grebe	Present	Absent	Present
Forster's Tern	Present	Absent	Present
Franklin's Gull	Absent	Absent	Absent
Great Blue Heron	Present	Absent	Present
Greater Sandhill Crane	Absent	Absent	Absent
Green Heron	Absent	Present	Present
Least Bittern	Absent	Absent	Absent
Lesser Sandhill Crane	Absent	Absent	Absent
Long-billed Curlew	Present	Absent	Present
Pied-billed Grebe	Present	Present	Present
Red-necked Grebe	Absent	Absent	Absent
Snowy Egret	Present	Absent	Present
Sora	Present	Absent	Present
Upland Sandpiper	Absent	Absent	Absent
Virginia Rail	Present	Present	Present
Western Grebe	Present	Absent	Present
Western Snowy Plover	Absent	Absent	Absent
White-faced Ibis	Absent	Absent	Present
Yellow Rail	Absent	Absent	Absent

Location of Type 1 and 2 habitat within the site

Functional Group	Type 1 Habitat	Type 2 Habitat
Ground Based Aquatic Birds	Oxidation ponds, enhancement marshes, Klopp Lake, Log Pond, Brackish and adjacent ponds, and lower Butcher's Slough. Nesting occurs primarily in marshy fringes of Log Pond and Allen and Hauser marshes.	CANG and WEGU nest on Klopp Lake islands. Gulls congregate in the Klopp Lake parking lot.
Secretive Marsh Birds	No Name Pond, treatment and enhancement marshes, Log Pond.	None?
Colonial Nesters	BCNH roosts on Log Pond islands. GBHE and egrets forage primarily at Klopp Lake and enhancement marshes.	GREG has been seen roosting in small numbers in pines at west end of Mt. Trashmore.
Migrating Shorebirds	Klopp Lake islands and levees and Brackish Pond (high tide roosts).	Butcher's Slough near wastewater outfall (rising/falling tides).

Access to Type 1 and Type 2 habitats

This is a small site with a good trail system; all of it is within 100 m of pedestrian access and nearly all is open to the public during daylight hours. The wastewater treatment facility, including the treatment marshes and the northernmost (smallest) oxidation pond, is closed to the public; access must be arranged with the City. Boating is not allowed anywhere, though it might be possible to arrange with the City if required for surveys.

Audibility/visibility of focal species

Secretive marsh birds are difficult to detect except by voice.

Conservation issues

Regional and global conservation issues affect many of the species that utilize this site. Site-specific conservation issues include invasive species, domesticated animals, and illegal camping.

Conservation measures taken, in progress, or proposed

Management practices include patrolling to enforce a leash law for domestic animals that are brought to the AMWS and to discourage illegal camping. City staff provide routine clean up of illegal camps; remove *Hydrocotyle* from the three freshwater wetlands that receive effluent in order to maintain open water habitat; remove invasive species; and revegetate select areas with *Salix*, *Alnus*, *Picea sitchensis*, *Acer macrophyllum*, and native shrubs, forbs, and grasses with assistance from community volunteers. The City is currently expanding the sanctuary to the west, eventually providing additional tidal and brackish habitats.

Past and current surveys

We know of no bird surveys that have been conducted here since shortly after the Marsh was built, other than Dr. Mark Colwell's periodic bay-wide shorebird counts and the annual Arcata Christmas Bird Count (held in mid December). However, the site is among the most intensively birded in northwestern California.

Potential survey methods

Description: Due to the site's small size and straightforward access, fairly accurate counts can be made for most species. Bird use of the site varies seasonally and tidally and surveys must be planned accordingly.

Counts of ground-based aquatic birds (interpreted here as grebes, gulls, and ground-nesting waterfowl) can be obtained by circling appropriate habitat on foot; some individuals may be obscured by vegetation. Numbers are highest in early winter. Counts of nesting birds are probably best accomplished by counting fledged broods (early summer).

Secretive marsh birds (SORA, VIRA) should be surveyed using broadcast recordings from evenly-spaced points (150 m apart?) around appropriate habitat patches. Nocturnal counts might be the most effective at minimizing ambient noise but permission would have to be obtained from the City; early-morning counts would be the next best thing.

Many if not most of the BCNH roosting at Log Pond are obscured by vegetation, so the best way to count them would be as they leave the roost at dusk. This might be done best by two observers stationed on opposite sides of the pond.

Migrating shorebirds should be counted at high tide, when they roost at the Marsh. Counts should be coordinated with bay-wide counts if and when they occur.

Selection bias: (Discuss the potential for selection bias when designing a survey in the future, especially when sub-sample of the site will be studied. Point out how bias could be introduced and recommend ways to prevent this)

Not applicable.

Measurement error and bias: Probably minimal for most species, though unknown for secretive marsh birds. Direct nest searches for ground-nesting species are probably not possible and may have to be substituted with brood counts, which will underestimate nest attempts.

Potential pilot studies

Unknown

Literature cited

Arcata Marsh Map [Map]. *Friends of the Arcata Marsh*.

http://www.arcatamarshfriends.org/maps/arcata_marsh_map.pdf. Accessed January 27, 2010.

Fix, D., and R. Fowler. 2009. Birds of the Arcata Marsh and Wildlife Sanctuary (checklist). Friends of the Arcata Marsh, Arcata CA.

Figure 1: Arcata Marsh Map.

