



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

Lower Columbia River Estuary

BCS number: 47-18

****NOTE: We were unable to determine most information on focal groups/species for this site description. If you would like to contribute the needed information to this description, please contact the Klamath Bird Observatory at kbo@klamathbird.org.*

Site description author(s)

Daphne E. Swope, Research and Monitoring Team, Klamath Bird Observatory

Primary contact for this site

N/A

General description

The Lower Columbia River estuary is located at Astoria on the Oregon coast. The estuary is approximately 80811 acres and has a watershed of approximately 259000 square miles (OCMP 2010).

Site Location (UTM)

Datum: NAD 83, Zone: 10, Easting: 438636, Northing: 5106790.

Boundaries and ownership

Boundaries:

The estuary connects the Pacific Ocean on the west and the Columbia River on the east. The Pacific and Wahkiakum counties of the state of Washington lie to the north and Clatsop County of Oregon lies to the south.

Ownership:

The majority is private lands, with some state-owned land (NHI 2010).

Water levels

“The Columbia River is tidal all the way up to the Bonneville Dam [... with a ...] twice daily rise and fall of the tide” (LCREP 2007).

Focal species use and timing

Focal Group/Species	Wintering	Breeding	Migration
Secretive Marsh Bird Group	Present ²	Present ²	Present ^{2,3}
Colonial Nesting Bird Group	Present ¹	Present ¹	Present ¹
Migrating Shorebird Group	Present ¹	Present ¹	Present ^{1,3}
Ground-based Waterbird Group	Present ¹	Present ¹	Present ¹
American Bittern	Unknown	Unknown	Unknown
American White Pelican	Unknown	Unknown	Unknown
Barrow's Goldeneye	Rare ²	Unknown	Rare (Spring) ²
Black Tern	Unknown	Unknown	Unknown
Black-crowned Night Heron	Unknown	Unknown	Unknown
Black-necked Stilt	Unknown	Unknown	Unknown
Bufflehead	Present ²	Unknown	Present ^{2,3}
California Gull	Unknown	Unknown	Unknown
Caspian Tern	Unknown	Unknown	Present ³
Clark's Grebe	Unknown	Unknown	Unknown
Common Loon	Unknown	Unknown	Unknown
Dusky Canada Goose	Unknown	Unknown	Unknown
Eared Grebe	Unknown	Unknown	Unknown
Forster's Tern	Unknown	Unknown	Unknown
Franklin's Gull	Unknown	Unknown	Unknown
Great Blue Heron	Unknown	Unknown	Present ³
Greater Sandhill Crane	Unknown	Unknown	Rare ²
Green Heron	Unknown	Unknown	Unknown
Least Bittern	Unknown	Unknown	Unknown
Lesser Sandhill Crane	Unknown	Unknown	Unknown
Long-billed Curlew	Present ²	Unknown	Present ²
Pied-billed Grebe	Unknown	Unknown	Present ³
Red-necked Grebe	Present ²	Unknown	Present ²
Snowy Egret	Accidental	Accidental	Accidental
Sora	Unknown	Unknown	Unknown
Upland Sandpiper	Unknown	Unknown	Unknown
Virginia Rail	Unknown	Unknown	Present ³
Western Grebe	Unknown	Unknown	Unknown
Western Snowy Plover	Present ²	Present ²	Present ²
White-faced Ibis	Unknown	Unknown	Unknown
Yellow Rail	Unknown	Unknown	Unknown

1. CREST (1984)
2. USFWS (1991). Includes data from Lewis and Clark NWR, Julia Butler Hansen Refuge Willapa NWR.
3. eBird (2009). Includes data from Lewis and Clark NWR and Willapa NWR.
4. Birdnotes (n.d.).

Location of Type 1 and 2 habitat within the site

See Figure 2 for distribution of habitat types within the site.

Functional Group	Type 1 Habitat	Type 2 Habitat
Ground Based Aquatic Birds	Open-water areas ¹	Unknown
Secretive Marsh Birds	Marsh	Unknown
Colonial Nesters	Open-water areas ¹	Unknown
Migrating Shorebirds	Mudflat/Marsh ¹	Unknown

1. CREST (1984)

Access to Type 1 and Type 2 habitats

Multiple boat launch sites along the river.

Audibility/visibility of focal species

Describe any issues that would diminish the detectability of birds. e.g Secretive marsh birds are difficult to detect due to hwy noise

Unknown

Conservation issues

“Levels of PCBs, DDE, and dioxin may be linked to reproductive failure in bald eagles, mink, and river otter [...]Dams, dikes, maintenance dredging, and land use practices over the last 100 years have significantly altered the estuary [...] Point and nonpoint source pollution have changed pH, temperature, and dissolved oxygen levels [...] Anadromous fish runs have declined significantly in recent years. Several species are listed as endangered or threatened [...] Certain current and past land use practices have degraded habitat and water quality. Anticipated future growth could lead to further degradation” (ANEP 2007).

Conservation measures taken, in progress, or proposed

“Currently, many agencies and levels of government are involved in managing and protecting the estuary [...]” (ANEP 2007).

Past and current surveys

- Survey of key avian species, key habitats and avian community characteristics. See CREST (1984).
- Research and monitoring of Caspian terns nesting in the Columbia River estuary. See BRNW (2010a).
- Research and monitoring of double-crested cormorants nesting in the Columbia River estuary. See BRNW (2010b).

Potential survey methods

Description: (describe survey methods that are appropriate for your site and recommend the best means in which to complete them considering the limitations and history above. Include information on suggested standardized or specialized protocols)

Unknown

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)

Unknown

Measurement error and bias:

Unknown

Potential Pilot Studies

Unknown

Literature cited

- Association of Natural Estuary Programs (ANEP). 2007. About Estuaries: Insights on the NEPs - Lower Columbia River Estuary. http://www.nationalestuarines.org/aboutestuaries/neps/lower_columbia.htm. Accessed February 07, 2010.
- Bird Research Northwest (BRNW)a. Background on the Research and Monitoring of Caspian terns Nesting in the Columbia River Estuary. Real Time Research, Inc. <http://www.birdresearchnw.org/Project-Info/Project-Background/Caspian-Terns/Columbia-River-Estuary-Terns/default.aspx>. Accessed February 07, 2010.
- Bird Research Northwest (BRNW)b. Background on the Research and Monitoring of Double-Crested Cormorants Nesting in the Columbia River Estuary. Real Time Research, Inc. <http://www.birdresearchnw.org/Project-Info/Project-Background/Double-Crested-Cormorants/Columbia-River-Estuary-Corms/default.aspx>. Accessed February 07, 2010.
- Columbia River Estuary Study Taskforce (CREST). 1984. Avifauna of the Columbia River Estuary. Columbia River Estuary Data Development Program. <http://www.columbiaestuary.org/creddp/AVIFAUNA.pdf>. Accessed February 07, 2010.
- Lower Columbia River Estuary Partnership (LCREP). 2007. Lower Columbia River Estuary <http://www.lcrep.org>. Accessed February 07, 2010.
- Northwest Habitat Institute (NHI). Columbia Estuary Sub-basin. Interactive Biodiversity Information System (IBIS). <http://www.nwhi.org/index/subbasins#Columbia%20Estuary%20Sub-Basin>. Accessed February 07, 2010.
- Oregon Coastal Management Program (OCMP). Lower Columbia River Estuary. Oregon Coastal Atlas. http://www.coastalatlas.net/index.php?option=com_custompages&e=1&Itemid=68. Accessed February 07, 2010.
- U.S. Fish and Wildlife Service (USFWS).1991.Wildlife of Willapa National Wildlife Refuge and the Columbia River Estuary, Ilwaco, Washington. U.S. Fish and Wildlife Service. Unpaginated. Jamestown, ND: Northern Prairie Wildlife Research Center Online. <http://www.npwrc.usgs.gov/resource/birds/chekbird/r1/willapa.htm>. Accessed February 07, 2010.

Figure 1: LCREP (2007) map of the Lower Columbia River Estuary.



Figure 2: NHI (2010) map of the habitat types of the Lower Columbia River Estuary.

