



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

Salmon River Estuary

BCS number: 47-26

Site description author(s)

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Primary contact for this site

N/A

Site location (UTM)

Datum: NAD 83, Zone: 10, Easting: 422801, Northing: 4986750

General description

“The lower Salmon River [estuary is] one of only two designated "natural" major estuaries on the Oregon coast. Although relatively small in size (180 hectares - 438 acres), more than half the estuary remains tidal marsh. The entire estuary and its associated wetlands are included in the U.S. Forest Service's Cascade Head Scenic-Research Area. At high tide, the area of this riverine estuary is about 200 acres (National Audubon Society 2010).

Boundaries and ownership

Boundaries:

The Salmon River Estuary is located on the northern Oregon coast where the Salmon River meets the Pacific Ocean, near the borders of Tillamook and Lincoln counties (National Audubon Society 2010).

Ownership:

The land surrounding the estuary is a combination of private and USDA Forest Service ownership, although “USFS may acquire any land or interest in land here without consent of the owners [...] The Salmon River Estuary is within the hunting, fishing, and gathering area of the Confederated Tribes of Grand Ronde. It is also within the gathering area for the Confederated Tribes of the Siletz” (Anderson, et al. 2006).

Water levels

“In the 1960s almost 60% of the estuary was diked and ditched to create pasture for grazing. Although many wetlands have been restored, 18% of the estuary remains diked [...] The head of tide extends to River Mile 4.3, just above Otis. The mean tidal range is approximately 5.8 ft (1.8 m) with a diurnal range of 7.6 ft (2.3 m) and an extreme range of 13.0 ft (3.9 m) [...] Most tidal channels are drained almost completely at low tide and flood the marsh plain during the higher tides and/or high flow events [...] Many freshwater wetlands are dry for some or all of the summer” (Anderson, et al. 2006).

Focal species use and timing

Concentrations of more than 1000 shorebirds (mostly Western Sandpipers) are regular visitors in spring (National Audubon Society 2010).

Focal Group/Species	Wintering	Breeding	Migration
Secretive Marsh Bird Group	Present ^{4*}	Present ^{4*}	Present ^{4*}
Colonial Nesting Bird Group	Present ^{4*}	Present ^{1,3}	Present ³
Migrating Shorebird Group	Present ^{4*}	Present ³	Present ²
Ground-based Waterbird Group	Present ³	Present ³	Present ^{4*}
American Bittern	Rare ^{4*}	Rare ^{4*}	Rare ^{4*}
American White Pelican	Unknown	Unknown	Unknown
Barrow's Goldeneye	Unknown	Unknown	Unknown
Black Tern	Unknown	Unknown	Unknown
Black-crowned Night Heron	Unknown	Unknown	Unknown
Black-necked Stilt	Unknown	Unknown	Unknown
Bufflehead	Present ^{4*}	Rare ^{4*}	Present ^{4*}
California Gull	Present ^{4*}	Present ^{4*}	Present ^{4*}
Caspian Tern	Unknown	Present ^{4*}	Present ^{4*}
Clark's Grebe	Rare ^{4*}	Rare ^{4*}	Rare ^{4*}
Common Loon	Present ^{4*}	Present ^{4*}	Present ^{4*}
Dusky Canada Goose	Unknown	Unknown	Unknown
Eared Grebe	Present ^{4*}	Present ^{4*}	Present/Rare ^{4*}
Forster's Tern	Unknown	Unknown	Unknown
Franklin's Gull	Rare ^{4*}	Rare ^{4*}	Rare ^{4*}
Great Blue Heron	Present ^{4*}	Present ^{4*}	Present ^{4*}
Greater Sandhill Crane	Unknown	Unknown	Unknown
Green Heron	Present ^{4*}	Present ^{4*}	Present ³
Least Bittern	Unknown	Unknown	Unknown
Lesser Sandhill Crane	Unknown	Unknown	Unknown
Long-billed Curlew	Unknown	Unknown	Unknown
Pied-billed Grebe	Present ^{4*}	Present ^{4*}	Present ^{4*}
Red-necked Grebe	Present ^{4*}	Present ^{4*}	Present ^{4*}
Snowy Egret	Unknown	Unknown	Unknown
Sora	Rare ^{4*}	Rare ^{4**}	Rare ^{4*}
Upland Sandpiper	Unknown	Unknown	Unknown
Virginia Rail	Present ^{4*}	Present ^{4*}	Present ^{4*}
Western Grebe	Present ^{4*}	Present ^{4*}	Present ^{4*}
Western Snowy Plover	Accidental ^{4*}	Accidental ^{4*}	Accidental ^{4*}
White-faced Ibis	Unknown	Unknown	Unknown
Yellow Rail	Unknown	Unknown	Unknown

1. eBird (2010)
2. National Audubon Society (2010)
3. Birdnotes (n.d.)
4. Bayer (1995). *Data is based on area from Salmon River to Depoe Bay and may not reflect the Salmon River Estuary site. Site-specific information could not be found.

Location of Type 1 and 2 habitat within the site (See Fig. 2)

“Mudflats comprise a small portion of the estuary and are located either side of the river channel in the lower estuary [...] Tidal channels extend from the portion of the lower river [...] Forested, scrub-shrub and emergent wetland types were observed often on the fringes of tidal marshes where tributaries joined tidal channels” (Anderson, et al. 2006). See Figure 2 for distribution of habitat types.

Functional Group	Type 1 Habitat	Type 2 Habitat
Ground Based Aquatic Birds	Emergent Herbaceous Wetlands	Open Water
Secretive Marsh Birds	Intertidal/Tidal Marshes	Open Water
Colonial Nesters	Forested/Emergent Herbaceous Wetland	Open Water
Migrating Shorebirds	Mudflat	Open Water

Access to Type 1 and Type 2 habitats

- See Figure 1 for general road access.
- There is a public boat launch on the estuary.
- Marsh may be viewed from pullouts.

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

- In mudflats: Invasion of *Spartina* and green crabs, pollution, and erosion (Anderson, et al. 2006).
- In eelgrass beds: Boats, disturbance, poor water quality, sea level rise (Anderson, et al. 2006).
- In tidal channels: Dikes and ditches, lack of sediment, erosion, sea level rise (Anderson, et al. 2006).
- In freshwater marshes: Insufficient culverts, filling, poor water quality, logging, reed canarygrass (Anderson et al., 2006).
- In mainstream river and tributary systems: Dikes and ditches, logging, erosion, poor water quality, insufficient culverts (Anderson, et al. 2006).

Conservation measures taken, in progress, or proposed

“About 200 acres of diked lands owned by the Forest Service have been restored to tidal action, with the results monitored by researchers for more than a decade, and additional restoration work is planned. The American Fisheries Society has identified the Salmon estuary as a high priority corridor for protection and restoration of aquatic diversity” (OWJV 1994).

Past and current surveys

- Monthly abundances of Harlequin ducks based on compiled field notes (Bayer 1994).

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

- Continue research on long-term effects of tideland restoration efforts (OWJV 1994).
- Quantify changes in bird habitat and changes in types of resident and visiting birds (Anderson, et al. 2006).

Literature cited

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<http://www.salmondrift.org/Documents/LowerSalmonRiverCD.pdf>. Accessed February 09, 2010.
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Figure 1: Google Map. (2010) road view map of Salmon River estuary.



Figure 2: “Present extent of aquatic habitat [in the Salmon River estuary] based on 2005 aerial photos and current National Wetland Inventory maps” (Anderson, et al. 2006).

