



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



## Summer Lake

BCS number: 48-25

### Site description author(s)

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### Site location (UTM)

Datum: NAD 83, Zone: 10, Easting: 681742, Northing: 4758394

### Boundaries and ownership

*Boundaries:* Summer Lake proper (about 60,000 acres) and surrounding shoreline are generally bounded by Oregon Hwy 31 on the south and west, Diablo Mtn. WSA and alkaline playa on the east, and Carlon Lane (Lake Co. Rd. 4-16). Major component (emergent palustrine wetland) is Oregon Department of Fish & Wildlife's Summer Lake Wildlife Area (SLWA).

*Ownership:* Lakebed of Summer Lake within meander line (1874) owned by Oregon Division of State Lands (45,000-60,000 ac.), as noted above SLWA (18,900 ac.) is owned by Oregon Dept. Fish & Wildlife, alkaline playa on east. See Figure 1 for Bureau of Land Management (BLM) Lakeview District ownership map.

### Water levels

Presently water levels and inundation are highly variable between years and within seasons depending on climatic cycles. Compared to pre-white settlement and development of water resources, water levels were much higher and more consistent. Radical changes have occurred over past 30 years due to within and out of basin developments. Numerous streams and springs are diverted and spread creating extensive wet meadow and emergent wetland habitat. A major contributor is Ana River at the north end of Summer Lake basin. Annual seasonal fluctuations occur due to irrigation and wetland management diversions in early March and April. Drying of irrigated wet meadows and emergent wetlands occurs during June and July and in northern portions, flooding resumes in August continuing into early September. In dry cycles Summer Lake recedes dramatically to <500 acres of open water on the lake bed. Following the end of irrigation season Summer Lake will increase in size throughout winter reaching maximum levels in early April.

### Focal species use and timing

<b>Focal Guild/Species</b>	<b>Wintering</b>	<b>Breeding</b>	<b>Migration</b>
Secretive Marsh Birds*		Present	Present
Colonial Nesting Waterbirds		Present	Present
Ground-based Aquatic Birds		Present	Present
Migrating Shorebirds		Present	Present
American White Pelican		Present	Present
Barrow's Goldeneye			
Black-necked Stilt		Present	Present
Bufflehead			
Dusky Canada Goose			
Franklin's Gull			
Greater Sandhill Crane		Present	Present
Long-billed Curlew		Present	Present
Snowy Egret		Present	Present
Red-Necked Grebe			
Upland Sandpiper			
Western Snowy Plover		Present	Present
Yellow Rail		Present	Present
Virginia Rail		Present	Present
Pied-billed Grebe		Present	Present
American Bittern		Present	Present
Sora		Present	Present

\*The focal species for Oregon's aquatic secretive marsh bird monitoring are PBGR, LEBI, AMBI, VIRA, SORA, YERA. In general focal species above are present from late March through November.

Breeding and migrating waterfowl:

American Wigeon  
Blue-winged Teal  
Canada Goose  
Canvasback  
Cinnamon Teal  
Gadwall  
Green-winged Teal  
Lesser Scaup  
Mallard  
Northern Pintail  
Northern Shoveler  
Redhead  
Ring-necked Duck  
Ruddy Duck

Breeding and migrating secretive marsh birds:

American Bittern  
Pied-billed Grebe  
Sora  
Virginia Rail  
Yellow Rail

Breeding and migrating colonial nesting water birds:

Black-crowned Night Heron  
Caspian Tern  
Clark's Grebe  
Double-crested Cormorant  
Eared Grebe  
Forester's Tern  
Great Egret  
Ring-billed Gull  
Western Grebe  
White-faced Ibis

Breeding and migrating ground based aquatic birds

- American Avocet
- American Coot
- Common Snipe
- Common Yellowthroat
- Killdeer
- Marsh Wren
- Red-winged Blackbird
- Spotted Sandpiper
- Tricolored Blackbird
- Willet
- Wilson's Phalarope
- Yellow-headed Blackbird

Migrating shorebirds:

- Black-bellied Plover
- Dunlin
- Greater Yellowlegs
- Least Sandpiper
- Lesser Yellowlegs
- Long-billed Dowitcher
- Marbled Godwit
- Pectoral Sandpiper
- Short-billed Dowitcher
- Sprague's Pipit
- Western Sandpiper

**Location of Type 1 and 2 habitat within the site\***

<b>Functional Group</b>	<b>Type 1 Habitat</b>	<b>Type 2 Habitat</b>
Breeding waterfowl	Emergent, seasonally and wet meadow wetlands for most species. Open water with tall emergent fringe important for diving ducks.	Open water areas
Colonial nesting waterbirds	Emergent and seasonally wetlands.	Open water area
Secretive waterbirds	Emergent and seasonally flooded wetlands	Wet meadows
Ground based aquatic birds	Emergent, seasonally flooded and wet meadow wetlands. Specialist species such as SNPL found in alkaline playa areas and usually near fresh water sources	Open water areas
Migrating shorebirds	Seasonally flooded and wet meadow wetlands, shoreline fringe of lacustrine wetlands	Open water area

\*See Figure 2 for USFWS National Wetlands Inventory (2008) layer in Google Earth (2008).

**Access to Type 1 and 2 habitat and visibility/audibility of birds**

Access on SLWA (and adjacent or surrounding private land) as well as visibility/audibility is generally good via extensive dike and road network. Access to the remainder of the site is problematic due to private land ownership issues. Access to wet meadow and seasonally flooded habitats restricted during early spring and summer when irrigation or forage removal is underway. Shoreline margin and open water available via airboat or hovercraft only. See Figure 3 for general road map of the area (Google Map 2009).

### **Past and current surveys**

- Fall migration (Sept.-Jan.), spring migration (Feb.-April) and winter (USFWS dataset) waterfowl population surveys have been sporadically conducted through aerial cruise and ground based surveys for the past 50+ years.
- Since 1990, weekly fall and spring migration counts expanded to include all water birds.
- Waterfowl breeding population and Sandhill Crane transects established in 1988.
- Sandhill Crane productivity surveys have been conducted sporadically over past 10 years.
- Waterfowl brood surveys have been conducted for the past 30-40 years.
- ODFW conducts Statewide Waterfowl Breeding population surveys have been conducted annually since mid-1990's, using three transects within the site.
- Snowy Plover surveys initiated in early 1980's continue periodically.
- Colonial nesting water birds have been surveyed in important wetland basins across Lake County annually since 1990.
- Point counts of selected ground based aquatic bird species have been conducted for past 10 years.
- In 2008, KBO surveyed for six focal secretive marsh bird species (Pied-billed Grebe, American Bittern, Least Bittern, Yellow Rail, Sora, and Virginia Rail) during peak breeding season (May and June). American Bitterns were found in abundance, and many Pied-billed Grebes and Virginia Rails were also detected.”
- The United States Geological Survey (USGS) research focusing on American Avocet and Willet habitat use, movements and wetland connectivity was conducted in mid to late 1990's within this and other (Abert Lake and Goose Lake) sites (Haig et al. 1998).

### **Conservation issues**

For SLWA, recently completed Long-Range Management Plan (LRMP) in 2007 and identified conservation issues (partial list):

- Water availability and distribution.
- Proliferation of invasive vegetation and noxious weeds.

### **Conservation measures taken, in progress, or proposed**

See SLWA LRMP for management direction and conservation actions, management in progress.

## **Potential survey methods**

### *a. Description*

- Ground based aquatic bird populations have been poorly documented and monitored with the exception of Snowy Plover and Sandhill Cranes.
- Migrating shorebird population and migration timing surveys need to be conducted.
- Breeding shorebird activity and productivity surveys need to be conducted.

### *b. Selection Bias:*

### *c. Measurement error and bias:*

From Manning and Hartley 2006 suggest determining whether a ground-based waterbird survey would be beneficial

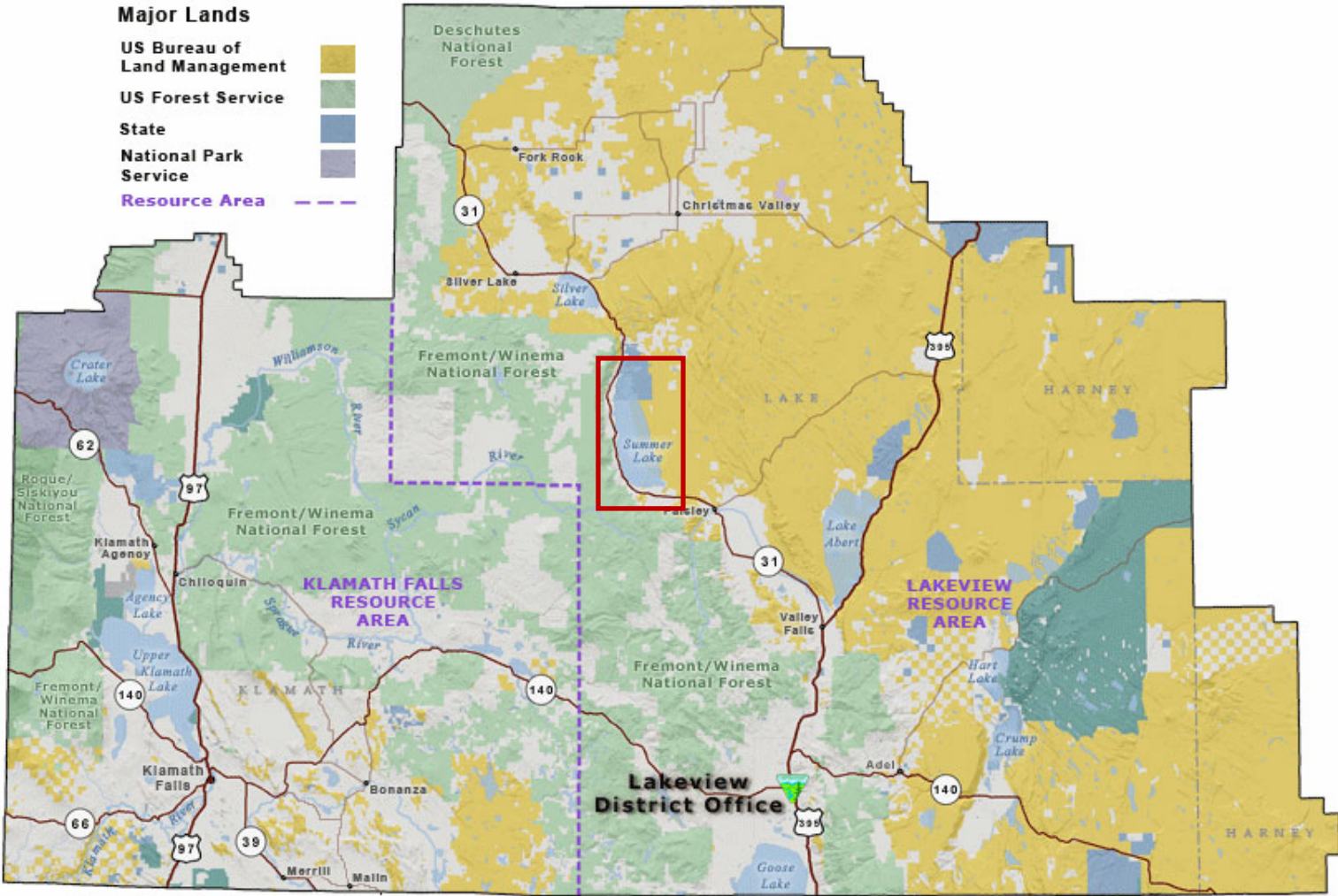
## **Potential pilot studies**

## Literature cited

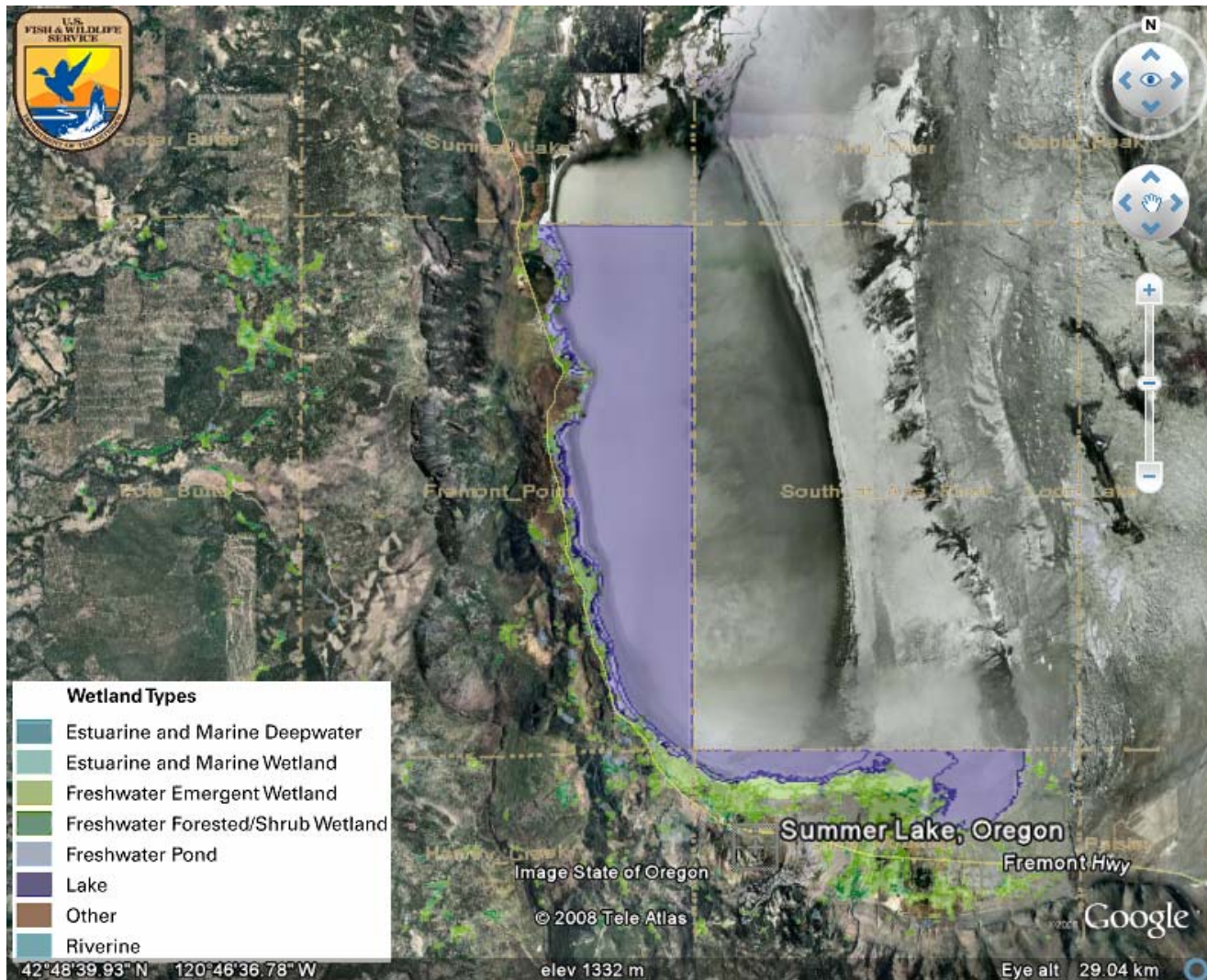
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Figure 1: BLM Lakeview District ownership map. The red box indicates Summer Lake.



**Figure 2:** Google Earth (2008) map of Summer Lake with the USFWS National Wetlands Inventory (2008) layer.



**Figure 3:** Google Map (2009) of Summer Lake.

