51-22. LAKE LOWELL (IBA)

Boundaries and ownership:

Boundaries: This site encompasses Lake Lowell and the surrounding shoreline inside Deer Flat National Wildlife Refuge. Habitats include open water in the middle of the lake and marsh along the sides of the lake. Open mudflats are found primarily at the SE end of the lake and the NW lower embankment when the lake water level is low.

Ownership: U.S. Bureau of Reclamation (lake itself – controls water level), U.S. Fish and Wildlife Service (surrounding land and manages surface uses of lake)

Focal species:

Shorebirds (Pectoral, Least, Baird's, Solitary, Spotted, and Stilt Sandpipers, Marbled Godwit, Long-billed Dowitcher) in late summer and fall. The Intermountain West Regional Shorebird Plan names this as one of only 2 sites (other is American Falls Reservoir) in Idaho with greater than 5000 shorebirds in more than half years surveyed (Peak = 10,000-20,000). Wintering and nesting Bald Eagle populations. Exceptional numbers of waterfowl during migration and winter (especially Canada Goose and Mallard). Nesting geese and shorebirds (American Avocet, Black-necked Stilt, Spotted Sandpiper). Gulls, terns, Black-crowned Night Herons, Double-crested Cormorants, and American White Pelicans present during summer, but probably not nesting (gulls, herons and cormorants have bred here in the past, but not during the last few years).

Colonies: Western Grebe, Clark's Grebe, Great Blue Heron

Location of Type 1 and Type 2 habitat: Location of birds varies with the water level and season.

Functional Group	Type 1 Habitat	Type 2 Habitat
waterbirds	open water & emergent vegetation	none
large waders	breeding colonies, emergent vegetation	rest of shoreline
secretive marshbirds	water's edge, except during very low water	none
waterfowl	open water, emergent vegetation, edges during breeding season	none
shorebirds	exposed mudflats at SE tip & at NW lower embankment (also NE) during spring/fall migration	rest of shoreline
gulls and terns	all areas	none

Access to Type 1 and Type 2 habitat and visibility of the birds: Open water can be accessed by boat and marshes can be accessed by canoe. Lake is too large to survey entirely by canoe. There are seven access points from the roads and there is a patrol road along the SE side of the Lake. Shoreline sites are accessible (mostly) to the general public; boat access is open after 15 April. Visibility is good for open water or exposed mudflat counts by boat or from access points. Visibility is poorer in emergent vegetation, particularly late spring/summer, but can be improved by using a canoe for access.

Conservation issues:

- Highly fluctuating water levels, and no minimum conservation pool for nesting birds.
- Introduced plants or animals
- Over-extraction of groundwater
- Recreational development/overuse resulting in disturbance of birds
- Drought
- Potentially problem with contaminants

Conservation measures taken, in progress, or proposed:
None in progress or proposed at this time.

Past and current surveys:

- Refuge staff conduct mid-winter waterfowl counts by small plane.
- Idaho Bird Observatory conducts Bald Eagle nesting surveys (mean = 2 nests/year) and colony counts for Great Blue Herons (mean = 20-25 nests/year) and grebes. IBO does not intend to continue monitoring herons and grebes in 2004.
- Christmas Bird Count conducted annually

Potential survey methods

Description:

a. Nest searches for grebes and other waterbirds nesting in the emergent vegetation in small colonies. A canoe is necessary for access. Surveys will be hard to standardize as timing of grebe nesting is highly dependent on water levels and growth of emergent vegetation (could range from May to July).
b. Colony counts for nesting Great Blue Herons.
c. Census for waterfowl on the open water using a boat. Winter counts by plane may be the only really feasible method.
d. Area searches for migrating shorebirds from observation points near Type 1 habitat. August and September are the most important months for shorebirds, although this is dependent upon water levels.
e. Systematic sampling, probably including the use of playback calls, for secretive marshbirds using a canoe to access marshes. May also be able to conduct surveys from the shoreline
f. Census for gulls and terns during waterfowl counts

Selection bias: Not applicable unless a systematic sampling approach is taken for the secretive marshbirds. However, access to the South side (where most birds are) and east side is very difficult, especially at higher water levels.

Measurement error and bias:

a. Error and bias are negligible for nest searches and colony counts. However, detecting/counting grebes can be difficult.
b. Error and bias are probably negligible for area searches for migrating shorebirds, although this needs field verification. However, identification skills and abundance estimation may be a problem.
c. Error and bias are negligible for waterfowl counts in late summer or winter, but could be relatively high during the breeding season because of cryptic nesting birds
d. Error and bias are unknown for secretive marshbirds.
e. Error and bias are negligible for gulls and terns if a census is possible.

Needed pilot studies:
Few needed. This is a good site to test protocols for groups of species. A site visit is recommended to assess the error associated with making counts from observation points for migrating shorebirds.

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