

GLEN CANYON NATIONAL RECREATION AREA
1999 AVIAN INVENTORY AND MONITORING
PROGRESS REPORT
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INTRODUCTION

This progress report documents the activities of the initial year of the avian inventory and monitoring program at Glen Canyon National Recreation Area (GLCA) in fiscal year 1999. GLCA encompasses nearly 1.25 million acres and spans 148 linear miles from near Lee's Ferry, Arizona northeast to the Green River in Utah. Although it is the largest National Park unit on the Colorado Plateau, much of even the most basic information (such as relative abundance and habitat use) of the avifauna is poorly known. The building of Glen Canyon Dam and the subsequent inundation of nearly 180 miles of the Colorado River along with the lower reaches of nearly 100 tributary canyons (including a significant portion of the lower San Juan River) resulted in major habitat changes within the region. Some habitats such as river and side canyon riparian systems were severely reduced while others were created (ie deep fresh-water lake). However, much relatively intact upland and riparian habitat remain including a large portion of the Escalante River, the mesa summits of the Kaiparowits Plateau and the Hans Flat area, the upper reaches of many of the partially flooded tributary canyons and several hundred thousand acres of desert flats. Regardless of the origin or the condition of the habitat, wise management decisions involving consideration of the avifauna found therein are possible only when sufficient information is available. It is the objective of the inventory and monitoring program to obtain that information.

METHODS

The methods follow those outlined in the draft work study plan of Spence (GLCA 14 April 1999). The avian inventory and monitoring program in fiscal year 1999 concentrated on riparian zones in tributary canyons, the riparian zones of the Escalante River, the pinyon-juniper woodland communities of the Kaiparowits Plateau and Hans Flat, the montane scrub communities of the Kaiparowits Plateau, and the riparian zones of the Colorado River in lower Glen Canyon (Appendix 1). Other sites were lightly sampled and are discussed below. After initial sampling was conducted during the winter, we decided to establish a series of 1000m long transects with fixed points every 250m (five points/transect). In sampling these transects, five minute point counts would be conducted at each point during the breeding season (with nonbreeding-season counts being longer). These data will provide the basis for statistical analysis. If time allowed, a walking transect would be conducted along each transect following completion of the point counts. Following each early morning survey period, the remainder of the day was spent either in transit to the next sample locality or in activities such as locating nest sites, observing bird behavior, hiking through the area conducting opportunistic avian surveys, writing up notes etc. The amount of survey effort spent on a given site/habitat was determined by several factors. These included the anticipated density and diversity of the avian community, the logistics, and previous survey effort.

SUMMARY OF SITES AND ACTIVITIES

GLEN CANYON: Habitats surveyed in Glen Canyon below Glen Canyon Dam were the river corridor itself and the river bank tamarisk-dominated riparian communities. Pre-existing sampling programs are in place for both of these habitats and they have been

sampled intensively over the past five years. For this reason these sites were not heavily sampled in FY 1999. River waterfowl surveys were conducted on 2 January and 2 March 1999. Three sample replicates of walking transects and point counts were conducted in 18 patches containing 31 points from river mile -14.2 to 1.6 in April, May, and June.

LEES'S FERRY: Several walking transects were conducted at three sites in the Lee's Ferry area. These sites (Lonely Dell ranch, the Paria River Beach, and the Boat Launch Ramp) have been surveyed frequently for about five years and the Inventory and Monitoring program has continued that effort. All of this data has been entered into an Excell database

LAST CHANCE CREEK: The heavily grazed upper portion of Last Chance Creek was sampled by a walking transect on a preliminary visit on 10 March 1999. This site is comprised of a tamarisk-dominated ephemeral wash bed with scattered Fremont Cottonwoods.

DOWN-LAKE: Waterfowl surveys were conducted in the down-lake portion of Lake Powell in Wahweap Bay, Warm Creek Bay, and Antelope Island. These surveys were a continuation of lake waterfowl surveys that have been conducted since 1994. This survey area was sampled on 22 September 1998, 9 October 1998, 28 October 1998, 13 November 1998, 30 November 1998, 14 December 1998, 2 January 1999, 1 February 1999, 8 March 1999, 21 April 1999, and 23, 29 September 1999.

DOWN-LAKE DESERTSCRUB: two 1000m five-point transects were established in blackbrush and one was established in sandsage . These were sampled on 16 March, 26 March, 25 May, and 3 June 1999.

RAINBOW BRIDGE NATIONAL MONUMENT: This site consisting of tributary riparian canyon bottom and adjacent uplands of desert scrub and cliffs was sampled using a standardized walking route on 24 November 1998, 17 December 1998 and 17 March 1999.

GREAT BEND: A series of nine tributary canyons in the Great Bend portion of the San Juan arm of Lake Powell (including Cottonwood Canyon on the Colorado arm) were surveyed on 30 November-3 December 1998, 17-18 December 1998, 17-19 March 1999, 7-10 June 1999, and 28-30 June 1999. During the initial visits in December, Wilson Creek, Cottonwood Canyon, Alcove Canyon, Navajo Canyon and five unnamed canyons were surveyed using extended transects. In March, 1000m long five-point count lines were established in Cottonwood Canyon (two lines with a third added in late June), Alcove Canyon, and two unnamed tributary canyons. These canyons were then surveyed using five-minute point counts and walking surveys during the June surveys.

KAIPAROWITS PLATEAU: Four helicopter trips were taken to the summit of the Kaiparowits Plateau (the highest elevation in GLCA) on 20-23 October 1998, 10-14 May 1999, 7-9 July 1999 and 13- 17 September 1999. These trips provided access to the high-elevation pinyon-juniper woodlands and montane scrub habitats located there. On the

October trip, sampling was limited because of heavy rain and only three walking transects were completed. On the May trip, three 1000m long 5-point transects were established and surveyed in pinyon-juniper woodland habitat and two 1000m long 5-point transects in montane scrub habitat were established and surveyed. On the July trip, three 1000m long 5-point transects were sampled in both pinyon-juniper woodland and montane canyon habitats. On the September trip, six 1000m long five-point transects were sampled in montane scrub and three were sampled in pinyon-juniper woodland. Also on the September trip a 5-hour raptor migration count was conducted at Navajo Point.

HANS FLAT: Three survey trips were taken to the Hans Flat area in the northern most portion of GLCA on 16-19 November 1998, 12-15 July 1999, and 4-7 October 1999. On the November trip, two area searches in pinyon-juniper woodland and one in sagebrush shrubland were conducted. Because of very low bird detection rates these were extended surveys of several hours duration. On the July trip, six 1000m long five-point transects and two walking transects were sampled in pinyon-juniper woodland. A single-visit area-search to an isolated grove of Douglas Fir was also conducted. On the October trip, six 1000m long five point transects were sampled in pinyon-juniper woodland and one was sampled in a tributary riparian grove.

ANDY MILLER-WATERHOLES FLAT: Two trips were taken to the remote benchlands known as Andy Miller Flat and Waterholes Flat west of the upper Colorado River on 9-11 November 1998 and 15-16 July 1999. In November, one area search transect was conducted in blackbrush and one in pinyon-juniper woodland. Inclement weather limited fieldwork on this trip. On the July trip two 1000m long five-point transects were sampled.

ESCALANTE RIVER: Two helicopter access trips were taken into the Escalante River on 17-21 May 1999 and 21-24 June 1999. These trips sampled the riparian groves along the Escalante River and in two of the side canyons. On the May trip, eight 1000m long five-point transects were sampled. On the June trip, eleven 1000m long five-point transects were sampled.

OVERFLIGHTS: On 23 November 1998 and 25 March 1999, overflights of GLCA were conducted to orient personnel and for site selection purposes.

PREVIOUSLY UNDOCUMENTED SPECIES: Nine species that were previously unrecorded in GLCA were found during the course of inventory and monitoring fieldwork and are discussed below.

Wild Turkey: Tracks of this species were noted along the Escalante River from Harris Wash to Cow Canyon on 18 May 1999. This was most likely an individual that had dispersed from populations on Boulder Mountain at the headwaters of the Escalante River.

Short-billed Dowitcher: An immature bird was observed at the Page wastewater treatment plant from 7-10 September 1999. This species is a rare but regular fall migrant through the interior western North America.

Yellow-footed Gull: A second-year bird was seen in the Lone Rock Beach-Wahweap area on 21-23 April 1999. This represented the first documented record of this species from Arizona and the second from Utah. It is endemic to the Sea of Cortez.

Sabine's Gull: Three immatures were observed in Wahweap Bay on 22 September 1998 and two adults were seen on 23 September 1999. This primarily pelagic gull is a rare but regular migrant through interior western North America.

Williamson's Sapsucker: A female was seen in pinyon-juniper woodland on the Kaiparowits Plateau on 17 September 1999. This species is to be expected as an uncommon migrant in pinyon-juniper woodland.

Eastern Phoebe: Two were seen at river miles 1.0 and 1.6 on 1 April 1999. These represent the second and third records for extreme northern Arizona.

Cassin's Vireo: One seen in pinyon-juniper woodland on the Kaiparowits Plateau on 10 May 1999 and another was seen there on 14 September 1999. This species is to be expected in GLCA as it is an uncommon migrant through the region.

Red-eyed Vireo: One was seen at Lonely Dell on 23 September 1998. This species has become an increasingly rare fall migrant throughout Arizona.

Black-and-White Warbler: An adult male was seen in pinyon-juniper woodland on the Kaiparowits Plateau on 7 July 1999. This record likely represents an early fall migrant of this species that is noted for its early fall departure from breeding sites in eastern North America. It is a regular but rare migrant in western North America and is one of the few eastern breeding birds that winter in western Mexico.

KAIPAROWITS PLATEAU RAPTOR FLIGHT. A five-hour migrant hawk count was conducted on Navajo Point at the southern terminus of the fifty mile-long Kaiparowits Plateau on 15 September 1999. We had speculated, given the topographical structure and orientation of the plateau, that it would act as a funnel for migrating raptors by concentrating them at its southern tip. The count that day yielded 66 individuals of seven species for a passage rate of 1 individual/4.6 minutes. It appears that the plateau does act to lead migrant raptors along its summit creating a regionally important flyway.

DISCUSSION: Significant gains in information regarding the status, distribution, and relative abundance of the avifauna of GLCA were made in FY 1999. In addition, the breeding season avian community composition has been determined for the two principal terrestrial avian habitats: the pinyon-juniper woodland of the Kaiparowits Plateau and Hans Flat area and the riparian gallery woodland of the Escalante River. A total of 43 1000m long 5-point transects were established in six habitats at six localities. These transects were sampled a total of 67 times with a total of 335 point counts being conducted. In addition, 18 patches of Colorado River riparian thickets received three replicate samples with 31 point counts being conducted (for an additional 93 point counts). The down lake waterfowl and Lee's Ferry-Lonely Dell surveys were continued from previous years. A total of 232 species of birds (out of a current total of 289) were detected using the survey techniques and through incidental observations (Appendix 2). Fifty five species were confirmed breeding in GLCA. Nine species previously undocumented in GLCA were recorded. A new field checklist for use by the visiting public and others has been drafted (Appendix 3) and is currently being reviewed. A draft annotated checklist of the birds of GLCA has been initiated which will be updated and

completed at the close of the inventory phase of the inventory and monitoring program. The data are currently being entered into databases and fieldwork is ongoing.

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APPENDIX 2

LIST OF BIRDS RECORDED DURING AVIAN INVENTORY AND MONITORING AT GLEN CANYON NATIONAL RECREATION AREA FY1999

Common Loon
Yellow-billed loon
Pied-billed Grebe
Horned Grebe
Eared Grebe
Western Grebe*
Clark's Grebe
American White Pelican
Double-crested Cormorant
Great Blue Heron*
Great Egret
Snowy Egret
Cattle Egret
Green Heron
Black-crowned Night-Heron
White-faced Ibis
Turkey Vulture
California Condor
Greater White-fronted Goose
Snow Goose
Ross's Goose
Canada Goose
Tundra Swan
Gadwall
American Wigeon
Mallard*
Blue-winged Teal
Cinnamon Teal
Northern Shoveler
Northern Pintail
Green-winged Teal
Canvasback
Redhead
Ring-necked Duck
Greater Scaup
Lesser Scaup
Long-tailed Duck
Bufflehead
Common Goldeneye
Barrow's Goldeneye

Hooded Merganser
Common Merganser*
Red-breasted Merganser
Ruddy Duck
Osprey
Bald Eagle
Northern Harrier
Sharp-shinned Hawk
Cooper's Hawk*
Swainson's Hawk
Red-tailed Hawk*
Golden Eagle*
American Kestrel*
Merlin
Peregrine Falcon*
Prairie Falcon
Wild Turkey
Chukar
Virginia Rail
Sora
American Coot*
Black-bellied Plover
Semipalmated Plover
Killdeer
Black-necked Stilt
American Avocet*
Lesser Yellowlegs
Greater Yellowlegs
Solitary Sandpiper
Willet
Spotted Sandpiper
Whimbrel
Long-billed Curlew
Marbled Godwit
Sanderling
Semipalmated Sandpiper
Western Sandpiper
Least Sandpiper
Baird's Sandpiper
Pectoral Sandpiper

Dunlin
Stilt Sandpiper
Short-billed Dowitcher
Long-billed Dowitcher
Common Snipe
Wilson's Phalarope
Red-necked Phalarope
Franklin's Gull
Bonaparte's Gull
Ring-billed Gull
California Gull
Herring Gull
Yellow-footed Gull
Sabine's Gull
Caspian Tern
Common Tern
Forster's Tern
Black Tern
Rock Dove
White-winged Dove
Mourning Dove*
Greater Roadrunner
Great Horned Owl*
Northern Pygmy-Owl
Burrowing Owl
Long-eared Owl
Lesser Night hawk
Common Nighthawk
Common Poorwill
White-throated Swift
Black-chinned Hummingbird*
Costa's Hummingbird
Broad-tailed Hummingbird*
Rufous Hummingbird
Belted Kingfisher
Williamson's Sapsucker
Yellow-bellied Sapsucker
Red-naped Sapsucker
Hairy Woodpecker*
Northern Flicker
Olive-sided Flycatcher
Western Wood-Pewee
Willow Flycatcher
Hammond's Flycatcher
Gray Flycatcher*
Dusky Flycatcher*

Black Phoebe*
Eastern Phoebe
Say's Phoebe*
Ash-throated Flycatcher*
Cassin's Kingbird*
Western Kingbird
Loggerhead Shrike*
Northern Shrike
Gray Vireo
Plumbeous Vireo*
Cassin's Vireo
Warbling Vireo
Red-eyed Vireo
Western Scrub-Jay*
Pinyon Jay*
Clark's Nutcracker
Common Raven*
Horned Lark
Tree Swallow
Violet-green Swallow*
Northern Rough-winged Swallow
Bank Swallow
Cliff Swallow
Barn Swallow
Mountain Chickadee*
Juniper Titmouse*
Bushtit*
Red-breasted Nuthatch
White-breasted Nuthatch*
Brown Creeper
Rock Wren*
Canyon Wren*
Bewick's Wren*
House Wren
Winter Wren
Marsh Wren
American Dipper
Golden-crowned Kinglet
Ruby-crowned Kinglet
Blue-gray Gnatcatcher*
Western Bluebird*
Mountain Bluebird
Townsend's Solitaire
Hermit Thrush
American Robin*
Gray Catbird

Northern Mockingbird
Sage Thrasher
Crissal Thrasher
European Starling
American Pipit
Cedar Waxwing
Phainopepla
Orange-crowned Warbler
Virginia's Warbler*
Lucy's Warbler*
Yellow Warbler
Yellow-rumped Warbler
Black-throated Gray Warbler*
Townsend's Warbler
Black-and-White Warbler
MacGillivray's Warbler
Common Yellowthroat
Wilson's Warbler
Yellow-breasted Chat*
Summer Tanager
Western Tanager
Green-tailed Towhee
Spotted Towhee*
Rufous-crowned Sparrow
Chipping Sparrow*
Brewer's Sparrow
Vesper Sparrow
Lark Sparrow*
Black-throated Sparrow*
Sage Sparrow*
Lark Bunting
Savannah Sparrow
Song Sparrow
Lincoln's Sparrow
White-throated Sparrow
White-crowned Sparrow
Dark-eyed Junco
Black-headed Grosbeak
Blue Grosbeak*
Lazuli Bunting
Indigo Bunting
Dickcissel
Red-winged Blackbird*
Western Meadowlark
Yellow-headed Blackbird
Brewer's Blackbird

Great-tailed Grackle
Brown-headed Cowbird*
Hooded Oriole
Bullock's Oriole*
Scott's Oriole*
Black Rosy-Finch
Cassin's Finch
House Finch*
Red Crossbill
Pine Siskin
Lesser Goldfinch*
American Goldfinch
Evening Grosbeak
House Sparrow*

Bold face = new record for GLCA

* = breeding confirmed

