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NOTES ON HELLS CANYON BIRDS

Daniel M. Taylor¹

ABSTRACT.—An annotated list of 108 bird species is reported from several spring and two summer visits, as well as one fall and one winter visit, into Hells Canyon on the Idaho-Oregon border. This is the first report on the avifauna of one of the deepest gorges on earth.

With a maximum depth of 2,400 m (Ashworth 1977), Hells Canyon is one of the deepest gorges on earth. The Snake River runs through the canyon and forms part of the border between Idaho and Oregon. Hells Canyon, lying on a north-south axis, is narrow, varying from about 8 to 16 km from rim to rim. It is characterized by basalt cliffs, outcrops, and scree fields interspersed with grassy benches and steep slopes. Small streams cascade down the canyon walls every few or several miles. The canyon bottom varies from about 400 to 500 m in elevation, approximately the elevation of Lewiston, which is the lowest point in Idaho (Burleigh 1972). Summers are hot and dry, and winters are cool and wet, although snow only rarely stays on the canyon bottom (J. Zanelli, personal communication).

A party from the Lewis and Clark Expedition briefly explored the lower regions of Hells Canyon at the beginning of the nineteenth century, and cattle ranching has occurred there for over a century (Ashworth 1977), but the canyon has been little explored by biologists, particularly Idaho ornithologists. The two books on Idaho birdlife (Larrison et al. 1967, Burleigh 1972) are almost devoid of records from Hells Canyon. A recent review of the ornithological literature of Idaho (J. M. Scott, M.S.) found no references for Hells Canyon. The nearest Idaho references are Burleigh's numerous records from Lewiston, near the north end of Hells Canyon, and an annotated list from the Weiser Valley south of Hells Canyon by Newhouse (1960). The nearest Oregon reference to Hells Canyon known to me is the general annotated list for Union and Wallowa counties by the

Grande Ronde Bird Club (undated, probably 1980). To fill in this gap in knowledge of Idaho bird distribution, I report in this paper observations of birds made during several trips into this canyon by myself and others.

The lack of bird records from Hells Canyon is probably due to the canyon's ruggedness and isolation. On the Idaho side public access is limited to a paved road along the 50 km of reservoirs behind Oxbow and Hells Canyon dams on the upper or south end of the canyon. The Snake River below the dam is free flowing the remaining 125 km of the canyon, and much is designated a Wild and Scenic River. There is a rough dirt road at Pittsburg Landing, 52 km below Hells Canyon Dam, and there are a few hiking trails down to the river through the Seven Devils Mountains.

The ground layer of vegetation consists of bunch grasses and herbs, of which 24 endemic species were recorded as in the canyon (Ashworth 1977). Prickly-pear cactus (*Opuntia polyacantha*) is commonly found, especially in the northern half. Shrubs are patchy and usually in more mesic locations. Common deciduous tree and shrub species are poison oak (*Toxifolia radicans*), currants (*Ribes* spp.), western serviceberry (*Amelanchier alnifolia*), mountain mahogany (*Cercocarpus ledifolius*), hawthorne (*Crataegus douglasii*), syringa (*Philadelphus lewisii*), red-osier dogwood (*Cornus stolonifera*), chokecherry (*Prunus virginiana*), alder (*Alnus rhombifolia*), willow (*Salix* spp.), and cottonwood (*Populus trichocarpa*) (Bingham and Henderson 1978). The latter four species are confined mostly to riparian zones along small streams. There is practically no riparian brush along the main river, probably because of the strong and

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erratic fluctuations in water levels and the characteristically steep and rocky shoreline. I found no big sagebrush (*Artemisia tridentata*) the entire length of the canyon, and the only shrub typical of xeric sites in the cold deserts of Idaho and Oregon is rabbitbrush (*Chrysothamnus* sp.), which occurs only in the last 8 km of the north end of the canyon. The only common tree away from riparian zones at the bottom of the canyon is hackberry (*Celtis reticulata*), which is common the entire length of the canyon. There are sporadic small clumps of ponderosa pine (*Pinus ponderosa*) as well as lone individuals near the river, and groves are found down to the canyon bottom along at least Granite and Kirkwood creeks.

The higher sections of Hells Canyon are often timbered by ponderosa pine and Douglas-fir (*Pseudotsuga menziesii*). There are also grassy hillsides and meadows at these higher elevations.

STUDY AREAS AND METHODS

Observations of birds along the reservoirs above Hells Canyon Dam have been limited to a few days in spring when I was driving to the boat launch just below the dam. I took hiking trips downstream from Hells Canyon Dam on 21–25 March and 9–12 December 1979, 8–10 April 1980, 18–22 March 1981, and 14–17 March 1984. I also received records from a 10–15 May 1987 hike in that area by Andy and Dr. S. C. Taylor. The farthest downstream extension of these hikes was 11 km to Granite Creek. Another hike was taken from Pittsburg Landing, 24 km upstream to Sheep Creek, 13–17 March 1983. A day hike from Pittsburg Landing upstream 6 km occurred 22 May 1986. I took a raft float trip from Hells Canyon Dam downstream 126 km to Hellar Bar 22–27 August 1987. I also received records by Peter Warshall, who took a similar float trip on 18–22 July 1986. A hike from the rim of the canyon 11 km down to the mouth of Sheep Creek along the Stormy Point Trail was taken 27–29 September 1988.

Birds were recorded opportunistically as they were encountered. Most mornings I took walks along the Snake River's bank or up creeks entering the river. I used 7 × 35-mm binoculars to help identify birds. Most observations were made within 1,000 m of the canyon floor, and comparatively little time was spent in the coniferous forests.

SPECIES ACCOUNTS

Pied-billed Grebe (*Podilymbus podiceps*). This species was recorded on the July 1986 float trip by Peter Warshall.

Great Blue Heron (*Ardea herodias*). I saw one specimen while I was driving along one of the reservoirs on 18 March 1981. Records below Hells Canyon Dam are all from summer, with six and nine birds recorded respectively on the July 1986 and August 1987 float trips. The birds I observed fed alone in shallow water or were flying overhead and were found from Bernard Creek downstream to Hellar Bar.

Swan (*Cygnus* sp.). Three swans, probably Tundra Swans (*C. columbianus*) but possibly Trumpeter Swans (*C. buccinator*), were flying north about 150 m above the river near Brush Creek on 25 March 1979. Swans were heard overhead the evening of 18 March 1981 at Granite Creek.

Snow Goose (*Chen caerulescens*). About 35 white-phased geese were flying north 100 m above the Snake River near Brush Creek on 25 March 1979.

Canada Goose (*Branta canadensis*). An individual and a pair were flying over the Snake River near Granite Creek on 11 December 1979 and 22 March 1981, respectively. Small flocks were on the river or grazing in a small flooded pasture from Pittsburg Landing to Sheep Creek in March 1983 and May 1986. More than 20 were found molting during the July 1986 float trip.

Mallard (*Anas platyrhynchos*). A bird was about 2 km upstream from Sheep Creek on 17 March 1983, and a female was seen on the July 1986 float trip.

Northern Pintail (*A. acuta*). A pair was flying high over the Snake River near Granite Creek on 19 March 1981.

Northern Shoveler (*A. clypeata*). Fourteen were flying south above the Snake River on 26 August 1987.

American Wigeon (*A. americana*). Four were on a quiet eddy of the Snake River near Granite Creek on 14 March 1984.

Common Goldeneye (*Bucephala clangula*). About 12 were congregated with Barrow's Goldeneyes on the Snake River near Brush Creek on 8–10 December 1979.

Barrow's Goldeneye (*B. islandica*). Between 9 and 60 individuals were found between Hells Canyon Dam and Granite Creek

on the four early spring trips and one winter trip into this area. The birds were usually in flocks on the Snake River, where they dived into swift but smooth water. Birds were molting into breeding plumage in March.

Common Merganser (*Mergus merganser*). Up to nine birds were found on all early spring trips and the winter trip into Granite Creek. A single bird was seen 13–17 March 1983 between Pittsburg Landing and Sheep Creek. A flock with one bird in male plumage and five in female plumage was on Hells Canyon Reservoir on 8 April 1980. A total of 23 were seen on the August 1987 float trip.

Turkey Vulture (*Cathartes aura*). One was flying above Oxbow Dam on 8 April 1980.

Osprey (*Pandion haliaetus*). One was observed on the July 1986 float trip.

Bald Eagle (*Haliaeetus leucocephalus*). Along the reservoirs, five adults and an immature were found on 21 March 1979, two adults and an immature on 18 March 1981, and two on 14 March 1984. Several were also seen along the reservoirs during winter in the late 1970s by John S. Taylor. Below Hells Canyon Dam one was seen 13 December 1979 at Brush Creek, and two adults were seen between Brush Creek and Granite Creek on 17 March 1984. A pair nested in a big, lone ponderosa pine at the mouth of Two Creeks earlier in the twentieth century (Carrey et al. 1979: 166).

Cooper's Hawk (*Accipiter cooperii*). One bird was being attacked by an American Kestrel in the Bernard Creek area on 23 August 1987. Another individual was soaring along the rim of the canyon at the head of Stormy Point Trail on 29 September 1988.

Goshawk (*A. gentilis*). One bird was flying over conifer forest along Granite Creek on 15 March 1984.

Red-tailed Hawk (*Buteo jamaicensis*). One unaged bird was at Oxbow Dam on 8 April 1980. An adult was calling between Pittsburg Landing and Sheep Creek on 13 March 1983. Two or three pairs were observed during the July 1986 float trip. An adult was soaring along the canyon rim near the head of Stormy Point Trail on 29 September 1988.

Golden Eagle (*Aquila chrysaetos*). This eagle was recorded on nearly every trip in all seasons and was found the length of the canyon. Most sightings were of lone or paired adults, with a high daily count of nine on 13

March 1983 between Pittsburg Landing and Sheep Creek. Courtship behavior was observed several times in spring. On 29 September 1988 an immature was flushed from a recently killed mule deer (*Odocoileus hemionus*) on upper Sheep Creek.

American Kestrel (*Falco sparverius*). The only spring record is of one bird at Granite Creek in mid-May 1986. On the August 1987 float trip I saw a total of 11 birds from Bernard Creek downstream to Hellar Bar. One kestrel was seen about 1 km downstream from Rush Creek on 28 September 1988.

Ruffed Grouse (*Bonasa umbellus*). One to three individuals were recorded in March and December 1979 and in April 1980 at Granite Creek, and a total of four birds were found along Sheep Creek 27–29 September 1980. Birds have been found in riparian brush or in conifer forest, and drumming birds were heard in April and September.

Blue Grouse (*Dendragapus obscurus*). Two groups totaling eight birds were flushed from riparian brush mixed with conifer forest on upper Sheep Creek on 29 September 1988.

Chukar (*Alectoris chukar*). I found this introduced species to be a common resident the entire length of the canyon. It could be heard throughout the year calling from rocky, open areas. Coveys were often observed coming down to the river to drink during August 1987.

Gray Partridge (*Perdix perdix*). A covey was along Hells Canyon Reservoir on 21 March 1979.

Killdeer (*Chadrius vociferus*). Two or three birds were in a flooded pasture at Pittsburg Landing on 13 March 1983. Another one was observed at Dry Gulch, Oregon, on 23 August 1987.

Spotted Sandpiper (*Actitis macularia*). At least five were recorded on the July 1986 float trip, some of which were protecting nests. A total of 30 birds were found alone or in pairs in August 1987.

Western Sandpiper (*Calidris mauri*). About 15 were flying low and fast downstream (north) about 5 km downstream from Pittsburg Landing on 24 August 1987.

Ring-billed Gull (*Larus delawarensis*). An adult was resting on Hells Canyon Reservoir about 2 km above the dam on 22 August 1987. Another was sighted just below Hells Canyon Dam on 22 March 1981.

California Gull (*L. californicus*). A single bird was seen near the spillway of Oxbow Dam on 8 April 1980. Immatures and adults were found on the July 1986 float trip.

Rock Dove (*Columba livia*). This species was recorded on the July 1986 float trip.

Mourning Dove (*Zenaida macroura*). This dove was recorded on the July 1986 float trip. Two were flushed from the road along Hells Canyon Reservoir on 22 August 1987, and about 20 were also seen on the August 1987 float trip.

Western Screech Owl (*Otus kennicottii*). This species was heard calling from hackberry groves at Granite Creek on 21–22 March 1981 and 14–16 March 1984. Others were calling near Brush Creek on 17 March 1984 and at Pittsburg Landing on 13 March 1983.

Great Horned Owl (*Bubo virginianus*). Birds were heard hooting just upstream from Hells Canyon Dam on 18 March 1981, at Kirby Creek on 17 March 1983, and Dry Gulch below Granite Creek on 22 August 1987. Young were heard food-begging at Dug Creek 23 August 1987. One was hooting at the mouth of Sheep Creek on 27 September 1988.

Long-eared Owl (*Asio otus*). One owl was heard calling from a hackberry grove at Dry Gulch on the Oregon side on 24 August 1987, and another was at Cottonwood Creek two days later.

Common Nighthawk (*Chordeiles minor*). About 10 were found on the July 1986 float trip, and 7 were found between Dry Gulch on the Oregon side and about 10 km below Pittsburg Landing on the August 1987 float trip.

White-throated Swift (*Aeronautes saxatalis*). One was flying north about 1,000 m above the canyon bottom about 2 km downstream from Granite Creek on 15 March 1984. They were also recorded on the July 1986 float trip.

Vaux's Swift (*Chaetura vauxi*). About 30 of these swifts were mixed with 40 Cliff Swallows flying over the Snake River near Bernard Creek on 23 August 1987. Twelve more were at the old Len Jordan Ranch the next day.

Belted Kingfisher (*Ceryle alcyon*). One bird was along the Snake River near Granite Creek on 9 April 1980. More than 5 pairs were seen on the July 1986 float trip, and on the August 1987 float trip I recorded 15 birds from Temperance Creek to near Hellar Bar, with all but 2 birds seen below Pittsburg Landing.

One was at the mouth of Sheep Creek on 27–28 September 1988.

Lewis' Woodpecker (*Melanerpes lewis*). About six birds were seen during the July 1986 float trip, and six were seen in the Granite Creek area 10–15 May 1987.

Downy Woodpecker (*Picoides pubescens*). A male was drumming on an old stump near Hibb's Cabin on Granite Creek on 10 April 1980. On 29 September 1988 one of undetermined sex was in a mixed-species flock, including Red-breasted Nuthatches, Mountain Chickadees, and Black-capped Chickadees, in riparian brush along Sheep Creek about 6 km above the Snake River.

Hairy Woodpecker (*P. villosus*). One female was seen in riparian brush along Granite Creek in March 1979 and 1981.

Common Flicker (*Colaptes auratus*). This is a fairly common resident I found the length of the canyon in riparian brush, conifer forest, grassy slopes, and a small park on Hells Canyon Reservoir. A pair at Granite Creek on 21 March 1981 included one bird with yellow flight feathers with a slight orange tinge, but with a red "mustache."

Pileated Woodpecker (*Dryocopus pileatus*). The characteristic, large, rectangular and oval holes this species leaves in wood (National Geographic 1983) were found in conifer forest along upper Sheep Creek on 27 September 1988.

Western Wood-pewee (*Contopus sordidulus*). Two pewees were seen at different locations a few km above Pittsburg Landing on 24 August 1987.

Say's Phoebe (*Sayornis saya*). I found this phoebe to be fairly common in spring and summer in the canyon. A total of 8 birds were found on the spring hikes into Granite Creek, and 15 birds were observed on the two spring hikes upstream from Pittsburg Landing. They were recorded on the July 1986 float trip. Phoebes were usually found in open, rocky or brushy habitat and were actively singing in March.

Western Kingbird (*Tyrannus verticalis*). Six of these kingbirds were in a shelter belt of trees near the ranch of Pittsburg Landing, and another was about 2 km upstream in some willows on 22 May 1986. Adults with fledglings were found on the July 1986 float trip.

Eastern Kingbird (*T. tyrannus*). This species was found on the July 1986 float trip, and on the August 1987 float trip six birds were found from about 5 km below the old Len Jordan Ranch to near Hellar Bar.

Horned Lark (*Eremophila alpestris*). This species was recorded on the July 1986 float trip.

Tree Swallow (*Tachycineta bicolor*). Six birds were flying over the Snake River near Suicide Point on 17 March 1983.

Violet-green Swallow (*T. thalassina*). This swallow was commonly seen 21–25 March 1979 from Hells Canyon Dam to Granite Creek. A few of these swallows were at Oxbow Dam, and 20 more were at Brush Creek on 8 April 1980. About 5 were seen 3 km above Pittsburg Landing on 22 May 1986, and they were also observed on the July 1986 float trip.

Northern Rough-winged Swallow (*Stelgidopteryx serripennis*). Several were flying over the Snake River with Bank Swallows at Pittsburg Landing on 22 May 1986, and one was observed gathering grass stems there. A few were seen on 24 August 1987 from Dry Gulch on the Oregon side to Tyron Creek.

Bank Swallow (*Riparia riparia*). Some were mixed in with Northern Rough-winged Swallows at Pittsburg Landing on 22 May 1986. They were also found on the July 1986 float trip.

Cliff Swallow (*Hirundo pyrrhonota*). One swallow was flying around Oxbow Dam on 8 April 1980. About 12 birds were at Pittsburg Landing on 22 May 1986. Several individuals were seen between Tyron Creek and Robinson Gulch on 25 August 1987, and a flock of 40 was near Wild Sheep Rapids the previous day.

Barn Swallow (*H. rustica*). A few birds were over the Snake River about 3–6 km above Pittsburg Landing on 22 May 1986. They were found on the July 1986 float trip, and three were at the boat ramp below Hells Canyon Dam on 22 August 1987.

Steller's Jay (*Cyanocitta stelleri*). One to four birds have been recorded from conifer forest along Granite Creek on 11–12 December 1979, 9 April 1980, and 14 March 1984. Groups of two and three birds were seen in conifer forest near Sheep Creek on the upper part of Stormy Point Trail on 27 September 1988.

Clark's Nutcracker (*Nucifraga columbiana*). A pair was in conifer forest at the

saddle above Pittsburg Landing on 22 May 1986. In the conifer forest along the upper portion of Stormy Point Trail a total of 18 and 23 birds were seen respectively on 27 and 29 September 1988, and some of these birds were seen prying into ponderosa pine cones.

Black-billed Magpie (*Pica pica*). I have found this species to be a common resident throughout the canyon alone or in small flocks. Magpies were recorded on every trip into the canyon. They were found in all terrestrial habitats and at all elevations. Nests were found in hackberry tree groves.

Common Crow (*Corvus brachyrhynchos*). Crows were found on all the spring, summer, and fall trips I took into the canyon except for the 22 May 1986 day hike 6 km upstream from Pittsburg Landing. Birds were found from the reservoirs downstream to Robinson Gulch. They were seen alone or in flocks of up to 25 birds. Crows were observed in a variety of habitats at lower elevations in the canyon and were frequently associated with ranches or livestock.

Common Raven (*C. corax*). One raven was seen along the reservoirs on 21 March 1979, and an individual was reported from the July 1986 float trip. Two ravens were at the top of Stormy Point Trail on 29 September 1988 in conifer forest. Larrison et al. (1967) stated that a few birds may occur in the canyon.

Black-capped Chickadee (*Parus atricapillus*). This chickadee was recorded on every trip into the canyon. Although most commonly found in hackberry groves, it was also seen in riparian brush and ponderosa pine forest. It was often associated with Golden-crowned Kinglets and sometimes with Brown Creepers, Red-breasted Nuthatches, and Mountain Chickadees.

Mountain Chickadee (*P. gambeli*). Two of these chickadees were found in conifer forest up Granite Creek on both 12 December 1979 and 15 March 1984. A total of 11 were found in conifer forest or riparian brush along Sheep Creek on 29 September 1988. This species was sometimes associated with Golden-crowned Kinglets, Brown Creepers, Black-capped Chickadees, and Red-breasted Nuthatches.

Red-breasted Nuthatch (*Sitta canadensis*). One bird was observed in a mixed conifer forest up Granite Creek on 20 March 1981. Two were in similar forest at the saddle above

Pittsburg Landing on both 14 March 1983 and 22 May 1986. An estimated 39 Red-breasted Nuthatches were counted in the conifer forest along upper Sheep Creek 27–29 September 1988. Three were in a mixed-species flock that included a Downy Woodpecker and Mountain and Black-capped Chickadees.

Pygmy Nuthatch (*S. pygmaea*). Two birds were seen near Brush Creek in open ponderosa pine forest on 12 December 1979, and one was heard a day earlier in the Granite Creek area.

Brown Creeper (*Certhia americana*). One to four birds were in a conifer forest along Brush Creek 10–12 December 1979. One bird was on an old fruit tree at Hibb's Cabin along Granite Creek on 9 April 1980, and another was near there in a lone ponderosa pine by the Snake River on 18 March 1981.

Rock Wren (*Salpinctes obsoletus*). I found this wren to be a fairly common spring and summer bird in the canyon, except apparently in the rugged country around Granite Creek. About 12 birds were recorded on the August 1987 float trip from Suicide Point downstream to Hellar Bar.

Canyon Wren (*Catherpes mexicanus*). This wren is a common resident found the length of the canyon, and I recorded it every trip into the canyon in all seasons. Up to 7 per day have been observed at Granite Creek in spring, and 15 were heard singing 13–15 March 1983 from Sheep Creek to Pittsburg Landing. A total of 65 were recorded on the August 1987 float trip. Larrison et al. (1967) stated that this wren was common in the canyon. I observed them in brushy scree fields, around big boulders, and on rock walls.

House Wren (*Troglodytes aedon*). Two different birds were heard 2–4 km above Pittsburg Landing on 22 May 1986.

Winter Wren (*T. troglodytes*). One to two were found in riparian brush along Granite Creek on 10 April 1980, 19–22 March 1981, and 15 March 1984. One was singing along Sheep Creek about 1 km above the Snake River on 16 March 1983.

American Dipper (*Cinclus mexicanus*). Dippers were found throughout the year along numerous creeks in the canyon. They were consistently heard singing in March and April, and a pair was seen copulating along Granite Creek in mid-May 1987. In December 1979 several were seen along the Snake

River between Hells Canyon Dam and Granite Creek. In spring and summer they were associated only with the creeks, except for one observed flying up the spillway of Oxbow Dam on 8 April 1980. Several times on 28 September 1988 I saw a dipper fly distances along the Snake River, then back to the mouth of Sheep Creek.

Golden-crowned Kinglet (*Regulus satrapa*). This kinglet was found at low elevations in both deciduous and conifer forests at Granite Creek on 10–12 December 1979 and in mid-March 1981 and 1984. One I recorded at Granite Creek on 9 April 1980 was high above the canyon bottom in conifer forest. Two of these kinglets were along Sheep Creek in a conifer forest on 27 September 1988, and two more were in the same area in riparian forest on 29 September 1988. These kinglets were sometimes associated with both chickadee species, Ruby-crowned Kinglets, and Brown Creepers.

Ruby-crowned Kinglet (*R. calendula*). This kinglet was seen several times in riparian brush along Granite Creek 19–22 March 1981, sometimes in association with Golden-crowned Kinglets. Along Sheep Creek on 27 September 1988 one Ruby-crowned Kinglet was in a conifer forest, and two were in riparian forest.

Mountain Bluebird (*Sialia currucoides*). Two of these bluebirds were on a grassy slope about 1,500 m above the canyon bottom near Granite Creek on 16 March 1984. Another was in a small flock of American Robins in a high meadow near the saddle above Pittsburg Landing on 13 March 1983. Larrison et al. (1967) stated that a few were found in the canyon.

Western Bluebird (*S. mexicana*). Eight of these bluebirds were perched on top of a Douglas-fir tree in open conifer forest on the rim of the canyon near the head of Stormy Point Trail on 29 September 1988.

Townsend's Solitaire (*Myadestes townsendi*). One bird was heard along Granite Creek on 15 March 1984.

Hermit Thrush (*Catharus guttatus*). This species breeds in the conifer forests of the canyon (Larrison et al. 1967).

American Robin (*Turdus migratorius*). Robins were found during all spring and summer trips, and along Sheep Creek in the fall. They were found the length of the canyon,

usually in hackberry trees, riparian brush, or meadows. Migratory flocks were common in March; I saw 12 at Granite Creek on 19 March 1981 and over 100 while I was hiking from Sheep Creek to Kirk Creek on 17 March 1983.

Sage Thrasher (*Oreoscoptes montanus*). One was near a ranch at Pittsburg Landing on 22 May 1986.

Water Pipit (*Anthus spinoletta*). A flock of nine pipits was on an open, grassy bluff along the rim of the canyon near Stormy Point Trail on 27 September 1988.

Cedar Waxwing (*Bombycilla cedrorum*). Two small flocks were seen on a 6-km hike along the Snake River upstream from Pittsburg Landing on 22 May 1986. They were also found on the July 1986 float trip. I found individuals and small flocks at about a dozen different locations on the August 1987 float trip from Dry Gulch on the Oregon side downstream to Hellar Bar, with the largest group of 12 recorded at the old Len Jordan Ranch.

Shrike (*Lanius* sp.). One shrike was in brush along Hells Canyon Reservoir about 1 km upstream from Hells Canyon Dam on 18 March 1981.

European Starling (*Sturnus vulgaris*). A flock was at a cattle feedlot along one of the reservoirs on 22 March 1981. One starling was at Sheep Creek on 16 March 1981. Two birds were on the Idaho side of the canyon opposite Dry Gulch in Oregon on 23 August 1988, and about 5–10 were at a ranch near Temperance Creek the following day.

Warbling Vireo (*Vireo gilvus*). This species was recorded on the July 1986 float trip.

Red-eyed Vireo (*Vireo olivaceus*). This species was recorded on the July 1986 float trip.

Orange-crowned Warbler (*Vermivora celata*). One warbler was along a small stream about 3 km above Pittsburg Landing on 22 May 1986. This species was recorded on the July 1986 float trip. Two of these warblers were at the mouth of Bernard Creek on 23 August 1987, and two more were at Temperance Creek the next day.

Yellow Warbler (*Dendroica petechia*). Birds with fledgling young were seen on the July 1986 float trip. Two of these warblers were in some brush on a bench about 4 km upstream from Pittsburg Landing on 22 May 1986, and one was at Tyron Creek on 25 August 1987.

Yellow-rumped Warbler (*D. coronata*). One warbler was along Oxbow Reservoir on 18 March 1981, and two were at Granite Creek the next day. Three different sightings of this warbler were made in a 6-km walk upstream from Pittsburg Landing on 22 May 1986. One was at Lower Dry Gulch on the Idaho side and another at Dry Gulch on the Oregon side on 23 August 1987. A total of 10 birds were seen 27–29 September 1988 along Sheep Creek, most of which were associated with hackberry trees.

MacGillivray's Warbler (*Oporornis tolimi*). This species was recorded on the July 1986 float trip.

Wilson's Warbler (*Wilsonia pusilla*). One individual was along a small creek about 3 km upstream from Pittsburg Landing on 22 May 1986.

Western Tanager (*Piranga ludoviciana*). Two tanagers were seen at Granite Creek in mid-May 1987. Another tanager was at Pittsburg Landing on 22 May 1986. Adults with fledgling young were found on the July 1986 float trip, and one tanager was seen at the old Len Jordan Ranch on 24 August 1987.

Lazuli Bunting (*Passerina amoena*). This was a very common bird in May at both Granite Creek and Pittsburg Landing. Roughly 30 birds, mostly singing males, were found on a 6-km hike upstream from Pittsburg Landing on 22 May 1986. This species was the most common singing bird on the July 1986 float trip, but only a few female and immature birds were seen during the August 1987 float trip.

Rufous-sided Towhee (*Pipilio erythrophthalmus*). Single individuals were singing along Granite Creek on 10 April 1980 and 20 March 1981. One bird was seen between Pittsburg Landing and Sheep Creek on 14 March 1983, and three birds were singing from different patches of shrubs during a 6-km hike upstream from Pittsburg Landing on 22 May 1986. Three individuals were in some brush near the top of Stormy Point Trail on 27 September 1988.

Chipping Sparrow (*Spizella passerina*). Two individuals were in ponderosa pine forest at the saddle above Pittsburg Landing on 22 May 1986. One bird was in a hackberry tree 1 km below Rush Creek on 28 September 1988.

Fox Sparrow (*Passerella iliaca*). One gray-headed morph was singing near Granite Creek from a bush on a bench on 22 May 1981.

Song Sparrow (*Melospiza melodia*). I found this species to be a fairly common resident the length of the canyon, and it was recorded on every trip into the canyon. These sparrows were usually found in riparian vegetation along nearly every stream I explored in the canyon. They were also found occasionally in hackberry groves.

White-crowned Sparrow (*Zonotrichia leucophrys*). One immature bird was in riparian brush along Sheep Creek on 28 September 1988. Four birds, including two immatures, were in a hawthorne tree along Sheep Creek in the conifer zone the next day.

Golden-crowned Sparrow (*Zonotrichia atricapilla*). This species is found in the fall in the subalpine zone in the Seven Devils Mountains (Larrison et al. 1967).

Dark-eyed Junco (*Junco hyemalis*). At Granite Creek a few flocks were found on three early and late spring trips, and a single bird was there on 9 December 1979. Several small flocks were encountered from Pittsburg Landing to Sheep Creek 13–17 March 1983, and five were along the upper section of Sheep Creek on 27 September 1988. This species occurred in both riparian brush and conifer forest.

Red-winged Blackbird (*Agelaius phoeniceus*). One or two birds were in riparian brush between Brush Creek and Granite Creek in mid-March 1979, and a male bird sang from a lone ponderosa pine tree at the latter creek on 25 March 1979. Two to five birds were in a flooded pasture near Pittsburg Landing on 22 May 1986, and they were also recorded on the July 1986 float trip.

Western Meadowlark (*Sturnella neglecta*). This species was consistently found during all six spring trips into the canyon. Small numbers were singing in open, grassy slopes from the reservoirs down to Pittsburg Landing.

Brewer's Blackbird (*Euphagus cyanocephalus*). A few birds were at a ranch by Pittsburg Landing on 22 May 1986. Flocks of 20 and 40 were seen flying upstream on separate days of the August 1987 float trip, and they were also recorded on the 1986 July float trip.

Brown-headed Cowbird (*Molothrus ater*). A male bird was displaying from some brush at the upper landing at Pittsburg Landing on 22 May 1986; others were recorded on the July 1986 float trip.

Northern Oriole (*Icterus galbula*). Eight birds were seen in the Granite Creek area 10–15 May 1986. Adults with fledglings were found on a July 1986 float trip. Six different birds were found on a 6-km hike upstream from Pittsburg Landing on 22 May 1986.

Rosy Finch (*Leucosticte arctoa*). This species has been recorded in July from the Seven Devils Mountains (Larrison et al. 1967).

Cassin's Finch (*Carpodacus cassinii*). One male was singing in ponderosa pine forest at the saddle leading into Pittsburg Landing on 13 March 1983.

Red Crossbill (*Loxia curvirostra*). A couple of birds were heard singing in ponderosa pine forest at the saddle above Pittsburg Landing on 13 March 1983.

American Goldfinch (*Carduelis tristis*). At Granite Creek two flocks of about 20 individuals each were seen 20 March 1981, and 3 birds were found there on 14 March 1984. Individuals or small flocks were heard or seen floating at several places from Tyron Creek downstream to Robinson Gulch on 25 August 1987, and they were also recorded on the July 1986 float trip.

Evening Grosbeak (*Coccothraustes vespertinus*). At Granite Creek one bird was calling from riparian brush on 9 April 1980, and 8 birds flew past the next day. There were small groups here on 14–16 March 1984, and a flock of 22 birds was in some hackberry trees along the Snake River near Brush Creek on 17 March 1984. Five grosbeaks were in conifers near the top of Stormy Point Trail on 27 September 1988.

House Sparrow (*Passer domesticus*). This species was recorded on the July 1986 float trip.

DISCUSSION

The lack of extensive work through all the seasons precludes any in-depth analysis of Hells Canyon avifauna. A few relevant observations were made, however. First it appears that this part of the Snake River is little used by water birds, except for some diving ducks and Spotted Sandpipers. At least some waterfowl navigate down the river in spring, and possibly Canada Geese and Common Mergansers breed along the river. Shorebirds, except for Spotted Sandpipers, appear to avoid the canyon almost completely. The only

other shorebirds seen in late August, a time of major migration through Idaho (Burleigh 1972, personal observation), were a lone Killdeer and a flock of Western Sandpipers flying north. At least some land birds may migrate through the canyon, as indicated by the large flock of American Robins and other small flocks of passerines found in spring and fall. In late September along Sheep Creek nearly all passerines encountered were 2 km or more up the trail above the Snake River. These birds may have been avoiding the hot, dry canyon bottom. Several species, such as Mountain Chickadee, Dark-eyed Junco, and Golden-crowned Kinglet, which breed in conifer forests in Idaho (Burleigh 1972), were found in the canyon bottom in winter and early spring.

Many other species of birds are certain to occur in Hells Canyon, and extensive surveys of the various habitats, especially in early summer and the fall, would greatly increase our knowledge of the canyon's avifauna.

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