INVESTIGATING COMMON LOON BREEDING IN OREGON - 1988

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Although early records are scarce, Common Loons (*Gavia immer*) apparently nested in Washington, Oregon, and northern California (Bent, 1919; Gabrielson and Jewett, 1940; Jewett *et al.*, 1953). Human disturbance, habitat alteration, pesticides, and entanglement in commercial fishing gear were probably major factors in the extirpation of loons as a breeding species from these 3 states by the 1950s (Corkran, 1988). Recent reports indicate the possibility of a reinvasion of some former nesting areas (Washington Nongame Division data base; North Cascades National Park Wildlife Biologist, pers. comm.; Corkran, 1988). Documentation of loon nesting in Oregon could be used to change the species' legal status in the state, making it eligible for state funding for protective management and further study.

The objectives of the present study are 1) to determine whether Common Loons are attempting to nest again in Oregon, 2) to identify locations or habitats important to loons for pair formation, migration stopovers, or possible future nesting, and 3) to develop recommendations for conservation and management of loons and their habitat.

STUDY AREAS AND METHODS

Phase 1 - Due to lack of funding, no study was made of spring migration on the northern Oregon coast, other than a few incidental observations.

Phase 2 - Spring and summer observations were made of Common Loons in the Bull Run Watershed, Mt. Hood National Forest, in the northern Oregon Cascade Range (Figure 1). During April and May,

the period loons were present in both 1986 and 1987, 14 days were spent censusing the reservoirs from the same observation points used in previous years. At each point, all visible water was scanned several times with 10X binoculars or 20X spotting scope. Locations and movements of loons were plotted on line maps, and activity, vocalizations, and interactions between loons were described. Since loons remained in the watershed after the end of May, an additional 8 days were spent during the summer and early fall.

Phase 3 - No new floating nest platforms were built in 1988. Existing platforms in the Bull Run Watershed were repaired, and additional marsh vegetation was dug up nearby and planted on platforms that had been stranded when the reservoirs were drawn down late in 1987.

Phase 4 - Potential nesting lakes on the Oregon coast and in the Cascade Range were surveyed, with efforts concentrated on lakes where summer loon sightings had been reported, and on lakes that are closed to public access or are remote and seldom visited (Figure 1). A total of 24 days was spent during June, July, and early August. Many of the larger lakes that could be reached by car were surveyed by canoe. Remote, mountain lakes were reached by day hiking or backpacking. Open water areas were scanned several times, and shorelines, perimeters of islands, and marshy areas were searched for nests or juvenile loons. Searches were made by canoe, on foot, or by scanning with binoculars and spotting scope. Brief descriptions were recorded of the habitat parameters that are associated with loon nesting in published reports (Munro, 1945; Olson and Marshall, 1952; Jewett et al., 1953; Vermeer, 1973; McIntyre, 1975; Ream, 1976; Alvo, 1981; McIntyre, 1983).

Physical and biotic attributes of lakes surveyed were obtained from the Atlas of Oregon Lakes (Johnson, et al., 1985), U. S. Geological Survey maps, pamphlets published by the Oregon Department of Fish and Wildlife, and information from the Natural Resources Department of the Confederated Tribes of the Warm Springs Reservation, or were estimated from maps and observations. Lakes that were surveyed were rated by their conformance to published descriptions of loon nesting habitat, in particular the

availability of suitable nest sites (islands, peninsulas, marshes, gentle or moderate shores with overhanging branches), chick rearing or nursery habitat (shallow, marshy areas, protected bays), and an adequate prey base. Based on published reports, maps, our habitat ratings and observations, and data from other individuals, the lakes were then rated as to their potential use for nesting by Common Loons.

RESULTS

Monitoring in the Bull Run Watershed - The earliest spring arrival date of loons into the watershed could not be determined for 1988, since my earliest visit was not until April 4, on which date at least 5 loons were already present. The number of loons observed peaked on April 19 when 9 loons were seen, which is consistent with both 1986 (at least 8 on April 16) and 1987 (6 loons on April 13). However, in contrast to previous years when no loons were seen after May 21 (1986) or May 29 (1987), in 1988 2 or 3 loons were seen on every visit throughout the summer. Table 1 shows the numbers, locations, plumages, and interactions of loons seen in the watershed on each visit in 1988.

Figures 2 and 3 are composite maps of locations of all loon sightings in 1988 on the Upper and Lower Reservoirs. As in previous years, loons were seen in spring most commonly on the 2 main reservoirs, with infrequent sightings on Bull Run Lake. Also consistent with previous data was the observation that loon use of the Lower Reservoir was solely for feeding and resting, while loon use of the Upper Reservoir followed the same predictable pattern noticed by casual observations in the springs of 1984 and 1985, and described in our reports of 1986 and 1987. Pair behavior (swimming closely parallel or following, synchronized shallow diving or preening, frequent hoots) was most often observed near the North Fork above the logboom, or below the logboom and well above Deer Creek (see map, Figure 2). A single loon was frequently observed cruising between the logboom area and Deer Creek, occasionally in a high-breast posture. All aggressive interactions between loons (only 2 instances in 1988) occurred in the vicinity of Deer Creek.

It appeared that, for at least the 5th consecutive year, the North Fork area down to Deer Creek functioned as a breeding territory during April and May, but was abandonned without successful nesting having occurred. In 1984 through 1986, this territory was held by an established pair of loons, both in breeding plumage. In 1987, a single loon maintained it, and was twice observed apparently courting an immature loon (in basic plumage). In 1988, observations were either of a single loon or of a pair that appeared to be tentative and possibly just forming. Several long observations of the pair noted, interspersed with periods of fishing, brief bouts of circling or briefly held aggressive postures alternating with periods of swimming closely parallel or following, somewhat synchronized shallow diving, and frequent hoots or occasional moans.

Before 1987, all loons seen in the watershed were in full breeding plumage. In that year an immature loon was seen on only 2 consecutive visits. However, in 1988, 2 immature loons were seen throughout the summer, one of which was also present all spring and underwent a molt of both wing and body feathers between April 4 and May 27.

No nests or chicks were seen in the watershed, and no pairs or territorial behavior were observed after May 6.

Summer loon surveys - Between June 1 and August 6, 89 lakes were visited. Figure 1 shows the regions of groups of lakes surveyed. A total of 10 loons was observed at 7 of these lakes, as shown in Table 2. Bull Run Lake and both the Upper and Lower Reservoirs in the Bull Run Watershed had sightings during July (Tables 1 and 2). Two loons were seen on Waldo Lake in the central Cascades. Siltcoos Lake, Clear Lake (Reedsport), and Lake Edna on the coast also had loon sightings. All summer sightings were of single loons, of which 3 were immatures (in basic plumage with "ghost" neckband) and 7 in breeding plumage. No pairs, juvenals, nests, or breeding behavior were observed.

Table 3 lists the lakes surveyed, with the surface area, maximum and average depths, elevation, and the number of loons seen during the summer surveys. Most loon sightings were on lakes of

several hundred acres, although 2 lakes were several thousand acres, and one was about 35 acres. Most lakes had a maximum depth of over 100 feet, except for one of unknown depth, and one of only 22 feet (with an average depth of only 11 feet). Loon sightings were made at elevations between 8 feet and 5414 feet above sea level.

Table 4 shows several attributes of the lakes, rated by their conformance to published descriptions of loon nesting habitat. Many lakes with apparently appropriate habitat yielded no sightings of loons in 1988. Although the lakes where loons were seen were not all rated highly in all parameters, they all did have a large prey base, at least some protected bays, and infrequent human use of at least a portion. Five of the seven lakes with loon sightings in summer of 1988 were in municipal watersheds, closed to public access. The other 2 lakes were very large, one receiving only light daily human use, the other having extensive marshes that were inaccessible to humans.

DISCUSSION

No direct evidence that Common Loons are nesting in Oregon was obtained, either in the monitoring efforts in the Bull Run Watershed or in the summer surveys of other lakes.

Spring use of the Watershed was mostly by breeding adults resting, feeding, and apparently forming or bonding pairs that would nest in other areas. Immature loons and at least 1 non-breeding adult also used the Watershed as a summer or spring and summer home. Attempted nesting in 1988, and use of the Watershed for nesting in the future, cannot be ruled out. The persistent pattern of use of the Upper Reservoir indicates both the possibility that the same individual loon or loons used the lake every year, and the possibility that the lake serves an important function in the early phases of the breeding season. Other lakes with frequent spring loon sightings should be monitored and compared.

Although lakes in several parts of the state appear to have suitable loon breeding habitat, no observations were made that would indicate that successful nesting occurred in 1988. The fact

that the majority of our surveys took place at the end of the season means that failed early nesting attempts might have been missed, if the loon pairs did not remain together through the summer. If possible, late spring and early summer visits should be made to the lakes with summer loon sightings. Several of the lakes that had appropriate habitat but where no loons were seen also should be checked for spring use.

There appeared to be correlation between summer loon occurrence and areas of restricted human acitvity. The frequency of summer sightings on municipal watersheds closed to public access is reminiscent of the reinvasion of Massachusetts by loons which are nesting at several restricted use watersheds (Blodgett and Lyons, 1988). At several Oregon lakes, there appear to be opportunities for additional seasonal restrictions on visitors, or for placement of floating nest platforms, if failed nesting attempts are thought to have occurred. We will continue to encourage the interest expressed, by individuals from several agencies, in managing lakes to benefit loons. Contacts established with wildlife biologists, birdwatchers, wilderness guards, and municipal water district personnel will be maintained.

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Figure 1. 1988 COMMON LOON STUDY AREAS IN OREGON

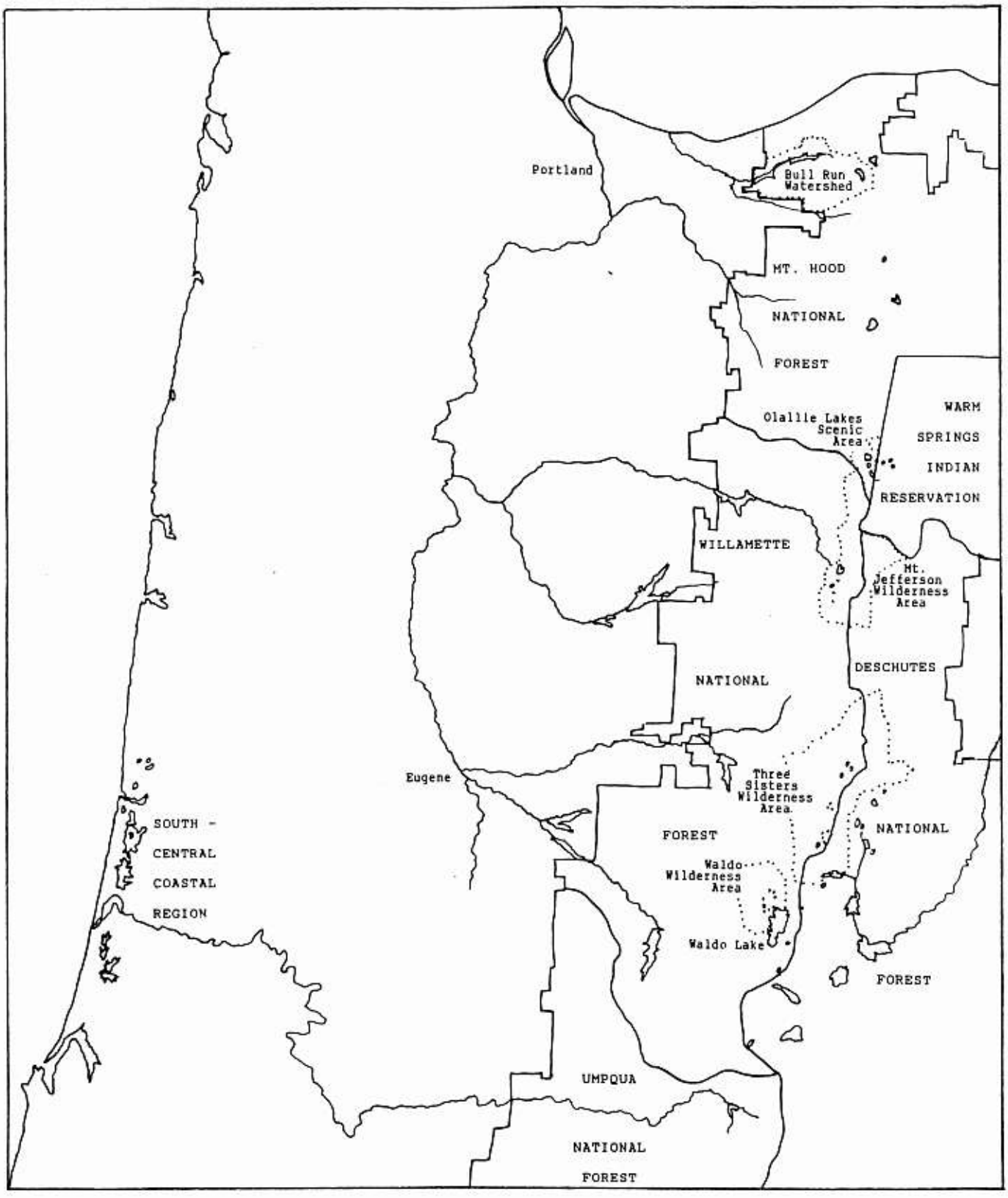

Figure 2. BULL RUN UPPER RESERVOIR - COMMON LOON SIGHTINGS IN 1988.

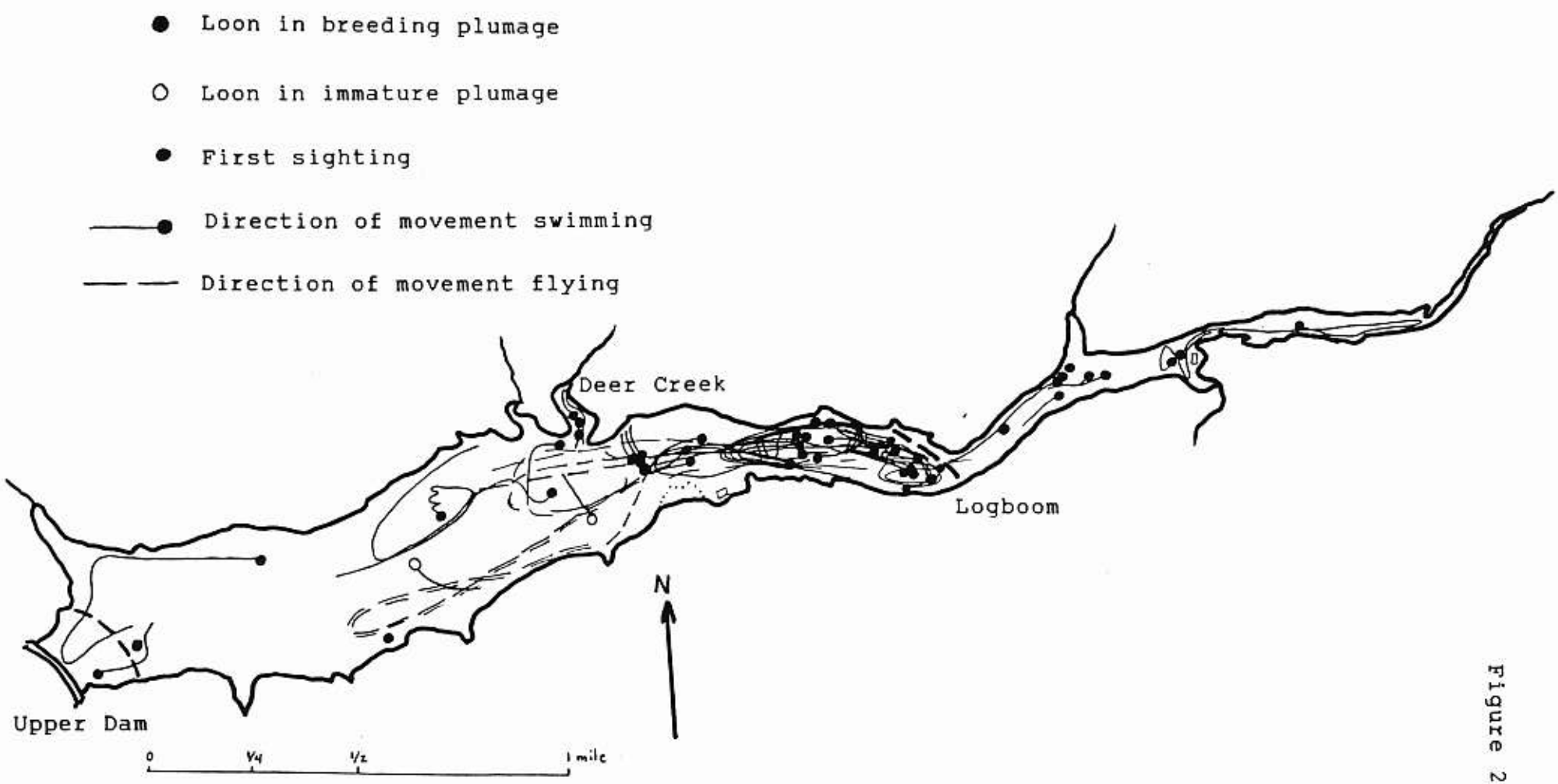

Figure 2.

Figure 3. BULL RUN LOWER RESERVOIR - COMMON LOON SIGHTINGS IN 1988.

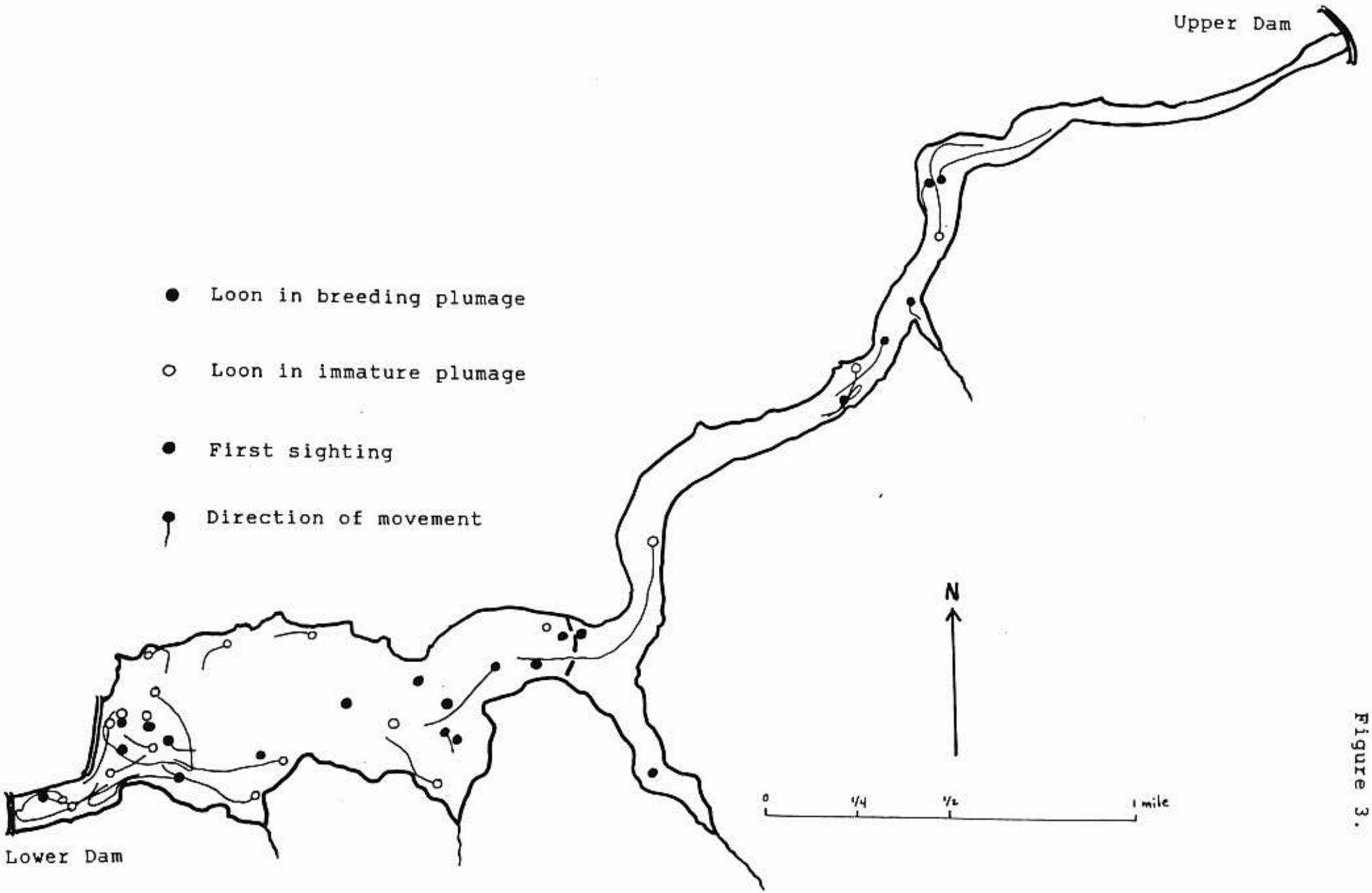

Figure 3.

Table 1. NUMBERS, PLUMAGES, INTERACTIONS, AND LOCATIONS OF COMMON LOONS IN THE BULL RUN WATERSHED IN 1988. Locations are mapped in Figures 1, 2, 3, and 4. B = loon in breeding plumage. I = loon in immature plumage. B-B = pair of loons in breeding plumage. * = aggressive interaction between loons. 0 = no loons seen at that location. -- = location not visited on that date. Loons seen moving from 1 location to another are shown at both.

DATE	UPPER RES. ABOVE LOGBOOM	UPPER RES. BTW. LOGBOOM & DEER CR.	UPPER RES. BELOW DEER CR.	LOWER RES.	BULL RUN LAKE
4/4	0	B, B	0	B, B, I	--
4/10	B-B	B	0	B, B	--
4/11	--	--	--	B, B	--
4/16	B	B, B	B	B, B	--
4/19	0	B-B	B-B	B, B, B, B, I	0
4/23	B, B	0	B	B, I	--
4/25	0	B	B	I	--
4/30	B-B	B-B*B	0	I	--
5/3	B	B-B*B-B	B-B	I	--
5/6	0	B-B	0	I	B
5/10	0	0	0	B, B, I	--
5/17	0	B	0	B, I	--
5/23	0	0	0	I	0
5/27	0	0	0	I	--
6/7	0	0	0	I	0
6/21	0	0	I	B, I	--
7/4	0	0	I	I	0
7/13	0	I	0	--	B?
8/7	0	I	0	B?	0
8/10	--	--	--	B, I	--
8/14	0	0	0	B, I	0
9/4	0	0	0	B	0
9/21	--	--	--	I	--

Table 2. SUMMER SIGHTINGS OF COMMON LOONS ON OREGON LAKES IN 1988 AND RECENT YEARS. Summer = June 1 to August 10. Includes sightings reported to the author by other individuals.

LAKES BY REGION	YEARS	MAXIMUM NUMBER OF LOONS SEEN
Mt. Hood National Forest		
Bull Run Lake	1978 or 79	a pair
Bull Run Lake	1984	1
Bull Run Lake	1988	1
Bull Run Upper Reservoir	1988	1 imm.
Bull Run Lower Reservoir	1988	2 (1 imm.)
Monon Lake	1986	1 imm.
Olallie Lake	1986	2?
Willamette National Forest		
Waldo Lake	1988	2
Deschutes National Forest		
Elk Lake	1980	1
Umpqua National Forest and vicinity		
Lemolo Lake	1985	1?
Lemolo Lake	1987	1 imm.
Miller Lake	1981	1 imm.
South central Oregon coast		
Siltcoos Lake	1988	1
Clear Lake (Reedsport)	1988	2 (1 imm.)
Lake Edna	1988	1
Southern Oregon coast		
Floras Lake	1987	1 imm.
South central Oregon		
Thompson Reservoir	1976	1 imm.
Thompson Reservoir	1985	1 imm.

Table 3. LOON SURVEY OF OREGON LAKES. Area = lake surface in acres. Max. Depth = maximum depth in feet. Ave. Depth = average depth in feet. Elev. = elevation above sea level in feet. # of Loons = number of loons seen during summer surveys (June 1 - Aug. 10).

LAKES BY REGION	AREA	MAX.DEPTH	AVE.DEPTH	ELEV.	# OF LOONS
Mt. Hood National Forest					
Lost Lake	231	175	77	3143	0
Bull Run Lake	466	225	66	3175	1
Bull Run Upper Reservoir	442	175	72	1047	1
Bull Run Lower Reservoir	469	110	45	860	2
Trillium Lake	57	16	6	3601	0
Clear Lake	475	22	16	3500	0
Timothy Lake	1282	80	45	3217	0
Olallie Lakes Scenic Area					
Fish Lake	60?	67	?	4400	0
Lower Lake	15	73	?	4750	0
Olallie Lake	188	43	17	4936	0
Timber Lake	20?	18	?	5300	0
Monon Lake	98	39	7	4959	0
Horseshoe Lake	14	17	?	5400	0
Warm Springs Indian Reservation					
Boulder Lake	50	43	?	4651	0
Trout Lake	23	35	?	4419	0
Island Lake	28	9	?	4685	0
Dark Lake	23	44	?	4700	0
Long Lake	28	35	?	4840	0
Lake Mary	8?	10?	?	5000	0
Lake Marie	10?	25?	?	5100	0
Lake Alice	10?	25?	?	5100	0
Breitenbush Lake	65	25	6	5500	0
Veronica Lake	6?	5?	?	5300	0
Eleanor Lake	10?	5?	?	5300	0
Francis Lake	10?	20?	?	5300	0
Sarah Lake	12?	20?	?	5500	0
Harvey Lake	40	48	?	5200	0
Hilda Lake	12?	15	?	5700	0
Mt. Jefferson Wilderness Area					
Lake Ann	16	10	?	4000	0
Marion Lake	261	185	64	4130	0
Blue Lake	10	40	?	5425	0
Jorn Lake	35	35	?	5050	0
Mowich Lake	49	52	19	5077	0
Duffy Lake	31	30	?	4793	0
Santiam Lake	16	40	?	5124	0

Table 3. LOON SURVEY cont.

LAKES BY REGION	AREA	MAX.DEPTH	AVE.DEPTH	ELEV.	# OF LOONS
Three Sisters Wilderness Area and vicinity					
Blow Lake	55	23	?	5050	0
Doris Lake	69	95	24	5350	0
Senoj Lake	15?	5?	?	5600	0
Leech Lake	30?	10?	?	5600	0
Cliff Lake	30?	24	?	5138	0
Vogel Lake	20?	7	?	5208	0
Horseshoe Lake	25?	14	?	5039	0
Mac Lake	25?	42	?	5100	0
Penn Lake	27	5	?	4770	0
Corner Lake	30?	14	?	4742	0
Goose Lake	10?	5	?	4758	0
Porky Lake	30?	19	?	4835	0
Mink Lake	139	85	37	5034	0
Puppy Lake	15?	13	?	5195	0
Long Lake	15?	9	?	5165	0
Upper Snowshoe L.	30	8	?	5060	0
Snowshoe Lake	18	15	?	5032	0
Winopee Lake	97	42	5	4951	0
Muskrat Lake	10	17	?	4900	0
North Teddy Lake	30	28	?	4900	0
South Teddy Lake	17	10	?	4859	0
Waldo Wilderness Area					
Whig Lake	15	10	?	5300	0
Torrey Lake	66	13	5	5280	0
Wahanna Lake	60	16	?	5200	0
Harvey Lake	22	24	?	5200	0
Lake Kiwa	40	25	?	5400	0
Lower Eddeeleo L.	104	123	70	4820	0
Round Lake	22	17	?	4800	0
Upper Eddeeleo L.	35?	41	?	4900	0
Waldo Lake vicinity					
Charlton Lake	156	95	35	5692	0
Waldo Lake	6298	420	128	5414	2
Bobby Lake	91	59	14	5408	0
Gold Lake	96	43	12	4813	0
Upper Marilyn L.	23	25	?	4800	0
Lower Marilyn L.	22	18	?	4800	0
Deschutes National Forest					
Todd Lake	29	60	21	6151	0
Elk Lake	405	62	12	4884	0
Hosmer Lake	198	12	3	4966	0
Lava Lake	368	34	20	4740	0
Little Lava Lake	138	18	8	4739	0
Little Cultus L.	156	55	17	4759	0

Table 3. LOON SURVEY cont.

LAKES BY REGION	AREA	MAX.DEPTH	AVE.DEPTH	ELEV.	# OF LOONS
Deschutes N. F. cont.					
Crane Prairie Reservoir	4167	20	11	4445	0
Wickiup Res.	10334	70	20	4338	0
Davis Lake	3906	20	9	4386	0
Summit Lake	482	63	23	5553	0
Umpqua National Forest					
Lemolo Lake	450	100	30	4142	0
South-central coastal region					
Clear Lake (Florence)	153	80	40	99	0
Woahink Lake	820	68	33	38	0
Siltcoos Lake	3164	22	11	8	1
Tahkenitch Lake	1674	23	11	11	0
Threemile Lake	63	33	13	20	0
Clear Lake (Reedsport)	310	119	54	229	2
Lake Edna	35?	50?	?	220?	1
Eel Lake	355	65	34	61	0

Table 4. PHYSICAL AND BIOTIC ATTRIBUTES OF OREGON LAKES SURVEYED, RATED FOR POTENTIAL LOON NESTING HABITAT. Lake Shape: 1=islands, peninsulas, protected bays, 2=small protected bays, 3=round outline. Shore Slope: 1=gentle, beach or marsh, 2=moderate slope, 3=steep bank or rocks. Emerg. Veg. (emergent vegetation): 1= extensive open marsh, 2=small marshes along shore, 3=no emergents. Prey Base: 1=large populations of fish and invertebrates, 2=small numbers of fish and invertebrates, 3=no fish, few invertebrates. Human Use: 1=irregular, infrequent visits, 2=at least weekly visits, parts of shore inaccessible, 3=daily summer use of most of lake. Loon Nest. Poten. (loon nesting potential): High=recent loon sightings, appropriate habitat condition or improvement opportunity, Mod.=moderately appropriate habitat condition, Low=one or more limiting factors.

LAKES BY REGION	LAKE SHAPE	SHORE SLOPE	EMERG. VEG.	PREY BASE	HUMAN USE	LOON NEST. POTEN.
Mt. Hood National Forest						
Lost Lake	2	3	2	1	3	Mod.
Bull Run Lake	2	3	3	1	1	High
Bull Run Upper Reservoir	1	3	2	1	1	High
Bull Run Lower Reservoir	2	3	2	1	1	High
Trillium Lake	1	1	1	1	3	Mod.
Clear Lake	2	2	3	1	3	Low
Timothy Lake	1	2	2	1	3	High
Olallie Lakes Scenic Area						
Fish Lake	3	3	3	1	3	Low
Lower Lake	2	3	3	1	2	Low
Olallie Lake	1	2	2	1	3	High
Timber Lake	2	2	3	1	2	Low
Monon Lake	1	1	2	1	3	High
Horseshoe Lake	1	3	3	1	3	Low
Warm Springs Indian Reservation						
Boulder Lake	2	1	2	1	2	Mod.
Trout Lake	2	1	2	1	2	High
Island Lake	1	1	1	1	2	Mod.
Dark Lake	2	2	2	1	2	Mod.
Long Lake	2	2	2	1	2	Mod.
Lake Mary	2	2	2	3	1	Low
Lake Marie	2	2	2	2	1	Low
Lake Alice	2	3	3	2	1	Low
Breitenbush Lake	1	1	2	1	2	Mod.
Veronica Lake	2	2	2	3	1	Low
Eleanor Lake	1	1	1	2	1	Low
Francis Lake	1	2	3	2	1	Low
Sarah Lake	1	3	3	2	1	Low
Harvey Lake	2	2	3	1	1	Mod.
Hilda Lake	1	3	3	2	1	Low

Table 4. LOON HABITAT SURVEY cont.

LAKES BY REGION	LAKE SHAPE	SHORE SLOPE	EMERG. VEG.	PREY BASE	HUMAN USE	LOON NEST. POTEN.
Mt. Jefferson Wilderness Area						
Lake Ann	2	1	1	1	2	Mod.
Marion Lake	1	2	2	1	3	Mod.
Blue Lake	2	3	3	2	2	Low
Jorn Lake	1	1	1	1	2	Mod.
Mowich Lake	1	1	2	1	2	Mod.
Duffy Lake	1	1	2	1	2	Low
Santiam Lake	2	1	2	1	2	Low
Three Sisters Wilderness Area and vicinity						
Blow Lake	1	1	2	2	2	Mod.
Doris Lake	1	2	2	2	2	Mod.
Senoj Lake	2	1	2	3	2	Low
Leech Lake	1	1	2	3	1	Low
Cliff Lake	3	2	2	2	2	Low
Vogel Lake	1	1	1	3	1	Low
Horseshoe Lake	1	1	2	2	2	Low
Mac Lake	1	1	2	1	2	Low
Penn Lake	1	1	1	1	2	Low
Corner Lake	2	1	1	2	2	Low
Goose Lake	1	1	1	2	2	Low
Porky Lake	1	1	1	1	2	Low
Mink Lake	1	2	2	1	3	Mod.
Puppy Lake	1	1	2	2	2	Low
Long Lake	1	1	3	2	2	Low
Upper Snowshoe L.	1	2	2	2	2	Low
Snowshoe Lake	2	2	2	2	2	Low
Winopee Lake	1	1	1	1	2	Mod.
Muskrat Lake	2	1	1	1	3	Low
North Teddy Lake	1	1	1	1	2	Low
South Teddy Lake	1	1	1	2	2	Low
Waldo Wilderness Area						
Whig Lake	1	1	2	2	1	Low
Torrey Lake	1	1	1	1	1	Mod.
Wahanna Lake	1	1	2	1	2	Mod.
Harvey Lake	1	1	2	2	1	Low
Lake Kiwa	1	2	2	1	2	Low
Lower Eddeeleo L.	2	2	2	1	2	Mod.
Round Lake	2	2	2	1	1	Low
Upper Eddeeleo L.	2	2	2	1	2	Low
Waldo Lake vicinity						
Charlton Lake	1	2	2	2	2	Low
Waldo Lake	1	1-2	1-2	1	2-3	High
Bobby Lake	1	1	1	1	2	Low
Gold Lake	2	1	1	1	2	Mod.
Upper Marilyn L.	1	1	1	2	2	Low

Table 4. LOON HABITAT SURVEY cont.

LAKES BY REGION	LAKE SHAPE	SHORE SLOPE	EMERG. VEG.	PREY BASE	HUMAN USE	LOON NEST. POTEN.
Waldo Lake vicinity cont.						
Lower Marilyn L.	1	1	1	2	2	Low
Deschutes National Forest						
Todd Lake	1	1	3	2	3	Low
Elk Lake	1	1	3	2	3	Mod.
Hosmer Lake	1	1	1	1	3	Low
Lava Lake	2	1	1	1	3	Mod.
Little Lava Lake	1	1	1	1	3	Mod.
Little Cultus L.	2	1	1	1	3	Mod.
Crane Prairie Reservoir	1	1	1	1	3	Mod.
Wickiup Res.	1	1	3	1	3	Mod.
Davis Lake	2	1	1	1	3	Low
Summit Lake	1	1	2	2	1	Mod.
Umpqua National Forest						
Lemolo Lake	1	1	2	1	3	Mod.
South-central coastal region						
Clear Lake (Florence)	2	1	2	2	1	Mod.
Woahink Lake	1	1	1	1	3	Low
Siltcoos Lake	1	1	1	1	2-3	High
Tahkenitch Lake	1	1	1	1	2-3	Mod.
Threemile Lake	1	1	1	1	3	Low
Clear Lake (Reedsport)	1	3	2	1	1	High
Lake Edna	1	1	1	1	1	High
Eel Lake	1	3	1	1	3	Mod.

Appendix 1. WILDLIFE HABITAT AND SPECIES OBSERVED AT LAKES OF THE WARM SPRINGS INDIAN RESERVATION - JULY 25, 26, AUGUST 5, 1988

Boulder Lake

Appears to have the best habitat for Common Loons (Gavia immer) of any of the lakes visited on the reservation, because of the large size and the combination of deep water and shallow margin with emergent vegetation. The latter includes a few pond lilies, which may be limited by wind and wave action from covering an extensive patch. Good potential for cavity and marsh nesting ducks, including Ring-necked Ducks (Aythya collaris). Part of margin has good brush for riparian songbirds. Should be good for some amphibians.

Double-crested Cormorant (Phalacrocorax auritus) - 1 immature
Mallard (Anas platyrhynchos) - 1 female with about 5 ducklings
Rough-skinned Newt (Taricha granulosa) - several

Trout Lake

May be too small for loons to nest, even though the level of human use is low. The habitat is excellent, with good reed and sedge marsh at the margin. Good potential for a variety of water associated species of birds, amphibians, and mammals. Some good brush for riparian songbirds. Good snags and nice forest nearby.

Mallard - 1 female with 3 nearly grown ducklings
Barrow's Goldeneye (Bucephala islandica) - 1 female
Great Blue Heron (Ardea herodias) - 1
Vaux's Swift (Chaetura vauxi) - about 6
Rufous Hummingbird (Selasphorus rufus) - 1 female
Kingfisher (Ceryle alcyon) - 1
Pileated Woodpecker (Dryocopus pileatus) - 1 nearby
McGillivray's Warbler (Oporornis tolmiei) - 1 male
Pacific Treefrog (Hyla regilla) - several

Island Lake

May be too shallow for loons to nest. The best and most varied

(Island Lake)
habitat for other wildlife of any of the lakes visited on the reservation. Island, fairly extensive marsh, a number of snags, ie. lots of good waterfowl nest sites. Also large brushy area for warblers and other riparian songbirds. Should be good for amphibians, too.
Mallard - 3 females each with at least 1 duckling
Barrow's Goldeneye - 2 females, 1 with 8 ducklings
Bufflehead (Bucephala albeola) - 1 female
Red-tailed Hawk (Buteo jamaicensis) - 1
Spotted Sandpiper (Actitis macularia) - several including immatures
Kingfisher - 1
Song Sparrow (Melospiza melodia) - several

Dark Lake
Not much marsh habitat for loons or ducks to use for nesting or nursery for young, but good snags nearby for cavity nesters, and some brushy areas for riparian songbirds.
Mallard - 1 female
Ring-billed Gull (Larus delawarensis) - 1 immature
Lewis' Woodpecker (Melanerpes lewis) - group of 4 nearby
Mountain Bluebird (Sialia currucoides) - at least 1 nearby

Long Lake (assistant surveyed for loons, no other notes or species list available)

Lake Mary
Too small and shallow for loons, but great habitat for other water associated birds. Has small marsh and island rocks for loafing.
Barrow's Goldeneye - 1 female
Hooded Merganser (Lophodytes cucullatus) - 2 female or immature
Spotted Sandpiper - several including 3 chicks

Lake Marie
Probably too small for loons, but some good snags for cavity nesting ducks, tiny marshes, and brush around part of shore for

(Lake Marie)
warblers, etc.
Spotted Sandpiper - several

Lake Alice
Probably too small for loons, but some snags for cavity nesters and brush for riparian songbirds.
Pika (Ochotona princeps) - 1 in talus at edge

Breitenbush Lake
Probably has too much human use for loons to use the lake for nesting, although the band of marsh around much of the perimeter is great habitat for loon chicks, and also for ducks and other marsh birds, and amphibians. Some good snags for cavity nesting ducks nearby.
Barrow's Goldeneye - 7 female or immature

Veronica Lake
Too small and shallow for loons. Great for amphibians, some ducks, and good brushy margin for riparian songbirds.
Rough-skinned Newt - several

Eleanor Lake
Too small and shallow for loons. Excellent sedge and pond lily marsh for ducks and amphibians, and good brushy margin for riparian songbirds.

Francis Lake
Probably too small for loons, but good loafing logs for ducks. Some snags for cavity nesting birds, mostly too small for ducks. Small marsh, some brushy areas.
Three-toed Woodpecker (Picoides tridactylus) - nest in snag on shore
Rough-skinned Newt - several

Sarah Lake
Probably too small for loons. The margin is rocky with no marsh,

(Sarah Lake)
which may limit invertebrates as well as cover, and thereby reduce potential for nesting birds. Nice rocks for loafing.
Barrow's Goldeneye - 1 female

Harvey Lake
Big enough for loons, with nest sites available around shore protected by overhanging brush, but no marsh for young loons, and lack of marsh may limit numbers of invertebrates and small fish available for other waterfowl as well.
Mallard - 1 female
Kingfisher - 1

Hilda Lake
Probably too small for loons, and no marsh for small loons or small fish and invertebrates.
Mallard - 1 female with several small ducklings in nearby pond
Barrow's Goldeneye - 1 female