

Birds Found in Michigan Jack-Pine Burns: Fifty-three Years of Observation

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While studying Kirtland's Warbler, 1931-1984 in the jack-pine regions of Michigan's Lower Peninsula, I recorded other bird species as well. Most studies were made in Crawford County, in the Artillery Range South (ARS) (T27N, R2W, sections 15, 16, 17) which was burned 18 August 1955, in the Artillery Range North (ARN) (sections 8, 9) which was burned in early May 1967 and in the Lovells Management Area (LMA) where jack-pines were planted in 1960 (T28N, R1W, section 5). Some work was also done at Muskrat Lake (ML), 1.5 mi (2.4 km) north-east of Red Oak, Oscoda County which was burned 17 April 1964. Work was done at times in other areas in Crawford and Oscoda counties but in the same general region. The birds I found in the preceding areas are outlined in the following paper. An asterisk indicates that nests were found.

***Mallard** (*Anas platyrhynchos*). A nest with 9 eggs, 27 May 1973 was built .75 mi (1.2 km) from the nearest water and placed beneath a leaning jack-pine tipped over previously by a tank. Seven eggs hatched.

Green-winged Teal (*Anas crecca*). In the afternoon of 19 June 1973 a pair flew in and fed in a little 2 acre pond surrounded by jack-pines in ARN. It was observed here again during June 1974.

***Bald Eagle** (*Haliaeetus leucocephalus*). A pair nested in the "40 (red) pines" at the north edge of LMA prior to 1970. During the 1970s it nested just over in Otsego County but crossed LMA regularly.

***Northern Harrier** (*Circus cyaneus*). A nest with 4 eggs was found in June 1932 on dry land near Lovells, Crawford County.

***Sharp-shinned Hawk** (*Accipiter striatus*). A nest in LMA had 3 newly fledged young and an unhatched egg (36.9 x 29.8 mm), the fresh remains of a Ruffed Grouse and a nestling Blue Jay on 17 July 1977. Nicholas Cuthbert and I found on 8 June 1978, 3 eggs in the same nest, all of which produced fledged nestlings.

***American Kestrel** (*Falco sparverius*). A nest, 15 ft (4.57 m) up in an oak stub in an old flicker hole was found 25 May 1976 in ARN while another pair nested in a similar stub 1974-1976 in LMA.

***Spruce Grouse** (*Dendragapus canadensis*). William A. Dyer found a female with 5 fledged young on 22 June 1971 and in the same area, ARS, I found on 25 June 1974 another female with several young.

Ruffed Grouse (*Bonasa umbellus*). Occurring regularly in deciduous woodlands adjacent to jack-pine forests; also found along the borders.

Prairie Chicken (*Tympanuchus cupido*). During the 1930s at Lovells this species was found regularly. It had a booming ground on a field adjacent to the hotel. During the day the birds scattered over the entire region. This bird is probably now extinct in Michigan.

***Sharp-tailed Grouse** (*Tympanuchus phasianellus*). Three nests were found, 2 in ARN, the third in LMA:

- (1) 20 May 1970 with 12 eggs which hatched later (the eggs averaged in measurements, 40.46 (37.3-42) x 30.93 (30.4-31.5) mm);
- (2) 1 June 1971, 9 eggs which were flooded out later (Virginia Mayfield);
- (3) A nest was found in LMA on 27 May 1976 with 12 eggs. On 9 June at 0900 there were 6 yg.; at 1500, 12 yg. and at 1600 all young fledged.

If clearings disappeared and the trees reached heights of 18 to 20 ft (5.48-6.09 m) these birds moved elsewhere.

***Virginia Rail** (*Rallus limicola*). In a little pond in ARN nests were found:

- (1) 14 June 1973 (9 eggs) all of which hatched 1 July (the eggs measured 31.97 (31.0-33.5) x 22.95 (21.8-23.9) mm) (Warren Faust);
- (2) 2 June 1974 (11 eggs) all of which were later destroyed by some large bird.

***Sora** (*Porzana carolina*). Nests were found in the same ARN pond, but Sora nests were in one species of *Carex* while Virginia Rail nests were in a different one; all nests of both species were about 4-6 in above water level. The nests were found:

- (1) 1 June 1971, 1600-2 eggs; 1800-3 eggs, all later destroyed;
- (2) 3 June 1971, 4 eggs which were later destroyed by a predator;
- (3) 8 June 1971, the 9th egg was laid. The eggs hatched 23-27 June;
- (4) 27 May 1972, 6 eggs. The 10th egg was laid 31 May; on 15 June there were 5 yg. and 5 eggs; on 20 June all eggs had hatched;
- (5) 27 May 1972, 4 eggs and the 9th egg was laid on 1 June. On 15 June there were 3 yg. and 6 eggs; on 19 June the 9th egg hatched;
- (6) 23 June 1972, a nest with 7 eggs was found (Ron Hoffman);
- (7) 29 May 1973, a nest with 2 eggs was found. Eleven eggs were laid which hatched over a wider range than normal, 19-30 June;
- (8) 31 May 1976, a nest with 2 eggs was found. Eight eggs were laid but all were later devoured by some predator.

Measurements of 25 eggs averaged 31.19 (29.5-32.9) x 22.16 (21.3-22.9) mm. Incubation periods (the period between laying and hatching

of the last egg) were 19, 18, 20 and probably 23 days. The little black fellows with reddish hairs around the bill left the nest soon after hatching.

***Upland Sandpiper** (*Bartramia longicauda*). I found this species in a burn in Montmorency County on 7 June 1958. Nests were found:

- (1) 13 June 1955, with 4 eggs SE of Grayling;
- (2) 26 June 1971, in ARN with 2 small young;
- (3) 16 June 1976, with 4 eggs which hatched 18 June in ARN (Douglas Middleton);
- (4) 13 June 1977, 4 eggs in ARN which hatched a few days later;
- (5) When Sally and Frank Majszak planted 208 000 jack-pines in a prairie adjacent to Shupac Lake, near Lovells, in June 1978 they flushed a parent from a nest with 4 eggs. These hatched 21 June (Nick Cuthbert, LHW). Eight eggs averaged in measurements 45.12 (43.4-48.0) x 32.03 (31.0-32.8) mm. In June 1984 the species was still found in ARN.

Woodcock (*Scolopax minor*). No evidence of nesting was found, but it was found during extremely wet periods in low areas.

***Mourning Dove** (*Zenaida macroura*). An uncommon bird in these regions, but I found a nest in ARS with 1 egg in June 1967.

***Black-billed Cuckoo** (*Coccyzus erythrophthalmus*). In a jack-pine 3 ft (.914 m) above ground Wm. Dyer and I found a nest, 20 June 1971 in ARS. Later it had 5 eggs, then on 27 June 1 yg. and 5 eggs indicating more than one female may have laid eggs.

***Screech Owl** (*Otus asio*). Evenings I heard this bird calling in ARN where there were many stubs. In a bottomland woods, sect. 16, T27N, R1W, Wesley Jones and Jim Mattsson (of the U.S. Fish and Wildlife Service) followed a radio transmitter they had put on a cowbird. It ended up in a flicker hole in an aspen. On 26 May 1976 Mattsson climbed while I assisted; inside was a parent Eastern Screech Owl and 5 large nestlings, and transmitter.

Saw-whet Owl (*Aegolius acadicus*). Jim Ponshair, Peter Hovingh, Jr. and I found one of these owls on a Kirtland's Warbler area in section 5, T22N, R7W, Iosco County, 12-13 June 1953. It called most of the night.

***Nighthawk** (*Chordeiles minor*). No nests were found at Lovells, but it nested in ARS until 1972, each nest with 2 eggs: 15 June 1970; 22 June 1971; 14 June 1972; and 24 June 1972. Nests were found in ARN 22 June 1971; 15 June 1972; 24 June 1974; 1 July 1974; and 4 June 1975 while a nest was found near Damon, Ogemaw County on 24 June 1975. All eggs were placed on leaves, moss or bare ground. Three nests fledged 2 yg. each. One nest failed and I did not know the outcome of the other

nests. Four spotted gray eggs measured 30.07 (29.0-31.0) x 21.47 (20.7-22.8) mm.

Whip-poor-will (*Caprimulgus vociferus*). Found in ARS and in ARN at night; this bird probably came from surrounding woodlands.

Downy Woodpecker (*Picoides pubescens*). Downies were found regularly where stubs were prevalent and may have nested in ARN.

Hairy Woodpecker (*Picoides villosus*). It was more prevalent than downies.

***Black-backed Woodpecker** (*Picoides arcticus*). This bird was found in areas shortly after they were burned, even during the next two to three years. Harold Mayfield found a nest of this species at Mack Lake, Oscoda County in June 1957 and another was found in ARN in June 1966. I found a bird in the Kyle Lake burn, 15 June 1977. Both the 1957 and 1966 nests were successful.

***Northern Flicker** (*Colaptes auratus*). Flickers were found where there were larger stubs, often nesting too high for inspection. One nest on 19 June 1973 in ARS fledged several young from a 12 ft (3.66 m) tall jack-pine stub. Another nest in the Kyle Lake burn was located in a 9 ft (2.74 m) tall oak stub where 6 nestlings fledged 26 June 1976.

Olive-sided Flycatcher (*Contopus borealis*). One spent the summer in a group of taller jack-pines in 1976 near Damon, Ogemaw County.

***Eastern Wood Pewee** (*Contopus virens*). In July 1966 I found a nest in ARS placed on a horizontal jack-pine branch right at the edge of a burn.

Least Flycatcher (*Empidonax minimus*). Occasionally it was found amongst taller jack-pines, but more often in oak and maple saplings.

***Great Crested Flycatcher** (*Myiarchus crinitus*). It was found where there were many stubs nesting high up in flicker holes.

***Eastern Kingbird** (*Tyrannus tyrannus*). Often nests were found on bare stubs without protection of shade. Sometimes it nested in small jack-pines. Nests located were:

- (1) 1 June 1970, this nest had 4 eggs 15 June (ARS);
- (2) 19 June 1970, nest found with eggs 12 ft (3.66 m) up in a dead jack-pine (LMA);
- (3) 20 June 1970, three yg. fledged from 3 eggs in early July (LMA);
- (4) 24 June 1971, a nest with 3 eggs in which a fourth egg was laid later. Outcome was not known (LMA);
- (5) 21 July 1972, a nest contained 3 eggs 11 ft (3.35 m) up on a broken stub (ARS);

(LMA) (4 eggs); (29) 11 June 1977, (LMA) (3 eggs where a fourth was later laid).

***Cedar Waxwing** (*Bombycilla cedrorum*). Four nests were found. All were 6 to 8 ft (1.83-2.44 m) above ground in jack-pines:

- (1) 16 June 1970, (LMA) (3 eggs);
- (2) 19 June 1970, (ARS) (4 eggs). The eggs were later taken by a predator;
- (3) 20 June 1970, (2 eggs). Destroyed by a predator;
- (4) 23 July 1975, (1 egg, 1 yg.). It was located in LMA.

***European Starling** (*Sturnus vulgaris*). This species also uses old woodpecker holes, but nests found in 1975-1976 could not be examined.

***Nashville Warbler** (*Vermivora ruficapilla*). A fairly common bird in most regions using the habitat about the same time as do Kirtland's Warblers. Nests were found:

- (1) 4 June 1971, (ARS) (2 eggs, 1 cowbird egg). Destroyed by predation;
- (2) 29 May 1972, (ARS) (5 eggs). It was well hidden under a tuft of grass; 5 eggs hatched, but only 4 yg. fledged. The 5 eggs measured 15.78 (15.4-16.6) x 11.66 (11.5-12.0) mm;
- (3) 1 June 1979, (no eggs). Five eggs were laid, but were taken 12 June by a predator.

***Yellow-rumped Warbler** (*Dendroica coronata*). Usually this bird nests in taller jack-pines, but at times it does occur in burns where trees have attained a height of 18-20 ft (5.48-6.09 m). A nest was found at Red Oak, Oscoda County 20 June 1932 where 4 yg. fledged that day. The nest was well up in a jack-pine.

***Pine Warbler** (*Dendroica pinus*). This bird also nests in taller jack-pines, but generally prefers red or white pines.

***Kirtland's Warbler** (*Dendroica kirtlandii*). I have seen or found 338 nests of this species. All were on the ground beneath dead grasses or blueberry bushes or other plants. Usually the birds begin moving into a jack-pine area 5 to 6 years after the fire. When the burn is 20 or more years old it is abandoned.

***Prairie Warbler** (*Dendroica discolor*). These warblers were found in some burns, but not in others. For example, I found it regularly in ARN, but never found it in ARS or LMA. Nests found prior to 1959 were summarized (*Jack-Pine Warbler*, 37(2):54-63; 1959). Following are records from ARN, 1973-1978. Nests were found:

- (1) 1 June 1974, a female was building a nest 3 ft (.91 m) up in a little pine;
- (2) 21 June 1974, a female was building a nest 4.5 ft (1.37 m) up in a

jack-pine; 25-27 June, 3 eggs were laid; 18 June, 2 yg. fledged;

- (3) 25 May 1975, in this nest 3 eggs were laid 29-31 May, but were later deserted. It was 2.5 ft (.76 m) up in an 8 ft (2.44 m) jack-pine;
- (4) 16 June 1977, 4 eggs. Two hatched and fledged 28 June. The nest was 10 inches (25.4 cm) up in a 5 ft (1.82 m) tall jack-pine;

***Palm Warbler** (*Dendroica palmarum*). On 16 June 1931, Mr. and Mrs. N. T. Peterson, Richard and Humphrey Olsen and I found a pair with 4 yg. which had just fledged. Since then I have seen the species periodically, but never found a nest in the jack-pines. In 1976 a fledgling was noted in July in LMA; it was molting. Birds were also observed in the Pere Cheney area in 1973.

***Ovenbird** (*Seiurus aurocapillus*). This bird occurs along borders at times, but no nests were found on recent burns.

***Rose-breasted Grosbeak** (*Pheucticus ludovicianus*). This bird also occurs along the borders of burns wandering at times into the jack-pine regions. One nest was found at the edge of a burn in ARN, but it was in a deciduous tree.

***Indigo Bunting** (*Passerina cyanea*). Rarely it is found amongst jack-pines, more often it is found where small oaks and other deciduous trees and bushes are found. A nest was found in such a situation in ARN.

***Rufous-sided Towhee** (*Pipilo erythrophthalmus*). It is found regularly in jack-pine burns nesting on the ground in contrast to where it nested at Lovells in 1937, above ground in bushes. Nests in jack-pine areas were found:

- (1) 14 June 1971, (4 eggs) in ARS;
- (2) 4 June 1975, (5 yg.) all of which fledged 20 June (none were cowbirds);
- (3) 21 June 1975, (4 eggs) in ARN.

***Chipping Sparrow** (*Spizella passerina*). A common breeder in jack-pine burns, at times even nesting on the ground, but more often in small jack-pines. Nests were found in ARS: (1) 31 May 1970, (2 eggs, 1 cowbird egg); (2) 1 June 1970, (4 eggs); (3) 16 June 1970, (3 eggs); (4) 23 June 1970, (1 egg, 1 cowbird egg, deserted); (5) 21 June 1970, (2 yg. of which only one fledged); (6) 23 June 1971, (2 yg.); (7) 13 June 1972, (4 yg.) where 4 yg. fledged 15 June; (8) 14 June 1972, (1 egg); (9) 17 June 1972, (4 yg.); (10) 26 June 1972, (3 eggs); (11) 10 June 1974, (4 yg.); (12) 23 June 1975, (4 eggs).

Nests found in ARN were: (1) 9 July 1970, (2 yg.); (2) 24 June 1972, two nests (4 eggs) and (3) (3 eggs, 1 yg.); (4) 28 June 1972, (3 eggs); (5) 19 June 1973, (4 eggs); (6) 29 June 1973, (4 eggs); (7) 2 July 1974, (2 yg.);

(8) 4 June 1975, (4 eggs); (9) 21 June 1975, (4 eggs); (10) 19 July 1975, (4 eggs; later deserted); (11) 26 May 1976, (3 eggs); (12) 27 May 1976, (4 eggs).

Nests found on LMA were (1,2,3) June 1972, three nests (4 eggs, 4 eggs, 4 yg.); (4) 22 June 1973, (4 eggs laid); (5, 6) 4 June 1974, two nests (3 eggs, 4 eggs); (7) 25 June 1974, (4 eggs); (8, 9) 19 July 1974, two nests (3 eggs; 3 eggs, 1 yg.); (10) 19 July 1974, (4 eggs); (11) 21 July, (3 yg.); (12) 27 May 1975, (4 eggs); (13) 29 May 1975, (4 eggs); (14) 1 June 1975, (4 eggs; later taken by a predator); (15, 16) 2 June 1975, two nests (4 eggs, 4 eggs); (17) 28 May 1976, (4 eggs which hatched and 4 yg. fledged 16 June).

The average tree height in which Chipping Sparrows built their nests was 6.6 ft (2.01 m) including two small oaks. The mean distance above ground was 3.3 ft (1.01 m) (on the ground up to 9 ft (2.74 m)). Two nests were parasitized and one of these was deserted immediately. Of 36 eggs, 15 were known to fledge.

***Clay-colored Sparrow (*Spizella pallida*).** This bird most often nests in deciduous bushes such as hawthornes, but at times it nests in jack-pines. I summarized many nests found at that time in *Jack-Pine Warbler*, 22:119-131; 1944. A nest was found with 4 yg. (parents and young banded) on 13 June 1955 in a small jack-pine (section 34, T26M, R2W). My most recent nests were at Lovells, 24 June 1972, (4 eggs); a nest found near Gwinn, Marquette County, with 4 eggs in June 1983 was in a similar situation.

***Field Sparrow (*Spizella pusilla*).** A fairly common bird in all jack-pine burns where its nests were found as follows:

- (1) 1 July 1974, (LMA) (4 eggs), 11 in (27.94 cm) up in a little hawthorne;
- (2) 28 May 1975, (ML) (4 eggs), 6 in (15.24 cm) up in a little jack-pine. Two eggs hatched, but the yg. were later taken by a predator;
- (3) 4 June 1975, (ARN) (4 eggs), 22 in (55.88 cm) up in a little jack-pine and also protected by grass, but a predator still got the eggs;
- (4) 4 June 1975, (ARN) (4 yg.) 10 in (25.4 cm) up in a little 3 ft jack-pine;
- (5) 4 June 1975, (ARN) (4 eggs) in a little jack-pine. Later destroyed;
- (6) 6 June 1975, (ML) (4 eggs). It was 4 in (10.16 cm) up in a little jack-pine also hidden by grasses and sweet ferns;
- (7) 26 June 1975, (ARN) (4 eggs). It was 10 in (25.4 cm) up in a sweet fern;
- (8) 18 July 1975, (LMA) (3 eggs). It was 3 ft (.91 m) up in a small red pine;
- (9) 28 May 1976, (LMA) (1 egg at 0800). Four eggs laid. On 13 June

there were 4 yg., but two days later it was empty. This nest was built down in the grass just above ground and very well hidden.

***Vesper Sparrow (*Pooecetes gramineus*).** A common breeder in jack-pine regions, it nests in the clearings and nearly always beneath a tuft of grass on the ground.

Nests were found in ARS:

- (1) 15 June 1970, (3 yg.); (2) 10 July 1970, (3 eggs); (3) 2 June 1971, (4 eggs); (4) 3 June 1971, (4 eggs); (5) 3 June 1971, (3 eggs of which 2 hatched and fledged); (6) 23 June 1971, (3 eggs); (7) 15 June 1972, (1 yg., 3 eggs); (8) 28 May 1974, (3 eggs).

In ARN: (1) 24 June 1972, (3 yg.); (2) 25 June 1972, (2 yg., 2 eggs); (3) 27 June 1972, (3 eggs); (4) 29 May 1973, (4 yg.); (5) 11 June 1974, (3 yg. which fledged); (6) 25 May 1975, (4 eggs); (7) May 1975, (4 eggs); (8) 5 June 1975, (3 yg.); (9) 28 June 1975, (4 eggs); (10) 19 July 1975, (3 eggs). This nest was 25 ft from the base of a stub hit by lightning the night of 18-19 July, yet all 3 eggs hatched and the 3 yg. fledged.

In LMA: (1) 21 July 1974, (3 yg. which fledged); (2) 21 July 1974, (3 eggs); (3) 22 July 1974, (3 eggs); (4) 22 July 1974, (2 yg. which fledged); (5) 2 June 1975, (3 yg. which fledged); (6) 18 June 1975, (3 eggs); (7) 18 June 1975, (3 eggs); (8) 21 July 1975, (3 eggs); (9) 30 May 1976, 4 eggs where 4 yg. fledged 15 June); (10) 7 June 1976, (3 eggs from which 3 yg. fledged 16 June); 7 June 1976, (4 eggs from which 3 yg. fledged 17 June); (12) 19 June 1976, (1 nestling which fledged); (13) 19 June 1976, (4 eggs); (14) 10 June 1978, (2 yg. which fledged 12 June); (15) 13 June 1978, (4 eggs); (16) 14 June 1978, (3 eggs).

A nest was found in the Fletcher Burn, Kalkaska County, 8 June 1975, (3 eggs); on 24 June 1974 a nest with 2 eggs was found at ML, Oscoda County.

Grasshopper Sparrow (*Ammodramus savannarum*). Normally this species does not occur in jack-pine areas, but in June 1931 a male sang persistently from a large clearing in section 33, T28N, R1W, near Lovells, Crawford County. I found the species regularly with Savannah Sparrows 10 mi (16.09 km) SW of Lovells north of Hartwick Pines in open cleared pasture land, but the one time was the only time we found a bird in a clearing in a jack-pine burn.

***Song Sparrow (*Melospiza melodia*).** Although less abundant than the Lincoln's Sparrow two nests were found amongst the jack-pines, in both cases the nests were on the ground beneath dense vegetation.

- (1) 29 May 1973, (4 eggs, 1 yg.) (ARN), female flushed from nest;
- (2) June 1976, (ARN) a nest with yg., female flushed from nest.

***Lincoln's Sparrow (*Melospiza lincolni*).** Although fairly common in most natural burns none were found in LMA (see *Jack-Pine Warbler*,

61 (3):75-81; 1983).

***White-throated Sparrow** (*Zonotrichia albicollis*). Usually this bird is found in damper situations than the jack-pine burns, but it does occur at times in the burns; a nest was found on the ground beneath blueberry bushes, at Kyle Lake burn, Crawford County, 18 June 1976, with 2 eggs and 2 nestlings. The young fledged about 22 June.

***Dark-eyed Junco** (*Junco hyemalis*). This fairly common bird was more abundant in ARS than anywhere else. All nests listed below were found in ARS and were on the ground under blueberries and grass: (1) 3 June 1971, (4 yg.); (2) 25 June 1971, (3 eggs, 2 cowbird eggs); (3) 15 June 1972, (2 yg. which then fledged); (4) 16 June 1972, (2 yg., 1 egg). The 2 yg. fledged; (5) 27 May 1974, (5 eggs) from which 5 yg. fledged 12 June; (5) 30 May 1974, (4 eggs). This nest was destroyed by a predator; (6) 11 June 1974, 5 yg. fledged 21 June.

***Red-winged Blackbird** (*Agelaius phoeniceus*). It did not nest in the jack-pines, but did nest in willows on the edge of the 2 acre pond when there was water. If it was dry none were found. Most nests were 3-8 in (7.62-20.32 cm) above water level in sedges (*Carex* sp.). On 1 June 1971, four nests were found (4, 4, 4, 2 eggs). On a later visit two of these had been destroyed and there were 2 and 3 nestlings in the other nests. In 1972 two nests were found 23 June with 4 eggs and 3 yg. In 1973 on 14 June, 13 nests with young or eggs were located while one nest was empty. The 13 nests contained: 4 yg.; 4 yg.; 2 yg.; 2 yg.; 1 egg; 1 yg.; 4 eggs; 4 eggs; 3 eggs; 3 eggs; 2 eggs; 2 eggs; and 1 egg. On 19 June only five nests contained anything. They contained: 4 eggs; 4 eggs; 3 yg.; 3 yg.; and 1 yg. These, too, were later destroyed. In 1975 four nests were found 28 May. The nests contained: 4 eggs; 4 eggs; 4 eggs; and 2 eggs. In mid-June all had failed except one which had 2 nestlings. In addition there were two new nests with 4 eggs and 2 yg. respectively. On 31 May 1976 there were two nests both with 4 eggs by 5 June. Later years the pond was dry (ARN).

***Eastern Meadowlark** (*Sturnella magna*). In ARN 4 June 1971, four years after the region was burned a nest was found with 5 eggs. It was later destroyed by predation. The eggs measured 29.22 (28.4-30.8) x 20.2 (20.0-20.7) mm. The eggs were colored white and spotted sparingly.

Western Meadowlark (*Sturnella neglecta*). A male spent the entire summer in ARN in 1970 three years after it was burned.

***Brewer's Blackbird** (*Euphagus cyanocephalus*). It was found on Kyle Lake region one summer and in ARN regularly in Crawford County. Three years after ARN burned it was nesting there. All nests were placed on the ground beneath grass or other protective vegetation. Some nests were placed under old logs which had fallen and lay a few inches above

ground, but the nests were always in the open. It usually nested within sight and sound from each other, several pairs in a loose colony.

Nests were found in ARN: (1) 29 May 1970 (4 eggs on 30 May); (2) 31 May 1970 (4 eggs); (3) 26 June 1971 (1 egg, 4 more laid later); (4) 27 June 1971 (3 eggs) in 1972 it was back, but no search was made for nests; (5) 27 May 1973 (5 eggs); 4 yg. fledged from this nest; (6) 29 May 1973 (5 yg.). These yg. fledged by 14 June; (7) 1 July 1974 (1 yg. fledged); (8) 26 May 1975 (5 eggs). One yg. fledged; (9) 26 May 1975 (5 eggs; all 5 survived); (10) 26 May 1975 (4 eggs; 3 yg. later fledged); (11) 31 May 1976 (2 yg., 3 eggs at 1200; 3 yg. at 1400; all 5 eggs produced fledged yg.); (12) 31 May 1976 (6 eggs); (13) 31 May 1976 (5 eggs); (14) 8 June 1976 (4 yg., 1 egg); 4 yg. fledged 15 June; (15) 8 June 1976 (5 eggs lost to a predator); (16) 8 June 1976 (5 eggs; 5 yg. later fledged).

A nest was found near Kyle Lake, section 18, 18 June 1976 with 5 eggs; 5 yg. later fledged. Late in June or early in July small flocks of these birds congregated at times in the small jack-pines. I discovered no evidence they were predators as the grackle is on small bird nests.

***Brown-headed Cowbird** (*Molothrus ater*). This species parasitized Kirtland's Warbler severely until a program for their removal was initiated. Species parasitized in jack-pine burns were Nashville Warbler, Chipping Sparrow and Dark-eyed Junco. Nests of other species parasitized in other nearby habitats were: Chestnut-sided Warbler, Pine Warbler, Prairie Warbler, Rufous-sided Towhee and Field Sparrow.

***Purple Finch** (*Carpodacus purpureus*). Although not often found, a pair was found building a nest in late June 1966. The future of this nest is not known.

Other species of birds come into the jack-pines at times, but do not remain there. Some species such as Northern Orioles occur along the edges where oaks and/or aspens are found.

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