

2009

Birds of the Great Plains: Family Podicipedidae (Grebes)

Paul A. Johnsgard
University of Nebraska-Lincoln, pajohnsgard@gmail.com

Follow this and additional works at: <http://digitalcommons.unl.edu/bioscibirdsgreatplains>



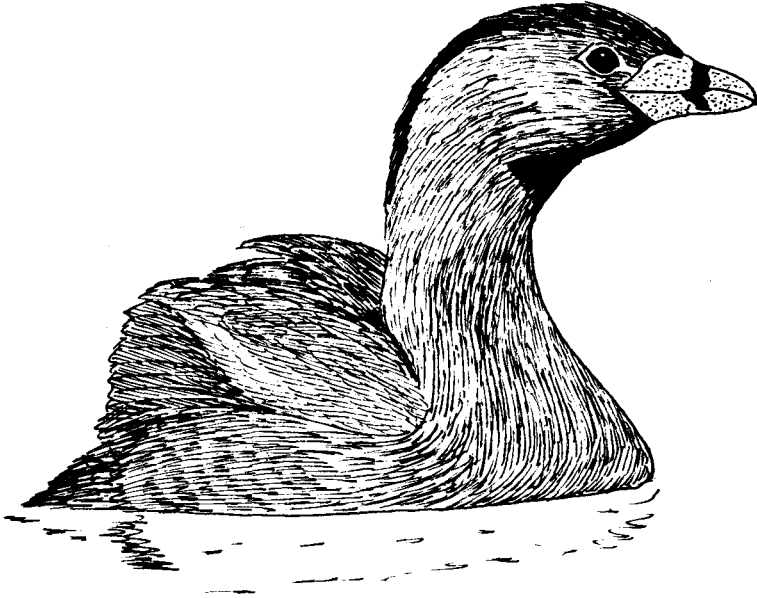
Part of the [Ornithology Commons](#)

Johnsgard, Paul A., "Birds of the Great Plains: Family Podicipedidae (Grebes)" (2009). *Birds of the Great Plains (Revised edition 2009)* by Paul Johnsgard. 8.

<http://digitalcommons.unl.edu/bioscibirdsgreatplains/8>

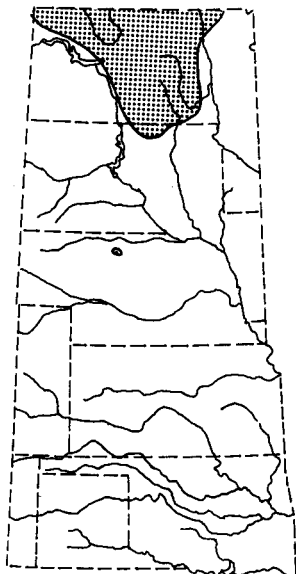
This Article is brought to you for free and open access by the Papers in the Biological Sciences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Birds of the Great Plains (Revised edition 2009) by Paul Johnsgard by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

FAMILY PODICIPEDIDAE (GREBES)



Pied-billed Grebe

Horned Grebe *Podiceps auritus*



Breeding Status: Breeding occurs over most of North Dakota east of the Missouri River and extreme northwestern Minnesota and occurs rarely or only locally in north-central South Dakota. The bird has also bred in the Nebraska Sandhills.

Breeding Habitat: Nesting in North Dakota occurs on fresh to slightly brackish water areas that range from seasonal to permanent and vary in size from $\frac{1}{3}$ acre to several hundred acres. Typically, abundant growths of submerged aquatic plants are present in breeding areas, but emergent vegetation is usually relatively sparse.

Nest Location: These birds are typically distributed as single pairs on ponds or widely scattered pairs on larger lakes or marshes, but as many as five nests have been located on a pond of 43 acres. The nest is usually built over dense beds of submerged vegetation, either in open water or in emergent vegetation near open water, with water depths varying from 6 to 48 inches.

Clutch Size and Incubation Period: From 3 to 6 eggs, usually 4 or 5 (13 clutches in North Dakota averaged 4.5). Eggs are white initially but become stained with brown. Incubation lasts 24–25 days and is probably by both parents. Typically the bird not incubating remains near the nest.

Breeding Biology: In North Dakota, horned grebes tend to select ponds that are fairly small (less than 2.5 acres) and contain mostly open water, which is evidently related to the importance of visual cues in territorial behavior. Displays are mostly mutual and include head-shaking, bill-touching ceremonies, weed-presentation ceremonies, standing vertically in the water facing the mate, and rushing over the water, often carrying vegetation in the bill. The nest is built by both sexes, and copulation occurs on the nest platform. The young are initially tended and fed by both parents and often ride on their backs. After a few weeks one of the parents may leave the area while the other remains with the chicks. The fledging period is not known.

Suggested Reading: Fjeldså 1973; Faaborg 1976.

Eared Grebe *Podiceps nigricollis*

Breeding Status: Breeds over nearly all of North and South Dakota, northwestern and southwestern Minnesota, northwest-

ern Iowa, the northwestern part of Nebraska, and probably adjacent Colorado.

Breeding Habitat: In North Dakota, eared grebes breed on water areas that vary from slightly brackish to subsaline, and from seasonal to permanent. They also use shallow river impoundments, and most nesting areas have extensive beds of submerged aquatic plants. Compared with horned and pied-billed grebes, eared grebes prefer larger, more open ponds that provide abundant feeding areas but also offer a sheltered location where a colony of nests can be placed.

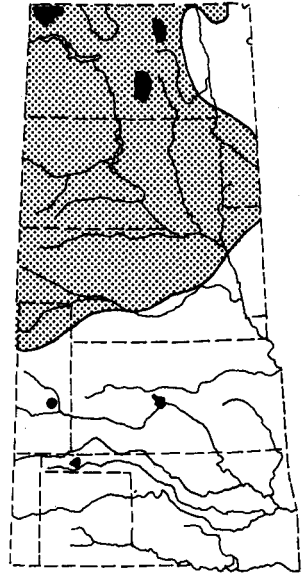
Nest Location: Nests are generally less than 100 yards from the nearest shore and may be in open water or in emergent cover ranging from sparse to dense. Often nests in colonies may be separated by as little as 10 feet, or in extreme cases may even touch each other. In seven colonies, the water depth ranged from as little as 4 inches to as much as 48 inches.

Clutch Size and Incubation Period: From 2 to 8 eggs are typical (101 nests in North Dakota averaged 3.8). Eggs vary from whitish to greenish or buffy. The incubation period is 20½ to 21½ days, and incubation is by both sexes. Apparently only one brood per season.

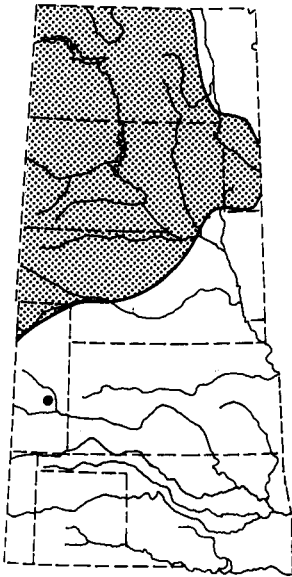
Time of Breeding: Egg dates in North Dakota range from May 21 to August 9, and extreme dates for dependent young are from June 8 to September 2.

Breeding Biology: Pair-forming displays occur during spring migration while the birds are in flocks but continue after arrival on the breeding grounds. Courting occurs in the center of the breeding areas, and no territorial behavior is evident. Displays are mutual and include an advertising call by unpaired or separated birds, "habit-preening," head-shaking and a "penguin-dance" by both members of a pair standing upright in the water facing each other, and a "cat-attitude" with withdrawn head and fluffed body feathers. The female builds the nest, and copulation occurs on the nest platform, without elaborate associated displays. The nest is abandoned when the last egg hatches, and thereafter the young are tended by both parents, often riding on their backs. Young are relatively independent by their third week, but the fledging period is still unknown.

Suggested Reading: Palmer 1962; McAllister 1958.



Western Grebe *Aechmophorus occidentalis*



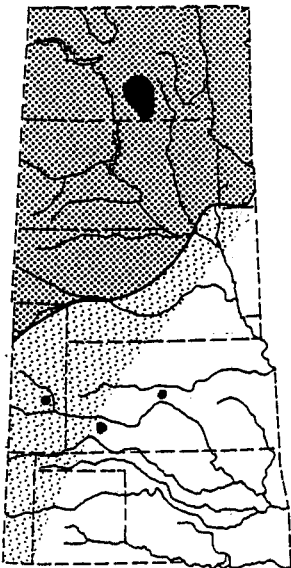
Breeding Status: Breeds in North Dakota east to the Red River Valley, in southwestern Minnesota, throughout most of South Dakota except the extreme southeast, in the northern and western parts of Nebraska, and in adjacent Colorado.

Breeding Habitat: In North Dakota, breeding occurs on permanent ponds and lakes that vary from slightly brackish to brackish and that contain large expanses of open water. Breeding also occurs on semipermanent water areas but usually is restricted to ponds of at least 50 acres.

Nest Location: Nesting is colonial, with nests at times numbering in the hundreds and birds in the thousands. In North Dakota, colonies have been found in areas where the water is from 2 to 4 feet deep in semiopen growth of emergent vegetation, usually hardstem bulrush or phragmites. In other areas cattails are sometimes used. Nests are often very close to one another; in a colony on Sweetwater Lake in North Dakota the average distance between nests was only about 2 yards. Sites offering protection from wave action and deep enough to allow underwater access to the nest are preferentially used.

Clutch Size and Incubation Period: Clutches range from 3 to 7 eggs (12 North Dakota nests averaged 4.2). Eggs are very pale bluish green or buff initially, but soon become stained with brown. Incubation lasts 22–23 days, probably starting with the first egg laid, and is performed by both sexes.

Time of Breeding: Egg dates in North Dakota range from May 15 to June 10. Dates of dependent young range from June 13 to October 5.



Breeding Biology: Territorial activity by pairs is maintained only in the immediate vicinity of the nest, and most display activity occurs before the start of nesting, apparently serving primarily for pair-bond formation and maintenance. Most or all displays are performed by both sexes, often mutually. They include crest-raising while the birds swim together, with associated whistling notes and occasional withdrawal of the head and neck to the back, a “high arch” posture with neck stretched and bill pointed downward and the tail raised, a similar but less extreme “low-arch” posture, ritualized “habit preening”, and the “race.” In this last-named display, two birds (sometimes one and sometimes as many as six) call, then rise in the water and race side by side over the water surface with arched necks, bills pointed diagonally upward, and wings partially raised. Behavior leading to the race display usually includes threat-pointing with the bill and mutual bill-dipping as the birds approach; diving often terminates the display. When more than two birds perform the race the addi-

tional birds are always males. Copulation normally occurs on the nest site, but it has been observed on the edge of a beach where nests were on dry land.

Suggested Reading: Palmer 1962; Nuechterlain 1975.

Pied-billed Grebe

Podilymbus podiceps

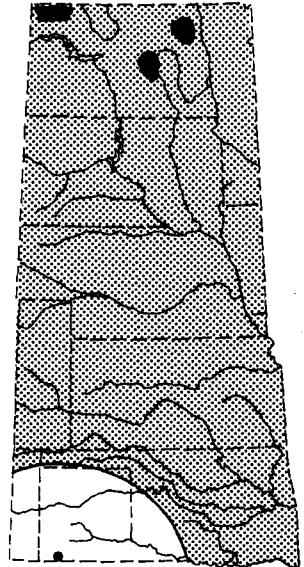
Breeding Status: Virtually pandemic throughout the region, but commoner in the Dakotas, Minnesota, and northwestern Iowa. Uncommon to occasional in Nebraska, eastern Colorado, and Kansas. Breeds locally in Oklahoma and has bred in the Texas panhandle (Muleshoe National Wildlife Refuge).

Breeding Habitat: In North Dakota, pied-billed grebes breed on seasonal or permanent ponds ranging from fresh to moderately brackish, on river impoundments and lakes, particularly those having extensive stands of emergent vegetation with adjacent areas of open water. Compared with eared and horned grebes, this species occupies a wider variety of pond types but is always associated with heavy emergent vegetation, and its distinctive vocalizations adapt it well to establishing territories in low-visibility habitats.

Nest Location: Nests float and are usually in semiopen to dense emergent vegetation, frequently bulrushes. Grasses (whitetop, mannagrass), sedges, cattails, and burreeds are also sometimes used in North Dakota, and water depths at more than 80 sites averaged 25 inches, ranging from 11 to 37 inches. Two or more nest platforms may be constructed by a pair, from 4 to 10 yards apart, often at the edge of vegetation to allow an underwater approach to the nest. (However, in Iowa, 138 nests averaged about 26 feet from nest to open water.)

Clutch Size and Incubation Period: Usually from 4 to 7 eggs, bluish white to greenish white initially, but gradually becoming stained with brown. A sample of 74 nests in North Dakota averaged 6.7 eggs per clutch; 97 successful nests in Iowa averaged 6.18 eggs. The incubation period is 23 days, probably starting with the first egg, since hatching is usually spread over several days. Most incubation is by the female, but both sexes participate. In some areas two broods may be raised each year.

Time of Breeding: Extreme egg dates in North Dakota range from May 7 to August 20. In northwestern Iowa, egg dates range from May 2 to August 8. In Kansas, 19 breeding records are from May 1 to June 30, with a modal egg-laying date of May 15. Oklahoma egg dates are from May 15 to June 12. Thus the



species is probably single-brooded in southern areas, with second or replacement clutches regular in more northerly areas.

Breeding Biology: Pairs are very territorial; in Iowa the territory consisted of an arc of about 150 feet around the nest, with the male defending the area, but the pair shared water areas outside territorial limits with other birds. The birds are highly vocal, and most displays are evidently acoustic rather than postural. Copulation has been reported on open water but normally occurs on the nest platform. Both parents care for the young, which regularly ride on the backs of their parents. The fledging period is not known, but by 3 weeks of age the young are fairly independent, which may allow adults to begin a second clutch while the young are still flightless.

Suggested Reading: Glover 1953; Palmer 1962.

