

Wood Duck Roosting Flight Count - 1970

Reference - Hein, D. & A.O. Haugen. 1966. Autumn roosting flight counts as an index to wood duck abundance. J. of Wildl. Mgmt., 39(4):657-668.

The best position on Pool 9 for visibility was facing east in a canoe directly below the overlook at the west edge of the dead willow brush that forms the roost (by wood duck box no. 23). In this position the ducks fly east of the observer. They are not disturbed by flying over the observer, and they are visible in the eastern sky. The observer being west of the main flight path, most birds settle immediately onto the water; but if the birds fly overhead of the observer, they are frightened and wheel around the sky a few times. This causes double counting.

There are many ducks present at the north end of the pool when the observer arrives, and these should be counted. Caution is added against double counting. It seems some of the birds flying from the south land at the north end but do not remain. It appears some again fly from the water at the north end about 20 minutes after sunset and land in the main roost. These may or may not be additional birds or they may be already counted flying from the south. Two approaches may be to count only the birds flying from the south and estimating the birds in the north, or to try to count all birds and allow for double counting. A count can be made of only birds seen in the air coming from the south, and added to a count of birds taking off from the water at the power line at the north end. Two observers may be needed for this or count two different nights.

Trying to keep track of all birds, I divided them into four categories of observed flight: 1) fly from south, 2) fly from south and land in main roost, 3) fly from south and continue to north, and 4) fly from north and land in main roost. Numbers 2 and 3 derive from number 1 and are an attempt to distinguish the assumed double count. Number 4 is the birds already present at the north end of the pool that fly to the main roost.

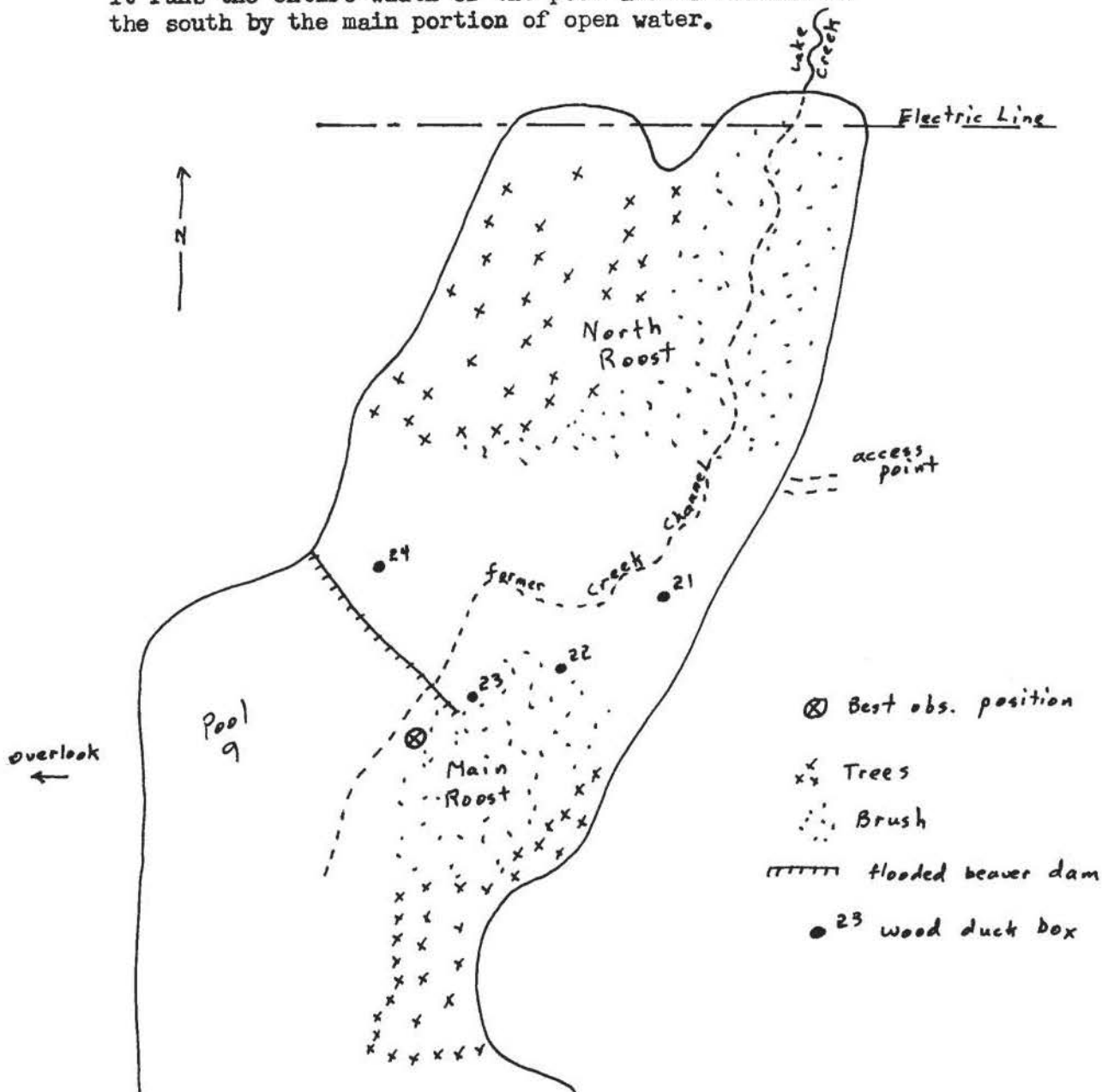
These can be separated in the field on a form, or best to use a tape recorder to keep the observer's eyes on the sky and then transcribe the information onto the form for tabulation and analysis. The form is attached, with an explanation.

Eighty mallards and blacks were counted in 1970. They congregate east of the picnic area at the northwest end and fly into the main roost about 20 minutes after sunset after most of the wood duck have come from the south (the main flight of wood is just before sunset). The mallards and black are easily counted by their size and flight. Also they seem to wheel around the sky in one flock a few times.

Three ob

Three observations north of Pool 9 and at Rt 27 indicated no ducks fly in either direction at Rt 27. This indicates all birds flying from the north into the main roost on Pool 9 originate from the north end of Pool 9 and along Lake Creek. Also, since wood ducks have been seen flying north to roost at Pool 7, at the shop, and over Guys Mills, this indicates there must be a second roost on the refuge - probably on Woodcock Creek, specifically Hemlock Island Marsh.

There are two roosting areas on Pool 9. The Main Roost is along the east side about $\frac{1}{4}$ - $\frac{1}{2}$ mile north of the dike. It is comprised of a stand of dead, flooded willow, and bounded on the north by Wood Duck Boxes 23 and 22 and on the west by open water. The North Roost is all the willow cover and flooded trees directly east of the picnic area. It runs the entire width of the pool and is bounded on the south by the main portion of open water.



1970 observations of Pool 9 roost

8/24 7:20 pm. Pool 9 entrance road, 200 wood duck flew over from the south, following Lake Creek. Flew over Reitz & Meyers & landed in Pool 9 (swooped down low over tree tops that are southeast of the wood duck roost). This was about 30-40 min before sunset (sunset about 7:30 during that period).

9/19 Pool 9. Arr 7:10 pm. Actual sunset ~~over~~ the hills to the west: about 7:10. Watched from east bank about opposite overlook, in the trees, 300' s. of the grassy shore area. Stayed until 8 pm. About 100 ducks flew in. Mostly in small groups - 2's, 3's. Largest group 8. Many were here when I arrived (main flight is before sunset). Sunset about 7:10, dark by 7:30, very dark by 7:45, couldn't see sky very well by 8:00. Most flew in from north. All landed on water. Many females (about 15) calling from 300 yds from shore. Were 10 by shore when I arrived. Not many flew in after 7:45. No clouds.

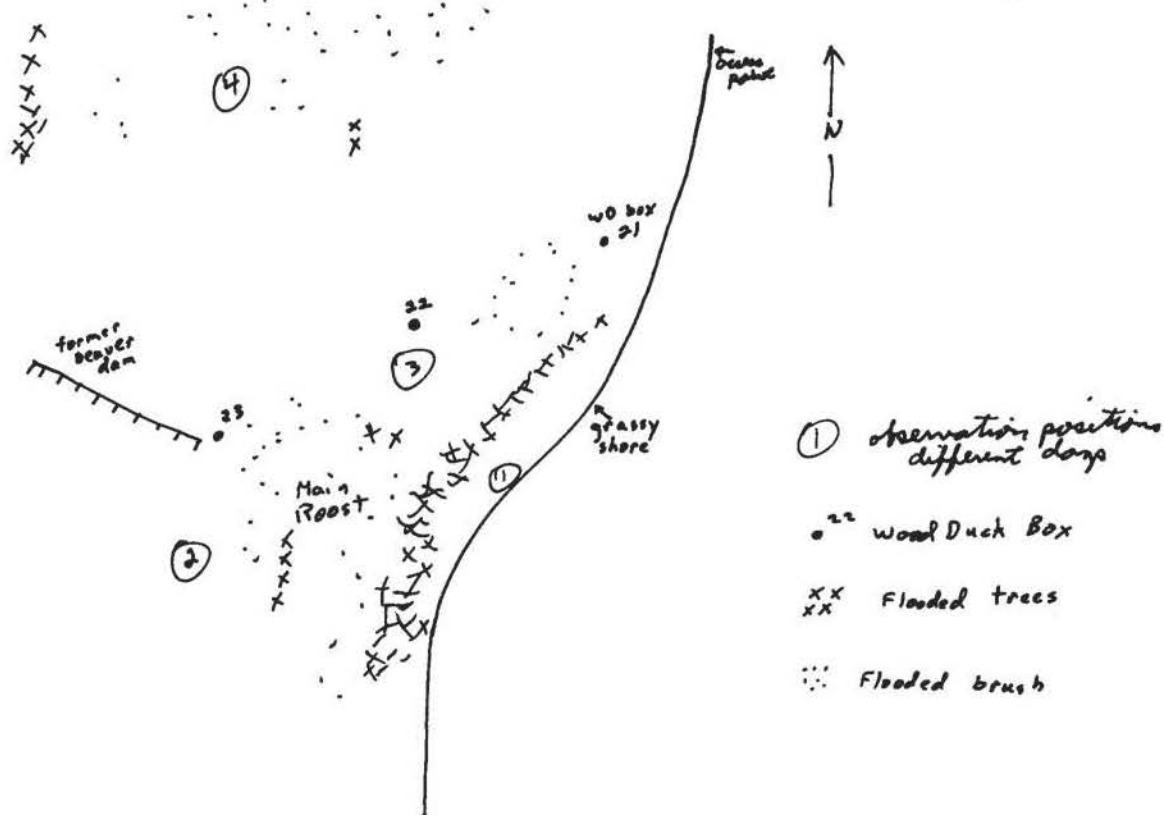
9/20 Arr Pool 9 em spillway 7:05 (actual sunset over hills 7:00) (hills probably make sunset 15 min before official) Clouds 50%. Most birds flew over to the east of the em spillway. Some follow 1 Crk at low altitude. Counted 72 total. Missed 10% that couldn't see due to poor visibility from trees to east and hills to west. $72 + 8 = 80$ ducks. Few ducks tonite because cloudy & I probably missed the main flight earlier. Seems ducks follow Reitz & Meyers Ponds as navigational aids & fly to SE side of Pool 9. Quit at 7:45. very dark.

9/21 Canoeed out on Pool 9, 200' downstream of old beaver dam, east of overlook, west of the dead willow bushes (which are the roost). (this is about the best site for observation) 130 ducks by 6:40, 185 ducks by 6:45, 245 ducks by 6:50. Actual sunset over hills 6:55. Sub totals by ten min periods: 6:40 - 130, 6:50 - 115, 7:00 - 40. Females on water began calling 6:45. Ducks began flying from north into the main roost at 7:00. Sub totals by 10 min periods ~~from sunset~~ from sunset: 7:15 - 11 south birds, 30 north birds; 7:25 - 13 " " , 22 " " ; 7:35 - 9 48 7:45 - 26 birds both direction. 7:45 left

Sky 10% cloudy, but hazy. At 7:45 females began calling: eruck, eruck, eruck about 10 times in rapid succession. Sounds like tree frogs. Birds fly over Meyers Small Ponds to the tree tops on SE side of Pool 9 & then swoop down to the water. Roost is comprised of about 10 acres of brush.

South birds	North birds	
130		
115		
40		
11	30	
13	22	318 s
9	48	100 n
	26 from both directions	26 both
Totals 318 s	100 n	Grand total: 446 observed

Totals: Birds from south: 230 From north: 261
Results: I missed many of the birds that flew from the south.
It appeared that 10-20% of the south birds were flying
over the main roost to land north of my position in the
brush at north end of the pool - a secondary roost (the North Roost).
7:20 began funny warbling sound, like frog. When left
female wood and mallards were still calling from the water
north and south indicating they roosted in both spots.
The first north bird flew at 6:42, most flew between 7:10 - 7:20 (30 min.
after sunset) most had flown from north by 7:25. By contrast from ~~either~~
the previous observations, most of the south birds fly into
the main roost 10-20 minutes before sunset, in one continuous
line of birds and large flocks so ~~xxxxxxxxxxxx~~ you can see
200 birds in the air at one time. The birds originate
from Unit V or Sugar Lake where sunset should be 15 minutes
later than Pool 9. In this observation position (No. 4) I
should be as far west as possible because many birds
originate from the NW part of Pool 9 immediately below the
Picnic Area, and they fly over where I was. At least
positioning the canoe in brush and remaining motionless helps.
Also from farther west, the skyline is lower aiding visibility.



Probably 10% of the birds are missed that fly too low or are not visible due to the trees of the hills. These were computed in ~~addition~~ ^{along with addition of} 50% to the observed number ~~(3100-3100)~~ to give Class C data (?).

9/22 Arr Pool 9 dike road 6:30. Sky 90% cloudy with a haze, yet shun shining thru from west, have good visibility. Just had a heavy thunderstorm, which probably lowered the count since the birds probably already flew to roost. Birds are flying over Meyers toward the NW (toward the roost). Totals by 10 min periods: 6:40 - 31, 6:50 - 20, 7:00 - 5, 7:10 - 18, 7:20 - 19, 7:30 26, 7:40 12. Total observed: 131. Left at 7:40. Most birds fly over Pool 9 road in the area of the two curves in the road, about 1/3 mile from Boland Rd.

9/24 Arrived Pool 9 6:30. Position 3 on the accompanying map. By wood duck box 22, north of brush of the main roost, 200' south of box 22, 300' from east shore. This is directly under the main flight path, and is undesirable. Sunset about 6:45. One flock of 30 birds at 6:35.

	South birds	North birds	
6:40	209		n birds began flying
6:50	20	30	in at 6:45.
7:00	15	15	Females began calling
7:10	20	20	on water at 6:50.
7:20	15	58	
7:25			big flock of n birds (25) Mal & Black?
7:30	15)	60	
7:40	15) estimate	14	
Total	309	197	

Grand total observed 506

I was in a bad spot - caused lot of circling and probably counted some twice. Better spot is Position 3 on the map, which is west of the main flight line. 60% clouds - mostly in west, clear above and to the east.

9/29 6:45 arr Rt 27 and Lake Creek. Observed from field on south side of Rt 27. 6:55 10 Mal flew south. Sunset 6:50 Clouds 95%. Cold about 45° out.

10/1 6:30 arr n. end Pool 9 in canoe. Position no. 4 on map, 600' w. of access point on NE shore. Sunset at this point at 6:30 because of highest hill to west; but sunset 1/4 mi. s. of me (in the roost) about 6:45. Mallards are immediately north in brush. Wood are calling from north in brush. First wood flew from N. at 6:42. Cold out about 50°, clouds 50%, mostly clear above. From here I can count the first main flights over the trees to the SE (about 1/2 mile distant) by using the binoculars. When light dims, can not do this.

	South birds	North birds	
6:40		3	
6:50	90	10	
7:00	120	10	
7:10	20	43	7:10 n birds begin flying south
7:20		145	in flocks (15).
7:30		40	7:10 quit counting s birds, too dark.
7:40		10	(pretty dark out - I heard most of these)
			should quit counting at 6:45 - sunset + 40m

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10/8 From memory. Observations by canoe at the north end of ~~the~~ Pool 9 about $\frac{1}{4}$ mile s. of the electric line. Indicate that all birds that fly south into the main roost originate from the north end of Pool 9. Many came off the water around the electric line, also from lake creek north of there and from the area east of the picnic area. Most were in the former channel of lake creek. The mallards and blacks originate from the west side of the pond. Very few birds were observed flying over this position, so any birds coming from the south apparently land in the water at the southern edge of the brush. If they remain there ~~the~~ roost was not determined this year. Many birds roost in the north roost and it may be a possible site for drive trapping or nite litting since it is more open than the main roost. Nite liting the main roost may knowck down the willow brush and destroy the roost.

I also observed for birds flying south past the electric line while standing on ~~shore~~ on the west shore directly under the line. No ~~observations~~ birds at all were seen. It was a rainy evening.