February 25, 2002

Tech Note 2002-1

How To Check Artificial Duck Nesting Structures in the Field

Finger Lakes & WNY Waterfowl Association

"IF YOU BUILD THEM, THEY WILL COME"

Building and installing artificial nesting structures can be a wonderful conservation tool, but only if you plan to check them for success and maintain them year after year. The purpose of this technical note is to document the procedures that should be used to monitor and maintain nest structures, as well as the tools and supplies that will be required.

Tools and Supplies

Everyone has their own preferences, but here's a basic list of the required tools and supplies:

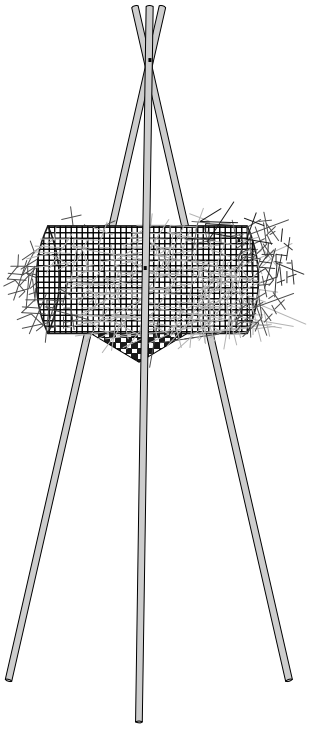
Binoculars	Cable ties (lots)	Work gloves
Diagonal cutters	8"-10" lengths of 12 ga. wire	First aid kit
Linesman Pliers	Aluminum ID tags	Check sheets/maps/pen
Pocket knife	Hay for nest material	Camera/film

Checking Procedures

Approaching the Structure

When approaching a cylinder, at first position yourself no closer than 50 feet from one end and carefully glass the cylinder for a hen. She will be difficult to see inside the cylinder. If unsure, approach the cylinder in small increments and continue using your binoculars. If you see a hen, slowly move directly away from the structure, and mark 'hen-on-nest' on your

Checking Procedures (cont'd)



check sheet. It is always best to avoid spooking a nesting hen, although our in-the-field experience has shown that a flushed hen almost always returns to the nest.

Checking the Cylinder in March/April (Pre-Hatch)

If the cylinder appears empty, check the interior for the presence of eggs or a nest bowl. If there are eggs, record the number in the clutch.

Determining the presence of a nest bowl is generally more art than science. Typically, a nest bowl is 6" across and 3"-4" deep, and the interior is almost completely smooth. However, experience has shown that hens will sometimes attempt to make a nest but not complete it and vacate the structure. If you believe there is a nest bowl, record it.

If not used, make sure that the cylinder is securely attached to the structure, and that there is adequate hay inside for nesting. If hay has been blown out of the walls by strong winds, remove any cable ties from the cylinder rims, pry open the walls, and stuff new hay in where needed. Close off the rims with cable ties.

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It is a good idea to review the location of each structure on the map, and correct the map if needed. Add any prominent landmarks. Some volunteers use GPS to record the positions of their structures. This is especially important in areas with heavy cattail growth.

Checking the Cylinder in May/June/July (Post-Hatch)

In Western NY, the first hatches of ducklings occur in the first week of May. If possible, check your structures at the end of May and again at the end of June. The June check is necessary to determine if there are any late nesters. If there are, you will need to check again toward late July. It is not unusual to have a structure used twice by different hens in the same year. If you check your structures only once, well after the nesting season, it will be impossible to detect such multiple uses. You may also be unable to detect single hatches if high winds blow out the nest material before you can check.

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Approach the structure carefully, as noted above. If empty, look for

Checking Procedures (cont'd)

eggshells and membranes. The membranes have the look and feel of an off-white latex. Count the membranes and record the number. **Then pull ALL the nest material out of the nest and discard. Replace with fresh hay.** Again, repair the structure or add hay to the cylinder walls if required. Close off the rims with cable ties. This will prepare the structure for next year.

Predation

The cylinder design is inherently resistant to avian predators. Also, it is difficult for raccoons to climb the structure. It is our experience that if a cylinder gets used, it almost always results in a successful hatch. However, you should be prepared to investigate suspicious evidence to make a determination of predation. Generally, a fur-bearer will eat the eggs, creating a mess. The nest material may be damp, and the eggs will not be pulverized. Predation by birds will leave partial eggs, perhaps with only the tops missing. If you come across a nest which is unusual in any way, take pictures and take detailed notes of the nest condition. A biologist may be able to solve the mystery if you keep good records.

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Remember, if you check your structures too long after the nesting season, it may be impossible to distinguish between a successful hatch and a predation.

Abandonments

Sometimes you will find eggs in a nest well after hatching should have occurred, and this could indicate that the hen has abandoned the nest. Abandonments can occur for several reasons. For example, the hen may have been killed in an accident with a power line or an encounter with a predator. Or perhaps there has been too much human disturbance near the nest. If the eggs are cold and damp, there is a chance that the nest has been abandoned. If you suspect an abandonment, count the eggs and check it again in a few weeks. At that time, if the number of eggs is unchanged and no hen is present, then it has likely been abandoned**. Remove the eggs and nest material and replace with fresh hay.** Refurbish the structure as before to prepare it for next year.

Renest Attempts

Mallards will attempt to renest if their first nest has been destroyed. This means that you could have birds on your structures in the middle of summer. We have noted hatches as late as the 3rd week of July in WNY. Generally, the size of the clutch in such renests is smaller

Checking Procedures (cont'd)

than in March/April, with 5 or 6 eggs being typical.

Mallard Biology

In WNY, a mallard hen will begin to nest in late March/early April. She will normally lay a single egg every day until the full clutch size (10-13 eggs) is achieved. Only then will she begin to incubate the eggs. When egg-laying, the hen may only spend only one hour per day on the nest. However, when incubating she will remain on the nest most of the time. Incubation lasts about 28 days, and all of the eggs will hatch within the same 12-24 hour period. After a short time on the nest, the hen will coax her ducklings from the structure and will take them to a nearby wetland that is rich in food. Normally, these are flooded woods, which have large numbers of invertebrates. The journey to their new home could be as long as several miles.

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The Fran Finnick Memorial Project

In 1991, FL&WNYWA initiated the Fran Finnick Memorial Project in memory of long-time treasurer and friend, Fran Finnick of Canandaigua, NY. From a modest beginning of 40 duck nesting structures in 1991, it has grown to nearly 160 structures in 2001. Each year in March, club members attend a tripod build session, and then install and monitor nest structures throughout the next 4 -5 months. Annually they commit over 300 man-hours to this project which enhances waterfowl nesting success on the Tonawanda & Oak Orchard WMAs and the Iroquois National Wildlife Refuge. In recent years, the use rate for these "Hen Houses" has approached 60%. On three separate occasions, the Erie County Federation of Sportsman's clubs has honored the Project by awarding individual club members their Conservationist of the Year Award.