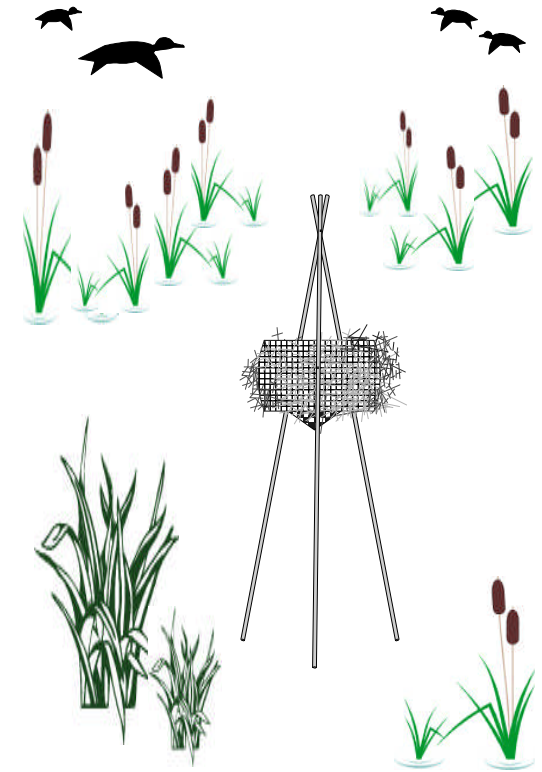


How To Construct Mallard Nesting Cylinders



**Finger Lakes & WNY
Waterfowl Association**
46 Puritan Place
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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.

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 nest 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.



**"IF YOU BUILD THEM,
THEY WILL COME"**



DID YOU KNOW THAT . . .

The **Oak Orchard** and **Tonawanda WMAs** were acquired, developed, and are maintained primarily by funds generated from the sale of hunting, fishing, and trapping licenses, and by an excise tax placed on the sale of sporting arms and ammunition (Pittman-Robertson Act). Also, the 10,818 acre **Iroquois National Wildlife Refuge**, which is situated between the two state WMAs, was acquired entirely with funds from the Migratory Bird Conservation Fund (**Federal Duck Stamp Program**) which is primarily subsidized by waterfowl hunters.

WHY ARTIFICIAL NESTING STRUCTURES?



In recent years, increasing populations of fur-bearing predators, such as raccoons, have caused serious nest predation losses to ground nesting waterfowl, such as mallards. Cornell University studies have estimated that natural mallard nest success rates are quite low, varying between 1% and 28%, depending on location and habitat type. These developments have prompted examination of new types of artificial nesting

structures to thwart predators, and boost production by ground-nesting waterfowl in areas where nest success is generally poor.

The Finger Lakes and Western New York Waterfowl Association (FL&WNYWA) is an organization of waterfowl hunters dedicated to habitat acquisition, maintenance, and improvement activities beneficial to the waterfowl resource. In 1991, FL&WNYWA began a project to construct, emplace, monitor, and refurbish a number of artificial nest structures on the Tonawanda and Oak Orchard Wildlife Management Areas (WMAs) and the Iroquois National Wildlife Refuge. In 1996, FL&WNYWA introduced a nesting cylinder design based somewhat on the Hen House widely publicized by Delta Waterfowl. However, unlike the Delta design, this structure is much cheaper to construct, can be assembled from readily available materials, is capable of using tripod support structures in addition to traditional pole-type supports, and requires no special assembly skills such as welding.

Based upon six years of in-the-field testing, nesting cylinders have proven far superior to traditional nest basket designs, demonstrating nest use rates near 60% and nest success rates greater than 95%. For these reasons, some have called the nesting cylinder the “Wood Duck Box of the New Millennium.”

Materials

ITEM	QUANTITY
10' Length of 1/2" EMT conduit	3
7' X 28" length of 14/16 ga. galvanized fencing, 2"x 4" grid	1
Triangular piece of plastic garden fencing, 25" per side	1
10" lengths of 12 ga. galvanized wire	6
8" plastic cable ties	~20

Cylinder Construction

The procedure for assembling the cylinder is as follows: using a 7' x 28" section of fence as described above, begin rolling wire into cylinder shape using the first 3' of fence, and secure at that point with several cable ties. Next, cover the remaining 4' x 28" section with hay, spreading it evenly over the surface to a depth of about 4" (sufficient thickness of hay is very important). Continue rolling the fencing (as tightly as possible) and secure again with several cable ties.

Finally, on each rim of the cylinder, use 4 cable ties to clamp the hay tightly between the cylinder walls. This will prevent loss of hay in strong winds.

Tripod Construction

Holes are drilled in the tripod conduit legs at 4", 40", and 50" from one end. The tripod is lashed together at the 4" distance, the flooring piece is attached at the 50" distance, and the cylinder is attached to the tripod legs at the 40" distance. The attachment at the top of the tripod is made using 12 gauge galvanized wire, while the latter attachments are typically made using either galvanized wire or insulated copper wire from available scrap pieces of electrical ROMEX cable. The latter are flexible and have proven to be quite durable in the field.

Additional Details

If the suggested amount of hay seems too light/heavy, adjust the depth when assembling the next cylinder. More is usually better. A triangular piece of 'flooring' is used as a 'safety net' and to facilitate attachment of the

cylinder in the field. The floor can be made from plastic garden fencing cut into an equilateral triangle 25 inches on a side. Use a template to trace the required shape onto the material.

The floor is attached to the tripod legs at the apex points of the triangle using the insulated electrical wire mentioned above. The point of attachment is the lowest of the holes that are drilled in each leg (these are 50" from the top).

The cylinder is attached to the tripod structure by resting it on the flooring, and securing it to the flooring using plastic cable ties. Next, insulated wire is used to attach the cylinder mesh to the set of holes drilled in each of the tripod legs at the 40" distance. Cable ties through the cylinder grid and around each leg are also used to obtain a more rigid attachment.

When installing structures in the field, be sure to add sufficient hay inside the cylinder as nesting material for the mallard hen. Unlike songbirds, ducks do not generally bring nesting materials to the nest site.

Maintenance and Checking

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. 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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