

Black Tern Nest Platform Guide and Instruction



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Black Tern Project Planning

- ❖ Verify the presence of Black Terns on the target body of water.
- ❖ Observe their behaviors and where they tend to nest. This pre-planning needs to take place the year before to be more successful
 - ❖ Note when the Black Terns first arrive. Depending in the area of the state, this could happen in late April or early May in WI.
 - ❖ Document when nesting pairs are found guarding sites. It has been typical on Rome Pond in SE WI for the nesting pairs to form a loose colony. Multiple pairs will nest together for protection. Pairs will become more defensive with loud chirping and very close flybys and hovering when too close to a nesting site. This activity is key in understanding where the colony is.
 - ❖ By mid to late May, the pairs will begin laying eggs. They will rotate duties at the nest site and may be found together at times.
 - ❖ In mid to late June, chicks can be found in the nest site and will be heavily guarded by the colony. Once old enough, the chicks can swim and relocate from the nest. Use caution when approaching nest sites with watercraft.
 - ❖ By August, the chicks will be able to fly. They are a whitish / gray and can be easily identified vs adults in flight.
- ❖ Count the number of nesting pairs during the months of May through June. Once the chicks can take flight, the colony may relocate to more favorable feeding and overnight roosting locations. Plan the number of platforms based on the number of pairs. IT does not make sense to place 12 platforms in an area where there might be only 4 nesting pairs.

Black Tern Identification



Look for nesting pairs in protected areas of the marsh or lake with dense emergent vegetation and mud flats or exposed soil. Pairs will be protective of their nest site. Eggs are a dark brown.

Platform Obstacles



- ❖ Public use, mother nature, and predators can all impact the success of breeding black terns
 - ❖ Avoid heavy traffic areas. The Black Tern seeks seclusion, but watercraft can either run through a nest site or create wakes that will destroy the nests.
 - ❖ Seek areas that are not wind whipped and prone to waves and instability.
 - ❖ Watch water levels. Platforms should not be deployed that flood or recede heavily during the wet and dry seasons.
 - ❖ Look for emergent vegetation early and pick areas that will provide cover for the nesting pairs and chicks from predators.
- ❖ Pick a location that will be easy to access for observation and documentation. Progress checks and photographs are needed to document the success of the nesting. Planning is needed to ensure that the site is not disrupted heavily by this activity. Nesting success did not seem to be impacted by weekly to biweekly visits to the site. Pairs did not abandon or relocate, even after episodes of heavy defense related to intrusion into the colony.
- ❖ Do not place platforms too close to shore that predators can raid the site.
- ❖ Always check with the DNR or private land owner regarding platform deployment and permission. Waterways are public and platforms are a potential boating hazard. Have the deployment approved in advance.
- ❖ Creating a design that is easy to handle in the boat, will be stable, and does not cause damage if hit by a boat. No metal is found in the current design, with exception of the anchor.

Black Tern Platform Construction

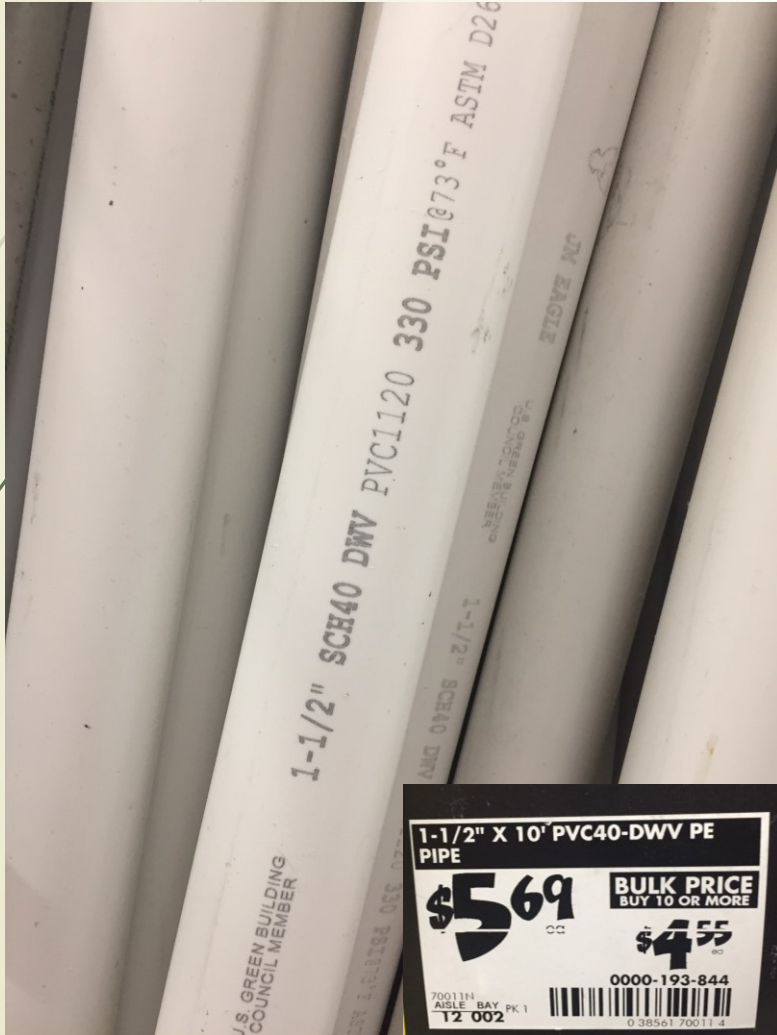


Platform Materials List

All materials for this project were found at the Home Depot, but shopping there is not strictly required. Many of the materials are standard and can be found at most home improvement and hardware stores. Prices are shown for financial planning and consideration of the sku.

- 1 1/2" PVC Pipe (120 inches per platform) – 10 ft length
- (4) 1 1/2" 90 degree (vented tight corner) PVC fittings
- PVC pipe adhesive
- Great Stuff Foam
- 1/2 plastic fencing in 3ft width
- Foam sheet – closed cell like Styrofoam to prevent water absorption
- Duct Tape
- Black zip ties
- Olive drab or brown spray paint – flat and plastic compatible
- Anchoring: Poles or nylon (non-rotting) cord with weights
- Equipment: Miter saw, heavy duty shears, tape measure, PPE and utility knife
- SOD in a 30" width

Platform Materials



Platform Materials



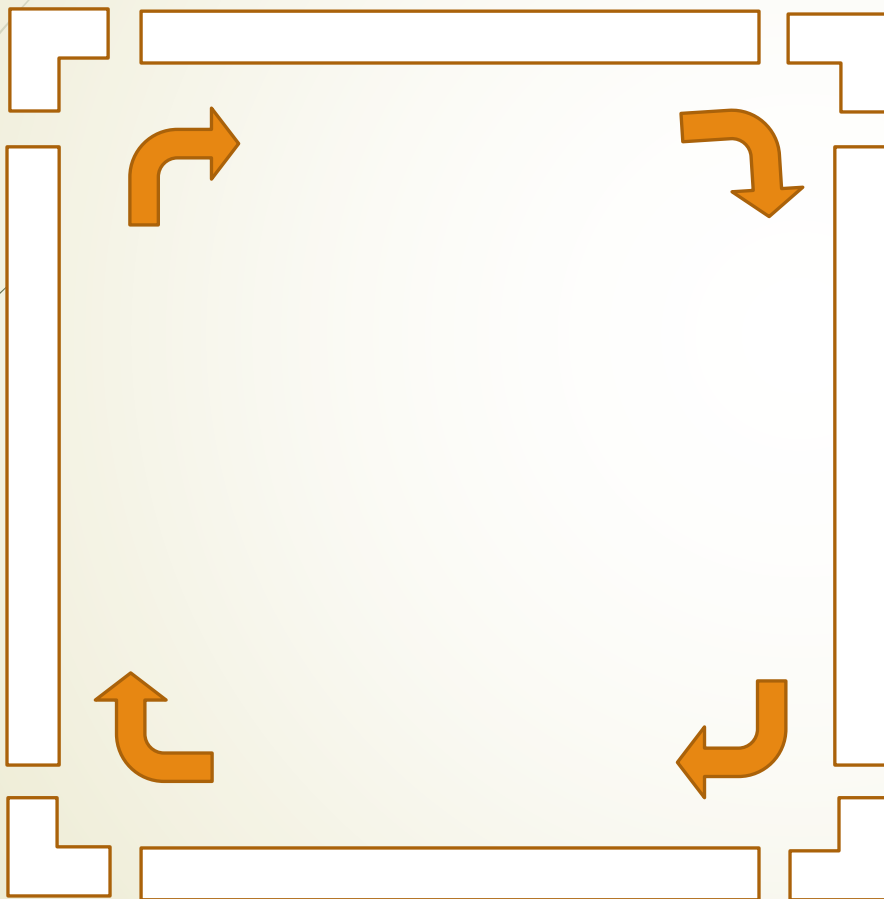
Platform Materials



Platform Materials



Step 1: Plastic Frame



Basic Notes:

- This will be assembled section by section.
- Foam is added for strength and buoyancy.
- The process is quick, as adhesives and the foam are fast acting.
- Have a good, clean and flat surface for assembly, as the frame needs to be level without twists.
- After it is dry, it will be the rigid member of the platform.

Step 1: Plastic Frame

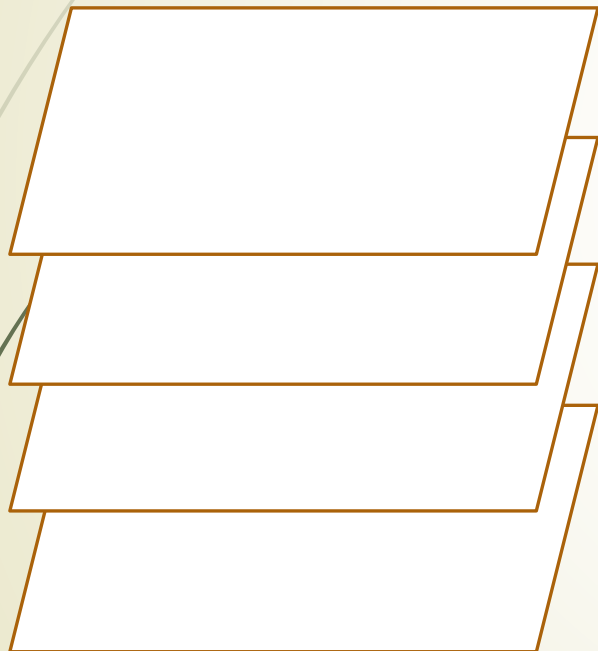


The construction of the frame is highly dependent on the width of the black plastic fencing material. The fencing must be zip tied closed for this to function and the frame must fit.

- Cut the first pipe length to approximately 30" or slightly less. 4 sections need to be cut from one 10 ft length of pipe.
- **Dry fit 2 elbows on a length of pipe. Check against the width of the fencing to make sure the fencing can be closed on both sides with zip ties.**
- Cut the remaining pipe lengths make sure they all are the same length.
- Spray Great Stuff into the pipe sections. Try to start the foam in the middle of the pipe. Do this slowly and in multiple attempts to make sure there are no air gaps. Do not allow the foam to expand past the end of the pipe.
- Glue one elbow onto three of the pipe lengths on only one end. Make sure there is a good water proof seal.
- Spray Great Stuff into the pipe elbows. Before it can expand, glue and adhere the next pipe section. Make sure the sections are on a flat surface. The glue is quick to dry and the frame needs to be flat. The fourth pipe section is the trickiest to assemble quickly, as it is easiest to adhere a section without a fitting and then add the last fitting. Note: Although it would seem easier to possibly drill holes and add the foam, this could compromise the assembly with a leak path for water.

Step 2: Foam Blocks

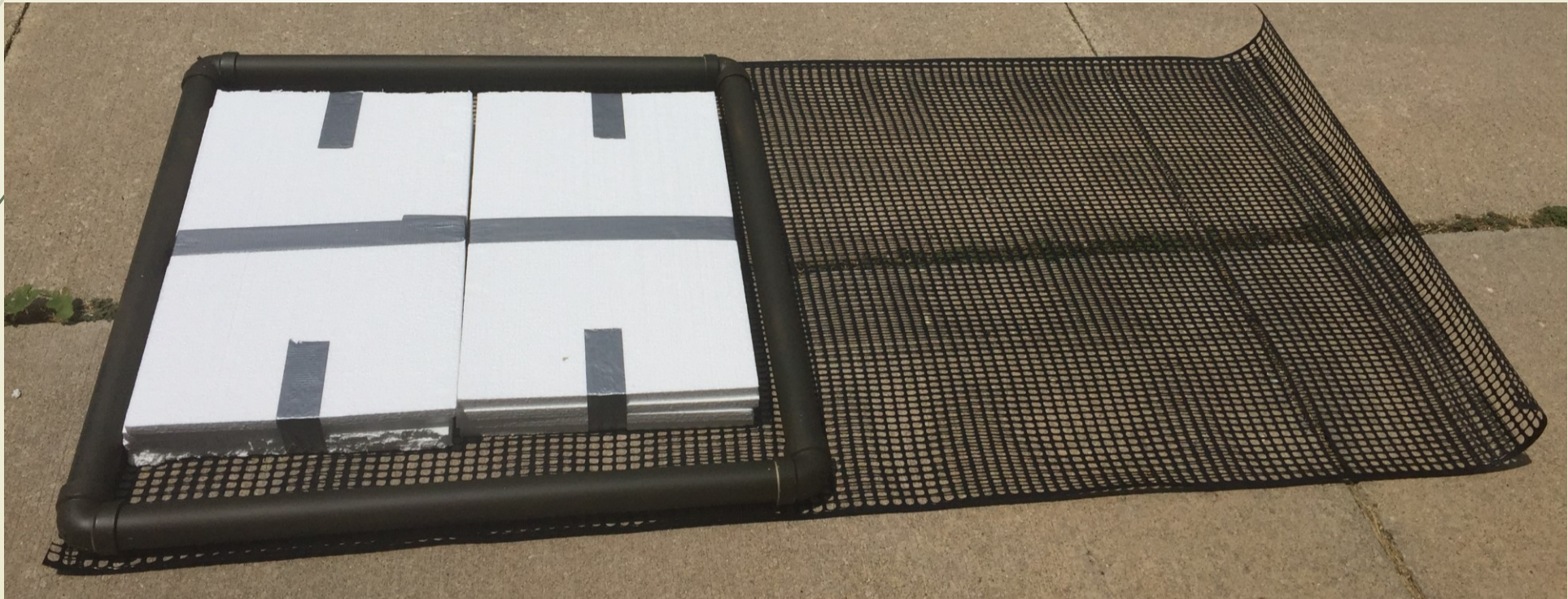
TWO FOAM BLOCK ASSEMBLIES ARE NEEDED PER PLATFORM



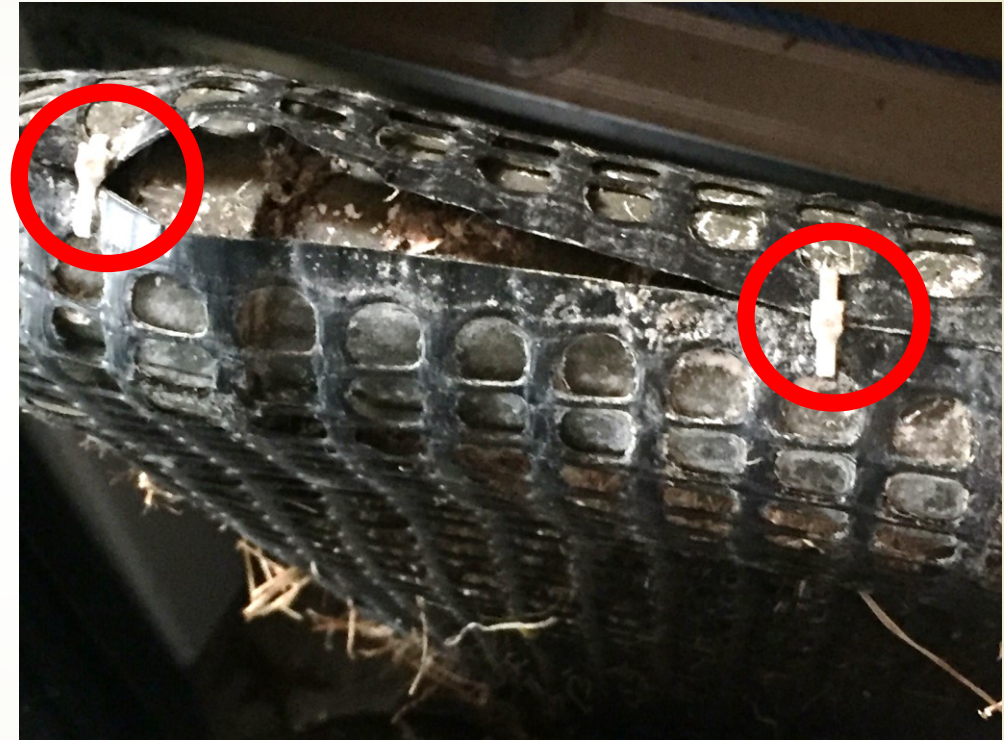
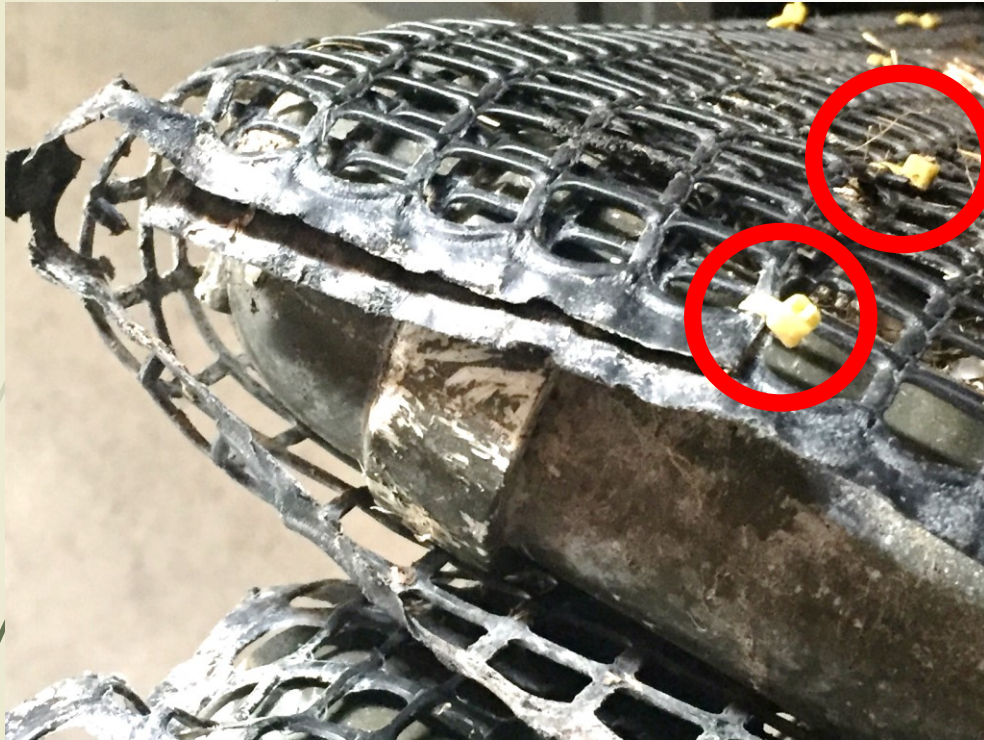
- Spray paint the frame and while it is drying assemble the foam blocks
- Cut the 48" x 14.5" x 0.5" Sheets in half with the utility knife.
- Stack 4 sheets together.
- Duct tape the foam together to create a block.
- The goal is to have a 2" height block, so if thicker foam is found, then reduce the number of sheets to get to 2"
- DO NOT Paint, unless it will not dissolve the foam. Most spray paints will dissolve Styrofoam. Water based paints may not adhere and could strip-off with prolonged water exposure.

Step 3: Fencing Measurement

For each 15 ft roll of fencing, 2 platforms can be assembled. Just over 6 ½ ft is needed, but the length should be fitted against the frame. Make sure the fencing is flat and no longer curled. Setting it in the sun can help make it flatter. Using the shears, cut the fencing long enough to fold over the frame. If easier to work with, a 7 ft piece could be initially cut from the roll. Trim as needed. For additional strength, the length should overlap at the end.



Step 4: Final assembly



Zip tie the overlapped end first and span across the assembly. Make sure that the fencing is tight and sandwiches the foam. If not, it may sag later. Finish the assembly by closing the sides with zip ties. Trim all excess from the zip ties. Note: Yellow and natural colored zip ties are shown. Use black. After 3 years, the sun embrittled those shown and then need replacement.

Step 5: Complete Platform



Quick Notes:

- The fencing can be slit to help with tying anchor points or allowing clearance for vertical poles.
- With the sides having a slight gap between the foam and frame, marsh willow or other roots can be inserted into the fencing to hydroponically grow for additional cover, but this has proven to be unnecessary.

The Evolution of the SECRET SAUCE



2018 – Weeds, reeds and mud were used to cover the platform. Due to rains and the sun, the platform materials washed away and decayed. No success.



2019 – Inverted Sod is used on the platforms. 100% nesting success, but no evidence the eggs hatched. After a heavy downpour, clutches were seen disrupted and eggs missing.



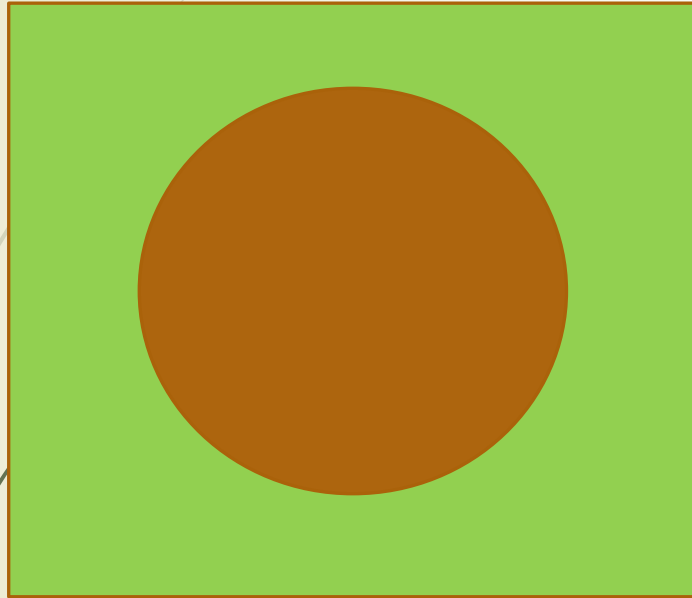
2020 – Keeping some of the sod in strips helped to produce cover and kept eggs from falling off the platform. One clutch was next to the upright strip of grass. Of the 3 platforms with eggs, each had a 100% hatch, with 2 documented with photos of chicks.

Observations from 2020



1. By the time the chicks hatched, the grass left upright grew to a similar height. One platform had the chicks hide from us against the grass.
2. Sod strips were used for the upright grass. Until the roots took hold, heavy rains had washed some of the strips off.
3. The clutches were all placed up against the grass, which was a lessons learned by the nesting pair, as it helped to keep the clutch in place.
4. Evidence that there was a re-laying of eggs, as one platform had the clutch scattered with one egg close to the edge.

Improvement Ideas



1. To reduce strips of sod from washing off, my improvement plan for 2021 will be to cut a circle out of the center of the sod mat and inverting it. Using a dry wall saw or something similar, this should easily permit a one piece grass edge that should not wash away. It will also provide a full perimeter to avoid eggs washing or rolling off.
2. Reduce bunching of platforms due to competition from nesting pairs. Also, do not put too close to cattails, as redwings were seen to perch above the nest and harass the pair.

Timing and End of Season Care



1. Initial deployment needs to be before the first pairs arrive. In SE WI, that is towards the end of April and early May. Sod availability will also dictate the deployment time.
2. Check every few weeks to make sure nothing has happened. It is critical in May to understand if there are issues with the platform before it is too late for the breeding season. A platform might need repair or to be moved if not being utilized.
3. Remove the platform by August to prevent seeding from weeds. Dry in the sun and remove. **DO NOT REMOVE IN THE FIELD FOR FEAR OF INVASIVE TRANSFERENCE.**