Building a Quadrat & Robel Pole

WLFW Northern Bobwhite Outcomes Assessments

MATERIALS

- ½" x 10' PVC Pipe (x2)
- ½" 90-degree PVC elbows (x4; link is for a pack of 10)
- 1" x 5' PVC Pipe
- Rope or durable string (4 meters plus some excess used to tie to the poles)
- Fusion all-in-one red spray paint[1]
- Painter's tape
- Duct tape
- Trash Bag(s)
- Sharpie
- PVC cutter or saw
- Measuring tape (meters/centimeters)
- Hardware for freestanding the Robel pole (see step 7)

INSTRUCTIONS

Quadrat:

1. Cut the ½" x 10' PVC pipes into five 1-meter poles. Be precise in your measurements. (You will have a little over 1-meter in excess from the final cut in case you are calculating materials needed for multiple quadrats.)
2. Connect 4 of the 1-meter poles with the ½" 90-degree PVC elbows, forming a 1x1-meter square (quadrat). See Figure 1. (The 5th pole will be used for constructing the Robel viewing pole.)
3. You may use PVC glue to secure 2 corners of your quadrat if you wish, but please leave 2 corners unglued in case you need to fit the quadrat around a tree trunk.

Robel Pole:

1. Measuring from one end of the 1" x 5' PVC pipe, make a mark with the sharpie every 10cm for a total of 1-meter (10 marks total). Be precise in your measurements. (The top ~0.5-meter section of the pole will be unmarked.)
2. Wrap the bottommost 10cm section with painter's tape so that no white of the PVC is showing for those 10cm. Do this for alternating 10cm sections, leaving the PVC unwrapped for the 10cm sections in between. Make sure you have clean, straight edges at the sharpie marks. See Figure 2.

[1]The spray paint need not be this specific brand or color. Just make sure whatever you get will work on PVC. Additionally, make sure the color is bright and easily seen through vegetation (don't use green).

3. Wrap a trash bag over the top ~0.5-meter section of the pole and secure with a little tape at the topmost sharpie mark. This is to protect the top of the pole from spray paint.
4. Take the Robel pole outside and spray paint the untapped sections. (You may want to lay down a trash back to avoid leaving marks on the grass/ground when you spay paint.) Wait for the paint to dry, and then remove the painter's tape.
5. With a sharpie, number each 10 cm section starting with "0" on the bottommost section and ending with "9" at the topmost. See Figure 3. You may want to do this on multiple sides of the Robel pole so that the numbering can be seen from all directions when deployed.
6. Tie and tape with duct tape one end of the rope/string directly above the 1-meter mark on the Robel pole. Tie and tape the other end to the top of the viewing pole (i.e., the remaining ½" x 1m PVC pole) so that the string between the two poles is exactly 4 meters in length. See Figure 4 for a Robel pole in use.
7. For biologists that plan to do vegetation surveys alone, a method of freestanding the Robel pole is needed. One option is to get a thin post that can be inserted and removed easily from the ground and that can fit through the center of Robel pole (e.g., fiberglass electric fencing post). Another option is to bolt steal edging stakes to the bottom of the Robel pole. Whatever method you choose, ensure that the bottom of the Robel pole is flush with the ground when deployed (i.e., the PVC itself should not be inserted into the ground or raised above the ground).

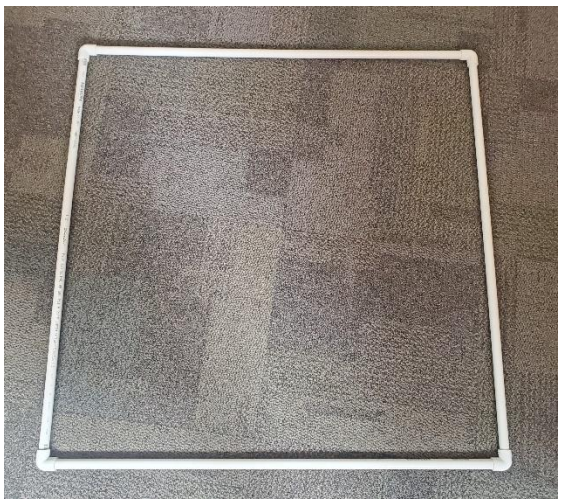

Figure 1: Finished quadrat.

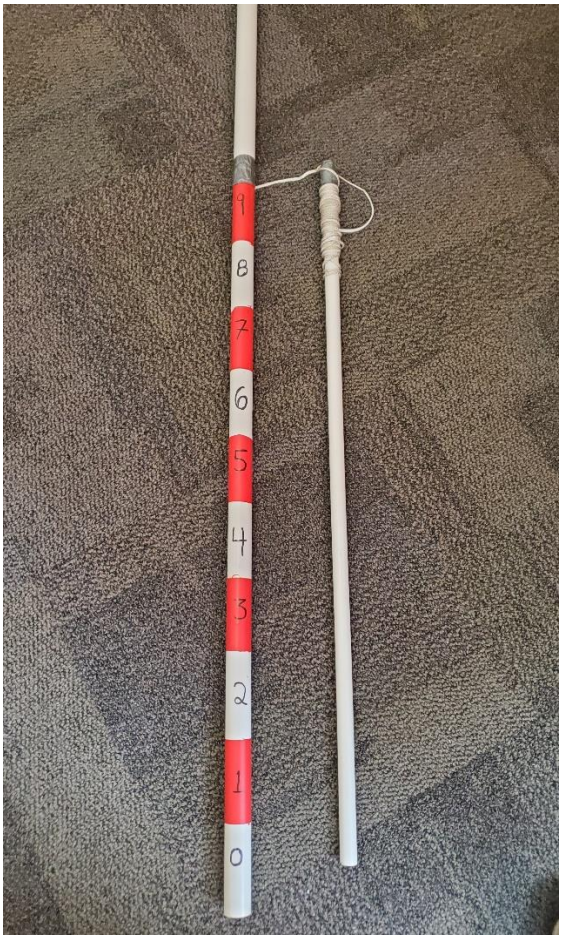

Figure 3: Finished Robel pole. Note alternating white and red 10-cm bands numbered 0-9.

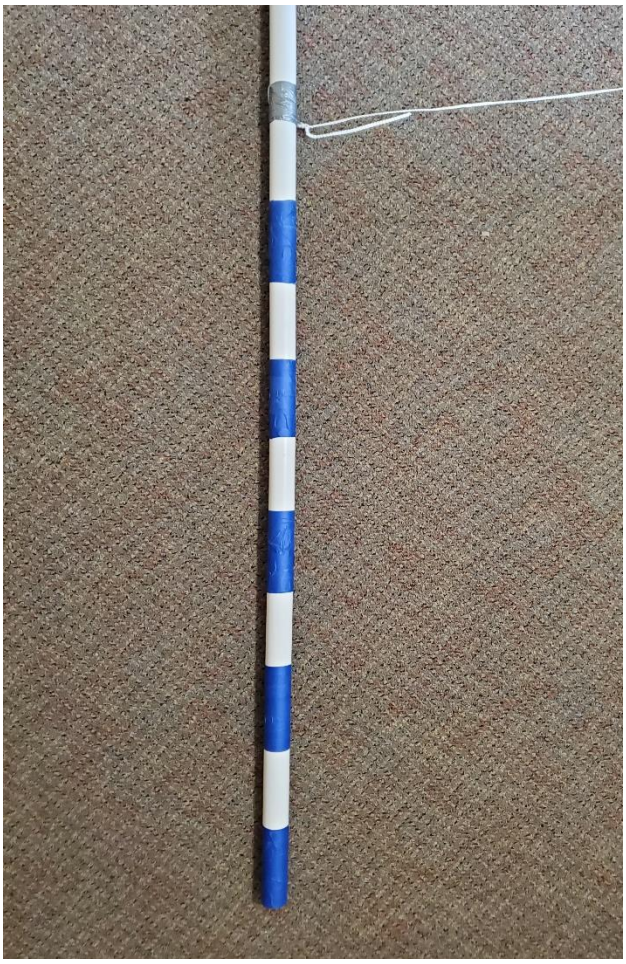

Figure 2: Taped Robel pole. White sections will be spray painted red. After the paint has dried, the blue tape is removed exposing the white of the PVC below.

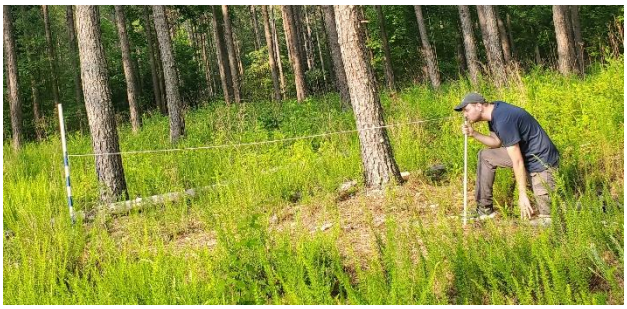

Figure 4: Robel pole in use.