

2008 Northern Goshawk Survey Protocol for the Western Great Lakes - version 1.0

All technicians and contractors are required to survey each selected area (i.e., PSU) using the following abbreviated protocol. We will provide each surveyor with 120 predetermined calling stations, field maps, datasheets, and a broadcast caller and GPS unit if needed. All calling stations are placed 200 m apart along 10 parallel transects spaced 250 m apart within each survey area (Figure 1). Contact your coordinator if you have trouble loading the stations into your GPS unit. At each station, use a caller (digital or megaphone) to broadcast the goshawk territorial call at 85-90 dB. The survey call includes a goshawk call for 10 sec followed by 30 sec of listening. During the listening period rotate the caller 120° and repeat for a total of 6 calling sequences. This series of calling and listening sequences equals approximately 4 minutes of survey time per station. After completing the data sheet for the station, continue walking to the next survey station while searching for visual responses and other signs of goshawk activity. Stations may be skipped if they are located in lakes or in large, treeless bogs where coverage is achieved from adjacent stations. Continue surveying at each station within the survey area until a confirmed goshawk response is documented or all stations are completed.

At each survey station record date, surveyor(s) name, PSU name or number, period number (1 or 2), weather information, station number, start time, forest type and structural stage, raptor detection, and comments (see the Updates page of the Western Great Lakes Bioregion website for data forms and forest type/structural stage codes). Record all hawks or owl species heard or observed during surveys. When a response is detected, record the type of response (auditory, visual or both), age of the bird, location, direction, and distance of detection.

Surveys can be conducted anytime from dawn till dusk (i.e., sunrise to 1/2-hour *before* sunset) during suitable weather. Unsuitable conditions include sustained wind speeds >15 mph or persistent rain. Occasional gusts above 15 mph are acceptable, but keep in mind that the caller range and your detection abilities are lessened when consistent winds >10 mph are encountered. You may begin surveying again when a rain event ceases.

All survey areas assigned to you need to be completely surveyed twice during the field season, once during the period May 12-June 27 and once during June 28-Aug 12, 2008. During the second survey period, use the fledgling food-begging call in place of the adult territorial call. After you have completed the surveys, return all equipment and completed data sheets to the following state coordinators: Wisconsin - Jim Woodford, WDNR, 107 Sutliff Avenue, Rhinelander, WI 54501; Minnesota – Jason Bruggeman; Michigan – David Cuthrell.

Survey Tips

The following are additional considerations and tips when completing your field surveys:

- Always carry a compass with you. The GPS units may lose satellite signals and leave you uncertain of your location or direction.
- Make an efficient ‘plan of attack’ for each survey area by reviewing the topo maps and aerial photo for stands of older trees with good canopy cover. Look for road access points and begin by covering the most suitable habitat first. If an impassable land feature (usually a river, stream, or lake) cuts through the PSU, look for road access on each side, rather than walking through a lot of unsuitable habitat. Calling stations need not be done in sequence along a transect, but all stations must be done. It is ok to adjust a calling station location on both sides of a large lake or bog to cover the edge and any inaccessible islands of mature trees. Make a note on the data sheet if the location of the station is adjusted more than 35 meters of the original GPS coordinates.

- If you are uncertain about a potential goshawk response (e.g., from a silent fly-over) continue with the calling stations and attempt to confirm. Make a note in the comments line of what you saw or heard, and record location and directional bearing. There are many different signs of an occupied goshawk nest area: keep your ears tuned all the time for adult and juvenile calls while you scan the ground for whitewash (nestlings eject feces over edge of nest by about 10 days old), scan large logs and elevated logs for prey remains, and watch for feather molts. Also scan the trees for nests and the sky for birds cruising above the canopy. Silent flyovers, especially by males, may be very brief encounters. If the nest is close enough the female may respond and stay within view or audible range.
- Suspected goshawk feather molts should be picked up by the vane end. The quill end is normally used for DNA extraction and should not be contaminated. Flight (wings and tail) feathers are more desirable than body feathers. If a goshawk carcass is found collect several flight feathers. Feathers should be stored in a clean plastic bag labeled with date, location, and collector. Store feathers collected from different locations in separate bags. Collect and freeze any prey remains found near or below a possible goshawk stick nest or if you record the prey remains as a response.
- If a large stick nest is found but appears unoccupied, record the GPS location, tree species and approximate diameter at breast height, check for new sticks or 'greens' indicating current year activity, and look for claw marks on the trunk as signs of mammal depredation. Make note of the presence of any competitor species in the area such as red-tailed hawks and great horned owls.

Suggested Field Equipment List

1. Broadcast Caller Unit (Digital or Megaphone are ok)
2. GPS Unit (loaded with calling station locations)
3. 2-way radio (if working in pairs)
4. Extra batteries for GPS and radio
5. Maps (PSU map, plat map, etc.)
6. Watch
7. Data sheets (rite in the rain paper is helpful)
8. Sharpies/Pens/Pencils
9. Binoculars
10. Field Compass and water-proof matches
11. Survey Vest (blaze orange a good idea during turkey seasons)
12. Rain gear
13. Bug repellent/head net
14. Gallon-sized plastic bags (ziplocks) for feather molts or prey remains

PSU - 20945 (Kidrick Swamp)- Taylor Co.

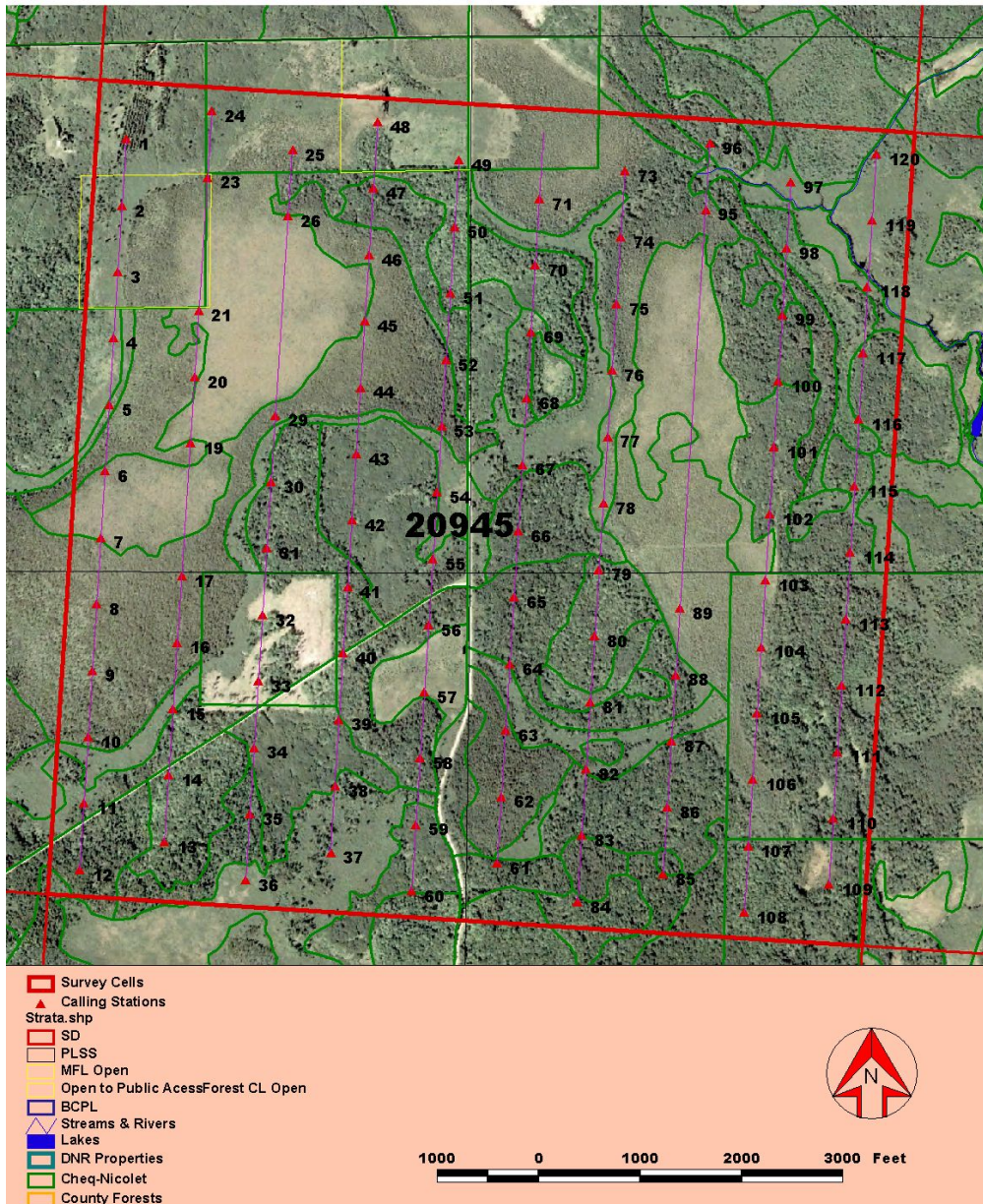


Figure 1. Example of a survey area (PSU) with calling stations and transects overlaying an aerial photograph.