#### Northern Goshawk Broadcast Survey Protocol

# Steep Rock Association

At the onset of the survey, record the weather conditions (wind, cloud, and precipitation) and allow the GPS to find your location. Always carry a compass with you. The GPS unit 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 map. Calling stations need not be done in sequence along a transect. If an impassable land feature (river, stream, cliff, etc.) cuts through the area, look for access on each side.

Record the temperature (°F) at the first and last survey stations of each day afield. If weather changes substantially during the survey, describe in the notes column. Surveys can be conducted anytime from dawn till dusk 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 megaphone range and detection abilities are diminished when consistent winds >10 mph are encountered. You may begin surveying again when a rain event ceases.

All survey areas are to be surveyed twice during the field season, once during the period May 1-June 30 and once during July 1-Aug 31. During the first survey period, use the adult territorial call (00) and during the second survey period use the juvenile food-begging call (01).

Navigate to a station and determine the best vantage point (i.e. adjacent small clearing or outcropping). Look around for conspicuous perches and determine the most likely direction to detect a goshawk (i.e. mature forest, direction away from other stations completed, etc.). At each station, broadcast the appropriate call for the survey window in three directions.

### Nestling Period

The audio track (00) consists of 5 seconds of call then 5 seconds of silence followed by another 5 seconds of call and 10 seconds of silence. Play the track twice in one direction (total of four call sequences), turn down the volume, and listen for 30 seconds. Rotate the caller 120° and repeat the broadcast sequence. Rotate another 120° and repeat the above described steps to complete the third direction of calling.

### Fledgling Period

The audio track (01) consists of 20 seconds of call and 5 seconds of silence. Play the track once, turn down the volume, and listen for 30 seconds in each direction.

Complete the datasheet row for the station and walk to the next survey station while searching for visual responses and other signs of goshawk activity. Look for movement of investigating hawks and record all woodland raptor species detected during the survey in the designated column. If a station falls on a water feature or cannot be accessed due to steep terrain, get as close as possible to survey, ideally on the uphill side. Make a note on the datasheet if the location of the station is adjusted more than 100 feet from the original coordinates. Continue surveying at each station within the survey area until a confirmed goshawk response is documented or all stations are completed.

If you are uncertain about a potential goshawk response (silent fly-over, distant call, etc.) continue with the calling stations and attempt to confirm. Make a note of what you saw or heard, and record location

and directional bearing. Signs of an occupied nest area include abundant whitewash below a nest, prey remains on or below large elevated logs used as plucking perches, and fallen feather molts. Suspected goshawk nests, feathers, and prey remains should be marked with the GPS and noted on the datasheet. If the nest is close, the female may respond and stay within view or audible range. Goshawks are very aggressive early in the breeding season and caution should be taken if a pair is detected.

Contact the project supervisor or SRA office personnel before entering the survey area and once leaving the survey area for safety purposes via text, call, or email.

Rory Larson

(203) 947-0316 (cell)

(860) 868-9131 (office)

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# **Equipment List**

- Survey Map
- Trail Map
- Datasheets
- Megaphone
- GPS Unit
- Compass
- Binoculars
- Thermometer
- Pens/Pencils
- Time-telling Device
- Extra Batteries
- Emergency Beacon
- Bird Guide
- Cell Phone