



Instructions for Defining and Conducting a Winter Raptor Survey

Route Selection

To take advantage of your knowledge of the area, we leave the choice of route and route length to you.

Choose a route that is primarily in open country, such as open rangeland, pasture, cropland, grassland, etc., etc. Make sure roads on your survey are well-spaced to avoid double counting. Avoid and/or minimize backtracking, and make sure not to double count if you include any backtracks.

Forest edge, or other similar features may be included on routes, but keep them to a minimum. This type of survey is not suited to forested habitats.

Your surveys will be conducted in winter, during daylight hours. Choose a route length that allows for a thorough survey to be completed during the winter daylight hours in your area. Suggested start time is no earlier than 8 am, and the suggested latest finish time is 4pm. Choose a route that can be completed within the same time frame in different months over the season. Consider daylight as well as local geography and possible raptor density and distance from the road when determining your route length. To allow for stopping, slow driving, traffic etc., choose a route where the speed limits are lower, i.e*, under 40mph, and where shoulders are present, allowing for stopping.

In areas where winter snow is expected, exclude roads that are not plowed in winter. (This may require a few phone calls to determine.)

The suggested minimum route length is 10 miles and maximum 100 miles.

Route description

After determining your route, prepare a narrative description of it. Include starting location (road intersection or name and GPS coordinates, if possible), ending location, and habitat descriptions (see below). Indicate the length of your route. Ideally, include turn-by-turn driving directions, to ensure you always run exactly the same roads and sequence, and in case your route is taken over by others in the future.

Also, submit a file to show the route on the land. Use Google Earth to prepare a .kmz file of your route. You may find it convenient to use your .KMZ file Google Earth map on a smartphone app. You Tube videos are available to coach you through the process. If you need help with developing a .kmz file, contact the WRS committee. After developing a narrative description and documenting the route in a .kmz file, submit the route information to HMANA by going to <http://wrs.hmana.org> and clicking on "Edit Route Definitions." Select "Add New Route."

Habitat Description

Describe the various habitats along the route. Ideally, reference mileage points, intersections, landmarks and/or street or road names in your narrative.

Some suggested habitat descriptors include the following:

- urban/close residential;
- rural/open residential;
- industrial;
- agricultural (i.e. croplands, feedlots, et al.);
- pasture (currently being grazed, animals present, animals not present);
- hayfields;
- fallow fields;
- mowed grass;
- shrub lands;
- deciduous forest;
- coniferous forest;
- natural grasslands;
- wetlands (marsh, bog, creek or other);
- and shoreline, open water.

Use the "Notes" column on the survey data forms to document any changes during a season, such as construction activities, or the plowing of a field.

Running the Route

Frequency and timing of surveys

Conduct your survey at least once per season, but preferably three or more times per season. If you decide to run your route only once per winter, it should be done in late January/early February.

If your route is in a more northerly latitude, you can start the season in late November and end in early March. Otherwise, start in December and conduct the final survey by the end of February.

Ideally, cover your route once per month. If done more than once per month, at least three weeks should separate consecutive surveys.

Number of observers

Routes should be run by at least two people (driver and recorder). More participants may be advantageous, since more eyes may detect or correctly identify more birds. However, when weighing the value of additional observers, consider factors such as everyone's comfort in the vehicle you will be using, group dynamics, your ability to manage the group and to finish the whole survey within daylight hours.

Survey day weather and times of day

Conduct surveys during daylight hours. Try to keep start times and pace as consistent as possible from survey to survey.

Surveys should be conducted in favorable weather conditions. Avoid surveys under disadvantageous conditions such as heavy fog, heavy rain, snowstorms, or high winds (>18mph, above Beaufort Scale 4). See below for weather data to record at the start and finish of each survey.

General

Run your route the same direction each time. Drive your route continuously from beginning to end. Drive slowly enough to spot as many birds as possible (perched, on ground, flying, at a distance). The suggested maximum speed is 20-35 mph. Slower is ok, when it's safe. You are encouraged to stop regularly to take advantage of good vantage points or to identify a bird. Use common sense to maximize safety.

Use a GPS unit or smart phone with a GPS coordinate app. The Google Earth app has a setting to continuously display GPS coordinates to document locations where raptors are observed. Vehicle odometer readings are not sufficiently precise or repeatable for noting raptor locations.

Data recording in the field

Print and bring enough data forms to allow documentation of all the raptors you may optimistically encounter. Bring a clip board and attach a writing instrument that will work in cold conditions.

A smart phone incorporating*weather, compass, GPS, maps and other relevant apps is very useful. Additional equipment to bring includes binoculars, a spotting scope, a hand-held wind speed meter and a compass. Alternatively, if available, you can use local weather data published for that date. Do not leave your battery powered devices in vehicles between surveys, and bring extra batteries on your surveys! If relying on a smartphone, determine that your route will be within signal range.

Documenting each bird observed

Record all raptors (including owls), shrikes and vultures encountered.

For each bird, record the time and the GPS coordinates.

Approximate the bird's location relative to your position. Use distance in meters and the cardinal and ordinal designations (N, S, W, E, NE, NW, SW and SE) for recording on your .kmz file later. Distances need not be precise. Distance from the road* affects detectability and may reflect species behavior.

Identify*the species of each raptor, if certain. If uncertain, record UA, UB, UF, UE or UR. Use the two-letter abbreviations shown below.

Optionally, record age, sex, subspecies and morph (when applicable), if you are certain of this level of detail and have the time and secure situation to do this. Many birds will not be identifiable to age or sex or subspecies or morph. If unsure, put "U [unknown]".

Use the Notes section, if desired, to make other observations about habitat specifics or the bird's behavior, e.g. "perched 10 meters up in hedgerow oak", "hover hunting five meters over corn stubble," or "flying N to S at an altitude of approx. 300 meters."

Avoid double counting. If you think there is a significant chance that the bird you see is the same as the one you just saw nearby, do not count it.

Other taxa:

Shrikes: Record any shrikes you see in the “Notes” section on your data sheet. When you later enter your data on line you should transfer your shrike sightings to the “Comments” section.

Rare Species: If you note a bird not on the list of expected species, take as many notes as possible. We urge anyone finding an unusual species for their particular region to report it to that region’s listserv and/or eBird.

Documenting Observer and Weather Information on the Data sheet

Enter the names of all participants.

For both the start and end of your survey, document as much of the following as you can: wind speed and direction; temperature, the state of open water (frozen etc); cloud cover; visibility; precipitation; snow depth.

To determine wind direction, you may refer to the local news service, smart phone weather app, or to throw a handful of leaves into the air.

If making your own readings, use the Beaufort Scale (B) or the actual speed per a handheld device. You can use your vehicle's thermometer or a separate device. Don't agonize over an assessment of cloud cover or visibility: it's understood that these will be imprecise measures.

Enter survey start and end times.

Data Management

As soon as each survey is completed, make sure to document at least basic information such as all participants' names, start and finish times and temperatures, and species seen including their locations.

Ideally, complete all requested weather observations, as well as bird location details and interesting and relevant notes about habitat changes, and bird behaviors (for example).

Finally, go to the WRS Data Entry Page (<http://wrs.hmana.org>) and enter your data. First time surveyors will need to create a login and password to access the site.

List of Raptor Species, and possible information to be gathered for each:

BE Bald Eagle (*Haliaeetus leucocephalus*) Adult/Immature (year if possible)

NH Northern Harrier (*Circus cyaneus*) Adult male/Adult female/Immature

SS Sharp-shinned Hawk (*Accipiter striatus*) Adult/Immature

CH Cooper's Hawk (*Accipiter cooperi*) Adult/Immature

NG Northern Goshawk (*Accipiter gentilis*) Adult/Immature

RS Red-shouldered Hawk (*Buteo lineatus*) Adult/Immature

RT Red-tailed Hawk (*Buteo jamaicensis*) Adult/Immature and Light/Rufous/Dark morph

RL Rough-legged Hawk (*Buteo lagopus*) Adult/Immature and Male/Female (where possible) and Light/Dark morph

GE Golden Eagle (*Aquila chrysaetos*) Adult/Immature

AK American Kestrel (*Falco sparverius*) Male/Female

ML Merlin (*Falco columbarius*) Adult Male/Others
PG Peregrine Falcon (*Falco peregrinus*) Adult/Immature

Owls:

BN Barn Owl
GH Great-horned Owl
SN Snowy Owl
SE Short-eared Owl
ES Eastern Screech Owl

Other:

NS Northern Shrike
LS Loggerhead Shrike

In the West:

WK White-tailed Kite
HH Harris's Hawk
SW Swainson's Hawk
FH Ferruginous Hawk
CC Crested Caracara
GY Gyrfalcon
PR Prairie Falcon

Owls:

BN Barn Owl
GH Great-horned Owl
SN Snowy Owl
BU Burrowing Owl
SE Short-eared Owl

Recent protocol edits:

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