

## **ILLINOIS SWAINSON'S HAWK PROJECT**

### **Fieldwork Instructions**

#### **Purpose**

The purpose of this project is to find out how many pairs of Swainson's Hawks breed in Illinois, where they are located, and how successful these pairs are at rearing young.

#### **Search of new areas**

The main nesting areas of Swainson's Hawks in Kane and McHenry counties are rapidly being developed. Many acres of traditional farmland are being converted to housing, industrial complexes, and shopping malls. In the last few years several pairs of Swainson's Hawks have not returned to traditional areas and this survey is an attempt to answer the question of whether they have been lost from Illinois, or whether they have moved to new locations within the state.

To answer this question requires fieldwork in an expanded area, and requires a number of observers willing to cover designated areas which are thought to be suitable for the hawks. Obviously, not all designated areas will contain hawks, but we will not know unless we look. In addition to recording any Swainson's Hawks, observers will be asked to count other birds of prey and vultures, as well as some other locally interesting breeding species.

#### **Route Selection**

Observers will be given a designated area or areas to cover. Each area will be approximately 5 miles by 5 miles, an area that can be thoroughly searched in a day for Swainson's Hawks. Observers can pick their own route in the designated area, and need to plan their route to include all public roads in the area. On subsequent visits to the same area it is probably a good idea to start from a different point each time so as to cover different areas at different times of the day.

Please take care not to trespass on private property, or areas that are sign-posted, and do not park on the shoulder of busy roads or in private driveways. **It is very important that observers do not trespass on private land. Landowners can get very irate with trespassers and may refuse permission to researchers in the future if trespass has occurred.**

#### **Finding Hawks**

Swainson's Hawks are most likely found by scanning the sky with binoculars for soaring birds. They can also be found perched, especially close to nest areas, but nothing like as frequently as Red-tailed Hawks. In order to look for soaring birds you need good vantage points where you can scan a large area of sky for a considerable time. This requires a safe pull off from the road, especially important on busy roads. **Do not stop on busy roads even if the view is good unless you can pull off the road completely at a rest area, or other safe place.**

In your assigned area, you will need to drive along all public roads, stopping frequently to scan the sky with binoculars. Swainson's Hawks can be identified at a mile away. For distant hawks, a spotting scope is useful. Observers will want to have their favorite raptor field guide with them to identify and age/sex raptors they see, such as Clark and Wheeler's, *A Field Guide to Hawks of North America*, 2nd edition, or one of the other excellent guides on the market. In addition, there is a page on the Illinois Swainson's Hawk Project website that gives specific information on aging Swainson's Hawks. <http://bcnbirds.org/shp>

Observing a Swainson's Hawk does not occur frequently in Illinois, so if you see one, make the most of it. When a Swainson's Hawk is sighted soaring high in the sky, be prepared to follow it with your binoculars for up to an hour! They soar more than Red-tailed Hawks and can stay in view for long periods. It is an arm-aching experience to do this but can lead to rewards when eventually the hawk descends to land in a nest tree or interact with its mate. It is easier to follow a soaring hawk for long periods if you have a partner to help out. Also, you can lean on the roof or door of your car to alleviate arm ache **as long as you are well off the road and safe from passing traffic.**

In any event, the soaring hawk will eventually land, or disappear from view. If the former, you are likely near a nest site. If the latter, draw a line on your map to indicate direction and approximate height of the bird's travel. A compass is helpful here. Do not hesitate to leave your route or even depart from your designated area to follow the bird. If you are lucky, you may find the bird again. Using these methods, we have successfully followed birds over several visits until we found nest sites up to 4 miles away from the original sighting.

If you do not find the bird again, return to your area and continue your survey.

At the end of each visit, please communicate any Swainson's Hawks sightings to Bob and Anita Morgan by phone (home number 708-209-1938, cell phone number 708-351-9404) or email on weekdays at: [amorgan@sxu.edu](mailto:amorgan@sxu.edu).

### **Length of Stops**

Your stoppage time will vary, depending on the nature of the view, and how profitable it is for seeing hawks. Stops should last between 20-30 minutes at good vantage points. As already mentioned, it is not necessary to follow the same route on each visit. It is more important to ensure that your area is thoroughly covered. For each day of fieldwork, we ask that you complete the data forms provided. There are 3 different forms: one to record your visit information and all birds of prey, one to record Swainson's Hawks sightings, and one to record other birds of interest.

### **Timing of fieldwork**

Swainson's Hawks arrive back from their wintering grounds in the first week of April onwards (the earliest that we have seen them in Illinois is April 8<sup>th</sup>). The period from early April until mid May is an excellent time to see them as they are very active defending a territory to nest in, which often involves displacing the already nesting Red-tailed Hawks. It is fascinating to watch a male Swainson's hawk out-climb a male Red-tailed Hawk and then dive bomb it from above. This usually happens in the first 2 days after the Swainson's Hawks return from migration. Things settle down once the territory boundaries are established. Also, the Swainson's Hawks often arrive as a pair and begin courtship flights and nest building immediately.

Visits early in the season (before leaf out) allow for observers to note where large stick nests are located. These should be noted on your map as some old nests may be refurbished, or a new one built in the vicinity of an old one. Any occupied Red-tailed Hawk nests (or other hawks) should be mapped also. Please note that the presence of an active Red-tailed Hawk nest does not preclude the presence of Swainson's Hawks in the area. They coexist quite closely on occasions. **We recommend that at least 2 visits of between 6 and 8 hours are made to your designated area between April 8th and mid-May. Two other visits should be planned for later in the**

**season to check for fledged young (see below).** These visits can be divided between two teams or observers if need be. If you can't devote 6-8 hours on one day, you can split up the visit and cover different parts of your territory over two different days.

Your visits will be most productive if you pick days with good weather for soaring. Clear, sunny days with up to moderate winds should be most productive. Days with rain or severe winds are to be avoided. The best time to visit your designated area is between 9:00 a.m. and 4:00 p.m., as these are the best hours to find soaring hawks.

Visits from mid-May until mid-June are probably least profitable while the female hawks are incubating eggs. Obviously, the male still has to hunt and provision the female with food, but the chances of seeing birds are smaller at this time. However, observers who wish to continue during this period are encouraged to do so. New things are always possible. For example, pairs that fail early in the season may move to another site up to 2 miles away and re-nest. This will put them on a later schedule than pairs that do not experience nest failures.

Once the young are getting large then activity will pick up again. The earliest that we have seen young out of the nest is the third week in July. **So, 2 further visits are recommended between July 24<sup>th</sup> and mid-September (the latest we have seen birds in the area).** Pairs with flying young offer a fantastic opportunity to get good views of the plumage differences between adults and juveniles. There is a lot of calling between birds at this time, and they spend a lot of time in the air chasing each other, and other birds of prey.

### **Recording Your Observations**

**Form 1:** On each visit, please complete Form 1 with basic information about your route, the time spent observing birds, and the mileage traveled. Also on Form 1, record all birds of prey (including vultures) encountered in your designated area on each visit, aging and sexing birds when possible. Note that when driving along roads at the edge of your designated area you should record all birds of prey observed, even those technically outside your area. If you see Swainson's Hawks over other observer's areas, we will forward that information to those observers.

**Form 2:** Fill out this form **if you observe a Swainson's Hawk.** Use this form to record details of what you see. This is the main reason for the fieldwork. At the end of each visit, please communicate any Swainson's Hawk sightings to Bob and Anita Morgan by phone (home number: 708-209-1938, cell phone: 708-351-9404) or email on weekdays at [amorgan@sxu.edu](mailto:amorgan@sxu.edu).

**Form 3** (optional): Use form 3 to report shrubland and grassland birds of interest noted while you are searching for Swainson's Hawks. The same form can be used on multiple dates (until filled).

### **Submitting Your Data**

Please return all completed data sheets by October 1 to Bob and Anita Morgan, 32 Lathrop, River Forest, IL 60305. If you prefer to return data by email and would like an Excel spreadsheet template to record your data on, contact Anita Morgan at [amorgan@sxu.edu](mailto:amorgan@sxu.edu).

## DATA FORMS

### **FORM 1 - (Fill Out for Each Visit)**

This form is for recording information on observers, designated area, date, starting point, mileage of stops from start point, duration of stop (in minutes), and birds of prey observed.

**Area #:** You will be given a code for your area(s).

**Date:** The day you are out.

**Start point:** Give location of starting point for the day's survey, e.g., Big Timber Rd. & Route 47.

**End point:** Give location of ending point for the day.

**Observer(s):** Your name(s).

**Stop #:** Each stop along road should be numbered.

**Mileage:** For each stop, give mileage from start (if you can reset your odometer to zero at the beginning of your route this becomes very easy. Otherwise make a note of the mileage at the start).

**Duration:** You should expect to stop and scan for soaring birds for 20-30 minutes per stop. Record the stop time in minutes.

**Birds of prey:** Record all birds of prey including vultures. The following species codes are used on Form 1:

TUVU Turkey Vulture	SWHA Swainson's Hawk
NOHA Northern Harrier	OSPR Osprey
SSHA Sharp-shinned Hawk	AMKE American Kestrel
COHA Cooper's Hawk	PEFA Peregrine Falcon
RSHA Red-shouldered Hawk	UNBU Unidentified Buteo
BWHA Broad-winged Hawk	UNAC Unidentified Accipiter
RTHA Red-tailed Hawk	UNRA Unidentified Raptor

Line 1: Record the total count (number of birds seen). Please write a number (not a tally).

Line 2: Record abbreviated comments on line two.

If age or sex can be determined, please add **M**(male), **F**(female), **A**(adult), **I**(immature).

If you see evidence of nesting or nest building, please add **N** (nest)

Comments can be combined (e.g. M, N3I = male and nest with three young)

There is no Line 2 / comment line for unknowns (UNBU, UNAC, & UNRA)

Please add any other raptor species not on this list at bottom of form.

## **FORM 2—(Fill Out for All Sightings of Swainson’s Hawks)**

This form is for recording details of Swainson’s Hawks observed and should be linked to a data entry on Form 1.

Please give as much detail as possible about your sighting(s) of Swainson’s Hawk(s). Each sighting is original and we encourage you to record what you see. Below is a list of behaviors that we have observed over the years of our studies that you may find useful.

Record the date of the sighting, time of the sighting, and the stop# (carried over from Form 1)

**Nearest Intersection:** Give location of the nearest intersection, e.g., Big Timber Rd. & RT 47.

**Distance from Int.:** Record / estimate the distance in miles and direction from the nearest intersection, e.g., 1.2 South

### **Location: (details)**

Record the exact location in as much detail as possible. What side of the road was the bird (or birds) on? How far from the road was the bird? What habitat was the bird using? Private land? Buildings? Land for sale or slated for development?!

**Wind Speed:** Give a general estimate of the wind strength / speed.

**Temp:** Estimate the temperature at the time of the sighting

**Sky (% Cloud Cover):** Record the sky conditions. How much of the sky was covered by clouds? (e.g. all gray sky = 100%, half blue & half gray = 50%, sunny / all blue = 0%)

### **General behavior:**

Bird perched

Bird flying

-for soaring birds: give height as low, medium, high, and direction of flight

-direct flapping flight: give direction

### **Hunting behavior:**

Bird hunting

-hunting from high, medium soaring flight

-hovering

-catching insects in flight with talons

-hunting from a perch

-hunting on ground (newly cut hayfields are a favorite site for this behavior)

### **Hunting habitat:**

Describe habitat the bird is hunting in.

-examples include hayfield, row crops,

-roadside verge, grassland

**Agonistic Behavior:**

Describe interactions with Red-tailed Hawks or other raptors/owls. Swainson's Hawks will defend territory for nesting by aggressively attacking Red-tailed Hawks, especially. This usually happens in the days just after Swainson's Hawks return from migration, with less severe interactions occurring throughout the breeding season.

Great Horned Owls are a predator on Swainson's Hawks nestlings, and if sighted, elicit an extremely aggressive response from the hawk. Also, newly fledged Swainson's Hawks make swoops at passing raptors.

**Breeding Behavior:**

Swainson's Hawks often arrive as a pair from migration. The males start to display immediately by flying up and then swooping down 3 or 4 times in succession. This may take place very high in the sky, or low down near treetop height. Watch for males bringing prey to the females and giving a food pass in the air or transferring prey on a branch or even on the ground. Copulation takes place frequently after arrival from migration, followed by visits to the nest site with twigs for nest building.

**Behavior with Fledged Young:**

Fledged young stay in the area for at least a month after fledging. They can be seen perched for long periods waiting for an adult to return with prey and then there is a chase with the young calling loudly for the food. It is often passed in the air. The plumage differences between adults and young are described elsewhere. (See handout.)

We are particularly interested in hunting behavior (hovering, scanning from perch, soaring high or low, catching insects in the air or on the ground), habitat the birds are hunting over (type of crop if known, grassland, roadside verge etc.), agonistic behavior with other birds of prey/owls, and breeding behavior. Please record these as fully as possible.

**NESTS:** If you are fortunate enough to locate a nest—**Do not go closer at this time. Swainson's Hawks are easily disturbed while incubating and may desert the nest if approached at this time. Please inform Bob and Anita Morgan (708-209-1938) so that landowner's permission can be acquired for watching the nest without undue disturbance.**

Sightings of birds flying high and disappearing in the distance can yield useful information, and these sightings may build up to suggest a pattern that may lead to a nest site being discovered. These types of sightings should be marked on a map giving flight direction, date, and whether high, medium or low altitude.

**CASUAL SIGHTINGS OF SWAINSON'S HAWKS**

All sightings of Swainson's Hawks from casual observers are requested. Even if you have not volunteered to cover a designated area, please send your sightings using Form 2 (which you can download from the ISHP website at <http://bcnbirds.org/shp>, and complete with as much information as possible. (See above.)

**Form 3—(Optional) – Locations of Grassland and Shrubland Bird Habitat.**

Use this form to report shrubland and grassland birds of interest noted while you are searching for Swainson’s Hawks. The same form can be used on multiple dates (until filled).

Over the past few years, a Chicago Wilderness regional planning effort has attempted to identify all the habitat for our region’s two highest priority habitat groupings, grassland and shrubland birds. The list of target bird species appears below, and it is based largely on Partners in Flight Continental Priorities and Objectives Defined at the State Level: Illinois.

Unincorporated areas of Kane and McHenry counties have received the least coverage, as many fewer birders visit the areas that the ISHP is covering. It would be very helpful to the organizers of these efforts, called the Grassland Blitz and the Shrubland Blitz, if you could pass along locations that you find where any of the birds below are likely to be nesting. The organizers will try to get someone (you, if you’re interested) back to the site to survey the area during the Blitz period.

Please do not depart from the ISHP protocol to investigate these areas. If you can just pass along the location and list of which of these species you observed there, that would be a big help.

- |   |                       |
|---|-----------------------|
| Northern Harrier                        | Blue-winged Warbler   |
| Northern Bobwhite                       | Golden-winged Warbler |
| Sandhill Crane (on ground or Jun./Jul.) | Prairie Warbler       |
| Upland Sandpiper                        | Yellow-breasted Chat  |
| Wilson’s Snipe                          | Eastern Towhee        |
| Wilson’s Phalarope                      | Clay-colored Sparrow  |
| Black-billed Cuckoo                     | Field Sparrow         |
| Yellow-billed Cuckoo                    | Lark Sparrow          |
| Short-eared Owl                         | Savannah Sparrow      |
| Willow Flycatcher                       | Grasshopper Sparrow   |
| Eastern Kingbird                        | Henslow’s Sparrow     |
| Loggerhead Shrike                       | Dickcissel            |
| White-eyed Vireo                        | Bobolink              |
| Bell’s Vireo                            | Orchard Oriole        |
| Sedge Wren                              | Eastern Meadowlark    |
| Brown Thrasher                          | Western Meadowlark    |