

# Roost Emergence Survey – Instructions

Allow about 2 hours on site, starting about 45 minutes before sunset, to allow for setup time.

## Equipment

- Portable chairs
- Datasheet
- Clipboard or hard surface for writing
- Pencils
- Headlamp or flashlight
- Weather meter / or / smartphone weather look-up
- Handheld GPS / or / location data from online mapping service
- Hand counter (clicker) / or / pencil & paper for making hash marks to count

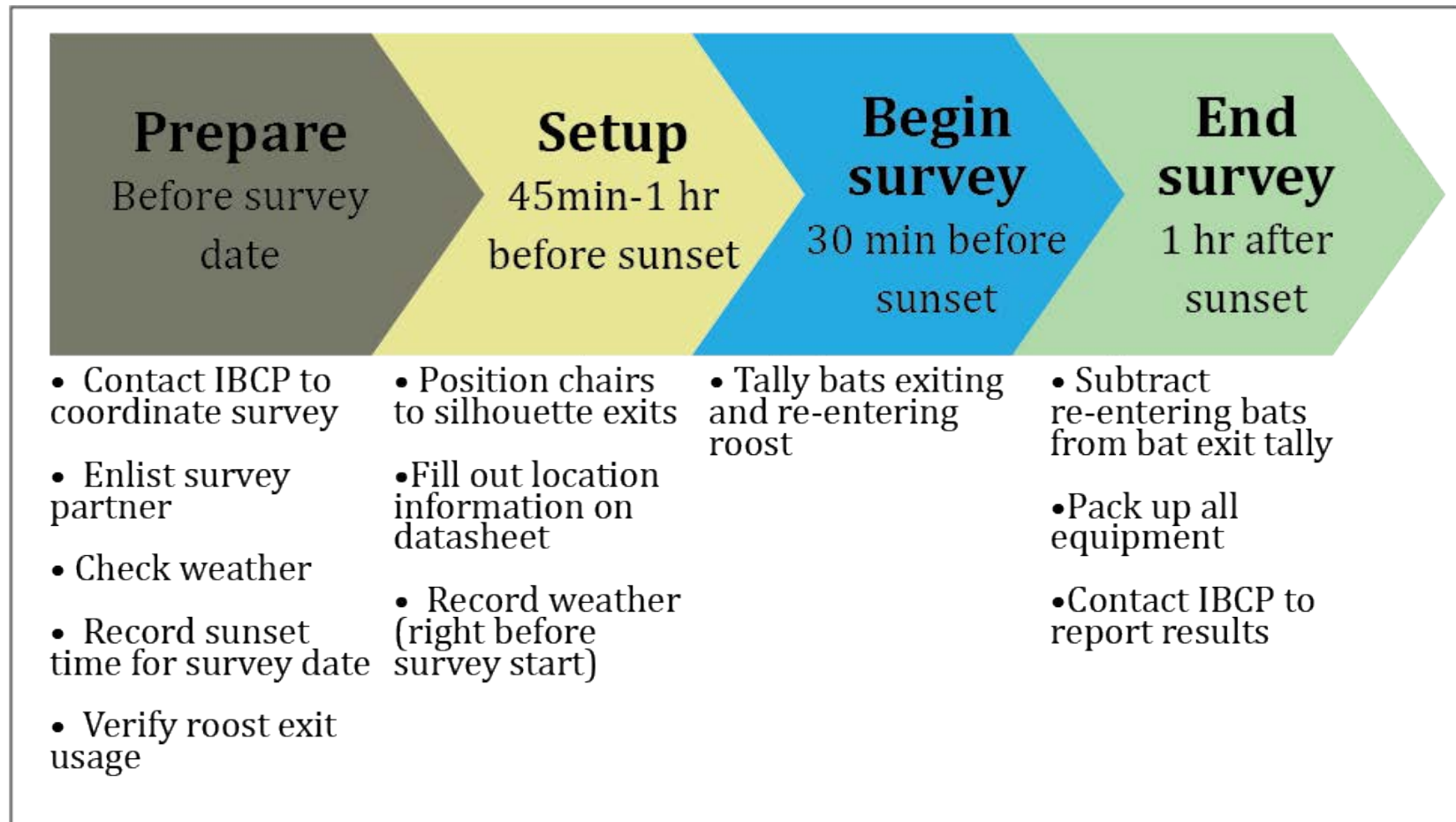
**Illinois Bat**  
CONSERVATION PROGRAM



## Methods

- If you have time, go to the site several days BEFORE your roost emergence survey, arrive about 15 minutes before sunset and walk around the roost at a distance that does not disturb the bats until you identify where the bats are emerging. You may learn that bats use exit openings different from the opening you thought they were using, or even multiple openings. Guano on the sides of the building or ground may be good indicators for exits above.
- Look up the official sunset time for your site on the day you are visiting, record on form:  
[http://aa.usno.navy.mil/data/docs/RS\\_OneDay.php](http://aa.usno.navy.mil/data/docs/RS_OneDay.php)
- Get to the site about 45 minutes before sunset to allow for some setup time and data sheet entries prior to **Survey Period**
- Position your chair so that emerging bats will be silhouetted against the setting sun, if possible. But not too close - you want to minimize disruption near the roost & you should remain quiet
- Use lights only when necessary for data recording - NEVER shine light on roost entrance!
- **Survey Period** – Begin counting bats 30 min before sunset until 1 hour after sunset
- Do not survey if: 1) temperatures are expected to fall below 50°F during the survey time; 2) there is any rain or fog; or, 3) there are sustained winds of greater than 9 miles/hour [=Beaufort #3: Leaves and small twigs constantly moving, light flags extended]
- Tally each bat as it exits. Note times of breaks during the emergence - these break intervals help characterize the type of emergence.
- Continue counting for at least an hour after sunset, until the last bat emerges, or until it becomes too dark to identify bats exiting.
- Record other observations such as: interesting emergence patterns, other animals observed at site, landowner interactions/preferences, etc.
- **Submit completed data sheet** within one week: 1) make a high quality scan, and email the scan to: [info@illinoisbats.org](mailto:info@illinoisbats.org) - we will email back confirming receipt; OR, 2) send original data sheet via US mail:  
**Illinois Bat Conservation Program, INHS, 1816 S Oak St, Champaign IL 61820**

*Modified from the 2020 Rangewide Indiana Bat Summer Survey Guidelines, U.S. Fish & Wildlife Service  
<https://www.fws.gov/midwest/endangered/mammals/inba/inbasummersurveyguidance.html>*



## Roost Emergence Survey - Weather Data

An important part of the emergence survey is to collect information about the roost and survey conditions. Weather influence the number of bats emerging and the timing of their departure. There are a few options for monitoring the weather that have various degrees of accuracy.

### **Option A** – *Best, highly localized*

*Equipment: Handheld weather meter*

Use a handheld weather meter such as a Kestrel Weather Meter

([http://www.benmeadows.com/Kestrel-Pocket-Wind-Meters\\_36817403/](http://www.benmeadows.com/Kestrel-Pocket-Wind-Meters_36817403/))

### **Option B** – *OK, somewhat localized*

*Equipment: Phone with mobile data (& have service at roost location)*

Download the NOAA weather application to your mobile device.

When you need weather data, make sure your location service is on and open the application.

Click the small gray bulls-eye (between the location name and the refresh circle).

Tap the current conditions to open temperature, wind, humidity information for your current location.

### **Option C** – *Least desirable, least localized*

*Equipment: Internet access on a computer*

Go to Weather Underground - <https://www.wunderground.com/>

Type in GPS location

Click on History under the location name near the left side of the screen

Enter the date of your survey

Scroll to the bottom of the page for *Hourly Weather History & Observations*

Locate the time closest to the start and end of your survey and record the information on the datasheet.

## Questions or concerns?

Email us at

**info@illinoisbats.org**

## Roost Emergence Survey - Location Data

It is important for our project to know the EXACT location of the roost so that: 1) we might be able to visit and characterize the vegetation around the roost; and 2) we can return to the site in future years to document any changes in the roost. There are a couple options for recording the location of the roost

### *Option A – Handheld GPS receiver*

- Take a waypoint at the roost location as close as possible without disturbing bats
- Record coordinates on datasheet

### *Option B – Smartphone*

- Download GPS application such as Google Maps
- Turn on location settings on mobile device
- Open Google Maps
- Click the bullseye on the bottom right corner to navigate to your current location
- Tap and hold your current location on the screen
- The GPS coordinates should appear in the white bar at the top (should be two numbers, with the first starting around forty)
- Record coordinates on datasheet

### *Option C – Computer & Internet Access*

- Go to Google Maps - <https://www.google.com/maps>
- Type in nearby address or road intersection
- Navigate to location of roost
- Click & hold mouse button on location of roost until a small window opens at the bottom with location information
- Record coordinates on datasheet

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