Illinois Butterfly Monitoring Network Guidelines

Website Edition

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Introduction

It is important that site managers and stewards monitor the remnant-requiring animals that inhabit the small and widely scattered natural areas of Illinois. At least 3 out of every 4 species that occur on Midwestern prairie and savanna remnants are animals, about 75% of which are insects. The effects of fragmentation, pollution, and management practices such as prescribed burning and shrub removal will almost certainly become manifest within populations of short-lived animals such as butterflies much sooner than they will among very long-lived organisms like perennial plants.

Many butterflies are restricted to intact prairie and savanna remnants by narrow habitat requirements. Given their seemingly vulnerable habit of wintering above ground, these insects should prove to be excellent "indicator organisms" with which to monitor the effects of prescribed burning and other stresses on terrestrial invertebrates in general. Since they tend to be relatively easy to identify, butterflies can be monitored in a cost effective manner with the help of dedicated amateurs. Moreover, butterflies can, by virtue of their size and beauty, be used to elicit appreciation and support for natural area programs among the general public.

Most natural areas over ten acres in size support at least four or five remnant-reliant butterfly species, ones requiring remnants of natural areas to survive. Landscape-dwelling species are ones that have adapted to highly altered and non-natural areas. Large sites can support fifteen or more remnant-reliant species. Unfortunately, these "good" species often occur in perilously small numbers, even on larger sites. As preserve managers, we would like to think that our efforts to clean up, restore, and protect natural area remnants will serve to bolster these small populations. However, only by monitoring population sizes (densities) can we strive to insure that this is indeed the case.

It is very difficult to monitor actual insect population sizes, especially on larger sites. Fortunately, it is far simpler to monitor relative butterfly densities (the number of individuals recorded within an interval of space and/or time). One promising method of monitoring relative butterfly densities involves the establishment of permanent census routes (see Pollard 1977). Relative density data should provide a rough but useful measure of the status of restricted butterflies (and, perhaps, other sensitive insects as well) over multiple-year periods. It is important to remember that fluctuations from one year to the next will have little significance.

Census Route Design

Census routes can be used to monitor all of the butterflies that inhabit, or visit, a site. These routes will ideally:

a) transect a variety of habitats and/or management units
b) take advantage of existing paths or trails whenever possible
c) be easy to locate (by others) and repeat in subsequent years
d) require anywhere from 1/2 hour to 2 hours to complete. (Large sites may require 2 routes.)

Most sites encompass two or more plant communities in various "states of repair ". Ideal routes

should sample intact and degraded portions of each plant community. Typical plant community subdivisions will include:

Wetlands - subdivided into fen, sedge meadow, and marsh if practical
Prairie - subdivided into dry, mesic, and wet if practical
Sand savanna - subdivided into dry, mesic, and wet if practical
Oak savanna - subdivided into dry, mesic, and wet if practical
Restoration - subdivided into prairie, wetland, savanna or other plant habitats
Old field - subdivided into dry, mesic, wet or sedge meadow if practical.

Additional subdivisions might involve adjectives such as: "open", "closed", and "degraded". Most sites also include "horrible" areas that have been targeted for (or are already undergoing) extensive restoration. It is especially important to sample these management units with your census route.

Butterflies may initially be concentrated along open savanna routes; they may disperse as overgrown sites begin to open up. This could result in decreasing numbers of sightings, even in the case of growing populations. It is important to sample both open and closed savanna management units to offset apparent losses of this nature. Areas of this nature may provide the first indications that restoration efforts are paying off.

Census routes should be conceptualized as corridors, 12 meters (approx. 40 ft) in width. This should enable monitors to meander enough to avoid serious trampling in sensitive areas such as sedge meadows. Narrowly defined routes can result in badly trampled paths that can entice visitors to enter wet areas and other sensitive areas that they might otherwise avoid. See next page for an example of a route.

The route will be broken down into transects corresponding to the plant communities along the route. Each transect type will be given a corresponding letter. For example, using the sample site map, all prairie areas along the route will be grouped into Transect C. All open sand savannas will be grouped into Transect A. Notice that closed sand savannas are put into a different transect, Transect B.

Routes that work well on paper will often prove to be less than satisfactory in the field. That is okay, since this is a long term project. If the initial route proves to be less than adequate after the first year, it can be changed. However, any changes to the route must be approved by the Illinois Butterfly Monitoring Network Director.

Site Map Example

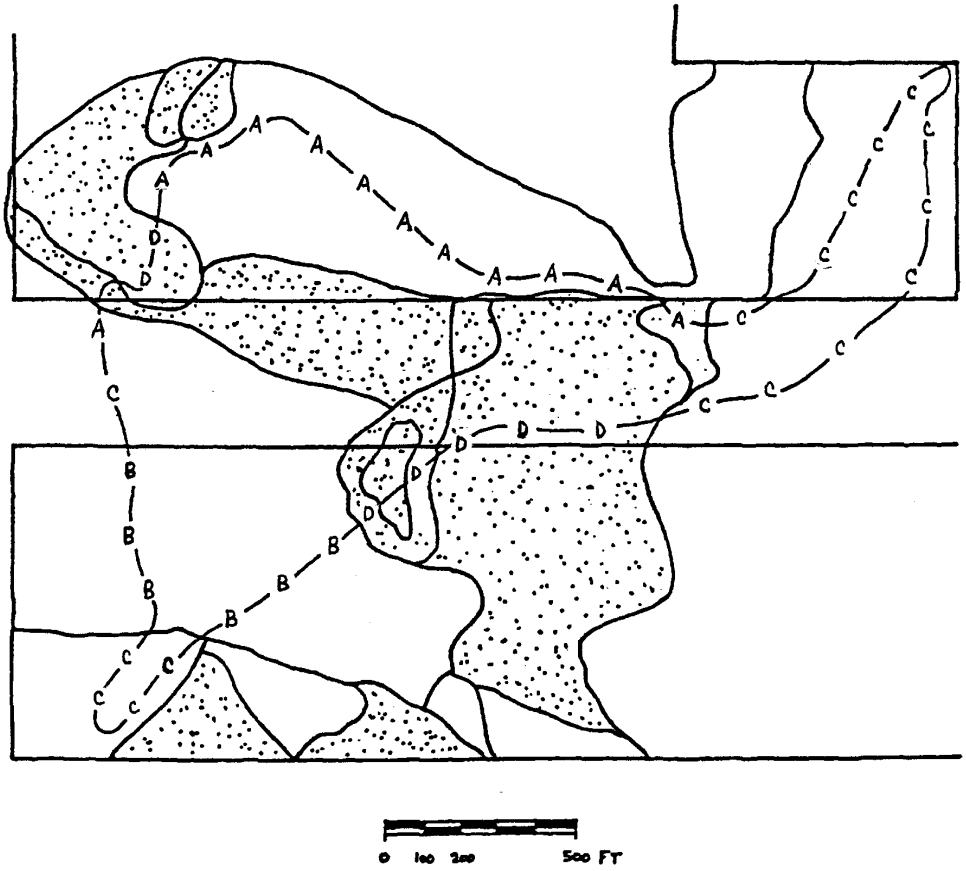
This is an example of a typical site map showing the census route. Use this as a guide for how to lay out your route and create your own site map. Note that the route crosses into all of the major plant habitats in the area. This gives you a good sampling of the butterfly populations in each habitat. The partial rectangles are not part of the census route. They are guide lines used by the land managers. An ideal map will be drawn on a management map when available.

Braidwood Dune and Savanna Nature Preserve

Transect Key

A = sand savanna B = closed sand savanna

C = prairie D = wetlands



Census Procedure

Our census data will be of real scientific value if the following criteria are met:

a) Each census, called a "route run" or "run", should be taken by a single observer, called a "monitor". This person may be accompanied by one or more 'blind' assistants that may help in record keeping and identifications only. Only the monitor should be spotting the butterflies. If the monitor fails to notice a butterfly, assistants should not point it out.

b) The monitor should:
   1) proceed at a uniform pace (with route map & field form in hand)
   2) conduct runs between the hours of 10 AM and 3:30 PM
   3) conduct runs only on days with less than 50% cloud cover
   4) conduct runs only on days with light to moderate winds
   5) record all species sighted within a detection radius of roughly 6 meters (20 feet) to each side of the route. Butterflies are presumed to be absent from overgrown sections (within 20 feet) where the monitor's vision does not penetrate.
   6) pause briefly to chase, capture, and identify fast-moving or elusive individuals, returning to departure point to resume route. Brief pauses will not be recorded. Longer pauses will be timed and noted on the census field form.

Census period: Route runs should be taken on 6 occasions between June 1 and August 7, with 4 of the 6 taking place before July 20. Additional runs are allowed as long as the required 6 runs are conducted between June 1 and August 7. The following habitats may contain certain species that may encourage monitors to complete additional runs.

Prairies: Consider a late April/early May run if *Euchloe olympia, Callophrys polios, or Callophrys irus* are present on sand prairies.

Savannas: Consider a late August run if the xeric prairie species *Hesperia leonardus* is present; consider a late April/early May census if *Euchloe olympia, Callophrys polios, or Callophrys irus* are present on sand savannas, or if *Glaucopsyche lydamus* is present in oak woodlands.

Wetlands: Consider a late August/early September run if *Lycaena helloides* is present in wetlands containing its host plant, *Polygonum amphibium*.

Photography and Other Activities

Many people use photography to document identification. We encourage this practice; however, we urge monitors to minimize photography during data collection. If possible, photograph before or after your route. Do not remove any butterfly from the site to photograph it.

Do not do any other activities during monitoring, such as monitoring other animals or plants, walking your dog, taking someone on a tour of the site. These activities will distract from your monitoring, causing you to miss seeing some butterflies. Your sole focus should be on looking for butterflies.

Record Keeping

Census Route Field Form: Ubiquitous species are listed to minimize the need for writing during surveys. Notice that the organization follows that of Irwin & Downey (1973)... first skippers, then swallowtails, sulphurs/whites, hairstreaks/blues, and finally brush footed butterflies. Blank lines have been provided for additional species seen.

Monitors must fill out this form for each time they do a census (run their route.) Copies of the field forms should be submitted to the IBMN Administrator at the end of each season or entered into the IBMN database via the internet. The IBMN Director will then review the data and generate and disperse all annual summaries.

Maps: Each route should be depicted, to scale if possible, on a site map. The plant communities and/or management units traversed by the route should be clearly delineated and prominent (and hopefully permanent) features such as telephone poles, large boulders, or official trails should be clearly marked.

Remnant-reliant insects have narrow habitat requirements and are often limited in occurrence to small colonies, even on large sites. A knowledge of the locations of localized species is an obvious prerequisite to prudent management. Monitors should map the locations of localized species as this information becomes available.

Certain plants are especially popular among nectar-seeking butterflies. (Not all butterflies seek nectar.) Dense patches of plants such as blazing star, dogbane, butterfly weed, bergamot, or purple coneflower will serve to inflate butterfly counts when they occur along census routes. The relative size and locations of these "hot spots" should be indicated, and changes in these patches should be noted on the field forms (e.g. "bergamot decreasing in section 'A"'). This will insure a more reasonable interpretation of your census data. For example, if large patches of dogbane decrease in an area adjacent to a census route, subsequent sightings of certain species may plummet. A data compiler who is aware that hot spots have recently been reduced or eliminated will know that the lower numbers of sightings does not necessarily mean that population densities are crashing.

Butterfly Identification

Fledgling monitors should spend their first year learning to identify the common butterflies of our region. Fortunately, most of our true butterflies (non-skippers) are easy to learn. Many can be studied leisurely as they nectar at flowers. Most are easily netted and carefully transfered to a catch jar where they can be clearly viewed. Good manuals such as the Kaufman Guide's Butterflies of North America clearly illustrate the diagnostic details for each species. Appendix C also includes information on butterfly families that should be helpful.

The skippers, on the other hand, are hard to catch and can be very hard to handle. However, most monitors should be able to learn the 10-20 skippers that inhabit their sites by acquiring good field keys, attending IBMN field seminars, and periodically referring to the IBMN reference collection. (Contact the IBMN Director for information.)

Accuracy is very important. Monitors should strive to attain at least a minimum level of proficiency. First year monitors should learn the Beginners' Checklist species (next page.) Second year monitors should work on the rest of the non-skipper butterflies and the skippers present at their site. Third year monitors should know the regular species seen annually on their site, and work on learning other likely species that may be seen every few years.

Unfortunately, some butterflies can be tough to accurately identify in the field, even for experienced Lepidopterists. In these situations, field forms should accurately reflect the monitor's level of certainty. If a greater fritillary "rockets by", record it as a "*Speyeria sp.*" If you have trouble distinguishing a dion versus a broad wing skipper, record it as "*dion/viator*". If you see unfamiliar skippers nectaring on a milkweed, you might record them as "unknown skippers" or "drab skippers". Although a bit scant, imprecise data of this nature is highly preferable to "educated guesses". Do not guess on any identification.

It can be helpful for identification to be able to know which family a butterfly belongs to. Learning the species in terms of familial characteristics can quickly narrow the possibilities when looking up a butterfly in a field guide. Many characteristics are true to the family; however, in the case of Nymphalidae and Hesperiidae, further subgroupings are necessary. Use Appendix C: The Butterfly Families to help you learn these characteristics.

Beginners' Checklist

These are the 25 species that beginning monitors are expected to learn in their first season. They were chosen, because they are present at most of the sites and are likely to be encountered by most monitors. However, monitors should not limit their first year of identification to these species; they should try to identify any butterfly seen along their route. These species are simply a good place to start when learning the Illinois butterflies.

Skippers	Swallowtails	
Silver Spotted Skipper	Tiger Swallowtail	Black Swallowtail
Sulfurs and Whites		
Cabbage Butterfly	Clouded(Comon)/Orange(Alfalfa) Sulfur**	
Brush Foots		
Great Spangled Fritillary*	Pearl Crescent*	Red Admiral
Question Mark*	Comma*	Buckeye
Painted Lady	American Painted Lady	Mourning Cloak
Red Spotted Purple	Hackberry Butterfly*	Viceroy
Gossamer Wings		
Hairstreaks***	Spring Azure*	Eastern Tailed Blue*
Satyrs		
Little Wood Satyr	Eyed Brown*	Wood Nymph
Monarchs		
Monarch		

*One or more uncommon species from our area, not on this list, resemble this species.
** These species hybridize extensively and have many intermediate forms that are difficult to classify. We lump them all together. Both are very common.
*** Hairstreaks are a somewhat difficult group, however beginners should learn to recognize a hairstreak. As you gain experience you can learn to identify the individual species.

Basic Guidelines:

- **The minimum number of route runs per year should be 6.** Runs should take place between June 1 and August 7, with 4 of these taking place before July 20. If you want to go out more, and if you want to extend your season earlier or later, you can go a total of 15 times, as long as the required 6 runs are completed between June 1 and August 7.

- **Monitoring is ideally done on sunny days with low wind and temperatures of at least 70 degrees.** It can be difficult to get completely ideal conditions, but try to time your monitoring to coincide with at least relatively appropriate weather.

- **Start your monitoring no earlier than 10:00 AM. Be sure that you are done by 3:30 PM.** A typical monitoring route should take 1-2 hours to complete.

- **EXTREMELY IMPORTANT: Record your starting and ending time.** Observations are translated to individuals observed per hour of observation time. If you do not tell us both times, we cannot make this essential calculation.

- **The census route should cover all major habitats and management units within a site.** The site steward should be able to assist you with route setting. If this option is unavailable, the Illinois Butterfly Monitoring Network can assist.

- **To do a run, walk the route at a constant pace, stopping only to identify and record butterflies seen within 6 meters (about 20 feet) of the census route.** This results in a corridor of 12 meters (about 40 feet). If you stop for a length of time in one spot, do not monitor while stopped, and record the time stopped in the comments section of your field form. Start monitoring again once you resume walking.

- **The Illinois Butterfly Monitoring Network protocol does not include collection of specimens.** Unless otherwise directed, you can net butterflies for identification. During the netting process you may place the butterfly in a clear plastic jar for better observation. **Each butterfly should be released as soon as you have identified it.** Never place more than one butterfly in the container at a time. Never remove a butterfly from the site for any reason. Most people find that they need to net fewer and fewer butterflies as they gain experience.

- **Identify species only as far as you can with certainty.** Many excellent reports include observations such as 2 unidentified butterflies in Transect A, or unidentified skipper in Transect C. Occasionally you will have to report things like Comma/Question Mark if you don't get a good enough look at something. These less precise observations are still useful data. **Never guess.** If you don't know, record it as unidentified.

- **Only one person should monitor at a time.** It is actually recommended to take someone else along with you for safety, but only one person should spot the butterflies for consistency. (See Safety Tips, next page.)

- **Do not do anything other than butterfly monitoring.**

- **Please submit data promptly at the end of the season.** The Fall newsletter includes a reminder to send in your data. If you do not turn in data, your hard work is wasted.

Safety Tips:

- **Consider using the "buddy system" when monitoring,** especially if you are on a wetter site where you are wading in water. Any time you are in a natural area, you must consider safety. Accidents do accasionally happen. If you twist an ankle or fall, you will want someone with you who can get help. This second person can function well as a note taker. You would call out each butterfly as you identified it, and the note taker would then record it on the field form for you.

- **If you do go out alone, set up a check-in system with someone.** (The IBMN Administrator will help you with this if needed.) You would call this person before you went into the field, run your route, then check in with them once you were done. If they didn't hear from you within a specified length of time, they would come to find you, or notify the authorities, or both. You would need to establish this ahead of time.

- **EXTREMELY IMPORTANT: If you are allergic to bee stings, carry a bee sting kit.** Never make an exception to this rule. Mak sure to also go directly to the hospital after using your kit. It is not a cure; it merely gives you time to get help.

- **Carry drinking water.** It can get quite hot in the field. Take precautions against heat exhaustion.

- **Carry a cell phone if you have one.** It's a good idea whenever you are in the field or away from the car.

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NOTE: This book is much more appropriate to the Chicago area than the original Butterflies Through Binoculars.

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NOTE: First published in 1962, still the best for people just starting to learn butterfly identification.

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NOTE: Discusses worldwide issues in butterfly conservation.

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NOTE: Great information about how monitoring data has been used. Emphasis on England.

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Organizations for Conservation and Study of Butterflies

The Lepidopterists' Society, c/o Kelly M. Richers, 9417 Carvalho Ct, Bakersfield, CA 93311. www.furman.edu/~snyder/snyder/lep/ This professional society publishes the *Journal of the Lepidopterists' Society*, as well as the *Lepidopterists' News*.

The North American Butterfly Association (NABA), 4 Delaware Rd, Morristown NJ 07960. www.naba.org This conservation-oriented butterfly group publishes *American Butterflies* 4 times a year.

The Ohio Lepidopterists, c/o Don Reuter, 274 Westview Ave, Columbus, OH, 43214-1428. www.ohiolepidopterists.org This conservation-oriented butterfly and moth group publishes *The Ohio Lepidopterist* 4 times a year. They also sponsor the Ohio Butterfly Monitoring Network.

The Xerces Society, 4828 SE Hawthorn Blvd, Portland, Oregon 97215. www.xerces.org This invertebrate conservation organization publishes *Wings*, their biannual membership magazine.

Supplies Sources

Books: The three most popular books used by monitors, Peterson Field Guides, Golden Books, and Butterflies through Binoculars, should be readily available at local bookstores or on the internet through amazon.com, barnesandnoble.com, and borders.com. These three books are also available in limited quantities at the Peggy Notebaert Nature Museum.

Nets: Three mail-order companies supply butterfly nets via mail-order by phone or over the internet. We know of no convenient local sources.

- Acorn Naturalists, www.acornnaturalists.com/store/, search for Field Insect Net.
- Forestry Suppliers, Inc., www.forestry-suppliers.com, PO Box 8397, Jackson, MS 39284-8397. (800) 647-5368. Economy Insect Nets, 15" hoop, 3' wooden handle, polyester net. Price as of December, 2000: $16.50.
- BioQuip Products, 17803 LaSalle Ave, Gardena, CA 90248-3602. (310) 324-0620. E-mail: bioquip@aol.com

Binoculars: Any reliable brand is acceptable. Several factors make a lot of difference; others are personal preference. The main factors to consider are listed below.

- Close Focusing: maximum is the 6 to 8 foot range. Jeffrey Glassberg warns that the close focus can vary greatly from pair to pair, even in the same model, so try out your individual pair before buying.
- Power: between 7 and 10. This number is the first number in the binocular description (e.g. 7 in 7x42) and means that the object will appear to be that many times closer to you than it actually is (e.g. 7 times closer). Try out various powers. In this range, personal preference is the main factor.
- Brightness: This is not all that important, unless you are looking for savanna butterflies. The second number in the binocular description (e.g. 42 in 7x42) is the diameter of the lens in millimeters (mm). The larger the diameter, the more light will be admitted. Other factors can also impact how much light is transmitted, but this is a good starting guide.
- Weight: Remember, the binoculars may not feel all that heavy when you first hang them around your neck, but after some time in the field, they can feel like they weigh a ton. When deciding between two similar pair, go with the lighter one.

Photography

Monitors frequently ask about recommended equipment. Any 35mm SLR camera will work. The most widely suggested lens is a 90mm or 100mm macro lens. The best angles for identification are side shots showing both the forewing and hindwing for the underside and top shots showing the full wing spread for the upperside. Do not focus on the head or the body of the butterfly as these are not used for identification.

It can be helpful for identification to be able to know in which family a butterfly belongs. Learning the species in terms of familial characteristics can quickly narrow the possibilities when looking up a butterfly in a field guide. Many characteristics are true to the family; however, in the case of Nymphalidae and Hesperiidae, further subgroupings are necessary. Use Appendix C: The Butterfly Families to help you learn these characteristics.

The Butterfly Families

There are 9 butterfly families in Illinois:

Papillonidae	Swallowtails
Pieridae	Whites, Sulfurs
Nymphalidae	Brushfoots
Danaidae	Monarchs
Satyridae	Satyrs
Libythidiae	Snouts
Riodinidae	Metalmarks
Lycaenidae	Hairstreaks, Coppers, Blues
Hesperiidae	Skippers

Family or Subgrouping Characteristics

Papillonidae - Swallowtails
- All Midwestern species are large butterflies with conspicuous tails
- Six Species in the Chicago Region

Pieridae - Whites and Sulphurs
- Mostly small to medium sized butterflies
- Midwestern species yellow or white, with little patterning on the wings (dark borders on some)
- Except for the large tiger and zebra swallowtails, all yellow and white butterflies of the region belong to this family

Nymphalidae - Brushfoots
- Only 4 walking legs, + 2 "brush feet"
- Largest North American family- can also includes snouts, monarchs, and satyrs
- Greatest variability in size, color, wing shape
- Informal subdivisions help group like species (see below)

Danaidae - Monarchs
- Considered by some to be a subfamily of the Nymphalidae
- Only one (very familiar) species in Illinois - Monarch
- Most members of family feed on plants in the Asclepiadaceae
- Many species toxic

Satyridae - Satyrs
- Classified by some as a subfamily in the Nymphalidae
- Small to medium brown butterflies
- Five species in the Chicago region
- Many species tolerate low light - shade dwelling, active at dawn or dusk
- Base of forewing veins often swollen

Libytheidae - Snouts
- Smallest butterfly family- only about a dozen species world wide
- Easily recognized by "beak"
- Only one species in eastern North America

Riodinidae - Metalmarks
- Classified by some as a subfamily of the Lycaenidae
- Large, diverse family, mostly neotropical, poorly represented elsewhere
- North American species small, drab, many confusingly similar
- Mostly Western
- Only one representative in Illinois- very rare, possibly extirpated from the state

Hesperiidae - Skippers
- Can be hard to distinguish
- Two subfamilies: Hesperiinae and Pyriginae
- See following section "Making Sense of the Folded-winged Skippers" for subgroupings of the Hesperiinae

Lycaenidae - Gossamer Winged Butterflies
- 4 subfamilies: Hairstreaks, Blues, Coppers, Harvesters (see below)
- Small butterflies
- Often brightly patterned
- Legs and antennae often conspicuously ringed

    Theclinae - Hairstreaks
    - Mostly gray to brown
    - All but one have tailed hindwings
    - Key features usually on underside of wings

    Lycaeninae - Coppers
    - Mostly Red/Orange marked
    - Spotting pattern on upperside characteristic
    - 4 Species in Chicago region
    - Usually butterflies of wetlands
    - Host Plants Rumex and Polygonum

    Plebejinae - Blues
    - Blue to gray above, whitish below
    - 4 resident species in Chicago region- 2 common, 2 very rare
    - 2 rare migrant species occasionally reach the region

    Liphyrinae - Harvesters
    - Considered a separate family by some authors
    - Only 1 uncommon species in North America

Subgroupings of the Nymphalidae (Brushfoots):

- Admirals
  - Viceroy
  - Red Spotted Purple
- Angle Wings
  - Question Mark
  - Comma
  - Gray Comma
- Emperors
  - Hackberry Butterfly
  - Tawny Emperor
- Checkerspots
  - Baltimore Checkerspot
  - Silvery Checkerspot
  - Gorgon Checkerspot
- Crescents
  - Pearl Crescent
- Ladies & Allies
  - Painted Lady
  - American Painted Lady
  - Red Admiral
  - Mourning Cloak
  - Milbert's Tortoiseshell
- Fritillaries (Greater & Lesser)
  - Greater Fritillaries
    - Great Spangled Fritillary
    - Aphrodite
    - Regal Fritillary
    - Variegated Fritillary
  - Lesser Fritillarlies
    - Silver Bordered Fritillary
    - Meadow Fritillary
- Buckeyes
  - Buckeye

Subgroupings of the Hesperiidae (Skippers): Two subfamilies

- Hesperiinae — Folded-winged Skippers
- Pyrginae — Spread-Winged Skippers

Hesperiinae (subfamily not to be confused with the family name Hesperiidae) sit with their wings in the "airplane formation" or partially open and do not have any easy subgroupings. See "Making Sense of the Folded-winged Skippers " next page. Pyrginae, which sit with their wings open like "normal" butterflies, contain 4 major subgroups:

- Sooty Wings
- Cloudy Wings
- Duskywings
- Checkered Skippers

Making Sense of the Folded-winged Skippers

Hesperiinae do not have any easy subgroupings analogous to those seen for the Pyrginae, or Nymphalidae. A few very informal groupings made on the basis of color and habitat are helpful in identification, however:

Orange/Yellow Skippers, mostly unmarked beneath:
- European Skipper
- Delaware Skipper
- Least Skipper

The "Gang of Four" - skippers of sedge meadows that fly in midsummer:
- Black Dash
- Mulberrywing Skipper
- Broadwing Skipper
- Dion Skipper

Dull brown skippers with orange wing edges above:
- Tawny Edge
- Crossline Skipper

Witches - wide-ranging, females essentially unmarked
- Little Glassywing
- Dun Skipper
- Broken Dash

Skippers with dark markings on a light background below:
- Ottoe Skipper
- Fiery Skipper

The “Gang of Four” can be distinguished from each other by the shape of the markings on the underside of the hindwing. The coloring of the skippers can vary quite a bit based on how faded the individual is. However, the lighter markings will still be readily visible.

Black Dash - looks like the knuckles of a fist
all of the "knuckles" are roughly the same size

Mulberry Wing - shape of a cross

Broadwing - large center stripe with small dots close to the body

Dion - two stripes radiating out from body
look carefully for lower stripe, can be partially obscured by fold in wing

Butterfly Species of Northern Illinois

in Alphabetical Order by Common Name within Group

Swallowtails
- *Black (*Papilio polyxenes*)
- Giant (*Papilio cresphontes*)
- Pipevine (*Battus philenor*)
- Spicebush (*Papilio troilus*)
- *Tiger (*Papilio glaucus*)
- Zebra (*Eurytides marcellus*)

Whites and Sulphurs
- *Alfalfa (*Colias eurytheme*)
- *Cabbage (*Pieris rapae*)
- Checkered White (*Pontia protodice*)
- Cloudless Sulphur (*Phoebis sennae*)
- *Common Sulphur (*Colias philodice*)
- Dainty Sulphur (*Nathalis iole*)
- Dogface (*Colias cesonia*)
- Falcate Orange Tip (*Falcapica midea*)
- Little Yellow (*Eurema lisa*)
- Olympia Marblewing (*Euchloe olympia*)

Blues
- *Eastern Tailed Blue (*Everes comyntas*)
- Dusky Azure (*Celastrina ebenina*)
- Karner Blue (*Lycaeides melissa*)
- Marine Blue (*Leptotes marina*)
- Reakirt's Blue (*Hemiargus isola*)
- Silvery Blue (*Glaucopsyche lygdamus*)
- *Spring Azure (*Celastrina argiolus)*

Coppers
- American Copper (*Lycaena phlaeas*)
- Bronze Copper (*Lycaena hyllus*)
- Gray Copper (*Lycaena dione*)
- Purplish Copper (*Lycaena helloides*)

Satyrs
- Appalachian Brown (*Satyrodes appalachia*)
- *Eyed Brown (*Satyrodes eurydice*)
- *Little Wood Satyr (*Megisto cymela*)
- Pearly Eye (*Enodia anthedon*)
- *Wood Nymph (*Cercyonis pegala*)

Hairstreaks
- Acadian Hairstreak (*Satyrium acadica*)
- Banded Hairstreak (*Satyrium calanus*)
- Coral Hairstreak (*Harkenclenus titus*)
- Edwards' Hairstreak (*Satyrium edwardsii*)
- Frosted Elfin (*Callophrys irus*)
- Gray Hairstreak (*Strymon melinus*)
- Harvester (*Feniseca tarquinius*)
- Henry's Elfin (*Callophrys henrici*)
- Hickory Hairstreak (*Satyrium caryaevorum*)
- Hoary Elfin (*Callophrys polios*)
- Northern Hairstreak (*Euristrymon ontario*)
- Olive Hairstreak (*Callophrys gryneus*)
- Striped Hairstreak (*Satyrium liparops*)

Nymphalids
- *American Lady (*Vanessa virginiensis*)
- Aphrodite (*Speyeria aphrodite*)
- Baltimore Checkerspot (*Euphydryas phaeton*)
- *Buckeye (*Precis coenia*)
- *Comma (*Polygonia comma*)
- Goatweed Butterfly (*Anaea andria*)
- Gorgon Checkerspot (*Chlosyne gorgone*)
- Gray Comma (*Polygonia progne*)
- *Great Spangled Fritillary (*Speyeria cybele*)
- *Hackberry Butterfly (*Asterocampa celtis*)
- Meadow Fritillary (*Boloria bellona*)
- Milbert's Tortoiseshell (*Nymphalis milbertii*)
- *Mourning Cloak (*Nymphalis antiopa*)
- *Painted Lady (*Vanessa cardui*)
- *Pearl Crescent (*Phyciodes tharos*)
- *Question Mark (*Polygonia interrogationis*)
- *Red Admiral (*Vanessa atalanta*)
- *Red Spotted Purple (*Limenitis astyanax*)
- Regal Fritillary (*Speyeria idalia*)
- Silver Bordered Fritillary (*Boloria selene*)
- Silvery Checkerspot (*Chlosyne nycteis*)
- Snout Butterfly (*Libytheana bachmanii*)
- Tawny Emperor (*Asterocampa clyton*)
- Variegated Fritillary (*Euptoieta claudia*)
- *Viceroy (*Limenitis archippus*)

Danaids
- *Monarch (*Danaus plexippus*)

Metalmarks
- Swamp Metalmark (*Calephelis mutica*)

Spread-winged Skippers
- Checkered Skipper (*Pyrgus communis*)
- Common Sootywing (*Pholisora catullus*)
- Dreamy Duskywing (*Erynnis icelus*)
- Hoary Edge (*Achalarus lyciades*)
- Horace's Duskywing (*Erynnis horatius*)
- Juvenal's Duskywing (*Erynnis juvenalis*)
- Mottled Duskywing (*Erynnis martialis*)
- Northern Cloudywing (*Thorybes pylades*)
- Roadside Skipper (*Amblyscirtes vialis*)
- *Silver Spotted Skipper (*Epargyreus clarus*)
- Sleepy Duskywing (*Erynnis brizo*)
- Southern Cloudywing (*Thorybes bathyllus*)
- Wild Indigo Duskywing (*Erynnis baptisiae*)

Folded-winged Skippers
- Arogos Skipper (*Atrytone arogos*)
- Black Dash (*Euphyes conspicua*)
- Broadwing Skipper (*Poanes viator*)
- Byssus Skipper (*Problema byssus*)
- Cobweb Skipper (*Hesperia metea*)
- Crossline Skipper (*Polites origenes*)
- Delaware Skipper (*Anatrytone logan*)
- Dion Skipper (*Euphyes dion*)
- Dun Skipper (*Euphyes vestris*)
- Dusted Skipper (*Atrytonopsis hianna*)
- European Skipper (*Thymelicus lineola*)
- Fiery Skipper (*Hylephila phileus*)
- Hobomok Skipper (*Poanes hobomok*)
- Indian Skipper (*Hesperia sassacus*)
- Least Skipper (*Ancyloxypha numitor*)
- Leonard's Skipper (*Hesperia leonardus*)
- Little Glassy Wing (*Pompeius verna*)
- Long Dash (*Polites mystic*)
- Mulberry Wing (*Poanes massasoit*)
- Northern Broken Dash (*Wallengrenia egeremet*)
- Ottoe Skipper (*Hesperia ottoe*)
- Peck's Skipper (*Polites peckius*)
- Sachem (*Atalopedes campestris*)
- Tawny Edge Skipper (*Polites themistocles*)
- Two-spotted Skipper (*Euphyes bimacula*)
- Zabulon Skipper (*Poanes zabulon*)

* Beginners' Checklist Species - Beginners should review these species in their field guides. They are the butterflies you will most commonly encounter.

Butterfly Species of Northern Illinois

in Alphabetical Order by Latin Name within Group

Swallowtails

Battus philenor (Pipevine)
Eurytides marcellus (Zebra)
Papilio cresphontes (Giant)
Papilio troilus (Spicebush)
**Papilio glaucus* (Tiger)
**Papilio polyxenes* (Black)

Whites and Sulphurs

Colias cesonia (Dogface)
**Colias eurytheme* (Alfalfa)
**Colias philodice* (Common Sulphur)
Euchloe olympia (Olympia Marblewing)
Eurema lisa (Little Yellow)
Falcapica midea (Falcate Orange Tip)
Nathalis iole (Dainty Sulphur)
Phoebis sennae (Cloudless Sulphur)
Pontia protodice (Checkered White)
**Pieris rapae* (Cabbage)

Blues

Celastrina argiolus (Spring Azure)
Celastrina ebenina (Dusky Azure)
Everes comyntas (Eastern Tailed Blue)
Glaucopsyche lygdamus (Silvery Blue)
Hemiargus isola (Reakirt's Blue)
Leptotes marina (Marine Blue)
Lycaeides melissa (Karner Blue)

Coppers

Lycaena helloides (Purplish Copper)
Lycaena phlaeas (American Copper)
Lycaena hyllus (Bronze Copper)
Lycaena dione (Great Gray Copper)

Satyrs

**Cercyonis pegala* (Wood Nymph)
Enodia anthedon (Pearly Eye)
**Megisto cymela* (Little Wood Satyr)
Satyrodes appalachia (Appalachian Brown)
**Satyrodes eurydice* (Eyed Brown)

Hairstreaks

Callophrys gryneus (Olive Hairstreak)
Callophrys henrici (Henry's Elfin)
Callophrys irus (Frosted Elfin)
Callophrys polios (Hoary Elfin)
Euristrymon ontario (Northern Hairstreak)
Feniseca tarquinius (Harvester)
Harkenclenus titus (Coral Hairstreak)
Satyrium acadica (Acadian Hairstreak)
Satyrium calanus (Banded Hairstreak)
Satyrium caryaevorum (Hickory Hairstreak)
Satyrium edwardsii (Edwards' Hairstreak)
Satyrium liparops (Striped Hairstreak)
Strymon melinus (Gray Hairstreak)

Nymphalids

Anaea andria (Goatweed Butterfly)
**Asterocampa celtis* (Hackberry Butterfly)
Asterocampa clyton (Tawny Emperor)
Boloria bellona (Meadow Fritillary)
Boloria selene (Silver Bordered Fritillary)
Chlosyne gorgone (Gorgon Checkerspot)
Chlosyne nycteis (Silvery Checkerspot)
Euphydryas phaeton (Baltimore Checkerspot)
Euptoieta claudia (Variegated Fritillary)
**Limenitis archippus* (Viceroy)
**Limenitis astyanax* (Red Spotted Purple)
Libytheana bachmanii (Snout Butterfly)
**Nymphalis antiopa* (Mourning Cloak)
Nymphalis milbertii (Milbert's Tortoiseshell)
**Phyciodes tharos* (Pearl Crescent)
**Polygonia comma* (Comma)
**Polygonia interrogationis* (Question Mark)
Polygonia progne (Gray Comma)
**Precis coenia* (Buckeye)
Speyeria aphrodite (Aphrodite)
**Speyeria cybele* (Great Spangled Fritillary)
Speyeria idalia (Regal Fritillary)
**Vanessa atalanta* (Red Admiral)
**Vanessa cardui* (Painted Lady)
**Vanessa virginiensis* (American Lady)

Danaids

**Danaus plexippus* (Monarch)

Metalmarks

Calephelis mutica (Swamp Metalmark)

Spread-winged Skippers

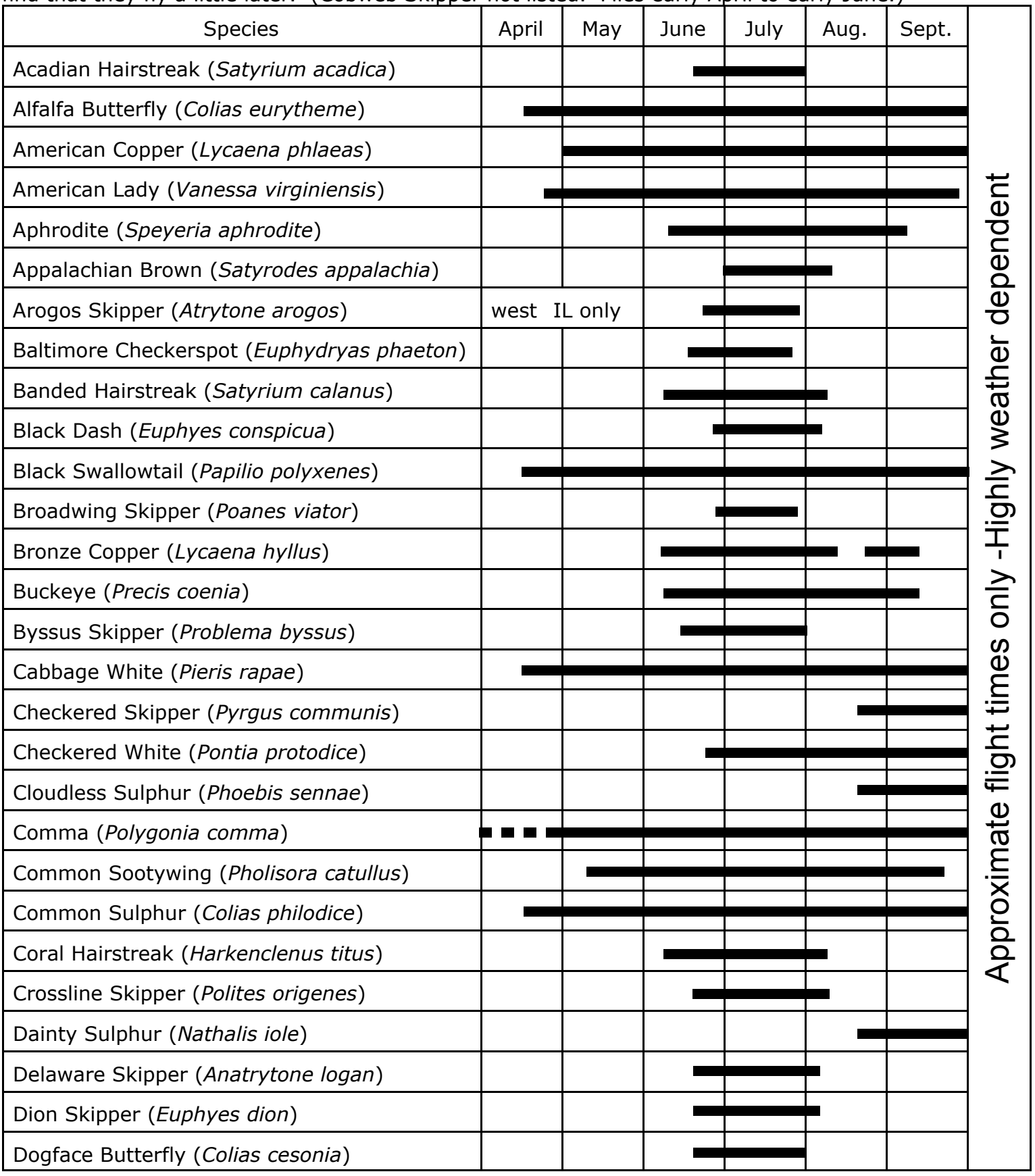
Achalarus lyciades (Hoary Edge)
Amblyscirtes vialis (Roadside Skipper)
**Epargyreus clarus* (Silver Spotted Skipper)
Erynnis baptisiae (Wild Indigo Duskywing)
Erynnis brizo (Sleepy Duskywing)
Erynnis horatius (Horace's Duskywing)
Erynnis icelus (Dreamy Duskywing)
Erynnis juvenalis (Juvenal's Duskywing)
Erynnis martialis (Mottled Duskywing)
Pholisora catullus (Common Sootywing)
Pyrgus communis (Checkered Skipper)
Thorybes bathyllus (Southern Cloudywing)
Thorybes pylades (Northern Cloudywing)

Folded-winged Skippers

Ancyloxypha numitor (Least Skipper)
Atalopedes campestris (Sachem)
Atrytone arogos (Arogos Skipper)
Anatrytone logan (Delaware Skipper)
Atrytonopsis hianna (Dusted Skipper)
Euphyes bimacula (Two Spotted Skipper)
Euphyes conspicua (Black Dash)
Euphyes dion (Dion Skipper)
Euphyes vestris (Dun Skipper)
Hesperia leonardus (Leonard's Skipper)
Hesperia metea (Cobweb Skipper)
Hesperia ottoe (Ottoe Skipper)
Hesperia sassacus (Indian Skipper)
Hylephila phileus (Fiery Skipper)
Poanes hobomok (Hobomok Skipper)
Poanes massasoit (Mulberry Wing)
Poanes viator (Broadwing Skipper)
Poanes zabulon (Zabulon Skipper)
Polites peckius (Peck's Skipper)
Polites mystic (Long Dash)
Polites origenes (Crossline Skipper)
Polites themistocles (Tawny Edge Skipper)
Pompeius verna (Little Glassy Wing)
Problema byssus (Byssus Skipper)
Thymelicus lineola (European Skipper)
Wallengrenia egeremet
(Northern Broken Dash)

* Beginners' Checklist Species - Beginners should review these species in their field guides. They are the butterflies you will most commonly encounter.

This appendix is to be used as a general guide for times to see the listed species. These are approximate times only, as flight times vary widely from season to season based on the weather. Late, cold springs, for example, can delay some species for up to a few weeks. Also, these times are for the Chicagoland area only. Further south and west may find that many of these species fly earlier. Further north will probably find that they fly a little later. (Cobweb Skipper not listed. Flies early April to early June.)



Appendix E: Flight Times

This appendix is to be used as a general guide for times to see the listed species. These are approximate times only, as flight times vary widely from season to season based on the weather. Late, cold springs, for example, can delay some species for up to a few weeks. Also, these times are for the Chicagoland area only. Further south and west may find that many of these species fly earlier. Further north will probably find that they fly a little later.

Species	April	May	June	July	Aug.	Sept.
Dreamy Duskywing (*Erynnis icelus*)						
Dun Skipper (*Euphyes vestris*)						
Dusky Azure (*Celastrina ebenina*)			St. Louis area only			
Dusted Skipper (*Atrytonopsis hianna*)				west	IL	
Eastern Tailed Blue (*Everes comyntas*)						
Edwards' Hairstreak (*Satyrium edwardsii*)						
European Skipper (*Thymelicus lineola*)						
Eyed Brown (*Satyrodes eurydice*)						
Falcate Orange Tip (*Falcapica midea*)			South part of IL only			
Fiery Skipper (*Hylephila phileus*)						
Frosted Elfin (*Callophrys irus*)						
Giant Swallowtail (*Papilio cresphontes*)						
Goatweed Butterfly (*Anaea andria*)	south IL only					
Gorgon Checkerspot (*Chlosyne gorgone*)						
Gray Comma (*Polygonia progne*)						
Gray Hairstreak (*Strymon melinus*)						
Gray Copper (*Lycaena dione*)						
Great Spangled Fritillary (*Speyeria cybele*)						
Hackberry Butterfly (*Asterocampa celtis*)						
Harvester (*Feniseca tarquinius*)						
Henry's Elfin (*Callophrys henrici*)						
Hickory Hairstreak (*Satyrium caryaevorum*)						
Hoary Edge (*Achalarus lyciades*)	south					
Hoary Elfin (*Callophrys polios*)						
Hobomok Skipper (*Poanes hobomok*)						
Horace's Duskywing (*Erynnis horatius*)						
Indian Skipper (*Hesperia sassacus*)						
Juvenal's Duskywing (*Erynnis juvenalis*)						

Approximate flight times only -Highly weather dependent

This appendix is to be used as a general guide for times to see the listed species. These are approximate times only, as flight times vary widely from season to season based on the weather. Late, cold springs, for example, can delay some species for up to a few weeks. Also, these times are for the Chicagoland area only. Further south and west may find that many of these species fly earlier. Further north will probably find that they fly a little later.

Species	April	May	June	July	Aug.	Sept.
Karner Blue (*Lycaeides melissa*)						
Least Skipper (*Ancyloxypha numitor*)						
Leonard's Skipper (*Hesperia leonardus*)						
Little Glassy Wing (*Pompeius verna*)						
Little Wood Satyr (*Megisto cymela*)						
Little Yellow (*Eurema lisa*)						
Long Dash (*Polites mystic*)						
Marine Blue (*Leptotes marina*)	vagrant into IL					
Meadow Fritillary (*Boloria bellona*)						
Milbert's Tortoiseshell (*Nymphalis milbertii*)						
Monarch (*Danaus plexippus*)						
Mottled Duskywing (*Erynnis martialis*)						
Mourning Cloak (*Nymphalis antiopa*)						
Mulberry Wing (*Poanes massasoit*)						
Northern Broken Dash (*Wallengrenia egeremet*)						
Northern Cloudywing (*Thorybes pylades*)						
Northern Hairstreak (*Euristrymon ontario*)						
Olive Hairstreak (*Callophrys gryneus*)						
Olympia Marblewing (*Euchloe olympia*)						
Ottoe Skipper (*Hesperia ottoe*)						
Painted Lady (*Vanessa cardui*)						
Pearl Crescent (*Phyciodes tharos*)						
Pearly Eye (*Enodia anthedon*)						
Peck's Skipper (*Polites peckius*)						
Pipevine Swallowtail (*Battus philenor*)						
Purplish Copper (*Lycaena helloides*)						
Question Mark (*Polygonia interrogationis*)						
Reakirt's Blue (*Hemiargus isola*)						

Approximate flight times only -Highly weather dependent

Appendix E: Flight Times

This appendix is to be used as a general guide for times to see the listed species. These are approximate times only, as flight times vary widely from season to season based on the weather. Late, cold springs, for example, can delay some species for up to a few weeks. Also, these times are for the Chicagoland area only. Further south and west may find that many of these species fly earlier. Further north will probably find that they fly a little later.

Species	April	May	June	July	Aug.	Sept.
Red Admiral (*Vanessa atalanta*)						
Red Spotted Purple (*Limenitis astyanax*)						
Regal Fritillary (*Speyeria idalia*)						
Roadside Skipper (*Amblyscirtes vialis*)						
Sachem (*Atalopedes campestris*)						
Silver Bordered Fritillary (*Boloria selene*)						
Silver Spotted Skipper (*Epargyreus clarus*)						
Silvery Blue (*Glaucopsyche lygdamus*)						
Silvery Checkerspot (*Chlosyne nycteis*)						
Sleepy Duskywing (*Erynnis brizo*)						
Snout Butterfly (*Libytheana bachmanii*)						
Southern Cloudywing (*Thorybes bathyllus*)						
Spicebush Swallowtail (*Papilio troilus*)						
Spring Azure (*Celastrina argiolus*)						
Striped Hairstreak (*Satyrium liparops*)						
Swamp Metalmark (*Calephelis mutica*)						
Tawny Edge Skipper (*Polites themistocles*)						
Tawny Emperor (*Asterocampa clyton*)						
Tiger Swallowtail (*Papilio glaucus*)						
Two-spotted Skipper (*Euphyes bimacula*)						
Variegated Fritillary (*Euptoieta claudia*)						
Viceroy (*Limenitis archippus*)						
Wild Indigo Duskywing (*Erynnis baptisiae*)						
Wood Nymph (*Cercyonis pegala*)						
Zabulon Skipper (*Poanes zabulon*)						
Zebra Swallowtail (*Eurytides marcellus*)						

Approximate flight times only -Highly weather dependent

Field Forms

A sample field form is provided on the next page. A blank field form for copying is provided on the following page. Make a copy of this form for **each** route that you run.

Before monitoring, fill out **all** of the information in the top portion (except for ending time.)

- If more than one person goes out together, note which person is the monitor (the person spotting the butterflies), but list all of the people. No more than two or three is recommended.
- Round your starting and ending times off to the nearest 5 minutes. If you start at 10:52, list either 10:52 or 10:50, **not** 11:00.
- Get the temperature from an outside thermometer if you have one, or a weather update on the radio. If necessary, approximate the temperature. For example, low 80's is acceptable.
- Estimate the wind conditions and circle the appropriate choice. Note that there is no choice for very windy. **If it is very windy, do not monitor.**
- Estimate the cloudiness of the sky and circle the appropriate choice. Note that there is no choice for very cloudy (more than 50%). **If it is very cloudy, do not monitor.**
- List each habitat type next to the appropriate transect letter corresponding to that column. For example, if your first area on your route is a wet prairie, list Transect A as "Wet Prairie" and record all individuals seen in that type of habitat in column A.

During monitoring, fill out the following information:

- If something is unusual or you feel it needs explanation, use the comment section. For example, if you stop for more than two or three minutes for a rest or to identify a butterfly, note the length of time you stopped monitoring in the comment section. If there is a disturbance to an area along your route, such as brush clearing or off-road vehicle damage, you can note that in the comment section. Anything that you believe might influence your data should be noted here. **Please do not use this section for personal notes.**
- Use one line for each species of butterfly seen along your route. (Some people prefer to use a separate sheet of paper on the route, then transcribe their counts to the field form. Be very careful to transcribe it exactly.) Make a hatch mark for each individual of a species in the column that represents the plant habitat transect in which the individual was seen. For example, if you see a monarch in the wet prairie, make one hatch mark in column A on the row for *Danaus plexippus* (Monarch). As you see more monarchs in that same habitat, make additional hatch marks for each individual. Once you move into Transect B, mark any monarchs seen in that area in column B on the same row.
- If a species that you see is not already listed on the Field Form, fill the name in on **any** one of the blank lines provided.
- If you are not positive of an identification, **do not guess**. Mark it down as well as you can with certainty. For example, if you know it was either a Question Mark or a Comma, list it as *Polygonia sp.* (Question Mark/Comma) on a blank line. If you know for certain that another is a Question Mark, list it on the line for *Polygonia interrogationis* (Question Mark). If you can only say for certain that it was a skipper, list unknown skipper on a blank line and record the number seen in the appropriate column.

After monitoring, fill out the following information

- **Most importantly, fill in your ending time in the top portion of the form.** Round off to the nearest 5 minutes.
- Total each species in each row in the right-most column. Note that there are no totals at the bottom. You do not need to total the individuals seen in each transect.

Illinois Butterfly Monitoring Network Census Route Field Form

Site: Bluff Spring Fen Date: 7/4/89

Monitor: John Doe Time: 10:45 to 12:45

Temperature: 84 Wind conditions (circle one): calm (relatively still) moderately windy windy

Sky (circle one): (clear) mostly clear mostly cloudy overcast hazy 2004 Form

Comments: Brush clearing in Transect C.

Transect Habitats Key: A = Fen B = Dry Hill Prairie C = Savanna D = Degraded Area E =

Species: Transect:	A	B	C	D	E	Total
Ancyloxypha numitor (Least Skipper)	II					2
Polites coras (Peck's Skipper)						
Polites themistocles (Tawny Edge)						
Thymelicus lineola (European Skipper)						
Epargyreus clarus (Silver Spotted Skipper)	I		I			2
Poanes massassoit (Mulberry Wing)	II					2
Euphyes conspicua (Black Dash)	III					3
Papilio glaucus (Tiger Swallowtail)						
Papilio polyxenes (Black Swallowtail)						
Pieris rapae (Cabbage)	IIII		I	II		7
Colias eurytheme/philodice (Sulfur)				I		1
Colias cesonia (Dogface Sulfur)		II				2
Harkenclenus titus (Coral Hairstreak)						
Satyrium acadica (Acadian Hairstreak)	III					3
Everes comyntas (Eastern Tailed Blue)	I		I	I		3
Celastrina argiolus (Spring Azure)	I			I		2
Limenitis archippus (Viceroy)	~~IIII~~ I					6
Limenitis astyanax (Red Spotted Purple)						
Vanessa virginiensis (Amer. Painted Lady)						
Vanessa cardui (Painted Lady)						
Vanessa atalanta (Red Admiral)	I					1
Precis coenia (Buckeye)						
Nymphalis antiopa (Mourning Cloak)			I			1
Chlosyne nycteis (Silvery Checkerspot)						
Phyciodes tharos (Pearl Crescent)						
Speyeria cybele (Gr. Spangled Fritillary)						
Polygonia interrogationis (Question Mark)			II			2
Polygonia sp. (Question Mark/Comma)			III			3
Satyrodes eurydice (Eyed Brown)	~~IIII~~ III					8
Enodia anthedon (Pearly Eye)						
Cercyonis pegala (Wood Nymph)						
Megisto cymela (Little Wood Satyr)						
Danaus plexippus (Monarch)	I			I		2

Illinois Butterfly Monitoring Network Census Route Field Form

Site: _____ Date: _____

Monitor: _____ Time: _____ to _____

Temperature: _____ Wind conditions (circle one): calm relatively still moderately windy windy

Sky (circle one): clear mostly clear mostly cloudy overcast hazy 2004 Form

Comments:

Transect Habitats Key: A = B = C = D = E =

Species: **Transect:**	**A**	**B**	**C**	**D**	**E**	**Total**
Ancyloxypha numitor (Least Skipper)						
Polites coras (Peck's Skipper)						
Polites themistocles (Tawny Edge)						
Thymelicus lineola (European Skipper)						
Epargyreus clarus (Silver Spotted Skipper)						
Papilio glaucus (Tiger Swallowtail)						
Papilio polyxenes (Black Swallowtail)						
Pieris rapae (Cabbage)						
Colias eurytheme/philodice (Sulfur)						
Harkenclenus titus (Coral Hairstreak)						
Satyrium acadica (Acadian Hairstreak)						
Everes comyntas (Eastern Tailed Blue)						
Celastrina argiolus (Spring Azure)						
Limenitis archippus (Viceroy)						
Limenitis astyanax (Red Spotted Purple)						
Vanessa virginiensis (Amer. Painted Lady)						
Vanessa cardui (Painted Lady)						
Vanessa atalanta (Red Admiral)						
Precis coenia (Buckeye)						
Nymphalis antiopa (Mourning Cloak)						
Chlosyne nycteis (Silvery Checkerspot)						
Phyciodes tharos (Pearl Crescent)						
Speyeria cybele (Gr. Spangled Fritillary)						
Polygonia interrogationis (Question Mark)						
Satyrodes eurydice (Eyed Brown)						
Enodia anthedon (Pearly Eye)						
Cercyonis pegala (Wood Nymph)						
Megisto cymela (Little Wood Satyr)						
Danaus plexippus (Monarch)						