Orange Sulphur, *Colias eurytheme*, on Boneset, *Eupatorium perfoliatum*, In OMC Ditch

Insect Survey of Waukegan Dunes, Summer 2002
Including Butterflies, Dragonflies & Beetles

Prepared for the Waukegan Harbor Citizens' Advisory Group
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Abstract:

From May 10, 2002 through September 13, 2002, eight field trips were made to the Harbor at Waukegan, Illinois to survey the beach – dunes and swales for Odonata [dragonfly], Lepidoptera [butterfly] and Coleoptera [beetles] faunas between Midwest Generation Plant on the North and the Outboard Marine Corporation ditch at the South. Eight species of Dragonflies, fourteen species of Butterflies, and eighteen species of beetles are identified. No threatened or endangered species were found in this survey during twenty-four hours of field observations.

The area is undoubtedly home to many more species than those listed in this report. Of note, the endangered Karner Blue butterfly, *Lycaeides melissa samuelis* Nabakov was not seen even though it has been reported from Illinois Beach State Park, Lake County. The larval food plant, *Lupinus perennis*, for the blue was not observed at Waukegan. The limestone seeps habitat of the endangered Hines Emerald dragonfly, *Somatochlora hineana*, is not part of the ecology here.

One surprise is the breeding population of Buckeye butterflies, *Junonia coenia* (Hubner) which may be feeding on Purple Loosestrife. The specimens collected in this study are deposited in the insect collection at the Field Museum.

Narrative:

The beach and dunes at Waukegan have been altered by human activities, yet a narrow belt from the public beach to the Midwest Generation Station retains some vestiges of beach and dune ecology worthy of protection. The lists of insects in this report reflect some small stable populations, and also the well-known concentration effect of the margin of a lake. The classic zones at

the Indiana Dunes observed by generations of students are severely shortened at Waukegan, and an eroding shore has had its impact as well. However, the proximity to Illinois Beach State Park and the Nature Preserve make the Waukegan strip worthy of management and restoration efforts. The ponds to the north with beaver lodges provide extensive habitat for aquatic insects.

The species of insects seen and recorded here are relatively common to abundant. As more effort goes into observing and collecting, the numbers of species will be extended. Collecting is necessary for many insects to be identified since species characteristics need to be examined in detail. After initial species determinations are made, little collecting is required.

The habitats here are influenced by winter storms, lake winds, sandy soils and high evaporation rates, among other things. Cottonwoods, willows, grasses and sedges are the predominant food plants. In comparison, the prairie preserve at Fermi Lab in Batavia has a much richer flora and a recent report cites 53 species of butterflies. The 14 butterfly species listed for Waukegan will increase, but never approach that of a larger more stable system such as that from Illinois Beach State Park for which monitors have listed 58 butterfly species.

The fieldwork was constrained by having access only from the South end of the site. Access through Midwest Generation was initially granted, but denied through the summer because of removal of asbestos contaminated soils. North Shore Sanitary District did not permit access through their property, but did permit access along the beach.

Report by Order and Comments on Species Lists

Order Odonata

Only Dragonflies are listed here and no Damselflies were observed. There are several ponds of good size that provide habitat for dragonfly larvae. Larvae were not collected and reared, though this would be a reasonable activity to study this group. Some of the interdunal ponds held water long enough during 2002 for a generation of larvae to mature. Dragonfly identification requires patience and luck when live insects are observed in flight with binoculars. Not all dragonflies seen were identified, but I feel confident that the more abundant ones are listed here.

Darner Family: Aeshnidae

1. *Anax junius* (Drury) Common Green Darner
   Flies April through mid-October, a migrant from the South, one of the largest and strongest fliers. During the day numbers of Green Darners will fly out over Lake Michigan to hunt then return to shore by the dozens at dusk. Two generations per season. Abundance: common

Observed: 29 May (4); 24 June (12); 11 July (2) 30 July (3); 29 Aug (1); 13 Sept (1) Total = 23

2. *Basiaeschna janata* (Say) Springtime Darner
This is an early season species of May –June with two slanted cream-colored side stripes on the thorax. Abundance: Frequently common
Observed: 24 June (1) Total = 1

Skimmer Family: Libellulidae

3. *Libellula luctuosa* Burmeister Widow Skimmer
Common mid-Summer resident prefers ponds with bare twigs in shrubs for resting. Males and females distinct. Abundance: common
Observed: 24 June (1); 11 July (6); 30 July (1); 29 Aug (2); 13 Sept (2) Total = 12

4. *Libulla puchella* Drury Twelve-spotted Skimmer
Common June and July but persists to September when some migration southward has been reported. Abundance: common
Observed: 11 July (1) Total =1

5. *Pachydiplax longipennis* Burmeister Blue Dasher
Common mid-Summer will perch on twigs and tall plants but fly high to a tree if disturbed. Specimen collected for identification. Abundance: common Observed: 11 July (1) Total = 1

6. *Sympetrum costiferum* (Hagen) Safron-winged Meadow hawk
July through September this species prefers reedy marshes bordering sandy ponds. Very abundant in parts of its range. Abundance: Fairly common Observed: 11 July (1); 13 Sept (1) Total = 2

7. *Sympetrum obtrusum* (Hagen) White-faced Meadow hawk
One of the latest flying Meadow hawks. Abundance: common
Observed: 11 July (1) Total = 1

8. *Tranea lacerata* Hagen Black Saddlebags
Interdunal ponds and marshes. A broad-winged long distance flyer, the adults migrate north to breed. Abundance: common
Observed: 29 May (1) Total = 1

Not Identified 10 May (1); 29 May (2) ; 29 Aug (6) ; 13 Sept (1); 23 Sept (2) Total = 12

Comments are interpreted from Legler, Legler and Westover, Common Dragonflies of Wisconsin

Order Lepidoptera

The more common butterflies are not difficult to identify with close-focus binoculars. Some of the smaller species were confirmed by collecting voucher specimens. The dune grasses and sand willows are the most abundant larval food plants along with goldenrod and some sand prairie and wetland vegetation.

Scientific names follow those used by Bouseman and Sternburg (2001) *Butterflies of Illinois.* The numbers in parentheses refer to the environmental significance code used by these authors, abridged chart at the right.

(1) An introduced species
(2) A rare vagrant
(3) A migrant, rarely breeds in IL.
(4) Migrant regularly breeds in IL.
(5) Species with weedy larval hosts, found in waste areas, pastures, old fields, and roadsides .
(6) Species of urban forests and woodlands, and gardens.

Family Papilionidae: Swallowtails. None observed

[Four species known from Lake County]

Family Pieridae: Sulphurs & Whites

[Eight species known from Lake County]

Pieris rapae (Linnaeus) Cabbage White (1)

Colias eurytheme Boisduval Orange Sulphur (5)

Colias philodice Godart Clouded Sulphur

Family Riodinidae: Metalmarks. None obsereved.

[Not known from Lake County]

Family Lycaenidae: Hairstreaks, Coppers, & Blues

[Seventeen species known from Lake County]

Strymon melinus Hubner Gray Hairstreak (5)

Everes comyntas (Godart) Eastern Tailed-blue (5)

Also, all of the species listed here have the G5 Nature Conservancy Global Rank: Demonstrably secure globally, though it may be quite rare in parts of its range especially on the periphery.

Family Nymphalidae: Brush-footed Butterflies

[Twenty eight species known from Lake County]

Limenitis archippus (Cramer) Viceroy (6)

Vanessa atalanta (Linnaeus) Red Admiral *Junonia coenia* (Hubner) Buckeye (4)

Polygonia interrogationis (Fabricius) Question Mark (6)

Phycoides tharos (Drury) Pearl Crescent (5)

Danaus plexippus (Linnaeus) Monarch (4)

Family Hesperiidae: Skippers [Not included in Bausmann & Sternburg]
[Sixteen known from Illinois Beach State Park]
Atrytone delaware (Edwarads) Delaware Skipper (5)
Epargyreus clarus (Cramer) Silver-spotted Skipper (5)

Family Arctiidae: Tiger, Lichen & Wasp Moths
Subfamily: Ctenuchinae Wasp Moths
Ctenucha virginica (Esper) Virginia Ctenucha (5)
Day-flying moth whose larva feeds on grasses.

Field Observations by Month and Day 2002 --for Lepidoptera

May 10	None observed		
May 16	None observed (rain)		
May 29	*P. rapae*	1	
	C. eurytheme	5	*(eurytheme /philodice)*
	Small brown	1	not identified (2.5 cm. Dia.)
	Samll tan	1	not identified (1.5 cm. Dia.)
June 24	*C. eurytheme* – male	1	
	E. comyntas	1	
	L. archippus -male	1	
	V. atalanta	1	
	J. coenia	1	
	A. logan	1	

July 11 North Shore San. Dist. "meadow" out of wind near limestone blocks

P. rapae	1	
C. eurytheme	4	- 2 males, 2 females
V. atalanta	2	

July 30 North beach and swales

P. rapae	2	
C. philodice	2	
L. archippus	1	
J. coenia	2	
D. plexippus	3	

OMC ditch with loostrife "hot spot" 25 min. 3.15 – 3:40

P. rapae	2	
C. philodice	6	
L. archippus	3	

	D. plexippus	6
	Skipper no id.	1

Aug 29 OMC ditch with loostrife in abundant bloom

S. melinus	1
P. rapae	5
L. archippus	1
V. Atlanta	1
C. philodice/eurytheme	25 mostly females
J. coenia	2
D. plexippus	20
P. interrogationis	1
E. clarus	2
C. virginica	1

North Shore San. Dist. Outflow stream along banks with loostrife in flower

P. rapae	3
C. philo. / eury.	25
D. plexippus	25
L. archippus	6

Sept 13 North Shore San. Dist "meadow" at limestone blocks

P. rapae	12
C. philo. / eury.	3
L. archippus	3
V. Atlanta	1

In swale behind foredune

C. philo. / eury.	6
J. coenia	6
L. archippus	1

OMC ditch

J. coenia	2
L. archippus	1

Sept 23 In swale behind foredune

P. rapae	1
C. phil. / eury.	4
D. plexippus	2

OMC ditch and prairie

P. rapae	1
C. philo. / eury.	17
D. plexippus	2
J. coenia	4
P. tharos	2

Order Coleoptera

Beetles of many species can be found on beaches washed up at the shore, under and on stranded debris, and on vegetation. Sometimes the water's edge functions to concentrate certain kinds in large numbers. Over several years of observing or collecting a list of dozens of species in many families can be produced.

The following identifications of beetles were made by me using current literature, and comparisons with specimens in the Field Museum collections. Cicindelid and Carabid beetles were identified by Phillip Parrillo of Field Museum staff, he specializes in these families. The number following the name indicates voucher specimens collected with the dates.

Family Cicindelidae: Tiger Beetles

Cicindela hirticolis (Say) 8, May 10, July 30, 2002

This is a resident beetle present along the beach and in wet swales. It flies ahead of you when disturbed, lands and watches your approach only to fly again. At Indiana Dunes there are several *Cicindela* species that inhabit ecological seres from the beach to deciduous forest. At Waukegan one species was found. It is well established and present in large numbers.

Family Carabidae: Ground Beetles

Stenolophus (Stenolophus) ochropezus (Say) 7 , May 29, 2002

Lives along the edges of lakes and streams; fairly common in the region.

Lebia (Lebia) viridis Say 1, May 29, 2002

Greeenish blue, a small pretty beetle often seen on goldenrod.

Pterostichus (Argutor) commutabilis (Motschulsky) 1, May 29, 2002

A large genus of blackish ground beetles with many subgroups. This species is known along the shores of Lake Michigan and also to the east and west.

Bembidioin (Notaphus) patruele Dejan 1, May 29, 2002

Family Histeridae: Hister Beetles

Hypocaccus fraternus (Say) 9, May 29, 2002

A small black- bronze tinged species common on lake and ocean beaches. It is often found in dead fish where it preys on fly maggots.

Scarabaeidae: Scarab Beetles

Popilla japonica Newman 1, July 30, 2002

The Japanese Beetle first found in New Jersey in about 1916. These were abundant in Waukegan during the summer and were not that frequent at the beach.

Elateridae: Click Beetles

Cardiophorus cardisce (Say) 6, May 29, 2002

This species is in the right place! In *Beetles of Northeastern North America* by Downie and Arnette , the authors state that "it is frequent along the sandy shores of Lake Michigan under debris."

Lampyridae: Firefly Beetles

Photinus species. 1, July 30, 2002

Some 20 firefly species of *Photinus* are found in our region. Several are identified only by observing the genetically programmed flash patterns.

Coccinelidae: Ladybird Beetles

Coccinella septempunctulata Linnaeus 2, May 10, 2002

An introduced species, not over abundant with palaearctic distribution

Harmonia axyridis Pallas 7, May 10, 29; July 30, and through the summer 2002.

This is the overabundant ladybird of recent news reports. Introduced in southern states to control aphids it has spread north to Canada and is able to overwinter in buildings and other hiding places. Rarely do we find the native ladybird, *Hippodamia convergens*, and the new robust species may be pushing it out. Included is a photo of many *H. axyridis* on a cluster of zebra mussels washed up on the beach.

Pedilidae: False Antlike Flower Beetles

Stereopalpus vestitus (Say) 1, July 30, 2002

The Field Museum collection has several specimens from Indiana Dunes and Cook County. "Frequent on shrubbery near water."

Anthicidae: Antlike Flower Beetles

Notoxus desertus Casey 1, May 10 , 2002

This lone specimen joins eight others in the Filed Museum cabinet. They were collected locally, one at Illinois Beach State Park, one at Volo Bog ; Chiwaukee Prairie and Evanston beach are also represented. They are not overly common.

Cerambycidae: Longhorned Woodboring Beetles

Plectodera scalator (Fabricius) 1, July 30, 2002

This splendid black and white beetle could be a "poster child". It's grubs feed in cottonwood and the inch-and a half adults are prized

by collectors. This is a recognized dune species and it was good to see it at Waukegan.

Chrysomelidae: Leaf Beetles

Disonycha alternata (Illiger) 1, May 10; 1, May 29; 2, July 30, 2002
Willow leaf beetle, widely distributed from Nova Scotia west to British Colombia and from Maine to Arizona.

Cerotoma trifurcata (Forster) 2, May 29; 3. July 30, 2002
Bean leaf beetle, broadly distributed in North America

Acalymma gouldi Barber 90, July 30, 2002
Known from Indiana, Illinois, Wisconsin, and Quebec this was the most abundant beetle present during the summer. In collections it may be mis- identified as the closely related to the striped cucumber beetle, *Acalymma vittata* (Fabricius), both species are crop pests and can occur in the hundreds of thousands. Along the beach at times they are found crawing on everything and washing up on beach drift.

Altica bimarginata Say 4, May 29, 2002s
The "Alder Flea beetle" is in a genus with over 60 North American species, which are difficult to identify.

Waukegan, Illinois - lakefront - looking north from the federal channel

Areas in which butterflies and dragonflies were most frequently observed are indicated by number on the following map.

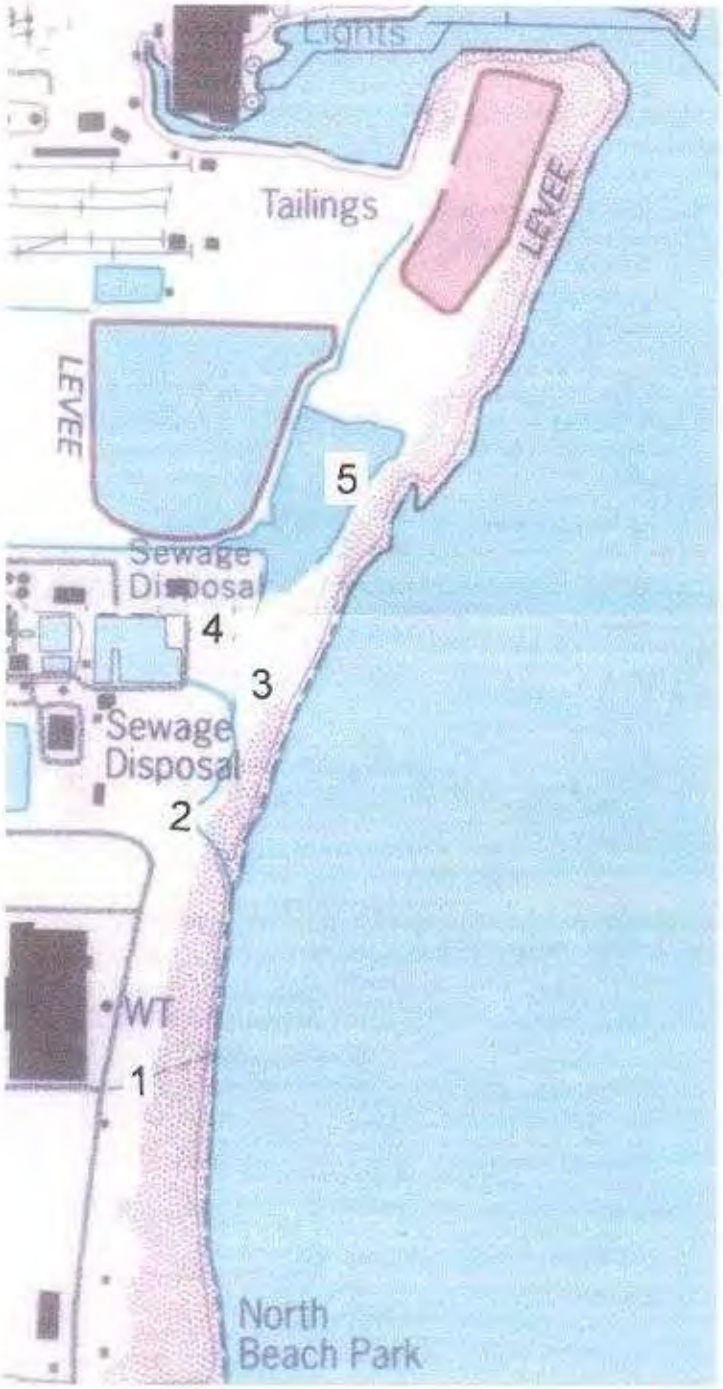
1. The pond and drainage ditch coming from OMC and running east to the Lake. This is intermittent and flow depends on precipitation. The pond shown in a later photo is deep and dragonflies were observed patrolling and egg laying. As the Loostrife and Boneset bloomed butterflies nectared along the pond margin and in the shallow ditch.

2. The drainage stream flowing out of the treatment plant provided extensive wet sandy flats where Tiger Beetles hunted and mated. The stream margins are lined with Loosestrife and Common Reed.

3. The swale behind a row of Cottonwoods is vegetated with grasses and willows. This is also less windy than the open beach so observations were good here.

4. A protected area sheltered by trees and a reed marsh just East of North Shore Sanitary fence bordered by large limestone blocks.

5. Interdunal ponds were often patrolled by dragonflies.


Lights
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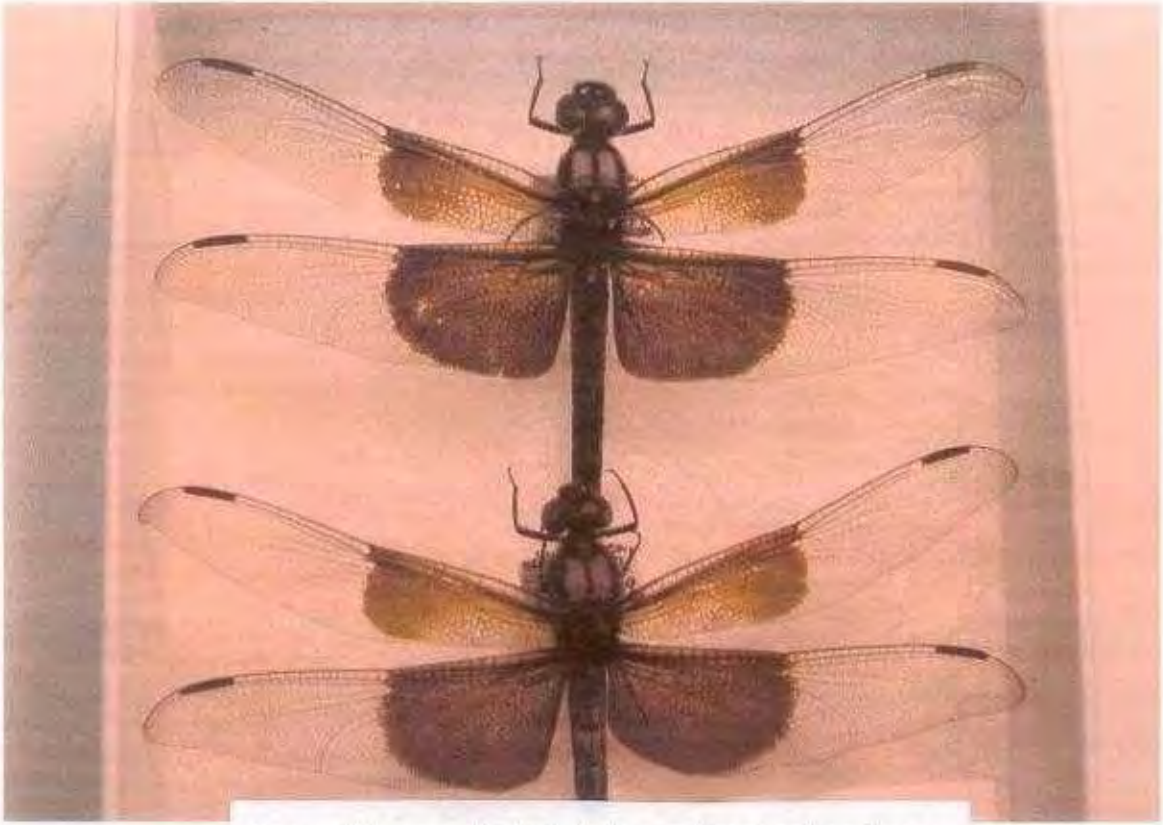
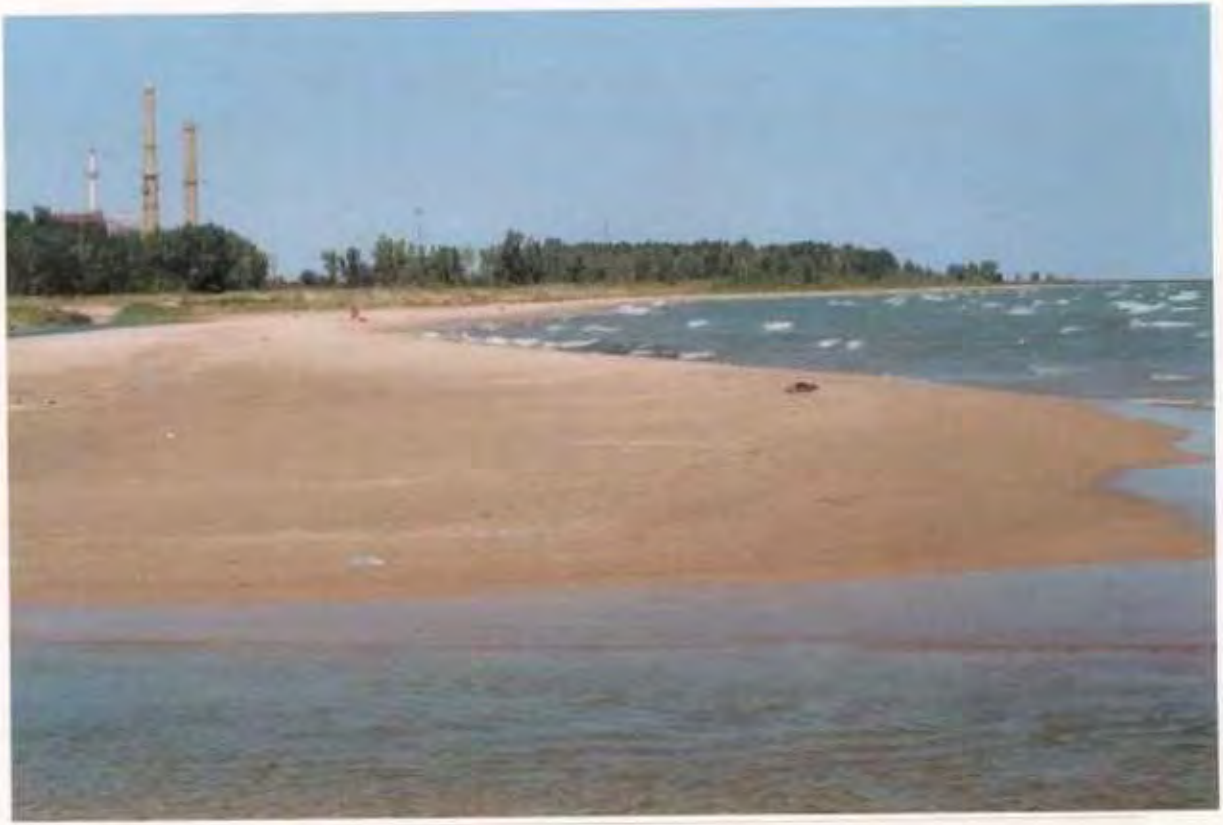
North
Beach Park



Widow Skimmer, *Libelulla luctuosa*, Voucher Specimens



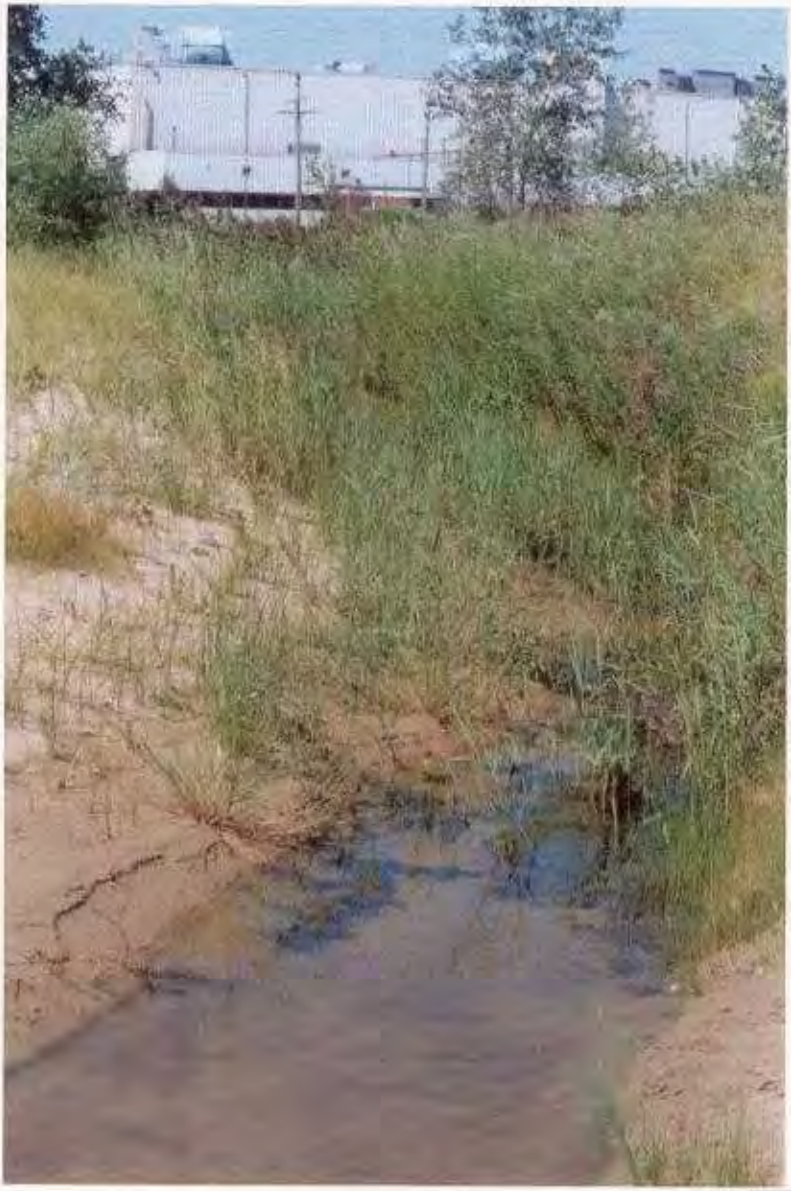
Outflow Stream from North Shore Sanitary District with open beach and foredune, habitat of the tiger beetle, *Cicindela hirticolis*

Cluster of Stranded Zebra Mussels with Asian Ladybird Beetles
--Both Introduced Species

Backdune, Swale and Line of Young Cottonwoods

Outflow Stream from North *Shore* Sanitary with *Phragmites*

Pond at South East Corner of OMC, East of Guard Station
Small Area of Nice Sand Prairie Just North of Pond



Ditch to Lake from OMC Pond with Purple Loosestrife, *Lythrum salicaria*, and Boneset, *Eupatorium perfoliatum*, Nectar Sources for Insects

Viceroy Butterfly, *Limenitis archippus*, on Boneset, *Eupatorium perfoliatum*,
In OMC Ditch

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Internet Sites

The McHenry County College Butterfly Project, which includes Butterfly Monitoring Guidelines for the Chicago Region, and much more http://www.mchenry.edu/faculty/mgarriso/ButterflyProject/aindex.html.

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Field Data for times of Observation at Waukegan Lakeshore

Date: 2002	Hours of Observation	Weather	Comments
May 10	1:20	Wind NW – 15-20; 68 F.	
May 16	1:30	rained out – met with student groups; lunch with students at Lions Math & Science Junior Academy	
May 29	3:00	Wind SW – 15; 80 F. ptly cloudy; beautiful day	
June 24	2:30	Wind SW –10; 90 F. light clouds	
July 11	3:20	Wind E- 10-15; 75 F. overcast with little sun Beach closed due to high bacterial count	
July 30	3:00	Wind E- 5-10; 80 F. sunny- cumulus clouds	
Aug 29	3:00	Wind NE- 10-20; 72 F. sunny – clear	
Sept 13	3:30	Wind –light ; 74 F. sunny – high haze; lake calm	
Sept 23	2:30	Wind SW- 15; 64 F. sunny – clear	

Total hours: 23:40

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Dragonflies and Damselflies (Odonata) of the United States

Odonata of Lake County, Illinois

Species denoted with an asterisk (*) are unconfirmed or dubious records.

Lestidae

- Spotted Spreadwing -- (*Lestes congener*)
- Common Spreadwing -- (*Lestes disjunctus*)
- Emerald Spreadwing -- (*Lestes dryas*)
- Slender Spreadwing -- (*Lestes rectangularis*)
- Lyre-tipped Spreadwing -- (*Lestes unguiculatus*)
- Swamp Spreadwing -- (*Lestes vigilax*)

Coenagrionidae

- Familiar Bluet -- (*Enallagma civile*)
- Marsh Bluet -- (*Enallagma ebrium*)
- Stream Bluet -- (*Enallagma exsulans*)
- Skimming Bluet -- (*Enallagma geminatum*)
- Hagen's Bluet -- (*Enallagma hageni*)
- Orange Bluet -- (*Enallagma signatum*)
- Slender Bluet -- (*Enallagma traviatum*)
- Citrine Forktail -- (*Ischnura hastata*)
- Eastern Forktail -- (*Ischnura verticalis*)
- Sedge Sprite -- (*Nehalennia irene*)

Aeshnidae

- Mottled Darner -- (*Aeshna clepsydra*)
- Lance-tipped Darner -- (*Aeshna constricta*)
- Common Green Darner -- (*Anax junius*)
- Swamp Darner -- (*Epiaeschna heros*)

Gomphidae

- Pronghorn Clubtail -- (*Gomphus (Gomphus) graslinellus*)
- Dusky Clubtail -- (*Gomphus (Gomphus) spicatus*)

Corduliidae

- Prince Baskettail -- (*Epitheca (Epicordulia) princeps*)
- Stripe-winged Baskettail -- (*Epitheca (Tetragoneuria) costalis*)
- Common Baskettail -- (*Epitheca (Tetragoneuria) cynosura*)
- Spiny Baskettail -- (*Epitheca (Tetragoneuria) spinigera*)

Libellulidae

- Calico Pennant -- (*Celithemis elisa*)
- Halloween Pennant -- (*Celithemis eponina*)
- Dot-tailed Whiteface -- (*Leucorrhinia intacta*)
- Chalk-fronted Corporal -- (*Libellula julia*)
- Widow Skimmer -- (*Libellula luctuosa*)
- Twelve-spotted Skimmer -- (*Libellula pulchella*)
- Four-spotted Skimmer -- (*Libellula quadrimaculata*)
- Painted Skimmer -- (*Libellula semifasciata*)
- Blue Dasher -- (*Pachydiplax longipennis*)
- Eastern Amberwing -- (*Perithemis tenera*)
- Variegated Meadowhawk -- (*Sympetrum corruptum*)
- Saffron-winged Meadowhawk -- (*Sympetrum costiferum*)
- Cherry-faced Meadowhawk -- (*Sympetrum internum*)
- White-faced Meadowhawk -- (*Sympetrum obtrusum*)
- Ruby Meadowhawk -- (*Sympetrum rubicundulum*)
- Band-winged Meadowhawk -- (*Sympetrum semicinctum*)
- Yellow-legged Meadowhawk -- (*Sympetrum vicinum*)
- Black Saddlebags -- (*Tramea lacerata*)

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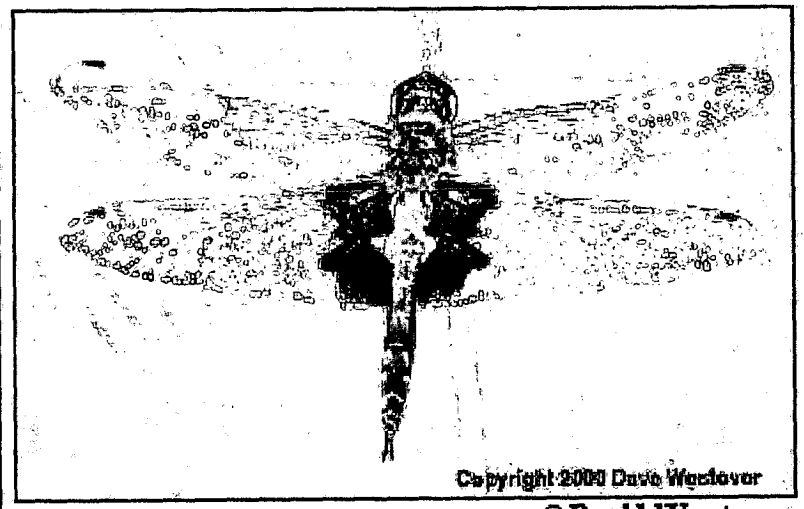
Dragonflies and Damselflies (Odonata) of the United States

Odonata of Illinois

Black Saddlebags *(Tramea lacerata)*



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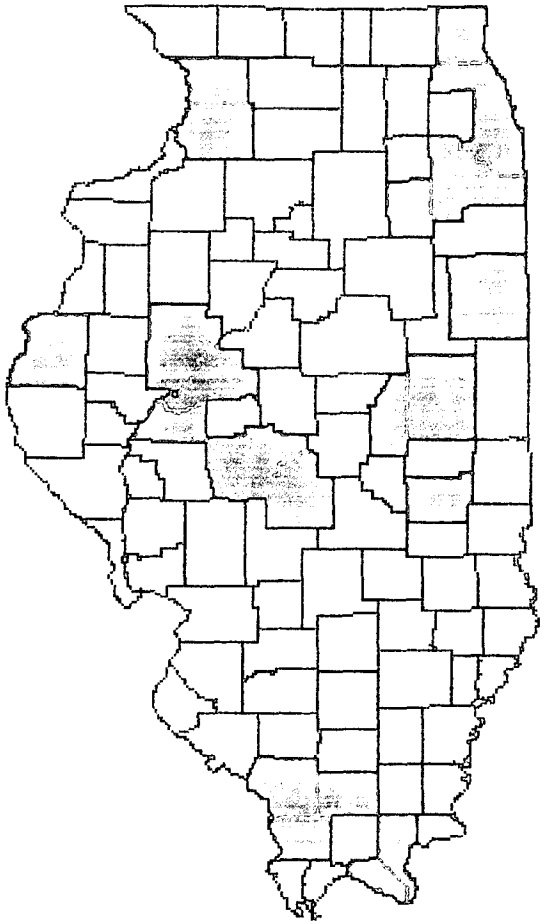
Black Saddlebags



Confirmed Records

Unconfirmed or Dubious Records

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Butterflies of North America

Butterflies of Lake County, Illinois

Species denoted with an asterisk (*) are unconfirmed or dubious records.

Swallowtails (Family Papilionidae)

Swallowtails (Subfamily Papilioninae)

- Pipevine Swallowtail -- (*Battus philenor*)
- Zebra Swallowtail -- (*Eurytides marcellus*)
- Black Swallowtail -- (*Papilio polyxenes*)
- Eastern Tiger Swallowtail -- (*Papilio glaucus*)
- Spicebush Swallowtail -- (*Papilio troilus*)

Whites and Sulphurs (Family Pieridae)

Whites (Subfamily Pierinae)

- Cabbage White -- (*Pieris rapae*)
- Olympia Marble -- (*Euchloe olympia*)

Sulphurs (Subfamily Coliadinae)

- Clouded Sulphur -- (*Colias philodice*)
- Orange Sulphur -- (*Colias eurytheme*)
- Southern Dogface -- (*Zerene cesonia*)
- Little Yellow -- (*Eurema lisa*)
- Sleepy Orange -- (*Eurema nicippe*)

Gossamer-wing Butterflies (Family Lycaenidae)

Coppers (Subfamily Lycaeninae)

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

Hairstreaks (Subfamily Theclinae)

- Coral Hairstreak -- (*Satyrium titus*)

- Acadian Hairstreak -- (*Satyrium acadica*)
- Edwards' Hairstreak -- (*Satyrium edwardsii*)
- Banded Hairstreak -- (*Satyrium calanus*)
- Hoary Elfin -- (*Callophrys [Incisalia] polios*)
- Frosted Elfin -- (*Callophrys [Incisalia] irus*)
- Gray Hairstreak -- (*Strymon melinus*)

Blues (Subfamily Polyommatinae)

- Marine Blue -- (*Leptotes marina*)
- Reakirt's Blue -- (*Hemiargus isola*)
- Eastern Tailed-Blue -- (*Everes comyntas*)
- Spring Azure -- (*Celastrina "ladon"*)
- Summer Azure -- (*Celastrina neglecta*)
- Silvery Blue -- (*Glaucopsyche lygdamus*)

Brush-footed Butterflies (Family Nymphalidae)

Heliconians and Fritillaries (Subfamily Heliconiinae)

- Variegated Fritillary -- (*Euptoieta claudia*)
- Great Spangled Fritillary -- (*Speyeria cybele*)
- Aphrodite Fritillary -- (*Speyeria aphrodite*)
- Regal Fritillary -- (*Speyeria idalia*)
- Silver-bordered Fritillary -- (*Boloria selene*)
- Meadow Fritillary -- (*Boloria bellona*)

True Brush-foots (Subfamily Nymphalinae)

- Silvery Checkerspot -- (*Chlosyne nycteis*)
- Pearl Crescent -- (*Phyciodes tharos*)
- Baltimore -- (*Euphydryas phaeton*)
- Question Mark -- (*Polygonia interrogationis*)
- Eastern Comma -- (*Polygonia comma*)
- Gray Comma -- (*Polygonia progne*)
- Compton Tortoiseshell -- (*Nymphalis vaualbum*)
- Mourning Cloak -- (*Nymphalis antiopa*)
- Milbert's Tortoiseshell -- (*Nymphalis [Aglais] milberti*)
- American Lady -- (*Vanessa virginiensis*)
- Painted Lady -- (*Vanessa cardui*)
- Red Admiral -- (*Vanessa atalanta*)
- Common Buckeye -- (*Junonia coenia*)

Admirals and Relatives (Subfamily Limenitidinae)

- Red-spotted Purple -- (*Limenitis arthemis*)
- 'Astyanax' Red-spotted Purple -- (*Limenitis arthemis astyanax (incl. arizonensis)*)
- Viceroy -- (*Limenitis archippus*)

Leafwings (Subfamily Charaxinae)

- Goatweed Leafwing -- (*Anaea andria*)

Satyrs (Subfamily Satyrinae)

- Eyed Brown -- (*Satyrodes eurydice*)
- Appalachian Brown -- (*Satyrodes appalachia*)
- Little Wood Satyr -- (*Megisto cymela*)
- Common Wood Nymph -- (*Cercyonis pegala*)

Monarchs (Subfamily Danainae)

- Monarch -- (*Danaus plexippus*)

Skippers (Family Hesperiidae)

Spread-wing Skippers (Subfamily Pyrginae)

- Silver-spotted Skipper -- (*Epargyreus clarus (incl. huachuca)*)
- Southern Cloudywing -- (*Thorybes bathyllus (=daunus)*)
- Northern Cloudywing -- (*Thorybes pylades*)
- Dreamy Duskywing -- (*Erynnis icelus*)
- Sleepy Duskywing -- (*Erynnis brizo*)
- Juvenal's Duskywing -- (*Erynnis juvenalis*)
- Horace's Duskywing -- (*Erynnis horatius*)
- Mottled Duskywing -- (*Erynnis martialis*)
- Wild Indigo Duskywing -- (*Erynnis baptisiae*)
- Common Checkered-Skipper -- (*Pyrgus communis*)

Grass Skippers (Subfamily Hesperiinae)

- Least Skipper -- (*Ancyloxypha numitor*)
- Poweshiek Skipperling -- (*Oarisma poweshiek*)
- European Skipper -- (*Thymelicus lineola*)
- Fiery Skipper -- (*Hylephila phyleus*)
- Ottoe Skipper -- (*Hesperia ottoe*)
- Peck's Skipper -- (*Polites peckius (=coras)*)
- Tawny-edged Skipper -- (*Polites themistocles*)
- Crossline Skipper -- (*Polites origenes*)
- Long Dash -- (*Polites mystic*)
- Northern Broken-Dash -- (*Wallengrenia egeremet*)
- Little Glassywing -- (*Pompeius verna*)
- Delaware Skipper -- (*Anatrytone logan (=delaware)*)
- Mulberry Wing -- (*Poanes massasoit*)
- Hobomok Skipper -- (*Poanes hobomok*)
- Dion Skipper -- (*Euphyes dion*)
- Black Dash -- (*Euphyes conspicua*)
- Two-spotted Skipper -- (*Euphyes bimacula*)
- Dun Skipper -- (*Euphyes vestris (=ruricola)*)
- Pepper and Salt Skipper -- (*Amblyscirtes hegon (=samoset)*)

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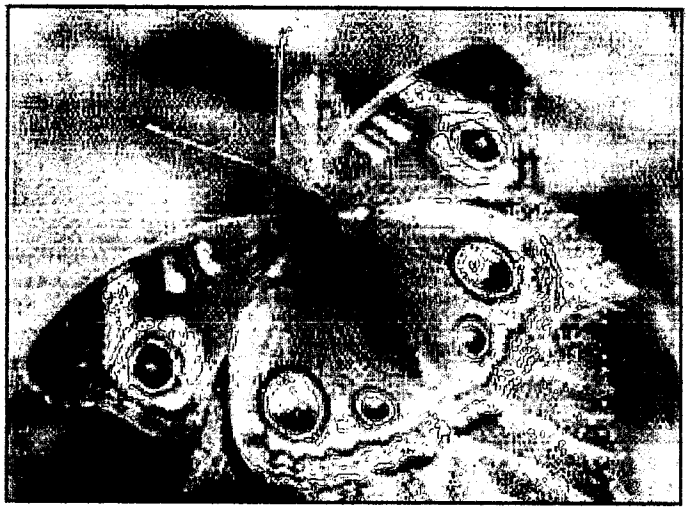
Butterflies of North America

Common Buckeye *(Junonia coenia)*



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Common Buckeye

©Paul A. Opler

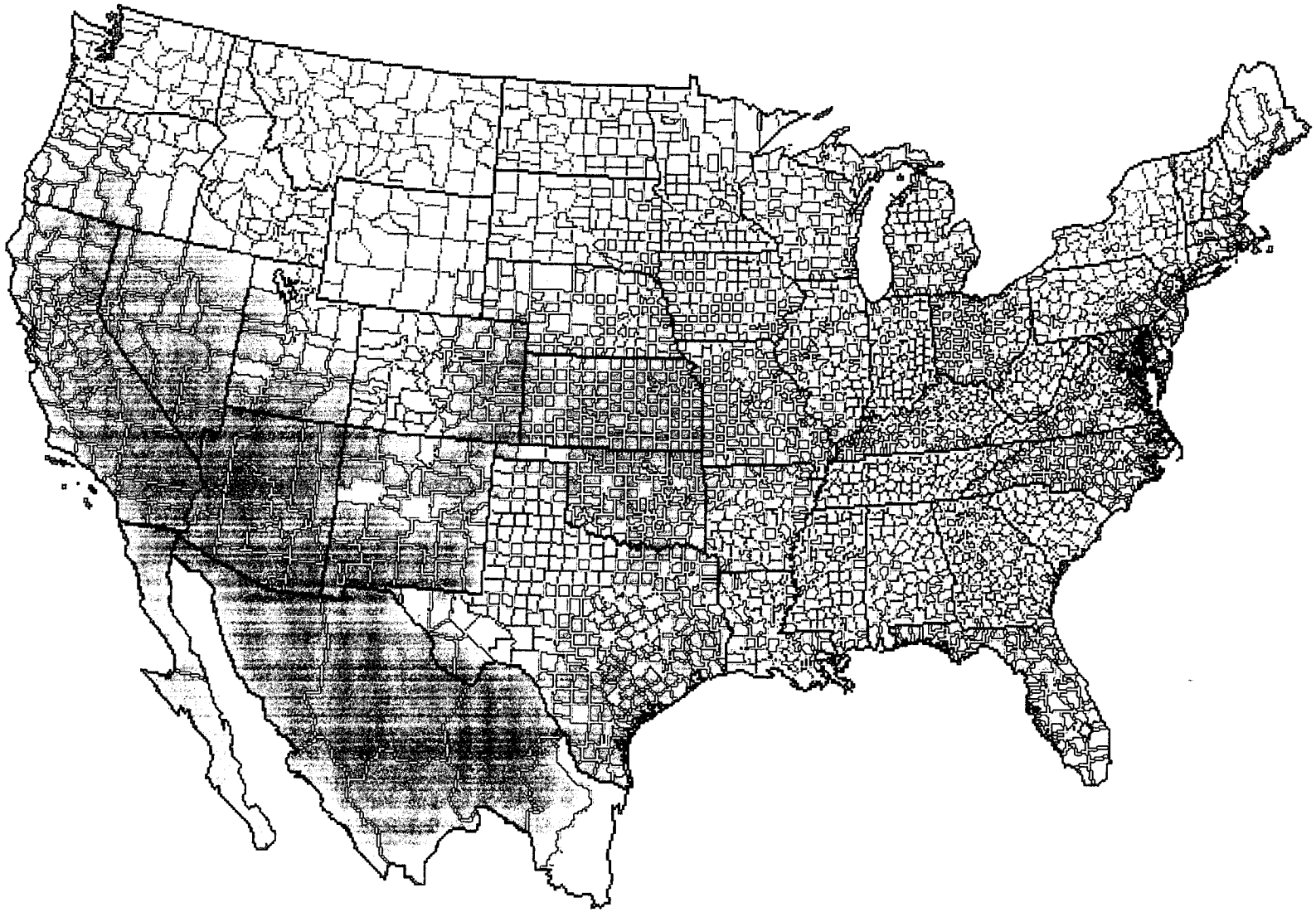
Caterpillar

Common Buckeye (*Junonia coenia* Hübner)

Wing span: 1 5/8 - 2 3/4 inches (4.2 - 7 cm).

Identification: Upperside is brown. Forewing with 2 orange cell bars and 2 eyespots; part of white subapical band appears in the largest, lower eyespot. Hindwing has 2 eyespots; upper one is largest and contains a magenta crescent. Underside of hindwing is brown or tan in the wet season (summer) form and rose-red in the dry season (fall) form.

Life history: Males perch during the day on low plants or bare ground to watch for females, flying periodically to patrol or to chase other flying insects.



Confirmed Records | Unconfirmed or Dubious Records | Data Not Yet Available

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CONCLUDING THOUGHTS

The beach area can withstand heavy use by people coming in by foot, but off road vehicles are horribly destructive to sand based ecosystems. Stronger enforcement needs to be established to prevent such destruction. This overall area has suffered intensive human use, we know this only too well. Remediation and recovery will take considerable money, effort and time. Is it worth doing? I believe it is. First, "natural" shoreline property close to a large population is nearly non-existent. Second, the proximity of Waukegan to the Illinois Beach State Park and Nature Preserve position the beach and dunes as accessible buffer ecosystems and this should also facilitate natural recovery.

As an opportunity for education this area is outstanding. Consider the following:
1. The state park provides a base system that is relatively intact in presettlement condition.
2. The industrial uses have a history worthy of study and understanding. Why was xyz facility built here? What has been the impact? When was it learned that there were environmental problems? Was there a grass roots response? Were there heroes? What was the political response? Educators can certainly create a rich curriculum using a model that is local and real.
3. From a perspective of good stewardship can we find a mix that will accommodate industrial / commercial use and maintain a substantial natural area? This seems to be the challenge.

Abundant information on local biota is not difficult to find. In addition to the references I listed, I have included some addendum material. Lists of Dragonflies and Butterflies, by State and County have been created in a national survey and hosted by USGS. There is a process to update species lists locally.

The Butterfly Monitoring Network is strong in Northern Illinois with support from McHenry Community College, and The Chicago Academy of Sciences. The Nature Conservancy off Illinois and the Illinois DNR are strong advocates and have staff with outstanding field experience.

With respect to putting the pieces back together, that is restoration and ongoing maintenance, whole new academic departments; professional journals and devoted practical ecologists await your call. The Center for Restoration Ecology at UW Madison is one such example. Working through the Illinois DNR or Chicago Wilderness, you will find individuals and groups with the energy and skills to give sage advice.

I thank the Waukegan Harbor Citizens Advisory Group for the opportunity to help with this process and I commend you for your concern and commitment to conserve and restore these beaches and dunes.