



CENTER LINE

A Publication of Waukesha County's Retzer Nature Center

Winter 2007-08

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THE MAGNIFICENT BLUES

The bird, a long-legged wader, is a creature of regal grace, impeccably groomed, an expert fisherman with built in sports gear and above all, a capable pilot covering migratory miles in effortless flight in spite of its great posture. If this creature could only sing, it would be crowned perfect bird of the realm. The bird I'm referring to – the Great Blue Heron (*Ardea herodias*).

The Great Blue Heron lives up to its name. *Ardea* the Latin word means heron. *Herodias* in Greek translates heron, so the Great Blue becomes Heron of Herons, or king of the roost, even with its guttural voice. The female heron is moved by the loud squawks, croaks and honks of the male, and that's all that matters. The heron in flight is usually silent but that's not a bad trait either when traveling.

The Great Blue Heron is North America's largest heron. The magnificent bird stands at least four-feet tall, with an adult wingspan often more than six feet. Yet in spite of length and breadth, the heron only weighs between five and eight pounds, the weight of a newborn human baby. The adult body plumage is loosely feathered in long strands, especially on breast and back. The blue-grey color found on the back and shoulders of the bird herald the name. The tail is slate-grey in color with black-tipped feathers. Under tail covert are white. Topside, the bird's brow and crown are white, and the feathers leading from the eye back to the crest are black. The curved neck of the Great Blue is a very light grey, covered with short fine feathers near the top which will end over the breast in clusters of long plumes. The plumes show streaks of white, black and rust.



Maintaining flawless beauty and elegance takes much effort and endless hours of loafing. Loafing in bird beauty circles is comprised of hours when the birds clean and preen. For the Great Blue, loafing is a cleansing process that covers the entire body and wingspread. The bird is a fanatic when it comes to personal hygiene. Male and female herons carry beauty complements with them at all times. Their waterproofing system is a gland found at the base of the tail. The gland secretes oil that the bird withdraws and paints its feathers with, replenishing the oily nature to its feathers. The heron can pull over and stop for feather maintenance and waterproofing while loafing. The heron also carries a personal grooming kit consisting of comb and powder puffs. Male and female herons are look-alikes; both are neat nicks, and make daily use of their comb and powder puffs a necessity. The comb is the claw (which has small tooth-like ridges) found at the end of their middle toe. This comb is used to preen and smooth out ruffled feathers. Powder puffs are patches of powderdown feathering, special feathers that continue to grow throughout the bird's life and are never shed. Tips of the feathers disintegrate into a waxy powder. The bird rubs the powder with its beak or claws over the areas that need special cleaning, like legs and lower body areas where the powder can absorb dirt and slime picked up in the wet territories. Powder puffs act as absorbents. As

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(Magnificent... continued)

the heron flies to the nest the powder (with the dirt and grime) dries and fluffs away on the flight home.

The Great Blue Heron can be seen along edges of pond, marsh, lake or river, in fresh or salt water, enjoying a fisherman's pastime. The bird carries all the necessary equipment for fishing. Long waders (or legs) make up about two thirds of the bird's height. Standing tall on these strong stilts, the joint that looks like the bird's knee (but bends backward) is not his knee at all. Turns out it's the bird's ankle. The knee is further up the leg, and hidden under the feathers. Over eons of time, the heel of the heron's foot has evolved upwards, elevating the center of the bird's



balance (a plus when wading). The rest of the leg becomes an extension of the foot, and the foot continues downward to form four toes – three in the front and one in the back.

There is webbing

between the first and second toe. The construction of the Great Blues' toes and webbing keeps the bird from sinking into sand or muck and allows for better balance when fishing. The small hook that is part of the middle toe's talon is also ready for cleaning up after fishing. Every angler pulls in good fish stories. The Great Blue Heron is no exception. When fishing, the heron usually stands or walks very slowly and waits for dinner to swim past his underwater waders. Above water, golden eyes look down a long dagger-like beak ready for a swift attack (the golden eyes are among the birds most distinctive traits). The vision of the Great Blue is what is called "monocular" that is, each eye focuses independently of the other. The heron has the ability to see a 360-degree vision span. What a great fishing asset that can be!

Sparse fishing leads into other developed feeding actions. Experts have observed many different feeding movements of the Great Blue Heron. The Blue Heron can spread its wings, cupping air underneath and with its head under the water can float on the surface and troll with the current or the wind. Another fishing technique called hovering blows the mind. The four-foot bird with the six-foot wingspan becomes like a hummingbird and achieves a hovering flight that enables it to stab at a fish observed below. Must be a feeling like the bumblebee, not built to be able to fly, but there it goes!

Entertaining gossip concerning the Great Blue Heron: Fish and frogs are favorites on the menu, followed by aquatic crab, shrimp, crayfish and salamander. Off shore meal take-outs of mice, snake or lizard add

variety. This heron doesn't chew, but swallows each morsel whole – head first – down the hatch!

Great Blue Herons tend to be solitary birds. However, during northern migration, breeding season and southern migration, the bird's group and form colonies called "heronries", or "rookeries". Heronries are placed in isolated woods and swamps, away from people. A typical heronry will contain 30 to 60 nests, constructed high in the tallest of trees. At times, these broken-branch-and-twig high-rise constructions share the same tree. The heron, always fastidious in habit, never builds the nest directly underneath his neighbors.

Ardea herodias, who at other times has been the most solitary of birds, becomes a social butterfly after the northern migration. Magic of courtship floats on the air; as antisocial as the herons have been before, when breeding they remain loyal to each other during nest building and through hatchling development. The beautiful blues develop especially long plumage at this time. Light colored plumes on the heron's lower neck and breast lengthen. Light-grey feathers on the heron's back spread down like regal capes. The distinguishing black plumes that extend backward from the birds head stand out like spikes on a handsome crown. Every heron in the rookery is ready to step out and show off.

The heron has its own dance steps of courtship. There's the one-step and the two-step, bobbing, weaving and feather spreads. For the male birds there can be one-on-one exhibition fights between competing players. Circle flight behavior is occasionally used by young blue herons as advertisement of the bird's general physical stamina. This behavior consists of straight-necked flying for about 30 seconds. During this time, wing beats are slower and deeper than usual, and they make an audible "whomp" with each stroke. The straight-necked circle flight takes a large diameter 50-75 yard circle, and then that bird lands back at his starting point. The flight is odd because the Great Blue always flies with the neck in an S position. The S position is one way to identify the heron from the crane, whose neck is always out-stretched in flight. During breeding times the Blue Heron remains the pillar of socialization. Both the male and female help build and repair their nest plus they raise and feed all the offspring together.

One cannot imagine the non-stop activity or cacophonous racket that happens throughout the

(Magnificent... continued)

Great Blue's sociable time in the heronry. Return to a solitary life is welcomed. Just to fish, to loaf, to preen and groom alone in nature. Then the Great Blue Heron will stand tall along the shore, posing on one or two of his long legs; golden monocular eyes viewing the lone reflection will testify ...
"YOU LOOK MARVELOUS."

See you on the trail,

Shirley Blanchard

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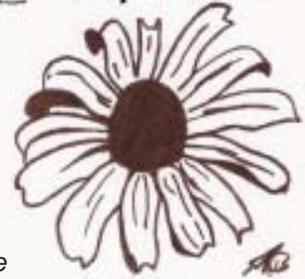
A Sincere Thanks to All...

The following individuals or groups have donated items to Retzer Nature Center since the last issue of CENTER LINE. Their support is greatly appreciated.

- Cash donation from Gina Silvidi-Cairns and Laurence Cairns in memory of Douglas Dauffenbach, Jr.
- Cash donation from W. E. Energies employees: Steven Kelnoper, Jack Powers, David Strabel and Elizabeth Watson for the "Support the Arts" Campaign
- Cash donation from John & Jan Fryatt in memory of Vince Gavre
- Cash donation from Benjamin Goss, Bird Club

The Last Prairie

This article is dedicated to Lyn Zastrow, a friend and Natural Landscaping Volunteer here since February 2002. Lyn passed away recently while getting to know the people of Indonesia in their own country.



From what I understand, he experienced heart complications while swimming in the ocean and passed quickly. There are some who claim we die simply when it is our time. I am in the Dylan Thomas camp; we should never "go gentle into that good night" and by contrast "rage against the dying of the light." I would argue Lyn went too early. Life is short enough. There is no need to deprive a man the most golden of years when one can truly choose what is important. Unfettered by employment, one should be able to focus on family for decades. We at Retzer extend our most sincere condolences to the Zastrow family.

Personally, I will miss our talks on turkeys, trips and grandchildren. I will always regret not visiting his pond with him while he lived and I will always remember getting behind the wheel of a 7.5 YR 5/8 butterscotch-colored roadster. Thanks for the time, Lyn. I will miss you.

Forest Floor

"An ecosystem is more complicated than we think—and more complicated than we can think." This single-sentence quote is from the Tallgrass Restoration Handbook from Island Press. Ecologist Frank Egler uttered it in a moment of absolute truth. With all due respect to Mr. Egler, it is hardly a new concept or even a new sentence. The universe has inspired similar expressions. The quote "Not only is the universe stranger than we can imagine, it is stranger than we can imagine" is by astrophysicist Sir Arthur Stanley Eddington who hoped at the time of his death in 1944 "that in the not too distant future we shall be competent enough to understand so simple a thing as a star." JBS (John Burdon Sanderson) Haldane, a British geneticist and biochemist seemed to agree with Eddington when he said, "Now my own suspicion is that the universe is not only queerer than we suppose, it is queerer than we can suppose." An interesting insectile side note: a distinguished theologian once asked Haldane what inferences he could draw about the nature of the Creator from the study of the natural world. JBS replied "The Creator, if he exists, has an inordinate fondness for beetles." His inference is probably due to the fact that 25% of all known animal species are beetles, a staggering percentage for any one order of fauna (Bryson 2003).

(The Last Prairie... continued)

The persistent point is that there are concepts with variables upon variables that we will never understand. Considering our arrogant scientific history of insisting untrue theories are actually law and then shunning brilliant dissenters, the very admission that we may never fully understand something is astonishing. Even though this acknowledgment may appear silly when applied to something so terrestrial (and therefore readily available), I believe that Egler appropriately applied it to ecosystems.

Faced with the impossibility of fully understanding an ecosystem, there are those of us who must attempt to understand all we can. This gives us the excuse to take a close look and study natural communities. Over the years to follow, I will use this excuse to create 'cheat sheets' and even handouts on these communities and share them with you sporadically through our newsletter. The first of these stems from the frequently posed question "What will survive under Black Walnut?" This led me to seek out the community (as defined by Curtis, Hoffman, and the Bureau of Endangered Resources) where Black Walnut (*Juglans nigra*) is most prevalent. The answer is Southern Dry-mesic Forest or Southern Red Oak/Mixed Forest.

Oak trees do in fact rule here, led by Red Oak (*Quercus rubra*), White Oak (*Q. alba*) and Black Oak (*Q. velutina*). "Lesser" trees include Shagbark Hickory (*Carya ovata*), Red Maple (*Acer rubrum*) and Black Cherry (*Prunus serotina*). Some mesic species such as Sugar Maple (*Acer saccharum*), Basswood (*Tilia americana*) and Slippery Elm (*Ulmus rubra*) may establish themselves in the absence of periodic ground fires (Hoffman 2002). The true Southern Dry-mesic forest burns often and it is the wettest woodland to burn on a regular basis. Oak leaves are fantastic fuel for low-intensity ground fires, which control brush and encourage plants tolerant to fires. The Mesic Forests do not have enough oaks to produce fuel (yes, oak leaves are that good); they still burn, but much less frequently and the fires are usually more catastrophic.

The soils of the Southern Red Oak Forest are relatively dry with significant sand and/or gravel contents. Oak Forests often occupy the mid to upper levels of various soil **catenas** (a catena is a group of soils from the same parent material/bedrock but turn out different due to varying moisture/drainage) and you will often find them on north-facing well-drained slopes. The many oak leaves increase the tannic acids here and thereby decrease soil pH. The leaves decay slowly, often taking 5 years to disintegrate fully in between fires. Good things come to forests who wait and these slow-rotting leaves help to form a

generous topsoil layer (or A horizon if you wish) up to 7 inches deep (Curtis 1971).

This community typically harbors vernal ponds, which in their short existence harbor many forms of life found nowhere else. It all begins with the water, then annual and biennial plants show up and they in turn provide anchorage for Wood Frog (*Rana sylvatica*) eggs. The Wood Frogs prefer these ephemeral ponds because they usually don't contain the larvae of various salamanders, which are more commonly found in ponds that last through the summer (Hoffman 2002). The frogs are not often found in water except during the breeding season; another indication they evolved with these brief pools. Many invertebrates also depend on this phenomenon including a species of Fairy Shrimp (*Eubrachipus bundyi*), a crustacean found in our very own Waukesha County. After mating in the spring, female fairy shrimp need only about 3 weeks to begin laying encysted eggs that sink to the bottom. These eggs must go through a winter much like (and of course much unlike all at the same time) many native plants before they can hatch. The cysts may also lie dormant for more than one year if conditions are not right, waiting for the next wet spring to continue the cycle (Jass and Klausmeier 2006).

If you look to the canopy, you may spot the state threatened Cerulean Warbler (*Dendroica cerulea*). Preferring red oaks of extreme age and height, these birds breed in the Southern Dry-Mesic Forest more readily than anywhere else. They also rarely inhabit blocks of wooded area less than 40 acres (Hoffman 2002). Their winter habitat is in jeopardy but hopefully they will have plenty of Red Oaks here to spend their summers.

These are just a few wonders of the woods. Go out for yourself and see what you can find among the oak trees. Unfortunately, we do not have a good example of Dry-Mesic Forest to examine here at Retzer (we are trying, believe me we are trying) but there are spots in our Minooka Park (Swartz Block) and in the Kettle Moraine State Forest-Southern Unit. There are even better examples outside of the county. The KMSF-Northern Unit surpasses the Southern Unit, and one of the best spots in the state for this community and birding to boot is among the Baraboo Hills; what better reason to go? In answer, the handout alluded to earlier is also included and lists some of the shrubs and herbs growing in many of these Red Oak Forests. I hope you find every one of them the next time you walk through the woods.

Mike

Native Companions to Black Walnut (*Juglans nigra*)

There is a stigma surrounding black walnut. People hesitate to introduce it and even remove it from their property due to the **allelopathic** (toxic to other plants) properties of the leaves, husks, bark and roots (butternut also poisons plants this way). We have compiled a list of native species that commonly grow alongside this difficult tree to help point you in the right direction. There is no guarantee here but at least we know these plants do coexist in the wild.

Black walnut growing in Wisconsin is a **modal species** (it is found in a given natural community more than any other) in our Southern Dry-Mesic Forest (Curtis 1971), also known as Southern Red Oak-Mixed Forest (Hoffman 2002). The following plants are very important in the composition and diversity there. All modal species listed are marked with an asterisk. Don't discount plants that do not reach their highest presence here, they can still help with your goals. Not all plants found in this system are included here.

It is important to note that any plant is hard-pressed to grow under a stand of solid black walnut. These dense stands can occur if planted or if walnut is allowed to invade a nearby open area.

(see half-page insert for listing of plants)

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Native Companions to Black Walnut

SHRUBS

<u>Botanical Name</u>	<u>Common Name</u>
Celastrus scandens *	American Bittersweet*
Cornus alternifolia *	Alternate-leaved Dogwood*
Cornus racemosa	Gray Dogwood
Cornus rugosa	Round-leaved Dogwood
Corylus americana	American Hazel
Lonicera prolifera *	Grape Honeysuckle* (groundcover)
Ribes cynosbati *	Hybrid Gooseberry*
Sambucus canadensis	Elderberry
Veronicastrum virginicum	Culver's Root
Viburnum lentago *	Nannyberry*
Viburnum rafinesquianum *	Arrow-wood Viburnum*

GRAMINOIDS (Grasses, Sedges, Rushes)

<u>Botanical Name</u>	<u>Common Name</u>
Carex hitchcockiana *	Hitchcock's Sedge, Gray Sedge*
Carex jamesii *	James' Sedge*
Carex pensylvanica	Pennsylvania Sedge
Elymus villosus *	Hairy Wild Rye*
Hystrix patula *	Bottlebrush Grass*
Oryzopsis racemosa *	Black-seeded Rice Grass*
Panicum latifolium	Broad-leaved Panic Grass

*Modal Species

HERBS (Broadleaf)

<u>Botanical Name</u>	<u>Common Name</u>	<u>Botanical Name</u>	<u>Common Name</u>
Adiantum pedatum *	Maidenhair Fern*	Osmorhiza claytoni *	Wild Cicely*
Agastache scrophulariifolia *	Purple Giant Hyssop*	Osmorhiza longistylis	Smooth Sweet Cicely
Anemone quinquefolia	Wood Anemone	Osmunda claytoniana *	Interrupted Fern*
Anemone virginiana *	Tall Anemone*	Panax quinquefolium *	Ginseng*
Anemonella thalictroides *	Rue Anemone*	Phryma leptostachya *	Lopseed*
Aralia nudicaulis	Wild Sarsaparilla	Podophyllum peltatum	May Apple
Asclepias exaltata *	Poke Milkweed*	Polemonium reptans *	Jacob's Ladder*
Aster saggittifolius	Arrow-leaved Aster	Prenanthes alba *	Lion's Foot*
Athyrium filix-femina *	Lady Fern*	Pteridium aquilinum	Bracken Fern
Botrychium virginianum *	Grape Fern*	Ranunculus recurvatus *	Hooked Buttercup*
Campanula americana *	Tall Bellflower*	Rubus allegheniensis*	Blackberry
Caulophyllum thalictroides	Blue Cohosh	Sanguinaria canadensis	Bloodroot
Desmodium glutinosum	Pointed-leaf Tick Trefoil	Sanicula gregaria *	Clustered Black Snakeroot*
Dioscorea villosa *	Wild Yam*	Scrophularia marilandica *	Late Figwort*
Erigeron pulchellus *	Robin's Plantain*	Smilacina racemosa	False Solomon's Seal
Eupatorium purpureum *	Purple Joe Pye Weed*	Solidago ulmifolia *	Elm-leaved Goldenrod*
Fragaria virginiana	Wild Strawberry	Thalictrum dioicum *	Early Meadow Rue*
Geranium maculatum *	Wild Geranium*	Trillium flexipes *	Nodding Trillium, Bent Trillium*
Helianthus strumosus	Woodland Sunflower	Triosteum perfoliatum *	Late Feverwort, Wild Coffee, Tinker's Weed*
Hydrophyllum virginianum	Virginia Waterleaf	Uvularia grandiflora	Large-flowered Bellwort
Lathyrus ochroleucus *	Pale Vetchling*	Viola cucullata *	Marsh Blue Violet*
		Viola pubescens	Downy Yellow Violet

*Modal Species

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<i>Anemone virginiana</i> *	Tall Anemone*	<i>Panax quinquefolium</i> *	Ginseng*
<i>Anemonella thalictroides</i> *	Rue Anemone*	<i>Phryma leptostachya</i> *	Lopseed*
<i>Aralia nudicaulis</i>	Wild Sarsaparilla	<i>Podophyllum peltatum</i>	May Apple
<i>Asclepias exaltata</i> *	Poke Milkweed*	<i>Polemonium reptans</i> *	Jacob's Ladder*
<i>Aster sagittifolius</i>	Arrow-leaved Aster	<i>Prenanthes alba</i> *	Lion's Foot*
<i>Athyrium felix-femina</i> *	Lady Fern*	<i>Pteridium aquilinum</i>	Bracken Fern
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<i>Dioscorea villosa</i> *	Wild Yam*	<i>Scrophularia marilandica</i> *	Late Figwort*
<i>Erigeron pulchellus</i> *	Robin's Plantain*	<i>Smilacina racemosa</i>	False Solomon's Seal
<i>Eupatorium purpureum</i> *	Purple Joe Pye Weed*	<i>Solidago ulmifolia</i> *	Elm-leaved Goldenrod*
<i>Fragaria virginiana</i>	Wild Strawberry	<i>Thalictrum dioicum</i> *	Early Meadow Rue*
<i>Geranium maculatum</i> *	Wild Geranium*	<i>Trillium flexipes</i> *	Nodding Trillium, Bent Trillium*
<i>Helianthus strumosus</i>	Woodland Sunflower	<i>Triosteum perfoliatum</i> *	Late Feverwort, Wild Coffee, Tinker's Weed*
<i>Hydrophyllum virginianum</i>	Virginia Waterleaf	<i>Uvularia grandiflora</i>	Large-flowered Bellwort
<i>Lathyrus ochroleucus</i> *	Pale Vetchling*	<i>Viola cucullata</i> *	Marsh Blue Violet*
		<i>Viola pubescens</i>	Downy Yellow Violet

*Modal Species

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<i>Corylus americana</i>	American Hazel
<i>Lonicera prolifera</i> *	Grape Honeysuckle* (groundcover)
<i>Ribes cynosbati</i> *	Hybrid Gooseberry*
<i>Sambucus canadensis</i>	Elderberry
<i>Veronicastrum virginicum</i>	Culver's Root
<i>Viburnum lentago</i> *	Nannyberry*
<i>Viburnum rafinesquianum</i> *	Arrow-wood Viburnum*

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