

# The



# Cardinal

AUGUST SEPTEMBER 2009 • WWW.SAINTPAULAUDUBON.NET • SAINT PAUL AUDUBON SOCIETY

## Mockingbirds in Fickle Climates Sing Fancier Tunes

DURHAM, N.C. — Why are some birds simple singers and others vocal virtuosos? Researchers at the National Evolutionary Synthesis Center (NESCent), the Cornell Lab of Ornithology, and McGill University suspect that inconsistent climates may play a role.

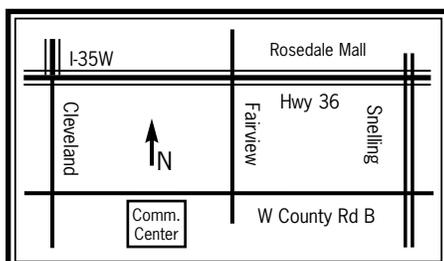
A study of mockingbirds in diverse habitats reveals that species in more variable climates sing more complex tunes. "As habitat becomes less predictable, song becomes more elaborate," said Carlos Botero, a researcher at NESCent in Durham, NC.

Local climate patterns are good indicators of how challenging life is in a given location, Botero said. "Survival and reproduction become more complicated when weather patterns are unpredictable because food sources are less predictable," he explains. What's more, the consequences of picking a mediocre mate are magnified in more harsh habitats.

"In really difficult or demanding environments females will be choosier," he said. Male mockingbirds sing primarily to impress potential mates. Superior singing skills are a cue that a male is a good catch. "Complexity of song display – how many song types a bird sings, how hard the songs are – is a good predictor of the quality of the individual," said Botero. "Males that sing more complex songs tend to carry fewer parasites, and have offspring that are more likely to survive."

Songbirds aren't born knowing their songs, however: they have to learn them over time. Since birdsong is a

*Mockingbird song, continued on p. 5*



SEPTEMBER MEMBER MEETING

## Lead Poisoning in Bald Eagles

with Luis Cruz, DVM

September 10, 2009

Scientific evidence points to lead used in ammunition as the source of the poisoning of a number of wildlife species, including California Condors, Bald Eagles, Golden Eagles and several other eagle species. The Raptor Center has been admitting Bald Eagles suffering from lead poisoning for more than 30 years.

Dr. Luis Cruz, a staff member at The Raptor Center, will present science-based evidence that links spent lead ammunition used in deer hunting to exposure and intoxication in Bald Eagles. He feels the need to educate the public about the magnitude of this problem, and particularly seeks to reach the hunting community, since discussion of this issue is often confused with anti-hunting movements. Another significant issue is the presence of lead fragments in donated venison.

Cruz is a native of Costa Rica where he received his veterinary degree in 2005. He completed a clinical internship at The Raptor Center at the University of Minnesota and continues as a clinical resident and researcher there.

### Relevant web sites:

[www.tufts.edu/vet/lead/index.html](http://www.tufts.edu/vet/lead/index.html)

[www.dnr.state.mn.us/hunting/lead/index.html](http://www.dnr.state.mn.us/hunting/lead/index.html)

Our meetings begin at 6:45 with social time, 7:00 PM for the program, at the Fairview Community Center, 1910 W. County Road B, in Roseville. Free and open to the public. Free parking available. *Bring a friend!*

Member Meeting  
October 8  
**Minnesota Auduboners:  
Do We Walk the Talk?**  
with Don Arnosti

## LEADER ROSTER; PRESIDENT'S MESSAGE

### BOARD MEETINGS

Saint Paul Audubon's Board Meetings are held at the Ramsey-Washington Metro Watershed District Office at 2665 Noel Drive, Little Canada. Exit 35-E at Little Canada Rd., go east to Noel, across from City Hall. For more informatin or regrets, please contact Tim Nixon at 651-353-0756 or timothy.nixon@thomsonreuters.com. Fall meetings are Tuesday, **September 8**, **October 6**, and **November 3**.

### VOLUNTEERS NEEDED

#### Programs Chair

It's the proverbial, perennial problem... or... Opportunity! The chapter enjoys great success with the **Member Meetings**, but we curenly need some help on putting them in place for next year... The Chapter needs to find a person from within who enjoys sleuthing for new programs. This may include attending other chapters' and organization's talks, searching through speaker bureau lists for interesting folks from our area, keeping up with current events and issues, and looking ahead to what the 'next' green energy environmental, birding, and conservation goals will be. Our chapter is known for putting on 'forefront' programs. Help us plan them!

Interested persons may contact president Tim Nixon, at 651-353-0756 or timothy.nixon@thomsonreuters.com

### CARDINAL CONTRIBUTORS

Thanks to Val Cunningham, Chase Davies, Tim Nixon, Holly Peirson, Bonnie Sample, for their contributions to *The Cardinal*. Send submissions to the Editor at hpbirdscouter@msn.com

#### New Beginnings

On the morning of June 4<sup>TH</sup> my sons William and Charlie, ages 6 and 7, began something which will hopefully endure for their lifetimes.

After careful preparation of the soil at their elementary school in Houlton, Wisconsin, they and 200 of their fellow students seeded a new prairie. What was once roughly two acres of lawn, is now bare soil covered with a nearly invisible layer of potential: black-eyed susans, bergamot, spiderwort, yarrow, big blue stem, little blue...etc. These many new names for the kids will change things for them and for the natural world around

them. Each one of those children now understands something more about what "prairie" means. They have felt the beginnings of it in their hands, and when they come back in the fall, they will see what rain, sunshine and their little work can help to create. Unknowingly, they may become a part of a world which



*Spiderwort*

*Tim Nixon*

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*(Outgoing Message Only — take down numbers given to call for info)*

Audubon Minnesota 651-739-9332  
[www.mn.audubon.org](http://www.mn.audubon.org)

#### ABOUT OUR CHAPTER

*Founded in 1945 as the 'St. Paul Bird Club' with around 12 members, Saint Paul Audubon Society now serves the entire East Metro region of the Twin Cities area, and has around 2,400 members. We hold 9 Member Meetings a year. Feel free to contact anyone listed at left for more information, or write to Saint Paul Audubon Society at PO Box 7275, Saint Paul, Minnesota, 55107 or visit our website at [www.saintpaulaudubon.net](http://www.saintpaulaudubon.net)*

#### ABOUT OUR NEWSLETTER

The Cardinal is published 6 times a year. Articles are due on the 5th of January, March, May, July, Sept, and Nov. Submissions are subject to editing. Send copy to [hpbirdscouter@msn.com](mailto:hpbirdscouter@msn.com)

#### LOCAL SUPPORT

If you are an Audubon member and don't live in the Saint Paul area, but would like to receive *The Cardinal*, send \$15 for a year's subscription to John O'Connell, 2184 Larry Ho Drive, St. Paul, MN 55119. Use form located on back page.

#### ADDRESS CHANGE

Please call 1-800-274-4201 to change your address for National Audubon Society mailings, including *Audubon Magazine* and *The Cardinal*, or to sign up for Audubon's paper-free renewal program.

National Audubon Society  
[www.audubon.org](http://www.audubon.org)

## AUDUBON APPLAUSE!

will better understand the role that meadowlarks or indian grass play in preserving the rich beauty and meaning of our own experience.

Equally exciting for me is the potential for that prairie itself. The patch sits in the midst of farm country, with fields and ditches on three sides. In a few years, those seedlings will mature into a re-occurring seed bank of opportunity. Seeds will spread! With insects plentiful in tall grasses, bluebirds will nest in the school's boxes and raise their young. All this while the kids watch, and the prairie may seed itself into them as well!

For Saint Paul Audubon, this means a couple of things. First, I come to this role as your new President with a passion for helping birds by fostering the link between us and our natural world. Thank you for the opportunity to work with you! Second, we would like to receive your ideas and input on where we might begin similar small restoration projects in corridors you may frequent. These could be your local walking paths, schools, private spaces viewable by the public, or any place that holds real potential to build a new link. Call or email your suggestions. (See p. 2 for contact information. See p. 6, "Project Act" for current and future opportunities.)

Again, thanks for the honor and opportunity to work with you!

*Tim Nixon, President*

### Interesting Local Species Found at Invasive Species Removal Work Day!

As volunteers worked hard on a very hot day to clear hoary alyssum, cheat grass, and potted knapweed at Pine Bend SNA, they encountered some of the species that make it home. Here we see a photo of a skink that Chase Davies showed to the group.



### Generous with Their Time



Two chapter members have been recognized with *Park Citizens of the Year Awards* from the Friends of Parks and Trails of St. Paul and Ramsey County.

**Deb Robinson**, third from left in the photo, and **Chase Davies**, second from right, received plaques in their honor at the Friends' annual picnic in mid-summer.

Deb is the spearhead behind the Como Woodland/Outdoor Classroom project occupying the largest remaining woodland in this large regional park. She was nominated by her neighborhood council's environment committee for this project as well as for ceaseless efforts to improve Como Park and educate the public about the benefits

of a more natural urban environment. She currently serves on St. Paul's Tree Advisory Board.

Chase was nominated by the Como Park Zoo and Conservatory staff for major contributions at the Zoo, where she has helped develop training curriculum for other volunteers. She often assists horticultural staff and zookeepers with various projects, based on her many years in environmental education. The citation makes note of her many contributions in other parks in the county, where she leads field trips and family walks.

Congratulations to Deb and Chase, whose many contributions to the natural world and its denizens are valued by the **Friends** as well as **Saint Paul Audubon!**



## FIELD TRIPS

### Roseville's Reservoir Woods

Saturday, September 19

Birded more frequently in the past few years, this hidden gem in the middle of Ramsey County can hold some birds rarely found in the metro area; Pileated Woodpecker, Yellow-billed Cuckoo, as well as regulars like chickadee, cardinal, nuthatch, etc.

**DIRECTIONS:** Parking lot is 2 blocks east of Dale on the north side of Larpenteur Ave.

**Difficulty** Easy, paved trails (some hills, Handicapped Accessible)

**Contacts** Val Cunningham, 651-645-5230  
writers2@comcast.net

Clay Christensen, 651-631-0949  
clay.christensen@comcast.net  
(call only if need info)

### Fall Migrants at Lake Elmo Regional Park

Saturday, September 26

Join us at Lake Elmo Park Reserve to find fall migrants in this rolling prairie and wooded habitat. We'll be looking and listening particularly for prairie sparrows and other grassland passerines, raptors, and waterfowl.

Meet at 8:30 AM at the entrance station. \$5 daily fee; the park honors other county park stickers. No reservations necessary. Bring a snack and beverage, dress for the weather. Directions: I-94 east from St. Paul to Hwy 19, go north .5 mi. straight to park entrance.

**Difficulty** Easy, Grass Trails

**Contact** Holly Peirson, 651-464-6743  
hpbirdscouter@msn.com  
(call only if you need info)

The National Audubon Society recently released its compelling analysis of wintering bird habits and climate change.

Check out  
[www.birdsandclimate.org](http://www.birdsandclimate.org)

## THE HOME FRONT

### Green Grass Shouldn't Always be GREEN

A recent article in the *StarTribune* by author and columnist **Jeff Gillman** gave some interesting facts for gardeners and lawn-tenders. Here are some of the tips mentioned:

Every sprinkler in your yard, if turned on full, will use 240 gallons of water in an hour. Depending on when you water, as much as 50% of it will evaporate before it reaches the grass. Let your grass go dormant as summer progresses, or water early in the day and only a couple of times a week. A soaker hose turned on just a little will slowly feed just the flowers you put it near, and will miss the house and driveway...

That lovely deep green color of Kentucky Bluegrass that we are all trained from early childhood to revere is achieved only by the use of fertilizer and energy to get it to your lawn. So, in order to save money on fertilizer and energy to water, use other species of grass! Hard fescue, chewing fescue, or creeping red fescue would be great choices (but might be hard to find). Ask at your garden center for a species that will not suck up as much water as Kentucky Bluegrass...

Then there's the run-off issue... Have you spent much time on a lake this summer? It's only early July, but many of them are already covered with algae and have mega weeds growing just under the surface of the water; all due to run-off from yards. Many people are now applying only one round of fertilizer, and in the fall. If you don't want to use herbicides, use Corn Gluten Meal. It will feed the grass but kill the weeds -- before they even emerge from the soil!! And for your flowers, mulch will keep the dirt moist between waterings, and keep some of the weeds at bay, too!

MR GILLMAN IS THE AUTHOR OF "THE TRUTH ABOUT GARDEN REMEDIES," AND "THE TRUTH ABOUT ORGANIC GARDENING."

## STATE OF THE BIRDS

### [www.stateofthebirds.org](http://www.stateofthebirds.org)

You may be further up on the 'educational ladder' than I am... I, afterall, currently have two teenage sons that I am running around after, to music lessons, an Eagle Project (finished now, one step from that goal), Track and Field and Cross Country meets, and marching band parades.

But I *did* happen to notice that in February 2009 the *US Fish and Wildlife Service*, along with many conservation organizations such as the *National Audubon Society*, the *American Bird Conservancy*, *The Nature Conservancy*, the *Cornell Labs of Ornithology*, *Partners in Flight*, and



others, released an analysis of wintering bird habits and climate change. In fact, it was so compelling that many people discounted it out of hand, calling the research flawed. Well, I know some of the people who have been working for years on that research, so I know that they used the best data they could find to put it together. If you go to the website mentioned above, you'll find hours and hours of reading about this topic, with many links.

It's a seemingly endless treasure trove of information. When you've digested several of the pages, then you should sign up to be an Audubon Actioneer, by going to [audubonaction@audubon.org](mailto:audubonaction@audubon.org) and telling the Political Arm of Audubon that you will contact your Senators every so often to let them know your stance on Environmental topics. It's a great way to take your voting power to the next level.

## EDUCATION: MOCKINGBIRD SONG

*Mockingbird Song*, continued from p. 1

learned behavior, Botero and colleagues suspect that song-learning ability may also be a display of learning ability in general. The bird equivalent of sparkling conversation, complex songs may indicate which males have not only brawn, but also brainpower. "Birds that sing better are telling others, at least indirectly: Hey, I'm a good learner," said Botero.

More importantly, singing skills may be a sign that males are clever enough to cope with iffy environments. "Individuals that are more intelligent tend to be better able to compensate for the difficulties of unpredictable climates. For example, if some individuals are able to invent new foraging techniques, then they are going to be better at surviving harsh winters than the poor guys who only know one way to forage," Botero said. "The more intelligent you are, the more resourceful you are, and the more curve balls you're able to handle."

To see if there was a correlation between climate and song, Botero searched sound archives around the world and embarked on a solo tour of the southern hemisphere to record bird songs in the wild. Armed with super-sensitive recording equipment, Botero trekked his way through desert, jungle, scree and scrub in search of mockingbirds in song. Botero's recordings – nearly 100 tracks from 29 mockingbird species – will enhance sound archives by filling in gaps for species for which high-quality recordings weren't previously available.

Back in the States, Botero used computer programs to convert each sound recording – a medley of whistles, warbles, trills and twitters – into a sonogram, or sound



graph. Like a musical score, the complex pattern of lines and streaks in a sonogram enables scientists to see and visually analyze sound.

Botero and colleagues then painstakingly analyzed each snippet of song and compared their patterns to a database of temperature and precipitation records. The researchers

found that species subject to more variable and unpredictable climates had more elaborate song displays.

The connection between birdsong and climate is new and somewhat surprising, Botero explains. "We're connecting two dots that were far away before."

For Botero and his colleagues, the next step is to see whether this pattern holds true for other animals. By studying animal communication, Botero ultimately hopes to shed light on how language evolved in humans. "You can't help but wonder what is it about humans that made our vocal communication so incredibly complicated compared to other animals," Botero said.

"It has long been hypothesized that humans have such exaggerated displays – not just language, but music, art, and even math – because females have selected for signals of intelligence," explains Botero.

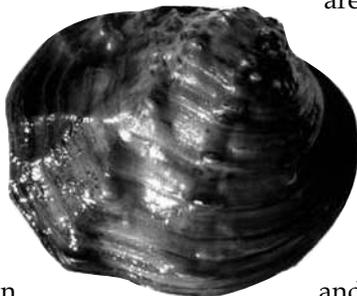
"What we have now is a nice arena – outside of humans – where we can test these ideas and start understanding processes that are fundamentally important for our own species."

The team's findings were published online in the May 21<sup>ST</sup> issue of the journal *Current Biology*.

## Did You Know? The St. Croix River is Home to 40 Species of Freshwater Mussels!

The St. Croix National Scenic Riverway consists of 252 miles of the St. Croix and Namekagon Rivers in Wisconsin and Minnesota. Mid-western rivers are home to the largest concentration of species of freshwater mussels in the world! In fact, the historical record for the rivers that encompass the National Scenic Riverway show 40 species, and all are still present today.

Three of those species, the Winged Mapleleaf, The Higgins Eye Pearly



**Winged Mapleleaf Mussel**

Mussel, and the Fat Pocketbook, are listed on the Federal Endangered Species list. The Winged Mapleleaf, which formerly was distributed throughout the Mississippi and Missouri River watersheds, now lives on *one* 10-mile stretch of the St. Croix, near Osceola and Taylor's Falls.

On many afternoons during the summer, National Park Rangers can be found at landings along the river, talking to visitors and canoeists about the National Scenic Riverway

and the species it protects. The Riverway connects National and State Forests. There are remote campsites all along the river; it is a huge destination for canoe camping trips. Fishermen and women flock to its banks to try their hand at fly-fishing. Birds use the north-south St. Croix extensively during spring and fall migration.

What a gem we have right under our noses here in eastern Minnesota!

To read more about the mussels (a totally fascinating subject), go to [www.nps.gov/sacn](http://www.nps.gov/sacn) or do a "wikipedia" search.

# AUDUBON CONSERVATION TEAMS

## And Now for Something Completely Different —

### The Chimney Swift SIT!

Have you seen or heard chimney swifts this summer? Those amazing little 'flying cigars!' Keep your eyes and ears open for chimney swifts throughout the summer. Note where you find them and see if you can identify the place where they roost at night. You may want to get a group of friends together and stake out an area where swifts have been seen. We did this last year and found a roost site on Selby Avenue in St. Paul across from the Curling Club – and a possible 2ND roost in the neighborhood.

There are multiple days when you can participate. Pick a night between August 7 – 9 or September 11 – 13, 2009. If you found a likely roost site, get comfortable about fi an hour before dusk (just after 8:00 PM.) with a view of the roost site and watch for swifts. Estimate the number of individuals that drop into the roost site and complete a *Participation Form*. For a copy of the form and more information about the event, go to <http://mn.audubon.org/events/714> (Audubon Minnesota website, under *News and Events*.)

#### Remember:

<b>Dates</b>	<b>August 7–9 or September 11-13</b>
<b>Place</b>	<b>Any place where there's a large chimney!</b>
<b>Time</b>	<b>1 hour, beginning fi hour before dusk.</b>
<b>Skills</b>	<b>Novice to Expert</b>
<b>Cost</b>	<b>Free</b>

NOTE: If you have been to SPAS' spring Warbler Weekend, you know what chimney swifts. If you are not familiar with swifts or need a refresher, see [www.chimneyswifts.org](http://www.chimneyswifts.org) for some interesting photos and more information, or do a search on 'chimney swift videos.' This is fun, free, and fascinating!

—BONNIE SAMPLE

## PROJECT ACT

*(Audubon Conservation Teams)*

Recently the Conservation Committee began **PROJECT ACT**, an initiative designed for SPAS members interested in "on-the-ground" involvement to help our native birds. **PROJECT ACT** may include bird surveys, habitat documentation, planting native plants, removing invasive species and making our backyards more bird friendly.

*This space is dedicated to both a citizen science project and a project to improve our own habitat to benefit birds and other wildlife. By participating, you can help make a difference, either by contributing to our knowledge about birds or by a hands-on effort to create better habitat – or both.*

**Bonnie Sample** and **Val Cunningham**

## Habitat Helper

### Butterfly gardening

A summer garden filled with colorful blooms is a delight to our eyes, but it's also an enticement to gorgeous butterflies looking for a drink of nectar to fuel their short, intense lives. Butterflies are spectacular and beautiful and they're easy to please. They require little more than a few favorite plants, a place to bask in the sun and some water.

Most butterflies live for just a few weeks, continually on the lookout for flowering plants for life-sustaining nectar. They're important pollinators, picking up pollen grains as they sip and making a transfer at their next floral stop. A key to greater butterfly diversity in the garden is to include a wider variety of plants. Many butterflies will flock to a bed of bright zinnias but native plants amplify the attraction.



Another key is to appeal to more stages of the butterfly lifecycle. Where butterflies are nectar generalists, their caterpillars are picky, feeding on the leaves of only one kind (or a few kinds) of plant. The most successful butterfly gardens offer blooms from early spring to late fall. Flat stones or bricks placed in a sunny spot are welcomed by these cold-blooded creatures for basking. And butterflies appreciate shelter from wind, since it's difficult for them to cling to flower heads in buffeting breezes.

Butterflies are vulnerable to any insect deterrents we use on yard and garden. The less you resort to chemicals or bacterial controls, the more butterflies you'll see. One other point: just about anything we do for butterflies attracts hummingbirds, too!

*(see [Butterfly Resources](#) lion p.7)*

### Here are some tips for attracting butterflies to your backyard:

1. Add food plants for caterpillars.
2. Plan for a succession of blooms from spring through fall.
3. Include native plants in your garden.
4. Emphasize red, yellow, orange and purple colors and single blossoms (as opposed to doubles).
5. Place butterfly gardens in full sun.
6. Create sheltered areas to reduce wind.
7. Provide water in a shallow dish or birdbath for drinking.
8. Provide basking stones in full sun.
9. Create "puddling" sites with damp soil or sand to provide males with minerals.
10. Check out the North American Butterfly Association website at [www.naba.org](http://www.naba.org) for information.

—VAL CUNNINGHAM

## THE LAST PAGE

### ★ Electronic Resources

*'you gotta bookmark these sites!'*

Saint Paul Audubon's website is at:

**www.saintpaulaudubon.net** (Member Meetings, Field Trips, Conservation, Education, "Cardinal" archives)

Audubon Minnesota is at **www.mn.audubon.org**

National Audubon Society is at: **www.audubon.org** (birds & science, issues & action, education, Audubon at home, state centers & chapters, environmental news)

Minnesota DNR is at **www.dnr.state.mn.us**

or call 651-296-6157 or 888-MINNDNR

(Info on State Parks, State Forests, Wildlife Mgmt Areas, Scientific & Natural Areas, bird lists, wildlife info)

National Wildlife Refuges in MN can be found at

**www.fws.gov/midwest** (click on "Minnesota")

National Parks in USA & MN can be found at **www.nps.gov** (w/clickable map)

Minnesota Ornithologists' Union is at [www.mou.mn.org](http://www.mou.mn.org) (birding listserves, migration and nesting occurrence maps, State Park bird lists, RBA (Rare Bird Alert) reports, all 87 county bird lists, seasonal reports, etc.)

Minnesota's Rare Bird Hotlines are:

Metro/Statewide 763-780-8890

Duluth/No. Shore 218-728-5030

Northwestern MN 1-800-433-1888

Ramsey County & Saint Paul Audubon have collaborated to publish "A Guide to Birding Ramsey County." Find it online at:

**<http://www.co.ramsey.mn.us/parks/NaturalResources/BirdingInRamseyCounty.htm>**

Northwest MN's *Pine to Prairie Birding Trail* website is at **www.mnbirdtrail.com**

The *Minnesota River Valley Birding Trail* is at **www.birdingtrail.org**

Mississippi River from Itasca to Iowa, the *Great River Birding Trail*, is at **www.greatriverbirding.org**

MNBirdNet Statewide Electronic Bird Club, is at:

**mnbird-request@linux2.winona.msus.edu**

Bob Ekblad's great list of events and MN Bird Checklist is at:

**<http://home.rconnect.com/~ekblad/MN-Event.htm>**

Get Involved in saving/restoring habitat: Buy Duck Stamps!

**<http://www.fws.gov/duckstamps/stamps.htm>**

New  
& Revised

### Books for Butterflies

*'Focus' Guide: Butterflies of North America*

**Kenn Kaufman** Highly-acclaimed. "Focus" system uses digitally-enhanced photos to illustrate field marks. Maps and text together on 2-page spread. Very informative.

*Butterflies Through Binoculars*

- East **Jeff Glassberg**

Great species accounts, informative introduction.

Maps, basic ID text and photos are together. Includes abundance graphs, gardening tips. Western Guide also available.

*PETERSON GUIDE to Eastern Butterflies* Text, maps, photos all organized by species. Very informative. Comparison paintings very good.

*Butterflies of the North Woods* **Larry Weber** Very nice regional guide, great photos and information. Limited in scope for travel.

*BSA "Insect Study" Merit Badge booklet* Available at area Scout Shoppes. Covers biology, photography, and projects for Scouts.

*Stokes' Butterfly Book* A guide to butterfly gardening and behavior. Descriptions of food plants. Good identification section. Informative.

*GOLDEN GUIDE to Butterflies and Moths* **Mitchell & Zim** Great series of backpack-sized 'beginner' guides. Good information, maps, and illustrations. Limited only in number of species covered.

*Butterfly Gardening: Creating Summer Magic in your Garden* **Xerces Society and Smithsonian Institution** Gardening design tips, life cycles, essays, photography info, even a chapter on moths and the garden at night! Great photos. Available at [www.sierra.org/books](http://www.sierra.org/books)

*Handbook for Butterfly Watchers* **Robert Pyle** Beyond the Field Guide: finding, watching, catching, ID, listing, counting, behavior, gardening, rearing, photography, conservation.....

*Peterson FIRST GUIDE to Caterpillars* Peterson ID System, using illustration. Simple design, easy to use. Limited number of caterpillars.

*Caterpillars in the Field and Garden* **Glassberg (and others)** Another in acclaimed 'Butterflies through Binoculars' series. Covers North America. *Great resource!*

**Why stop at Butterflies?! Moving on to Dragonflies...!**

*Dragonflies of the North Woods* **Kurt Mead** "Dragonfly 101" basic biology. Great photos, descriptive text, size charts, flight dates. Covers 102 species. Comprehensive.

*WILD GUIDE to Dragonflies* **Cynthia Berger** Uses a wonderful illustration technique to talk about behavior, flight patterns, biology. Very informative.

### SPAS' E-Alert!

If you have email, sign up today for our online notification system! You'll receive announcements about upcoming events, information about current legislative happenings, and other Saint Paul Audubon happenings between issues of *The Cardinal*. When you *change your email address*, notify list manager Chase Davies of your new address. She is at **ccdavies@aol.com**  
You may unsubscribe at any time.

**SAINT PAUL AUDUBON SOCIETY**

PO Box 7275, St Paul, MN 55107-7275  
WWW.SAINTPAULAUDUBON.NET

**August September**

October November Deadline 9/5/2009

*Welcome... To the Saint Paul Audubon Society. We're a chapter of the National Audubon Society. Our Mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and Earth's biological diversity.*

**CALENDAR**

**SEPTEMBER**

Board Meeting ..... 8  
**Member Mtg: Lead & Bald Eagles .11**  
Field Trip: Reservoir Woods. .... 19  
Field Trip: Lake Elmo Regional Park. . . 26

Non-profit Organization  
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St. Paul, Minnesota

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ADDRESS SERVICE REQUESTED**

**www.mnbba.org**  
The MNBBA website is now operational! It includes the *Breeding Bird Survey's* official *Handbook*, as well as all the forms and materials necessary to conduct the surveys. Volunteers may click to browse for "Priority Blocks." The "Request-a-Block" and *Data Entry* functions will be available quite soon. In the meantime, birders may record their observations using the "MNBBA Field Card" available on the Website. If you have any questions, you can contact your Regional Coordinator, or statewide BBS Coordinator Bonnie Sample at 651-739-9332, or bsample@audubon.org

**St. Paul Audubon Society** Local Sponsorship

Yes! I want to be a sponsor of my local chapter, Saint Paul Audubon, by donating \$15, for which I will receive *The Cardinal* newsletter and other online news. Please fill in the personal information, make a check for \$15 out to Saint Paul Audubon Society, and send it to the address below. *Thank You Very Much!*

- I'm a NEW member! Please send my Welcome Packet right away!
- I currently receive National's *Audubon Magazine*.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please sign gift card: \_\_\_\_\_

Mail to: Saint Paul Audubon, c/o John O'Connell, 2184 Larry Ho Drive, St. Paul, MN 55119

**National Audubon Society Membership** C9ZM030Z

Yes! I will become a *new member* or give a *new gift membership* in the National Audubon Society. I will receive *Audubon Magazine* and Saint Paul Audubon's *The Cardinal* newsletter. Please fill in the form, make a check for \$20 out to National Audubon Society, and send it to the address below. *Thank You Very Much!*

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Please sign gift card: \_\_\_\_\_

Mail to: National Audubon Society, P.O. Box 422250, Palm Coast, FL 32142-2250  
(Write on envelope: "Attention: New Membership — please process immediately")