



Missisquoi Matters

is the quarterly newsletter of the Friends of Missisquoi National Wildlife Refuge, Inc., a non-profit 501(c)(3) organization, dedicated to promoting a better awareness, appreciation, conservation, and responsible utilization of the Missisquoi National Wildlife Refuge.

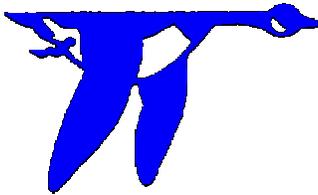
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Newsletter edited by Ken Copenhaver

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Joe Bertrand	<i>Maintenance Mechanic</i>

MNWR HQ hours are
Monday thru Friday
8:00am – 4:30pm
Saturdays
10:00 am – 2:00 pm

Manager's Update – Winter 2014

by Ken Sturm, Refuge Manager, Missisquoi NWR

Although winter can sometimes be the slow season at northern refuges, Missisquoi's staff has been quite busy over the last few months. Other than the normal refuge operations during the winter months, such as compiling field season data and plowing snow, there is always the need to plan for the upcoming year. Many spring projects take considerable time during the winter months to organize, such as the Junior Duck Stamp program.

The Junior Duck Stamp program is an effort to bring conservation topics through art to schools across the nation. Missisquoi NWR manages the program for the entire state of Vermont. The concept is to encourage schools throughout the state to teach wetland habitat and waterfowl conservation to students in kindergarten through high school. Using scientific and wildlife observation principles, the program helps students communicate visually what they have learned by creating an entry for the Junior Duck Stamp Program art contest. The program comes with a full curriculum that educators can use to tailor their classroom learning experience towards conservation topics.

In the end students submit original artwork to the refuge where it is judged by a community committee. The winner of each state's contest is then sent to the national competition. Ultimately one piece of artwork is selected for the national Junior Duck Stamp which is then printed and sold in post offices across the country. The funds generated from the sale of the Junior Duck Stamp go directly toward environmental education programs. To learn more about the Junior Duck Stamp program or how to get involved, please contact Dave Frisque, Park Ranger, at the refuge office. More information is available here: <http://www.fws.gov/juniorduck/JuniorDuckStamps.htm>

Refuge staff has also been busy working on a cultural resources protection project this winter. Doubtless many who have visited the Jeep Trail or launched a boat at Mac's Bend in the last few years have noticed a large pile of rock in the Mac's Bend parking lot. This rock will be used to fortify a very significant yet eroding cultural site on the refuge. In order to move the rock to the site it was necessary to cross the Missisquoi River, which proved problematic due to low water levels and site sensitivity issues. However, thanks to Joe Bertrand, Missisquoi's Maintenance Mechanic, we were successful in moving the rock over to the site in a short 5-day period. This was accomplished by methodically pumping water over the frozen river to create a thick layer of ice, an ice bridge, that could support the weight of dump trucks loaded with rock.

The refuge brought in three heavy equipment operators from New York and New Hampshire to help with the project. Working long days in cold weather, the crew was able to move 2,200 tons of rip rap across the ice to the project site. The next phase will be placing the rock to protect the site. This phase could begin this winter if conditions permit.

Finally, I am happy to report that the Friends successfully received a grant from the Lake Champlain Basin Program for \$4,080.00 to support water chestnut control in refuge wetlands. Water chestnut is an aggressive invasive plant that can choke aquatic ecosystems, impacting fish and wildlife habitat. Thanks to this grant, along with carry-over funds from a state grant in 2012, the refuge will be able to hire two contractors to work throughout the summer to remove this aquatic invasive species. I thank the Friends of Missisquoi NWR for continually supporting the refuge and for sponsoring this important grant.



Friends News

- **Julie Filiberti** joined the Friends Board of Directors in January. Julie has been co-leading the monthly bird monitoring walks since last April, and she had been a frequent participant in the walks prior to that. Along with **Cathie Waltz** and **Sue Farrar**, who joined the board in November, the board now has its full quota of 12 members, as specified in the by-laws. Welcome Julie!
- **Cathie Waltz** has taken the office of Treasurer of the Friends. Thank you Cathie for taking on these duties!
- **Sue Farrar** has volunteered to co-manage the store along with the expertise of long-time store manager Anne Bataille.

FRIENDS OF MISSISQUOI NATIONAL WILDLIFE REFUGE

Bi-monthly Board Meeting

Wednesday, March 12, 2014 at 6:30 pm

At the Refuge Headquarters

Members are always welcome to attend.

Come and see what the board is planning and contribute your ideas.

Next meeting: Wednesday, May 14, 2014 at 6:30 pm

Halloween in January?

by Judy Sefchick Edwards, Wildlife Biologist, Missisquoi NWR

It's a brisk winter day but the sun is shining, so I decide to take a trek in the bog to look for signs of winter wildlife. Walking near the old headquarters, I notice something unusual on top of the snow...a spider? That's odd. A little while later, I realize that either Halloween has come early this year, or that I'm in an arachnophobic person's worst nightmare: the snow is dotted with spiders of varying sizes, shapes, and colors, everywhere I look. Wildlife is all around me, but it's definitely not the kind that I was expecting to see today!

It's a good thing that most creepy crawly creatures fascinate instead of frighten me, or this could have been a very bad scene. I take a closer look and see that although the spiders are alive, they aren't really moving much. Who can blame them? While most of Vermont's spiders have lived their life and laid their egg sac for the next generation, these hardy, winter-active spiders, are toughing it out. But even they have their limits and today's temperatures are chilly enough to slow these spindly-legged, cold-blooded creatures to a crawl!

If you're like me, you may be wondering how some spiders can survive, let alone be active, during Vermont's harsh winter months. Don't worry, these ambitious arthropods have it all figured out. Not only do they empty their gut, reduce their body water content, and produce an antifreeze-like substance called glycerol, but they also seek out dry protected spaces under rocks or leaf litter where they go into a hibernation of sorts.

As for the winter chill, these spiders say, "Bah-humbug!" After all, their small size and winter

physiology help them maintain body temperatures that are 4-5 degrees higher than the outside air temperature. Once the snow comes and blankets their resting place with another layer of protection, their winter world becomes even cozier. Who knew (other than them) that outside air temperatures well below zero could be tempered to 20+ degrees Fahrenheit under a foot-and-a-half covering of snow?

Unlike some other animals that hibernate, winter-active spiders don't sleep continuously. Instead, they remain capable of locomotion, occasional feeding, and infrequent molting, even at temperatures near zero. When do they become most active? On days when temperatures soar to a balmy 25 to 35 degrees F, you may find spiders on the move. If they're hungry, winter-active spiders may make insects, ticks, mites, or even other spiders their tasty treat. Or, they may decide to stroll onto the snow's surface (where I found them), soak up the sunshine, and suck on snow fleas instead!



If you're lucky enough, like I was, to experience a winter version of Halloween, don't be freaked out. Instead, enjoy the view and all that spiders have to offer. After all, spiders eat the mosquitoes, midges, and other insects that annoy you. They help hummingbirds by providing soft, silky material (spider webs) for their nests, and they provide fantastic web art creations for everyone to enjoy on dewy summer mornings. Spiders—they're not just for Halloween anymore!

Saturday Hours at the Visitor Center

Again this winter the Friends have committed to keeping the Visitor Center open from 10:00 AM to 2:00 PM on Saturdays. While the refuge staffs the Visitor Center on weekends during the summer, it would be closed in the winter if not for the Friends volunteering to keep it open. Come in and visit us!



Spring Activities Schedule at Missisquoi National Wildlife Refuge

29 Tabor Rd.
Swanton, VT 05488

All programs and tours are free, but registration is required where noted.

Owl Prowl

Friday February 21, 6:00 to 9:00 pm

Join refuge volunteer and Friends Board member Ken Copenhaver for an evening walk to watch and listen for some of our resident birds who operate during the night shift. A winter **Owl Prowl** will be offered to interested refuge visitors on Friday evening, February 21 from 6 PM until 9 PM starting at the **Stephen Young Marsh Trail** area. We will meet at the parking lot for the trail located on Tabor Road about one mile past the refuge HQ. Look for roadside signage for "Refuge Trails Parking." Dress appropriately and bring a low intensity flashlight.

Call 802-868-4781 to register for this activity.

Maquam Bog Walk

Saturday March 1, 8:00 to 11:00 am

Join volunteer Greg Simard and Friends member Joe Belanger for a walk into the **Maquam Bog**. Participants should meet at the parking lot on Tabor Road signed as "Refuge Trails Parking" located about one mile off of RT. 78 on Tabor Road.

The Maquam Bog is a unique woodland bog habitat that is not found anywhere else in Vermont and in few other places in New England. The winter offers an opportunity to walk over the difficult terrain with relative ease as compared to most other times of the year. The bog has historically served as a deer wintering area. Snowshoe hare, short eared owls and Northern Harriers are known to inhabit the bog.

Please bring your cameras as this walk will "focus" on photography in the bog. The walk is dependent on weather conditions.

Call 802-868-4781 to register for this activity. By registering you will receive updates on the status of the walk.

Vernal Pool Walk

Friday April 4, 6:00 to 8:00 pm

Join Park Ranger, David Frisque for a look at the life and activity in a vernal pool early in the spring. Vernal pools are important breeding areas for some of the more reclusive and seldom-seen amphibians, such as wood frogs and salamanders. Because these temporary wetlands often dry up completely by late summer or early fall, egg laying and early development of juvenile salamanders and frogs must begin early in the spring.

The Vernal Pool Walk will be at the **Stephen Young Marsh Trail** area. Meet at the Parking Lot at the trailhead for the Stephen Young Marsh Trail on Tabor Road. Bring a small flashlight and waterproof footwear.

Call 802-868-4781 to register for this activity.

Woodcock Walk 1**Friday April 18, 6:30 to 8:30 PM**

Join refuge volunteer, Greg Simard on a **Woodcock Walk** at the **Stephen Young Marsh Trail** area. Participants will meet at the parking lot on Tabor Road one mile past (south) of the refuge HQ building.

Woodcock have a unique courtship display that incorporates an aerial display and ground level calling display that occurs near sunset and into the early evening hours. Join Greg for an enjoyable early evening walk to witness this unique spring time activity.

Please call 802-868-4781 to register for this activity.

Green Up Day**Saturday May 3, 9:00 AM to Noon**

The Missisquoi NWR will conduct Refuge Green Up Day on Saturday May 3, 2014 with the rest of Vermont. Green Up day will begin at 9 AM and conclude at about noon. All participants should meet at the Louie's Landing Parking Lot on RT 78. The refuge will concentrate its efforts on river cleanup activities using refuge boats. The refuge will monitor river water levels and flows. Should floodplain water levels be excessively high or if flow rates in the river channel are too strong due to snow melt and spring rains this event may be postponed or canceled.

Please call 802-868-4781 to register for this activity.

Woodcock Walk 2**Friday May 9, 7:30 to 9:00 PM**

Join Park Ranger, David Frisque for another woodcock walk in the Stephen Young Marsh area. Participants will meet at the parking lot on Tabor Rd. one mile past (south) of the refuge HQ building. Look for roadside signage "Refuge Trails Parking."

Please call 802-868-4781 to register for this activity.

International Migratory Bird Day & Open House**Saturday May 17, 7:30 AM to 2:00 PM**

The Refuge will celebrate the 22nd anniversary of International Migratory Bird Day on Saturday, May 17, 2014. Activities will begin at 7:30 AM with an orientation at the refuge headquarters. All birding participants will return to the refuge HQ by 11:30 AM to tally results and have lunch. The refuge will continue its efforts to document species on the refuge via the refuge trails and waterways using boats and if there is a demand using canoes and kayaks as well. We will record all species and as many individuals within those species as we can and then tally the results over a light lunch. A speaker will follow the lunch at approximately 1:00 PM with a natural resource presentation on a topic relevant to the International Migratory Bird Day celebration. The theme for the 2014 IMBD Program is "Why Birds Matter (The Benefits of Birds to Humans and Nature)".

Please call 802-868-4781 to register for this activity.

Kids Fishing Clinic**Saturday June 7, 8:00 AM to 2:00 PM**

The annual Kids Fishing Clinic will take place along the Macs Bend Road from Louie's Landing Parking lot down to the Macs Bend boat launch site, a distance of about 1 mile. Fishing will occur along the banks of the Missisquoi river. Numerous educational and informational venues will be operating near the Macs Bend Building while the fishing is on-going. Topics include fly casting, fly tying, spincasting, watershed models, and demonstrations, a fish ID aquarium, lure making, and an aquatic invasive species display. Children are encouraged to participate in these activities at some time while they are fishing. A light lunch will be served and a limited number of random drawing prizes will be given away at the end of the event.

People are asked to register for this popular annual event at 802-868-4781

Monthly Nature/Photography Walks 1st Saturday of each month, 9:00 am to 11:00 am

Join Friends of Missisquoi NWR members Joe Belanger, Mark Batchelder, and Bob Chaperon for nature/photography walks on various refuge trails, held the first Saturday of each month. Registration is not required. The schedule for the next three months is:

March 1: See Bog Walk information above.

April 5: **Maquam/Black Creek Trail.** Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton.

May 3: **Old Railroad Passage Trail.** Meet at the parking lot on Tabor Rd, about a mile past the refuge Visitor Center and across the road from the Stephen Young Marsh.

Monthly Bird Monitoring Walks 3rd Saturday of each month, 8:00 am to 10:00 am

Friends of MNWR members Ken Copenhaver and Julie Filiberti will lead bird monitoring walks year-round on various refuge trails on the third Saturday of each month. The purpose of the walks is to gather long-term data on the presence of birds, their abundance, and changes in populations. Observations will be entered into the Vermont eBird database where data is stored by the Cornell Lab of Ornithology and the National Audubon Society. These walks are appropriate for birders of all skill levels and provide a wonderful opportunity to learn about birds throughout the seasons. **After 45 months of walks we have recorded 131 species of birds.** Registration is not required. The schedule for the next three months is:

March 15: **Old Railroad Passage Trail.** Meet at the parking lot on Tabor Rd, about a mile past the refuge Visitor Center and across the road from the Stephen Young Marsh.

April 19: **Maquam/Black Creek Trail.** Meet at the parking lot located on Rte 78 approx. 2 ½ miles west of Swanton.

May 17: **Stephen Young Marsh Trail.** See International Migratory Bird Day info above.

Other spring events will be posted on the Friends website as they are scheduled.

To check for any schedule changes or additions, visit the Friends website at www.friendsofmissisquoi.org and click on "Calendar."

Read past issues of Missisquoi Matters at www.friendsofmissisquoi.org and click on "About Us" and "Newsletter."

For more information about the refuge, visit www.fws.gov/refuge/missisquoi/

Also check out the Friends Facebook page at <https://www.facebook.com/friendsofmissisquoi> to learn more about the refuge and coming events.

You can also look at, comment on, and share your own photos.

You do not need to have a Facebook account to view the page.

Please stop by and let us know what you think!



Of Herons and Eagles

by Ken Sturm, Refuge Manager, Missisquoi NWR

The Missisquoi National Wildlife Refuge is known as an important location on Lake Champlain for nesting Great Blue Herons. Numbers of nests have fluctuated from 150 to 581 since 1999, but it is consistently the largest heron rookery in the state. In recent years the refuge has also quietly become known as a great place to see bald eagles. While juvenile and adult eagles have been fairly common to spot on the refuge in the past, we have had nesting pairs in 2012 and in 2013.

The relationship between herons and eagles is complicated. Research conducted by UVM in the early 2000's documented a juvenile eagle using the area around the heron rookery and was cited as the cause for a complete rookery abandonment in 2001 when 350 great blue heron nests were abandoned. It's easy to understand; eagles eat herons and are a well-known heron predator.

The refuge experienced a similar rookery failure in 2012 when a pair of eagles nested and successfully raised young on Shad Island, just a stone's throw away from the heron rookery. The refuge estimated that all 262 nests on Shad Island were abandoned. Only those nests that occupied habitat to the west on Eel Creek were successful that year.

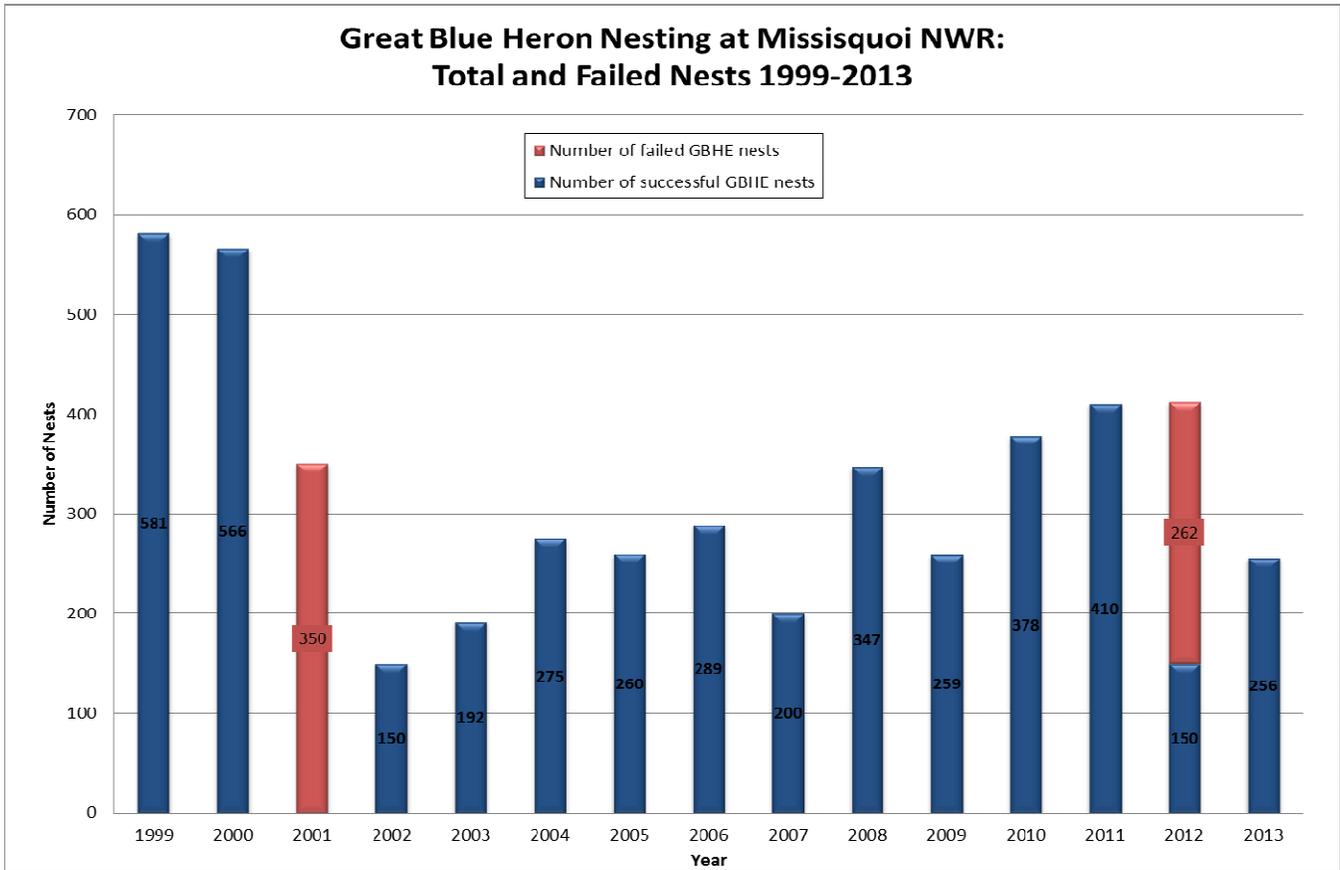
The picture of heron nesting activity looks fairly stable over the last decade or so with the exception of these two events linked by the presence of eagles. It turns out that herons both associate with and avoid eagle territories in other areas of the country. Research has shown similar patterns of heron rookery abandonment with the establishment of eagle nests where the adult eagles raid the rookery to provide young herons to their growing eaglets. This has been documented with the ever growing population of bald eagles as they incrementally have made their way off the Endangered Species List in 2007. After almost disappearing from most of the country 20 years ago, they are now flourishing in the United States. Vermont's recovery has been slower

than some states, but in 2012 there were 15 bald eagle nests documented around the state. Aside from nesting eagles, Missisquoi is a favorite haunt for young birds. Refuge staff have routinely counted 5 to 10 un-paired juvenile eagles using refuge habitats during the summer months in recent years.

It seems that in other parts of the country, the pattern of heron rookery abandonment and eagle population expansion has gone hand in hand. However, in some areas of the Pacific Northwest an interesting trend may also be developing. Herons are reestablishing rookeries *closer* to territorial nesting pairs of eagles. Just as there is a benefit to nesting in large colonies (the dilution effect to predation risk), there apparently is also a benefit to nesting close to a territorial pair of eagles who actively keep out other avian predators. True, those nesting eagles are still found to eat young herons in the nearby rookery; however the apparent benefit of the territorial protection may outweigh the predation activities of the host eagle pair.

Could Missisquoi be at the beginning of such a cycle? Reviewing the last few years of refuge nesting data we are certainly experiencing the disruptive behavior and rookery abandonment seen in the Northwest in the early years of eagle recovery. The key seems to be territorial behavior of our nesting eagles. Should the habitat in and around the refuge be so fruitful that nesting eagles don't or only loosely defend their nesting territory, the benefits of herons collocating their rookery near an eagle nest break down. This is because the nesting eagles, having plenty of food, don't scare off the juvenile eagles and other avian predators that take full advantage of easy pickings in a heron rookery. Time will tell if herons and eagles will work out an uneasy relationship on the Missisquoi Delta. Until then we can only speculate on the direction the delicate balance of life will take with two iconic species of the Missisquoi NWR. (See chart on next page.)

Great Blue Heron Nesting at Missisquoi NWR:
Total and Failed Nests 1999-2013



eBird TrailTracker

A new feature on the Friends' website is the eBird Trail Tracker. For anyone interested in bird sightings on the refuge, check out the **eBird Sightings** link: <http://friendsofmissisquoi.org/ebird/> This page displays the **eBird TrailTracker**, which lists all the bird species on the refuge that have been reported to eBird within the past 30 days. Clicking on the Missisquoi NWR link takes you to the eBird website and lists all birds reported at locations within and near the refuge. Or, you can click on the Map link for a given species to display a map of the refuge with a marker at the location where this species was reported. Once you are on the eBird website, you can explore data on birds anywhere, not just the refuge.

eBird was created by Cornell Lab of Ornithology as a website where anyone can report the birds they have seen. Data is used by scientists to study population, range, and migration of birds. To date, more than 3 million observations have been reported. Have fun exploring eBird!

eBird TrailTracker		Missisquoi NWR
Species	Count	Date
Snow Bunting (map)	50	2014-02-07 15:30
Northern Harrier (map)	1	2014-02-01 08:55
Hairy Woodpecker (map)	1	2014-02-01 08:55
Pileated Woodpecker (map)	1	2014-02-01 08:55
Blue Jay (map)	1	2014-02-01 08:55
American Crow (map)	3	2014-02-01 08:55
Common Raven (map)	1	2014-02-01 08:55
Black-capped Chickadee (map)	9	2014-02-01 08:55
European Starling (map)	3	2014-02-01 08:55
American Tree Sparrow (map)	7	2014-02-01 08:55
Red-tailed Hawk (map)	1	2014-01-22 14:00
Snow Bunting (map)	4	2014-01-22 10:00
Downy Woodpecker (map)	3	2014-01-18 08:00
Hairy Woodpecker (map)	3	2014-01-18 08:00
Blue Jay (map)	9	2014-01-18 08:00
American Crow (map)	1	2014-01-18 08:00
Black-capped Chickadee (map)	6	2014-01-18 08:00
White-breasted Nuthatch (map)	4	2014-01-18 08:00

The Friends' Store

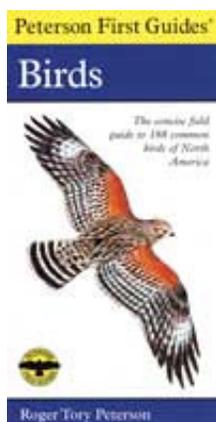
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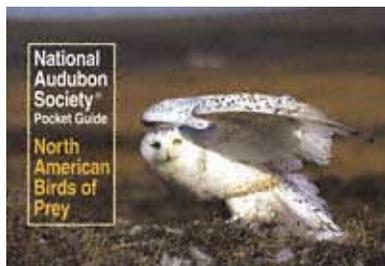
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