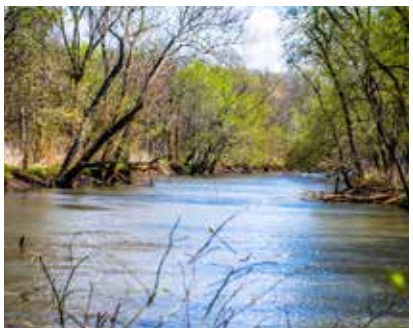
A PUBLICATION OF PRAIRIE RIVERS NETWORK

prairieriver notes



Protecting Illinois' Rivers for People, Fish, and Wildlife

MYSTERIOUS FLOW ON THE MIDDLE FORK

BY ANDREW REHN

On April 25th, university and middle school students canoed the Middle Fork on an educational field trip when they noticed something out of place. One of the small tributaries to the Middle Fork was flowing fast and thick with milky white sediment. Upstream, the water was perfectly clear, but downstream, the water was cloudy and opaque. One canoer was alarmed that "after a stretch, the tributary water was completely mixed with the main stream and the entire Middle Fork was opaque from the light gray suspended load from the tributary."

That same day, hikers also noticed a small stream near the river flowing full from bank to bank with cloudy white water. Both the hikers and the canoers noted that the color and flow rate of the stream was unusual and striking; not your typical brown sediment runoff but cloudy, white, and flowing fast. There had not been any rain to cause a flow like that.

The white and cloudy tributary enters the river at the bottom of the adjacent image. Following the valley northward to Dynegy's property line, hikers identified it as the stream that comes from Dynegy's dam.

The canoers reported the mysterious discharge to PRN. We reached out to Illinois EPA to see if they would investigate.

The day after the event, Illinois EPA spoke with residents near the site but found nothing that could have created the mysterious flow. They did not investigate Dynegy's property, but Dynegy indicated via phone that they did not see anything unusual.

Two weeks later, Illinois EPA met with Dynegy for a follow-up inspection. At that time, Dynegy confirmed that they were responsible for the water, releasing millions of gallons, but they could not explain its cloudy white color. Illinois EPA explored portions of the site downstream of the dam but were not able to locate a source for the discoloration. They concluded that the white material could not have come from Dynegy's dam.

WHERE DID IT COME FROM?

In the Illinois EPA inspection report, Dynegy indicates that contractors on a weekly inspection of the Vermilion Power Station noticed a beaver dam blocking the spillway on April 24th, the day before the mysterious flow. The next day, another contractor removed the beaver dam, causing a flow over the spillway approximately 8 inches deep which lasted for hours.

The story seems to make sense. The math certainly checks out—the lake level was lowered by 8 inches, and the lake is approximately 100 acres, so the volume that went over the spillway (area x depth = volume) matches the volume of water we estimated and the timing from the stream gage record downstream.

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CAROL'S CURRENTS

AT PRN, WE ARE STILL IN!

I'm frequently asked what PRN is doing to combat climate change. Much of our work to protect river health, water quality, and wildlife habitat has the added benefit of addressing climate change or lessening its expected impacts across our state and region.

Sadly we see the effects of global warming across the state. Illinois is experiencing warming temperatures and heavier rainfalls. Once a land covered with wetlands that soaked up water, stored carbon, and provided immense habitat for wildlife, Illinois now is a land of urban pavement and agricultural tile, making water flow off the land fast and furious. Rivers are disconnected from their floodplains by higher and higher levees, and water has nowhere to go. With many partners, we work to build a movement to reconnect rivers in Illinois to their floodplains, to restore our wetlands, and protect communities.

Seventy-five percent of Illinois' land is used for agriculture, 60% of nitrous oxide emissions (a far more potent green house gas than carbon) come from nitrogen fertilizer, and U.S. agriculture is estimated to contribute 7.7% of all greenhouse gas emissions. We work with farmers to adopt conservation agriculture practices—reduce- or no-till the soil, plant cover crops, and increase crop rotations to help soils build organic matter and store carbon. PRN has initiated ReGenerate IL to champion such regenerative farming practices across the state to diversify farms, provide habitat for wildlife, and restore soil health.

Coal fired power plants continue to churn out carbon pollution and leave toxic waste in their wake across Illinois. But the 2016 Future Energy Jobs Act will help Illinois communities transition away from carbon extraction and coal power. PRN works with many partners to help downstate communities learn about the opportunities for renewable energy jobs.

With the National Wildlife Federation Certified Wildlife Habitat program, we work with landowners and farmers to help them provide welcoming, safe habitat for monarch butterflies, bees, and other wildlife. We encourage Illinois mayors to sign the Mayors' Monarch Pledge and make their communities waystations for migrating monarchs, too. The more biodiverse our landscapes are, the more resilient our land, wildlife, and communities will remain.

Many states and communities across the country have signaled that they are still in the Paris Climate Agreement despite the federal government's withdrawal. Nine Illinois cities have joined the movement, and the Illinois House and Senate each approved bipartisan resolutions calling on Governor Rauner to commit Illinois to the Paris Climate Agreement. We call on Governor Rauner to protect our children and the places we love by saying Illinois is still in—just like PRN! Won't you join us?

Carol

prairieriversnetwork

Prairie Rivers Network champions clean, healthy rivers and lakes and safe drinking water to benefit the people and wildlife of Illinois.

Drawing upon sound science and working cooperatively with others, we advocate public policies and cultural values that sustain the ecological health and biological diversity of water resources and aquatic ecosystems.

PESTICIDE USE AND THE THREAT TO OUR LIVING SYSTEMS

BY KIM ERNDT-PITCHER

In spring, we ran an article on the 2017 expanded use of the highly toxic weed killer Dicamba, asking people to be aware of and report herbicide damage on gardens, woodlands, specialty crops, and roadside remnant prairies. So far, Missouri and Arkansas officials have placed an emergency ban on the sale and use of Dicamba due to extensive damage caused by drift. While the ban in Missouri has been lifted, more specific and intense application restrictions (to existing extensive application guidelines) have been mandated.

Withered leaves of redbuds and oak trees can indicate damage from the suspected drifting of pesticides.

Here in Illinois we have heard from many of you who have seen the tell-tale effects of growth regulator herbicides (like Dicamba and 2, 4-D) on crop fields, forested areas, and on rare roadside/railside prairies. Personally, I have seen dozens of examples of herbicide damage while driving to meetings and walking through friends' properties and farms. We know that our native redbuds are extremely sensitive to growth regulating herbicides and are often the "canary in the coal mine," showing us cupped leaves. It is suspected that tatters found on oak leaves are also symptoms of herbicide damage. It makes me wonder what else is being affected and what are the secondary impacts to these non-target plant communities which also face other pressures such as shifts in invertebrate communities, increased competition from invasive species, and a changing climate.

The amount of pesticides (herbicides, insecticides, and fungicides) the U.S. uses in a year is staggering (over 1 billion pounds). When we look at pesticide use on agricultural lands, the average conventional farmer sprays his or her field three to five times, killing off competing weeds and fungi. This is in addition to using seeds coated with bee-killing neonicotinoids and other chemicals. (Note: Many stores and nurseries sell ornamental plants treated with neonics as well, so these contaminated plants could be in your flower garden).

Neonicotinoids are another class of pesticides that have been under scrutiny for their damaging effects. In 2013, Europe temporarily banned the use of neonicotinoid pesticides, and a total ban is now up for review. While this is an extremely heated issue, the high toxicity of neonics to bees is undeniable, and the evidence that they pose threats to non-target organisms such as other insects,[1] birds,[2] and aquatic ecosystems[1,3] is rapidly mounting. However, the U.S. continues to use them unchecked on GMO corn, soybeans, sunflowers, and in the growing of many ornamental plants utilized in landscaping.

It has been shown that neonics weaken honey bee colonies and increase rates of queenlessness.[4] Additionally, this same study found that when coupled with a common fungicide, acute toxicity to neonicotinoid pesticides doubles, a finding that speaks to the threats of environmental interactions between chemicals. We study honeybees because they are colonial and easily moved to study sites, and we have an intimate knowledge of their behaviors and survival needs. This is less true of the approximately 4,000 native bee species in North America and the countless other invertebrates that may be impacted by neonics. How do we know what is happening with them, particularly without baseline data on presence/absence/behavior and diversity? Also important to note is that neonics are systemic in nature and are present in many parts of the plant (tissue, roots, pollen, nectar, and even in the soil). Therefore, the chemicals are more likely to move through the environment in dust, pollen, nectar, water, etc.[5]

We must remember that we cannot disconnect what we do to the land from what happens in the water. From just studying neonicotinoid insecticides, researchers have found neonics in pooled water along agricultural fields where invertebrates, birds, and other animals may drink or feed.[6] We know these chemicals are also entering our

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50TH ANNIVERSARY DINNER OCTOBER 6TH

Get ready to party!!!

Join PRN for our 50th Anniversary Dinner Gala on October 6th in Champaign! It is going to be a party to remember. For those who have been attending our Annual Dinner, we are mixing things up this year with a celebration dinner, desserts, and dancing. If you have not been to an Annual Dinner yet, you won't want to miss it! So, save the date and get ready to celebrate!

The evening starts off at 6 pm with a reception and a special Board of Directors' sponsored silent auction. Dinner starts at 7:30 pm where we will celebrate fifty years of action and the many environmental and river heroes we have worked with along the way. At 8:30 pm, desserts and dancing will take place with the Live Juke Box Show!

We cannot wait to see you for this amazing evening of fun, dancing, and friendship. For those traveling from out of town, a block of rooms has been reserved for PRN at the I Hotel and Conference Center (1900 S First St, Champaign). Look for your invitation in the mail in early September.

PrairieRivers.org/dinner

YOUR ANNUAL DINNER HOMEWORK!

Share your photos! Share your stories! Nominate a River Superhero!

Send us your PRN photos and stories from the past 50 years for inclusion at this year's Annual Dinner. Nominate River Superheroes for Prairie Rivers Network's River Steward Award! This annual award honors a volunteer who is working above and beyond to protect the waters of Illinois. Nominations are due by September 8, 2017. The award will be presented at the Annual Dinner on October 6. Please send the nominee's contact information, your contact information, and a summary of the nominee's river conservation efforts to Sarah Scott at sscott@prairierivers.org.

BECOME A SUSTAINING MEMBER OF PRAIRIE RIVERS NETWORK!

Monthly giving is a great option for both PRN and you! PRN can have a dependable base of support, while saving time and paper by not needing to send renewal notices. If you're in the conservation movement for the long fight, becoming a sustaining member is for you! Mail or email this form to:

info@prairierivers.org

Debit Authorization Form

I (we) _____ hereby authorize Prairie Rivers Network to initiate entries to my checking/savings accounts at the financial institution listed below, and, if necessary, initiate adjustments for any transactions credited/debited in error. This authority will remain in effect until Prairie Rivers Network is notified by me (us) in writing, email, or by phone call to cancel at any time.

Name of Financial Institution:_____

Routing Number:_____Account Number: _____

Type of Account: _____Checking _____Savings

Monthly Donation Amount: _____ (Transaction is processed at the end of each month)

Thank you for your support!

MIDDLE FORK continued from page 1

However, a closer inspection of the story reveals some inconsistencies or a complete lack of communication. According to their timeline, Dynegy should have known about the discharge on April 25th. Dynegy had two different contractors at the power station on the 24th and 25th, one to inspect the site and another to remove the beaver dam from the spillway. Surely, one or both of those contractors would have reported their activities to Dynegy. Why then would Dynegy report to Illinois EPA on April 26th that nothing unusual had occurred that might cause the flow?

It also seems improbable that a lake could fill up by 20 million gallons during a week that had no rain. Dynegy's contractors inspect the site weekly. If the spillway was not blocked on the 17th, then all 20 million gallons would have accumulated between the 17th and the 24th. Without rain, that is impossible unless for some reason Dynegy pumped water into the lake from the Middle Fork, where they have a pumping station. This story also provides no explanation of the white color.

WHAT MADE THE WATER WHITE AND CLOUDY?

Dynegy denies being the source of whatever made the water white and cloudy, and the Illinois EPA final report concludes it did not come from the dam. However, Dynegy owns all the land upstream of the tributary. Whatever caused the stream to turn white is, or was, on the company's property.

A few things can explain the white color. Some possibilities include bentonite clay or aluminum, but coal ash can also turn rivers a white color depending on the ash's composition.

The material might have come from a mine blowout or collapse. Abandoned mines sit below the infrastructure that supports Dynegy's Vermilion Power Station. There are underground mines close to both the cooling lake dam and the New East Ash Pond, a coal ash impoundment. Mining leaves behind mine voids: empty space that once contained coal. At this site, the extent of mine voids is unknown because they were dug over 100 years ago and were not properly mapped.

It is possible that, unbeknownst to Dynegy, their coal ash seeped into the mines where it built up. Mine voids have been known to create pathways for contamination, and coal waste has entered the environment through old mines before. In 2000, Massey Energy leaked coal slurry into an abandoned mine in Kentucky which then spilled 300 million gallons of coal waste into multiple nearby rivers.

Perhaps the white material is a result of a mine blowout, and the material was then picked up by the larger-than-usual flow in the tributary. We really do not know and do not have a way of knowing without a thorough investigation of the site.

STILL A MYSTERY

The amount of material it would take to turn millions of gallons of water opaque would surely leave behind a record. That much material does not just appear in a tributary in the middle of a river valley. However, further investigation is impossible without permission. The Illinois EPA, without enough resources to fully investigate every source of mysterious pollution, has closed its investigation.

The mysterious flow occurred months ago now, and rains in May likely washed away any clear evidence of what occurred. Ultimately, we may never know the truth about the events of April 25th. //

The tributary one month after it carried millions of gallons of opaque white water into the Middle Fork. No evidence of this mysterious flow is immediately apparent.

WHY WE GIVE

RUSS RYBICKI AND NANCY DIETRICH, SHAREPOWER RESPONSIBLE INVESTING

We are long-time contributors to Prairie Rivers Network because we understand the importance of clean water. Like us, PRN is dedicated to creating a better world for all of us, and it starts with the water we drink, bathe in, swim in, fish in, water our crops with, and play in. We give to PRN because of their focus on water issues right here where we live—Illinois. It's this local focus, as well as the breadth and depth of their work, that sets them apart. The accomplishments that PRN has had over the past 50 years are remarkable. Thank you, Prairie Rivers Network, for all that you do! //

WHY WE SUPPORT THE WORK OF PRAIRIE RIVERS NETWORK

DAVID L. THOMAS, PHD, CHIEF EMERITUS, ILLINOIS NATURAL HISTORY SURVEY

I have spent my whole professional life working on or associated with projects involving our nation's water resources. I am totally convinced that the strength, vitality, and economic opportunities of Americans are closely tied to healthy and productive waterways. For people and wildlife, the ecosystem services provided by clean rivers and lakes cannot be overestimated and have a value that goes far beyond what we can measure. Prairie Rivers Network has taken the lead in Illinois in protecting these valuable resources, and my wife, Carol, and I gladly support the work they are doing. //

PESTICIDES continued from page 3

streams at levels where they can harm instream invertebrate communities. These same invertebrate communities that keep streams healthy are also food for other wildlife.[7] In the Netherlands, for example, research found that surface water concentrations of neonics was linked to declines in insect-feeding birds.[2] And you might have heard that in Iowa, researchers found neonics in treated drinking water for several weeks after the planting of corn and soybeans.[8] Again… what we do on land we also do to the water.

Prairie Rivers Network is part of ReGenerate IL, an effort to help strengthen and support a truly local food system; one that is deeply rooted in regenerative agriculture practices that reduce or eliminate chemical use, bring more biodiversity to the farm, and provide farmers the opportunity to grow what they want—how they want—in ways that protect our soil, air, and water. There are many angles (education, advocacy, policy, fostering champions) in which we need to approach these complex issues. But if we want to protect our water resources for generations to come, then we must look at how we live on the land and examine the things that are hidden from our sight.

Note: For electronic links to the publications referenced in this article please visit: prairierivers.org/wp-content/uploads/2017/07/Reference-Links.pdf

The cupped leaf of a prairie plant with suspected herbicide damage.

ASIAN CARP FOUND NEAR LAKE MICHIGAN, URGENT ACTION NEEDED

BY ROBERT HIRSCHFELD

Back in February, a group of 16 Republicans in Congress, mostly from Illinois and Indiana, sent a letter to the Trump administration calling for the delay of a long-awaited Army Corps of Engineers study aimed at preventing Asian carp from moving beyond the Brandon Road Lock and Dam in Joliet, Illinois and toward Lake Michigan. The study was set to be released February 28, but at the eleventh hour, the Trump administration shelved it indefinitely.

Although the Corps study is only preliminary and would require extensive public comment after its release, these members of Congress did not want it to see the light of day for fear of potential impacts to shipping traffic on the rivers. Yet it is impossible to discuss impacts until we know the study's contents! Until then, we are simply debating theoreticals. Among the justifications for delaying the Corps study was the contention that federal and state agencies are already doing enough and have successfully prevented carp from moving upstream for over 20 years.

That argument fell apart with the June 22 discovery of a live Asian carp well past the electric barrier, and only nine miles from Lake Michigan. While we do not yet know how the carp got past the barrier, we have known for years that the electric barrier has fatal design flaws; barges can pull fish through the barrier alive, and schools of small fish have been recorded breaching the barrier.

There is currently no evidence of a viable, reproducing population of Asian carp in the Great Lakes, but this new carp find must serve as a wake-up call. We cannot afford to delay any longer. Congress must demand the immediate release of the Brandon Road study. You can tell your lawmaker to do just that by going to prairierivers.org/stopasiancarpnow.

Asian carp in the Great Lakes would devastate the multi-billion dollar fishing and recreational industries and threaten thousands of jobs across the region. In the summer of 2016, PRN staffer Robert Hirschfeld traveled around the lakes to gather the stories of those who would be most impacted by Asian carp. You can view those stories at prairierivers.org/stopcarp. Watch the videos, share them on social media, and then contact your representatives and tell them to #StopAsianCarpNow! //

Action Alert! UPDATE

prairie rivers network

STOP THE PRESSES!!!

As we went to print with the above story, the Army Corps of Engineers announced that they would release the Brandon Road study on August 7. Stay tuned to the PRN website for updated information on what the study says and what actions you might take to help #StopAsianCarpNow!

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YOUR FINANCIAL SUPPORT IS NEEDED

Renew your membership or become a new member today because clean water is worth protecting.
prairierivers.org/membership

// SIGN UP FOR RIVERWEB NEWS //

GET ACTION ALERTS AND PRN'S RIVERWEB NEWS

RiverWeb News is PRN's bi-monthly electronic newsletter. It contains much more information on the work PRN does to protect the water and wildlife in Illinois. We also send out occasional action alerts on issues that require immediate action by our members. By signing up for RiverWeb, you join us on the front lines in our fight to safeguard the environment for future generations to enjoy. Sign up at:

prairierivers.org/riverweb

WILD & SCENIC FILM FESTIVAL

Couldn't make it to Champaign in April for the festival? Join us in Carbondale (9/22) and Peoria (10/13)! See you then and there! prairierivers.org/wsff

SAVE THE DATE!!!

Get ready to party on October 6 for this year's Annual Dinner. Join us for music, dinner, dancing, and desserts at the I Hotel in Champaign!

PHOTO ATTRIBUTES (C) //

Lou Nelms, pg 3
Erich Adickes, pg 4
David Thomas, pg 6

Prairie Rivers Network is the Illinois affiliate of the National Wildlife Federation.

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