



**DES PLAINES RIVER WATERSHED WORKGROUP  
ANNUAL MEETING  
FEBRUARY 16, 2017 1:30-3:30 PM  
LAKE COUNTY PUBLIC WORKS TRAINING FACILITY  
650 W. WINCHESTER RD, LIBERTYVILLE, IL**

**MEETING AGENDA**

---

- 1. Introductions and Announcements** – Brian Dorn, North Shore Water Reclamation District and DRWW Acting President, will conduct introductions and provide an overview of the meeting.
- 2. Approve 11/17/16 meeting minutes.**
- 3. Public Comment**
- 4. DRWW Updates**
  - a. Jeff Laramy – LCSMC Interactive GIS monitoring map Demo
  - b. Mike Warner – 2016 Accomplishments Overview
- 5. Guest Speakers**
  - a. Stephen McCracken – DuPage River Salt Creek Watershed Workgroup (DRSCW)  
10 Years Later, Watershed Workgroup Benefits and Successes
  - b. Brian Perkovich – MWRD  
Chlorides – New IL EPA Time-Limited Water Quality Standards
  - c. DRWW Business (Brian Dorn)
    - a. Executive Board Elections
    - b. By-Law Revisions (Discussion)
    - c. 2017 Budget – Mike Warner
    - d. DRWW Draft Workplan- Peter Kolb
    - e. Committee Updates
      - i. Monitoring/Water Quality Improvements Committee – Joe Robinson, Chair
      - ii. Lakes Committee – Mike Adam, Chair
- 6. Next General Membership meeting: Quarterly meeting: May 18, 2017**
- 7. Old business**
- 8. New business**
- 9. Adjournment**



**DES PLAINES RIVER WATERSHED WORKGROUP  
MEMBERSHIP MEETING  
NOVEMBER 17, 2016 1:30-3:30 PM  
LAKE COUNTY PUBLIC WORKS TRAINING FACILITY  
650 W WINCHESTER RD, LIBERTYVILLE, IL 60048**

**MEETING MINUTES**

- 1. Introductions and Announcements** – Peter Kolb, Director of Public Works for Lake County and DRWW President, called the meeting to order at 1:32 pm, conducted introductions, and provided an overview of the meeting.
- 2. Approve 8/18/16 meeting minutes.** Brian Dorn motioned to approve the minutes, Mike Talbett seconded the motion. The motion passed unanimously.
- 3. Public Comment.** None.
- 4. Guest Speakers**

**a. Tom Slawski - Southeast Fox River Partnership**

Tom formed the Southeast Fox River Partnership – a watershed that is shared between 2 states, WI and IL. The partnership was formed to work on these priority issues: Land Use Planning and Zoning; Loss of Wetlands; Loss of Habitat; Protecting ground water; and Education about local natural resource issues. WI has a long history of stewardship, many lake associations and river groups have been around since the 1900's. The next Fox River Summit will be March 10, 2017 (Beyond Education – Action!). The IL Fox River Group (IFRG) is a collaboration of POTW's that collect data and share it.

Protect/Reconnect/Restore

(land)/ (corridors) / (developed land)

Resources:

1. Habitat Management Guidance - University authored for protection of amphibians (<http://www.parcplace.org/parcplace/publications/habitat-management-guidelines.html>). Fox River Water Trail Initiative (<http://foxriverecosystem.org/trail.htm>). WI Water Action Volunteers (<http://watermonitoring.uwex.edu/wav/pubs.html>).
2. Stream Functions Pyramid – A guide for assessing and restoring stream functions. ([https://www.epa.gov/sites/production/files/2015-07/documents/stream\\_functions\\_pyramid.pdf](https://www.epa.gov/sites/production/files/2015-07/documents/stream_functions_pyramid.pdf))
3. WaterSMART Study (Sustain and Manage America's Resources for Tomorrow) (<http://usbr.maps.arcgis.com/apps/MapJournal/index.html?appid=043fe91887ac4d4c92a4c0f427e38ab0>)
4. Great Lakes Basin WaterSMART Pilot Project. Pilot project on the Fox River. <https://water.usgs.gov/wateravailability/greatlakes/>

**b. Donald Hey – Use of Wetlands for producing Water Quality Credits – a pilot project (handout: Summary of Sullivan Woods, Vernon Hills, IL)**

Pilot site is on Indian Creek in Vernon Hills. Don met with IEPA about this pilot project in Oct. 2016 and IEPA was keen on allowing a mixing zone and open to making revisions to permits to facilitate the trade. Wetlands remove Nitrogen (“N”) out of river water. The pilot project would collect data to verify this. There are water quality (“WQ”) markets right now in the Eastern States. Wetlands create a lot of credits, but there must be monitoring to verify the number of credits. Cash could flow from POTWs to wetland credit producers and POTWs would be able to offset these costs by reducing their energy input, mixing and hold times, etc. The Des Plaines River Wetland Project is getting excellent N removal and good phosphorus (“P”) removal. The amount depends on the hold time of the water. Denitrification slows down in the winter, but it still occurs. N is high in our waters in April thru June, hypoxia occurs in the Gulf of Mexico in July as water from the Des Plaines is arriving there.

Pilot project partners are Vernon Hills Park District, Vernon Hills Public Works, and the DRWW. Goal of the project is to restore riparian wetlands and establish a credit market using wetlands. The site of the pilot project was formerly a wetland; we know that because the soils are hydric. The land now has trees on it, trees are not good at removing N and P, so floodplain trees would be removed and replaced with sedges. Riffle structures would raise the water level by 2-3 feet, this would create 51 acres of wetlands. The cost is \$3M. Research would be done to answer these questions: How much methane does a wetland produce (air monitoring)? How much carbon does it sequester? How much calcium carbonate is formed in the soil due to water level fluctuations (P attaches to calcium carbonate)?

IEPA is willing to give a variance to POTWs who participate – to increase their discharge of N with an offset from the wetlands.

Comment: This isn't a N limit for POTWs now, but there is a P limit.

Peter Kolb: The \$800,000 from POTWs will be the problem.

Don Hey: Wisconsin has nutrient sharing guidelines but IL is not using them yet. U.S. EPA wrote guidelines in 2003.

Question: Do wetlands reduce chlorides?

Don Hey: Chloride needs to be sequestered, it is highly soluble, so pulling it out of solution is tough.

Peter Kolb: Lets continue this discussion with the DRWW's Executive Board. POTWs need a mechanism for funding projects like these.

Andrea Cline: Funding mechanism could be different depending on the project. Maybe we need an “approach to funding.”

Jim: Need to find out what project will give the biggest bang for the buck.

Peter Kolb: This is the watershed plan team's job.

**5. DRWW Business** – Peter will lead the group DRWW business matters.

**a. Membership Update** - 2016 was our second full fiscal year. 20 members this year and \$226,000 in dues. There will be a full financial report at the February Annual Meeting. Financially, the DRWW is looking good. Lake County SMC is the administrative agent. SMC is provided many hours of admin to the DRWW at no charge, which is why SMC requested the DRWW find a 0.5 FTE Technical Coordinator for the DRWW. How to sell paying dues to your municipalities - if the POTW servicing your community gets hit with a costly upgrade to meet new discharge requirements, this cost will get spread to all the customers of that plant, so municipalities, as customers will share that cost. Now IL EPA also requires monitoring from MS4's with a population over 25,000. Watershed monitoring as a group is most cost-effective way to collect this data. Beth Adler is our new Technical Coordinator, she has excellent qualifications, BS Civil Engineering from University of Michigan, law degree from Chicago-Kent and 12 years working for U.S. EPA. Peter Kolb and Scott Pippin are both officially retiring from the DRWW today, so let's give them a big hand. Patty Werner at SMC is leading up the Watershed Plan. Beth will be working on a draft Workplan for the DRWW.

**b. Committee Updates**

- i. Monitoring Committee** – Joe Robinson, Monitoring Committee Chair, presented a summary. Collecting baseline data; our last water column sample will be taken next week to complete our 2-year baseline monitoring. 49 sites were sampled for water chemistry, 69 sites for sediment and fish and macroinvertebrates. All the data is now collected, we will start interpreting the results and based on what we're finding we will eliminate some parameters so we will be able to spend less going forward. The plan is to break the watershed into thirds and sample fish and macroinvertebrates at 1/3 of the watershed over the next 3 years. Your presence and participation are always welcome at the Monitoring Committee Meetings.
- ii. Lakes Committee** – Alana Bartolai for Mike Adam, Lakes Committee Chair, presented an update – lake county health Dept monitored 7 lakes in the Watershed, re-assessed 17 lake shorelines. The committee is working on compiling all lake data across all organizations and come up with the best way to present all the data. Will be sending a survey out to all lake groups in the county to get feedback on their needs, challenges, etc. Our next meeting is Jan 26 and all are welcome.
- iii. Impairments Committee** – This committee has not convened yet.

**6. Next meeting: Quarterly meeting: February 16th at Lake County Public Works new training facility. 650 Winchester Road, Libertyville.**

7. **Old business:** None
8. **New business:** DRWW meeting schedule for 2017. Jim Anderson made a motion to approve the meeting schedule, Al Giertych seconded. The schedule was approved unanimously.
9. **Adjournment:** Michael Talbett made a motion to adjourn. Joe Robinson seconded the motion. The motion passed unanimously. Cake was served to celebrate outgoing DRWW members, Peter Kolb, Scott Pippen and Andrea Cline.

**Members and Delegates Present:**

Alana Bartolai for Mike Adam, Lake County Health Department  
Jim Anderson, Lake County Forest Preserve District  
Jim Bland, Sierra Club  
Brian Dorn, North Shore Water Reclamation District  
Betty Harrison, Village of Lake Zurich  
Brandon James, Village of Deerfield  
Paul Kendzior, Village of Libertyville  
Peter Kolb, Lake County Public Works  
Austin McFarlane, Lake County Public Works  
Wally Dittrich, Village of Lincolnshire  
Joe Robinson, North Shore Water Reclamation District  
Michael Talbett, Village of Kildeer  
Mike Warner, Lake County Stormwater Management Commission

**Additional Attendees:**

Beth Adler, DRWW Technical Coordinator  
Clint Bailey, USGS  
Caitlin Burke, GHA  
Andrea Cline, Geosyntec  
Paul Cacioppo, Wastewater Superintendent Village of Mundelein  
Rob Flood, North Shore Water Reclamation District  
Donald Hey, Wetlands Research, Inc.  
Kathleen Paap, Wetlands Research, Inc.  
Steve Vella, Village of Libertyville  
Patty Werner, Lake County Stormwater Management Commission  
Tom Slawski, SEWRPC  
Gerard Urbanozo, LCHD  
Vince Mosca, Hey and Assoc.

To: DRWW Members

From: Jeff Laramy

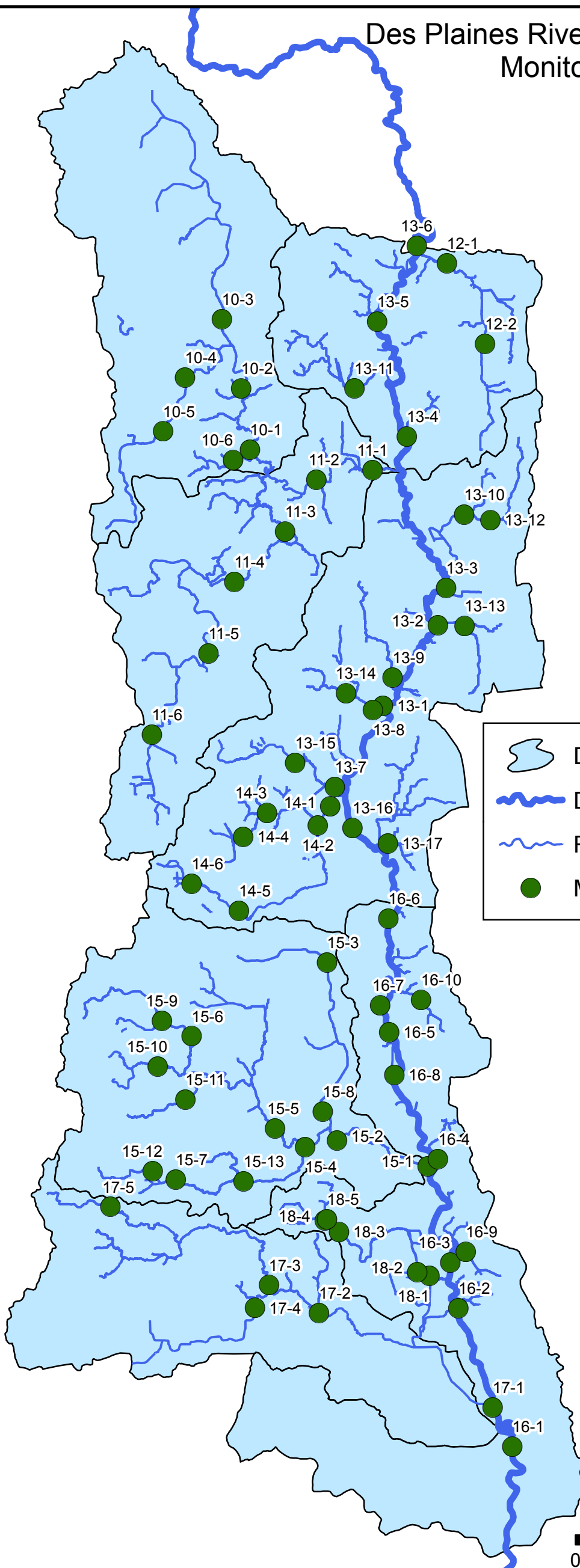
Date: 2/10/17

I will be introducing the Lake County Impaired Waters and DRWW Monitoring Site Web Map which can be found here:

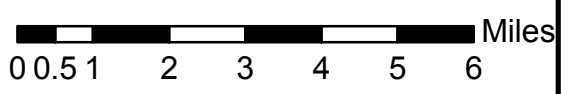
<http://lakecountyiil.maps.arcgis.com/apps/webappviewer/index.html?id=ac03e0f03ff14c399b6e1a91393a6f49>

You can also find the link in the Maps and Data section of the Des Plaines River Watershed Workgroup website: <http://www.drww.org/mapsdata/maps>

# Des Plaines River Watershed Workgroup Monitoring Site Map



-  Des Plaines HUC 12s
-  Des Plaines River Mainstem
-  Rivers & Streams
-  Monitoring Sites





# Des Plaines River Watershed Workgroup (DRWW) 2016 Annual Accomplishments

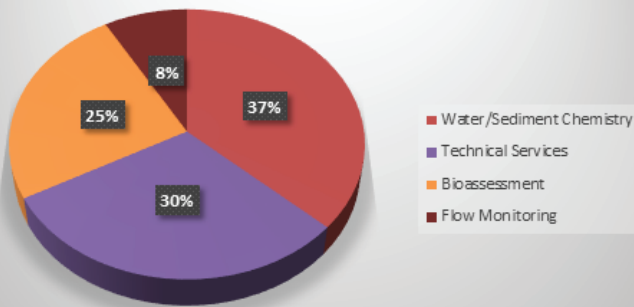
*The DRWW's primary goal is improving water quality through a collaborative, locally led process and has accomplished much in the first two years. Below are highlights of these accomplishments.*

## Membership

DRWW continues to be a value to its membership and has grown to 22 members (up 22% from 2015), while securing an increase of dues to \$232,667. Also, \$47,707 in additional funding was provided by the Lake County Forest Preserve District and Lake County Department of Transportation to enhance the monitoring network and baseline data. Membership dues, along with in-kind services and grant money, fund all DRWW activities. The group members are municipal and county government agencies, publicly owned treatment works (POTWs), consulting firms, and environmental not-for-profits. Efforts to increase membership will continue through outreach to additional municipalities, townships, businesses, and other local government agencies. All meetings are open to the public.



## DRWW 2016 Expenses



## Grant Funding and Watershed Planning

The DRWW monitoring activities and funding leverages grant match to support a Clean Water Act Section 319 grant through IEPA. Lake County SMC was awarded \$658,162 to complete a watershed-based Plan in the Des Plaines River and implement three best management practice (BMPs) projects to reduce non-point source pollution. The Plan is a prerequisite for future grant funding opportunities which will be focused on green infrastructure and water quality improvement practices.

Chapters one and two of the Plan and the stream and detention basin inventories were completed. Additionally, information was

collected and analyzed on soils, demographics, land use, transportation, and water quality. The Plan will continue through mid-2018, which will result in an action plan for implementation of prioritized water quality improvement projects.

The Monitoring Committee was successful in receiving IEPA approval for its Monitoring Strategy and Quality Assurance Project Plan (QAPP), and of those direct expenses, \$47,500 is reimbursable through the grant. The monitoring program includes: flow measurement, sampling for water and sediment chemistry, fish, and macro-invertebrate assessments, at 69 sites throughout the watershed.

DRWW members participated in nine Plan meetings in 2016, and hosted the August 2016 meeting at the North Shore Water Reclamation District that focused on POTW member agencies. Lindenhurst, Libertyville, NSWRD and Lake County Public Works all presented their operations and discussed challenges and opportunities related to wastewater management. Now we know 'Honey Wagons' are not delivering honey!



# National Pollutant Discharge Elimination System Permitting

Discussions and face-to-face meetings are ongoing with both IEPA and USEPA on nutrient control strategies as a tool for members to realistically and most economically meet WQ standards using a watershed planning and project implementation approach. More news on this will be provided as the efforts continue.

**POTW:** In March, the DRWW submitted the first "Annual Stream Monitoring Report for Member Water Reclamation Facilities" to the IEPA. The report included the permit required monitoring data in the receiving stream for upstream and downstream of POTWs' discharge. This new permit requirement, which would be costlier and less informative for POTWs to do individually, is being met for members of the DRWW.

**MS4:** The IEPA ILR40 Permit, for Municipal Separate Storm Sewer Systems (MS4) was reissued on March 1, 2016 expands monitoring requirements, and specifically allows collaborative watershed monitoring efforts. This is a significant regulatory recognition of the DRWW effort and achieves permit compliance, for the monitoring component, for all MS4 DRWW members. The DRWW will support these new requirements for members, providing them with monitoring data for their annual reports.

## Flow Monitoring

Burns & McDonnell, the DRWW contractor, purchased and installed pressure gages, performed field surveying and has taken initial event based flow measurements. Through this effort, flow will be estimated in all major tributaries and the mainstem, allowing for the future calculation of pollutant loads. This information will help further determine where pollutants originate and how to prevent, reduce, or remove them.

## Technical Coordinator

The Executive Board advertised, interviewed, and contracted with a half-time (½ FTE) Technical Coordinator to manage the challenging technical service needs. Beth Adler started in October 2016 and has a Civil Engineering (Environmental) degree from University of Michigan and Law Degree from Chicago-Kent College of Law, including 12 years of experience with the USEPA. Beth has hit the ground running and been involved in every aspect of the DRWW work program.

## Bioassessment and Water Chemistry Monitoring

Baseline data collection efforts of bioassessment including fish, macroinvertebrates, habitat, water column, and sediment chemistry were collected for 69 sites. Midwest Biodiversity Institute (MBI), (Bioassessment) and Suburban Labs (Chemistry) are the DRWW contractors. A database is being utilized and expanded as sampling information is received. All data collection and analysis follow the DRWW's IEPA approved Quality Assurance Project Plan, which ensures quality of information through technically proper field methods, data handling, and reporting. Starting in 2017 and moving forward, the monitoring will be completed on a three-year rotation schedule in order to match revenues with expenses in this work program component.

DRWW MEMBERSHIP		
AGENCY MEMBERS		
<i>Village of Buffalo Grove Village of Deerfield Village of Grayslake Village of Green Oaks Village of Gurnee Lake County Forest Preserve District Lake County Public Works</i>	<i>City of Lake Forest Village of Kildeer Lake County Village of Lake Zurich Village of Libertyville Village of Lincolnshire</i>	<i>Village of Lindenhurst Village of Third Lake Village of Vernon Hills North Shore Water Reclamation District Village of Riverwoods Village of Round Lake Beach</i>
ASSOCIATE MEMBERS		
<i>Christopher B. Burke Engineering Wetlands Research, Inc. Applied Technologies, Inc.</i>	<i>Sierra Club Lake County Stormwater Management Commission</i>	

For additional details on the DRWW, visit [www.drww.org](http://www.drww.org). If you'd like to hear more about the DRWW, please contact our Technical Coordinator, Beth Adler, at 224-209-3176, [badler@lakecountyil.gov](mailto:badler@lakecountyil.gov) or Mike Warner, Administrative Agent at 847-377-7700, [mwarner@lakecountyil.gov](mailto:mwarner@lakecountyil.gov).

Thank you to the hardworking members that have made 2016 a continuing success!

DRWW Executive Board (2016)  
 President: Peter Kolb, Lake County Public Works  
 Vice President: Brian Dorn, North Shore Water Reclamation District  
 Treasurer: Michael Talbett, Village of Kildeer  
 Secretary: Paul Kendzior, Village of Libertyville  
 Monitoring Committee Chair: Joe Robinson, North Shore Water Reclamation District  
 Lakes Committee Chair: Mike Adam, Lake County Health Department  
 Impairments Committee Chair, Scott Pippen, Village of Lincolnshire



# Experts seek ways to protect environment from rising road salt runoff



An abundance of road salt lies along the 3200 block of West 26th Street earlier this month. Road salt runoff hurts plants, trees and the regional water system. (Antonio Perez / Chicago Tribune)

By **Patrick M. O'Connell**  
Chicago Tribune

JANUARY 26, 2017, 1:05 PM

**R**ock salt is everywhere in the Midwest during winter, spread as a remedy for snowy and icy highways, city streets, parking lots and sidewalks.

But sodium chloride's safety benefits can obscure what scientists say are widespread and troubling environmental costs.

After melting snow and ice, sodium chloride drains into sewers and washes into rivers. Once in the water, researchers say it chokes aquatic life and changes the composition of the region's streams and lakes.

It seeps into the soil, affecting the process by which trees and plants soak up water for healthy limbs and leaves. It makes its way into the groundwater, building up over time in higher amounts every year. And the salt dust and spray that blows from roadways burns vegetation and stunts plant growth.

"It's a real problem," said Walt Kelly, a groundwater geochemist with the Illinois State Water Survey who has studied and written about road salt's effects on the environment.

The persistent and increasing buildup of sodium chloride is worsening across the upper Midwest, researchers said, especially near large cities where road salt is liberally spread for months. In an effort to slow the trend, Illinois plans to institute a strict water quality standard for chloride next year.

Chloride concentration levels in Chicago area rivers are routinely above acceptable limits, according to data from the Metropolitan Water Reclamation District of Greater Chicago. It only takes 1 teaspoon of road salt, the reclamation district says, to permanently pollute 5 gallons of water.

In winter weary states from Michigan to Wisconsin, testing by the U.S. Geological Survey shows chloride levels in streams continue to rise. Concentrations are predictably higher in winter, but the study, completed in 2014, showed increases throughout the year at northern testing sites, including locations in suburban Chicago and Milwaukee.

"We found that we were seeing increases in nearly all of the sites that have urban influence in the northern parts of the U.S.," said Steve Corsi, a research hydrologist with USGS and the Wisconsin Water Science Center who was on a team that conducted the study.

Nontoxic to people, chloride is soluble and highly mobile in water. In other words, once it enters the ecosystem, it never leaves.

"It's just a matter of where," said Kelly whose work with the water survey is a nongovernmental effort based at the University of Illinois at Urbana-Champaign. "I just don't think it's going away. We're going to have to live with it, unfortunately. There's no simple solution."

### **Salt's increasing presence**

Sodium chloride usage has been on the rise for decades as highway crews, municipalities and residents use the effective — and relatively affordable — tool to avoid crashes and falls. More than 350,000 tons of salt are applied every year in the Chicago area. The more salt that enters the ecosystem, however, the more it affects the water supply, plants and aquatic life.

The USGS and the Wisconsin center study showed 84 percent of urban streams examined had increasing chloride levels. The scientists used chloride data from 30 monitoring stations on 19 streams near cities in Wisconsin, Illinois, Colorado, Michigan, Ohio, Pennsylvania, Maryland, the District of Columbia and Texas.

Samples from 55 percent of streams studied by Corsi's team had chloride levels that exceeded the [U.S. Environmental Protection Agency's](#) criteria, a sign of possible toxic conditions for plant and aquatic life. Researchers discovered nearly 30 percent of sites exceeded the EPA's standard for close to a third of the year, double the amount from a decade earlier.

"This is a glaring example of a situation where there's some serious water quality problems that can affect the aquatic ecosystem," Corsi said.

Predictably, chloride levels spike at Midwestern lakes, rivers and streams during the winter months, as road crews spread salt. But recent studies by Corsi's team and others show groundwater chloride levels steadily climbing year-round, even in samples taken during autumn, when amounts should be lowest, scientists said.

### **Safety vs. ecological health**

The challenge for federal, state and local governments is to balance road salt's safety benefits with its negative effects on the ecosystem. The health of fish, insects and amphibians who live in and near the Chicago area's rivers and creeks is on the line.

Chloride finds its way into the ecosystem in three ways: washing into lakes and streams, filtering through the soil into groundwater and flowing along the ground to eventually enter rivers and streams, known as baseflow.

Of the 41 stations monitored since 1975 by the Chicago area reclamation district, 35 have had "statistically significant" increases in chloride, according to Kelly's research.

With sodium chloride's ecological ramifications in mind, the Illinois Environmental Protection Agency embarked on a decadelong effort to curb runoff into the Chicago area's rivers and streams.

The new year-round standard for chloride, 500 mg per liter (or .08 ounces per gallon), for the Chicago Area Waterway System — the Chicago River, Calumet River and Cal-Sag Channel — and the Lower Des Plaines River goes into effect July 1, 2018.

Right now, that standard only applies from May to the end of November.

Water samples taken during the last several years from the Chicago area waterways are routinely more than the standard in the winter, with some nearly doubling that amount.

The greatest chloride concentrations are in the small tributaries of the Chicago River, studies show.

Samples taken at a station on the North Shore Channel at Touhy Avenue registered above the standard 17 percent of the time in 48 tests from 2006 to 2015. Sampling in Bubbly Creek at Archer Avenue registered above the standard 12.5 percent of the time.

During the summer, most Chicago area streams register chloride levels well below the standard, said Scott Twait with the water quality standards section of the Illinois EPA. But during the winter, readings often skyrocket well above the limit, he said.

The reclamation district, in charge of protecting and improving much of Cook County's water supply and waterways, is working to develop a plan to reduce pollutants while ensuring roads are safe and clear.



"Public safety is paramount in this whole issue," said Brian Perkovich, assistant director of maintenance and operations at the reclamation district.

The agency is pushing to delay implementation of the year-round water quality standard, arguing it is unrealistic and unattainable in the snowy winter months when road crews spread tons of salt. So the reclamation district plans to request an exception to the standard, while at the same time meeting with representatives from state and local agencies to hammer out best practices to reduce runoff.

"We know we can't get people to stop using salt," Twait said. "That's just not practical."

## **A regional problem**

In the suburbs, samples collected from lakes in Lake County from the mid-1990s until the late 2000s showed rising chloride levels, according to Kelly's studies with the water survey.

Taking into consideration all sources of chloride for the Des Plaines River watershed about 544,000 tons reach the water system annually.

The Skokie River, the Middle and West forks of the North Branch of the Chicago River, Des Plaines River, Fox River, Buffalo Creek and Fiddle Creek in Lake County are classified by the EPA as "impaired" because of high chloride levels, according to a publication from Lake County government.

Chloride concentration levels in collar county public supply wells have skyrocketed during the past 15 years, according to Kelly's study. This leads to added costs for the treatment of drinking water and costly repairs to deteriorating infrastructure because of salt's corrosive effects.

Salt also finds its way into the region's largest body of water, Lake Michigan. More than 600,000 tons of chloride are added annually to lake, according to EPA data, with average amounts climbing since the 1980s.

While that number has been increasing and is "striking," Kelly said, those levels are not as concerning as the amounts in inland groundwater, surface water and baseflow in Cook County and the collar counties because the lake's large surface area spreads out the concentrations, unlike local water.

## **Trees, plants pay the price**

Sodium chloride's environmental effects stretch beyond water. The addition of the compound into the soil has a ripple effect. Plants and trees don't get the nutrients they need and increased saline levels can reduce species diversity in wetlands.

"When it works into the soil, it can cause quite a bit of damage to plants," said Tom Tiddens, supervisor of plant health care at the Chicago Botanic Garden.

With high levels of sodium chloride, going up through the roots, plants cannot conduct photosynthesis properly, Tiddens said. And aerial salt spray burns the leaves of trees, shrubs and plants. This can cause bud

damage and small twig die-back.

Because of its harmful effects, the botanic garden does not use sodium chloride on the property, and has not for at least 27 years, as long as Tiddens has been on staff.

Salt also dries out the environment for trees and interferes with their metabolic process, said Nicole Cavender, vice president of science and conservation at The Morton Arboretum.

"It's kind of like putting them in a desert," Cavender said.

When salt lands on leaves, it can strip water from trees, especially "burning" on evergreen varieties, Cavender said.

Soil quality is among the most important factors for tree establishment, survival and growth. The arboretum has compiled a list of "salt-tolerant tree species," a mix of native and non-native varieties. Among the native trees that have shown tolerance to salt are quaking aspen, bitternut and shagbark hickory, red mulberry, black oak and sugarberry.

When salt, or the dust and spray of sodium chloride, covers the buds on trees "it literally burns, it can kill the tissue." Cognizant of salt's negative effects, the arboretum has planted more salt-tolerant varieties near its border with Interstate 88.

During the 1970s, heavy use of salt on I-88 led to the loss of an entire 50-tree dogwood collection at the arboretum.

Animals are affected, too. Sodium chloride hurts wood frogs, salamanders, caddis flies, trout and minnows. Even dogs can feel the pain, leading owners to cover pets' feet or seek out salt alternatives for driveways and steps.

For Jeewon Lee, who lives in a high-rise Loop residence, encounters with salt-covered streets and sidewalks are par for the course during the winter when she takes her dog Sugar for walks.

"When it hurts, she lifts up her paws and starts to lick them," said Lee, 27, during a recent trip to Daley Plaza, where Sugar put a small patch of grass to good use. "Often times, I have to pick her up and carry her home."

### **No easy solutions**

There are alternatives to rock salt as de-icing agents. Calcium chloride, for instance, has a milder effect on vegetation. Calcium magnesium acetate is also an option, and while its effects on the environment are less harsh, it is costly.

In an effort to reduce the use of pellets of rock salt and maximize safety, road crews, including those with the [Illinois Department of Transportation](#), often lay down a salt or calcium chloride brine spray or mix on

roadways as a "pre-wetting agent" for frost prevention and to keep snow and ice from binding to pavement. Governments have also experimented with alternatives such as beet juice for snow removal operations.

The rock salt alternatives, however, bring their own problems. The sugar in beet juice can attract unwanted germs in streams. Calcium chloride is corrosive to metal bridges, industrial pipes and concrete. And their costs can be halting: five to 26 times as expensive as sodium chloride, according to a study from the Cary Institute of Ecosystem Studies.

Whether the current proposal will be the final water quality standard for the Chicago waterway system remains to be seen.

The reclamation district is arguing that if the threshold for Chicago is not delayed or lowered, and waterways are listed as "impaired" when chloride levels register above the limits, it will in essence create a vicious cycle. Penalizing agencies for their inability to meet the standard will prevent them from creating and paying for solutions in the future that may actually make a difference.

Kelly said efforts by government agencies to rein in road salt's presence in waterways is admirable. The challenge comes in the practical execution of helping rivers, channels and streams get under the threshold.

"It seems to me setting a standard is great," Kelly said, "but I don't know how the heck you're going to meet it."

[poconnell@chicagotribune.com](mailto:poconnell@chicagotribune.com)

*Twitter @pmocwriter*

Copyright © 2017, Chicago Tribune

**This article is related to:** [Environmental Science](#), [Scientific Research](#), [U.S. Environmental Protection Agency](#), [21st Century Fox](#), [Illinois Department of Transportation](#)

# DES PLAINES RIVER WATERSHED WORKGROUP

At the February 16<sup>th</sup> Annual Meeting, we will vote on new Executive Board Members and explain proposed changes to the Bylaws. The meeting will be held at 1:30 pm at the Lake County Public Works training facility located at 650 W. Winchester Road, Libertyville, IL. I hope you will be able to join us.

The DRWW Executive Board is proposing to make some changes to the DRWW Bylaws (see attached document for actual Bylaw language changes.) In summary:

1. **ARTICLE IV DUES AND FISCAL YEAR** – Section 4 proposed to be changed to align the DRWW’s fiscal year with its administrative agent (currently LCSMC).
2. **ARTICLE V** – Officers and Executive Board – Section 2 proposed to be changed from 3 standing committees (Monitoring, Lakes, and Impairments) to 2 standing committees (Monitoring/Water Quality Improvements and Lakes Committees). The Executive Board proposes to combine the Monitoring Committee and the Water Quality (“WQ”) Improvements Committee (formerly Impairments Committee) into one committee in order to reduce the number of meetings and increase efficiency. The “Impairments Committee Chairman” position will be replaced by an elected “Member at Large.” These proposed changes also affect language in Article VI (Elections and Terms of Office) and Article VIII (Committees).
3. **ARTICLE VIII – COMMITTEES** – Section 5 proposes to change the term of office of the committee chairmen from one to two years.

---

## Current DRWW Executive Board:

---

- **PRESIDENT:** Brian Dorn, Acting President, North Shore Water Reclamation District (Peter Kolb, Lake County Public Works – resigned/retired Nov. 17, 2016)
- **VICE PRESIDENT:** Open (was Brian Dorn)
- **TREASURER:** Michael Talbett, Village of Kildeer
- **SECRETARY:** Paul Kendzior, Village of Libertyville
- **MONITORING COMMITTEE CHAIR** – Joe Robinson
- **LAKES COMMITTEE CHAIR** – Mike Adam
- **IMPAIRMENTS COMMITTEE CHAIR** – Open (Scott Phippen resigned/retired on Nov. 17, 2016)



According to the DRWW Bylaws, Section VI (Elections and Terms of Office), “the Executive Board shall nominate individuals for the offices of President, Vice President, Treasurer and Secretary.” The proposed Bylaw changes add an elected Member at Large.

### **NOMINATIONS FOR EXECUTIVE BOARD AND MEMBER AT LARGE:**

- **PRESIDENT:** Brian Dorn, North Shore Water Reclamation District
- **VICE PRESIDENT:** Al Giertych, Lake County Division of Transportation
- **TREASURER:** Michael Talbett, Village of Kildeer
- **SECRETARY:** Paul Kendzior, Village of Libertyville
- **MEMBER AT LARGE:** Jim Anderson, Lake County Forest Preserve District
- **MONITORING COMMITTEE CHAIR –** Joe Robinson
- **LAKES COMMITTEE CHAIR –** Mike Adam

Petitions presenting additional nominees for the Executive Board must be accompanied by the signature of at least three DRWW agency members in addition to the nominee’s signature and submitted to the DRWW Technical Coordinator (Beth Adler) at [Badler@lakecountyil.gov](mailto:Badler@lakecountyil.gov) no later than February 3, 2017 (10 business days ahead of the annual meeting). Per DRWW bylaws, nominations are not allowed from the floor at the Annual Meeting on 2/16/17.

**Attachment:** [Bylaws Proposed Revisions](#)

**EXHIBIT D**

**BYLAWS OF THE DES PLAINES RIVER WATERSHED WORKGROUP (Revised - 1/6/17)**

**ARTICLE I - Name**

The name of this organization is the Des Plaines River Watershed Workgroup of Lake County, hereinafter referred to as "DRWW" or the "Workgroup."

**ARTICLE II - Mission, Goal and Objectives**

Section 1. Mission. The mission of the Workgroup is to bring together a diverse coalition of stakeholders to work together to preserve and enhance water quality in the Des Plaines River and its tributaries within Lake County, Illinois.

Section 2. Goal. The goal of the Workgroup is to improve water quality in the Des Plaines River and its tributaries through monitoring, project and best practices implementation, and education and outreach that will achieve attainment of water quality standards and designated uses for the watershed.

Section 3. Objectives. The objectives of the Workgroup are:

- a. Develop and implement a watershed-based plan.
- b. Develop and implement a comprehensive monitoring program that will include chemical, physical and biological components to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses.
- c. Identify point and nonpoint source pollution issues and develop and implement short-term and long-term strategies to address these issues.
- d. Develop and implement long-term viable management strategies that accurately address water quality problems identified by the monitoring program.
- e. Develop and maintain appropriate water quality models of the watersheds to assess attainment of these objectives.

**ARTICLE III - Membership**

Section 1. Membership in the Workgroup shall be classified as an Agency Member, an Associate Member, or an Individual Member.

Section 2. Agency Member – Any public agency holding an NPDES permit for a discharge into the Des Plaines River and its tributaries, either from a publicly owned treatment works or from a public separate storm sewer system, and the Lake County Forest Preserve District. An Agency Member shall be entitled to between four and eighteen votes at Workgroup meetings, based on dues paid according to the following tiers:

<b>Dues Range</b>	<b>Number of Votes</b>
\$100-9,999	4 votes
\$10,000-19,999	6 votes
\$20,000-29,999	8 votes
\$30,000-39,999	10 votes
\$40,000-49,999	12 votes
\$50,000-59,999	14 votes
\$60,000-69,999	16 votes
\$70,000-79,999	18 votes plus 2 votes for each additional \$9,999

Section 3. Associate Member – An agency, organization or company interested in the mission and objectives of the Workgroup that is not eligible for membership as an Agency member. An Associate Member shall be entitled to two votes at Workgroup meetings.

Section 4. Individual Member - An individual interested in the mission, goals, and objectives of the Workgroup who is not eligible for membership as an Agency Member or Associate Member. An Individual Member is entitled to one vote at Workgroup meetings.

Section 5. Admission to any membership category will be determined by the Executive Board. Upon receipt of a

written request for admission, the Executive Board may approve said membership which will become effective upon payment of the appropriate dues and will remain in effect as long as the member remains in good standing with the Workgroup.

Section 6. Each Agency and Associate Member shall designate one or more Authorized Delegate(s) to cast its votes at Workgroup meetings. The Authorized Delegate(s) may be any designated employee of the Agency or representative of an Associate Member.

#### **ARTICLE IV - Dues and Fiscal Year**

Section 1. Annual dues are due on or before June 1 of each year. If a member fails to pay dues by August 1 or reach an agreement regarding the terms of dues with the Executive Board, the member's voting rights will be suspended.

Section 2. The annual dues for all members shall be set each year by recommendation of the Executive Board to the membership and approval by the membership at the Annual Meeting. Annual dues may consist of fees or approved in-kind services such as the provision of stream monitoring or other services by members to the Workgroup or a combination of fees and services, as determined by the Executive Board.

Section 3. Any member may withdraw from membership in the Workgroup by advising the President of its intent to do so.

Section 4. The fiscal year of the Workgroup shall be aligned with that of the contracted DRWW Administrative Agent fiscal year, commencing on December 1 of each calendar year and concluding on the last day of November of the following calendar year. The fiscal year budget shall be approved by the Executive Board at its January meeting and distributed to the membership at the Annual Meeting.

#### **ARTICLE V - Officers and Executive Board**

Section 1. Officers. Workgroup officers shall include a President, Vice President, Treasurer and Secretary. All officers must be the Authorized Delegate of an Agency Member.

Section 2. Executive Board. The Workgroup shall be governed by an Executive Board comprised of the four officers, a Member at Large, and the chairpersons of the three two standing committees – Monitoring/Water Quality Improvements Committee, ~~Impairments Committee~~, and Lakes Committee. Each member of the Executive Board shall be entitled to discuss and vote on matters coming before the Board. The immediate past president of the Workgroup shall be an ex-officio, nonvoting member of the Executive Board. A meeting of the Executive Board may be called upon a minimum ten days written notice by either the President or three members of the Executive Board. Four members of the Executive Board present at any meeting thereof shall constitute a quorum. A simple majority vote of a quorum shall control the policies and actions of the Executive Board.

Section 3. The President shall have general supervision of the affairs of the Workgroup and the Executive Board, shall preside at their respective meetings, and have the responsibility of overseeing contracts.

Section 4. The succession of officers is President, Vice President, Treasurer and Secretary, whom shall act in the absence of the ranking officer.

Section 5. The Administrative Agent, a contractor to the DRWW, shall receive and deposit all Workgroup monies, pay all invoices bills and present them for ratification to approved by the Executive Board, and be responsible for all banking and reporting requirements to state and federal agencies and shall maintain the records of the Workgroup, keep and distribute minutes and records of attendance of all meetings, and distribute all Workgroup notices and make a report to the membership of all such activities at the Annual Meeting.

Section 6. Reserved.

Section 7. The President shall serve as the principal spokesperson for the Workgroup and shall represent DRWW in discussions of mutual concern with governmental agencies or associations.

Section 8. The Executive Board, through its Administrative Agent, shall have the authority to enter into contracts and make payments for products and services reflected in the annual budget and to enter into agreements for grant funding for Workgroup purposes.

~~Section 9. Together the President and the Treasurer shall have the authority to authorize payments up to \$5,000 for goods and services that have been approved by the Executive Board.~~

Section 9. ~~10. Together the President and the Treasurer~~ The Executive Board may authorize expenditures up to \$10,000 that are an emergency and cannot be delayed for review at an Executive Board Workgroup meeting.

## **ARTICLE VI - Elections and Terms of Office**

Section 1. The Executive Board shall nominate individuals for the offices of President, Vice President, Treasurer, Secretary and **Member at Large** positions. The Executive Board shall attempt to nominate individuals who represent a cross section of Workgroup members. Prior to ~~Jan 1 of each year,~~ **the Annual Meeting of each odd numbered year**, the President shall send to the membership a complete list of Executive Board nominees. ~~and a copy of the proposed budget and proposed dues for the next fiscal year.~~

Section 2. Petition(s) presenting additional nominees for the Executive Board may be submitted to the Executive Board by Workgroup members no later than ~~Dec. 1~~ **10 business days before the Annual Meeting**. A petition must contain the signatures of Workgroup members representing a minimum of three Agency Members and each nominee's signature.

Section 3. Election of the Executive Board shall occur during the Annual Meeting ~~each~~ **every odd numbered year, by a simple majority of votes cast by the membership in accordance with the voting structure defined in Article III**. Only the names of the individuals who have been nominated according to the procedures described herein will be considered, and no nominations shall be permitted from the floor.

Section 4. The President, Vice President, Treasurer, Secretary, and member at large, shall be elected to two year terms, beginning at the close of the Annual Meeting of each odd numbered year.

Section 5. No one shall be eligible to serve as President until he or she has been a member of the Executive Board for one year.

Section 6. Board members may resign by submitting a letter to the President. If a Board Member's employment or group representation changes, their representation on the Board shall be reviewed by the Executive Committee. Vacancies shall be filled by appointment of the Executive Board until a successor is duly elected at the ~~first~~ **next** Annual Meeting **following the occurrence of the Board vacancy**.

## **ARTICLE VII - Workgroup (General Membership) Meetings**

Section 1. Workgroup meetings shall be held as needed but at least quarterly. Notice of Workgroup meetings and proposed meeting agendas will be provided to all Workgroup members at least seven days ~~seven days~~ prior to the meeting.

Section 2. An Annual Meeting of DRWW shall be held each ~~February~~ **year, at a date**, time and location to be determined by the Executive Board.

Section 3. Special Meetings of Workgroup members may be called by the President or the Executive Board or upon the written request of Workgroup members representing 25% addressed to the President or Executive Board.

Section 4. All meetings of the Workgroup shall be held within the watershed.

Section 5. Each Authorized Delegate and Individual member of the Workgroup shall be entitled to vote at Workgroup meetings.

Section 6. In the event an Authorized Delegate or Individual Member is unable to attend any Workgroup meeting, said member may designate, in writing, a proxy to cast the Member's vote(s) at a Workgroup meeting.

Section 7. At any Workgroup meeting, the presence of Workgroup members representing 25%, either in person or by proxy, shall constitute a quorum. A simple majority vote of a quorum of the Workgroup shall control the policies and actions of the Workgroup.

Section 8. The Workgroup shall maintain an informal atmosphere to ensure maximum participation of all members. However, to insure orderly procedure, Robert's Rules of Order may be invoked at any DRWW meeting.

## **ARTICLE VIII - Committees**

Section 1. The Workgroup shall have ~~three~~ **two** standing committees – Monitoring/**Water Quality Improvements** Committee ~~and, Impairments Committee,~~ Lakes Committee. The Executive Board may appoint such other committees as are necessary.

Section 2. The Monitoring/**Water Quality Improvements** Committee shall oversee the monitoring program ~~and~~ **water quality improvement initiatives/projects** for the Workgroup and make appropriate recommendations for program revisions to the Executive Board.

~~Section 3. The Impairments Committee shall oversee the impairments program of the Workgroup and make appropriate recommendations for program revisions to the Executive Board.~~

Section ~~3~~ **4**. The Lakes Committee shall assist in identifying lakes tributary to the Des Plaines River that impact the

water quality of the Des Plaines River and make appropriate recommendations for program revisions to the Executive Board.

Section 4. The President shall appoint the chairperson for all DRWW committees. The President shall attempt to appoint individuals as committee chairpersons who represent a cross section of Workgroup members. Each committee chairperson shall submit to the President a list of committee members. DRWW committee members may include any Workgroup member.

Section 5. The term of office of the chairperson of any DRWW committee shall be ~~one~~ two years.

#### **ARTICLE IX - Amendments**

Any revision to the Bylaws shall be submitted to the Executive Board for its review. Following review by the Executive Board, Bylaw revisions shall be submitted to the membership for a 30-day review and comment period. Any revision is effective after the comment and review period and with approval of a 2/3 vote of the Executive Board at a following Executive Board meeting.

#### **Article X - DISSOLUTION**

A motion to dissolve the Workgroup may be made by any Authorized Delegate at a regularly scheduled meeting at which a quorum is present. Upon receiving a proper second to the motion, the President shall defer action on the motion until the next regularly scheduled meeting of the Workgroup. All members shall be notified by mail of the pending motion to dissolve. At the next regularly scheduled meeting, the President shall, after discussion, call for a roll call vote on the motion to dissolve, which shall require the affirmative vote of 2/3 of all Workgroup member votes.

**EXHIBIT D**

**BYLAWS OF THE DES PLAINES RIVER WATERSHED WORKGROUP (Revised - 1/6/17)**

**ARTICLE I - Name**

The name of this organization is the Des Plaines River Watershed Workgroup of Lake County, hereinafter referred to as "DRWW" or the "Workgroup."

**ARTICLE II - Mission, Goal and Objectives**

Section 1. Mission. The mission of the Workgroup is to bring together a diverse coalition of stakeholders to work together to preserve and enhance water quality in the Des Plaines River and its tributaries within Lake County, Illinois.

Section 2. Goal. The goal of the Workgroup is to improve water quality in the Des Plaines River and its tributaries through monitoring, project and best practices implementation, and education and outreach that will achieve attainment of water quality standards and designated uses for the watershed.

Section 3. Objectives. The objectives of the Workgroup are:

- a. Develop and implement a watershed-based plan.
- b. Develop and implement a comprehensive monitoring program that will include chemical, physical and biological components to accurately identify the quality of the river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses.
- c. Identify point and nonpoint source pollution issues and develop and implement short-term and long-term strategies to address these issues.
- d. Develop and implement long-term viable management strategies that accurately address water quality problems identified by the monitoring program.
- e. Develop and maintain appropriate water quality models of the watersheds to assess attainment of these objectives.

**ARTICLE III - Membership**

Section 1. Membership in the Workgroup shall be classified as an Agency Member, an Associate Member, or an Individual Member.

Section 2. Agency Member – Any public agency holding an NPDES permit for a discharge into the Des Plaines River and its tributaries, either from a publicly owned treatment works or from a public separate storm sewer system, and the Lake County Forest Preserve District. An Agency Member shall be entitled to between four and eighteen votes at Workgroup meetings, based on dues paid according to the following tiers:

<b>Dues Range</b>	<b>Number of Votes</b>
\$100-9,999	4 votes
\$10,000-19,999	6 votes
\$20,000-29,999	8 votes
\$30,000-39,999	10 votes
\$40,000-49,999	12 votes
\$50,000-59,999	14 votes
\$60,000-69,999	16 votes
\$70,000-79,999	18 votes plus 2 votes for each additional \$9,999

Section 3. Associate Member – An agency, organization or company interested in the mission and objectives of the Workgroup that is not eligible for membership as an Agency member. An Associate Member shall be entitled to two votes at Workgroup meetings.

Section 4. Individual Member - An individual interested in the mission, goals, and objectives of the Workgroup who is not eligible for membership as an Agency Member or Associate Member. An Individual Member is entitled to one vote at Workgroup meetings.

Section 5. Admission to any membership category will be determined by the Executive Board. Upon receipt of a

written request for admission, the Executive Board may approve said membership which will become effective upon payment of the appropriate dues and will remain in effect as long as the member remains in good standing with the Workgroup.

Section 6. Each Agency and Associate Member shall designate one or more Authorized Delegate(s) to cast its votes at Workgroup meetings. The Authorized Delegate(s) may be any designated employee of the Agency or representative of an Associate Member.

#### **ARTICLE IV - Dues and Fiscal Year**

Section 1. Annual dues are due on or before June 1 of each year. If a member fails to pay dues by August 1 or reach an agreement regarding the terms of dues with the Executive Board, the member's voting rights will be suspended.

Section 2. The annual dues for all members shall be set each year by recommendation of the Executive Board to the membership and approval by the membership at the Annual Meeting. Annual dues may consist of fees or approved in-kind services such as the provision of stream monitoring or other services by members to the Workgroup or a combination of fees and services, as determined by the Executive Board.

Section 3. Any member may withdraw from membership in the Workgroup by advising the President of its intent to do so.

Section 4. The fiscal year of the Workgroup shall be aligned with that of the contracted DRWW Administrative Agent fiscal year, commencing on December 1 of each calendar year and concluding on the last day of November of the following calendar year. The fiscal year budget shall be approved by the Executive Board at its January meeting and distributed to the membership at the Annual Meeting.

#### **ARTICLE V - Officers and Executive Board**

Section 1. Officers. Workgroup officers shall include a President, Vice President, Treasurer and Secretary. All officers must be the Authorized Delegate of an Agency Member.

Section 2. Executive Board. The Workgroup shall be governed by an Executive Board comprised of the four officers, a Member at Large, and the chairpersons of the three two standing committees – Monitoring/Water Quality Improvements Committee, ~~Impairments Committee~~, and Lakes Committee. Each member of the Executive Board shall be entitled to discuss and vote on matters coming before the Board. The immediate past president of the Workgroup shall be an ex-officio, nonvoting member of the Executive Board. A meeting of the Executive Board may be called upon a minimum ten days written notice by either the President or three members of the Executive Board. Four members of the Executive Board present at any meeting thereof shall constitute a quorum. A simple majority vote of a quorum shall control the policies and actions of the Executive Board.

Section 3. The President shall have general supervision of the affairs of the Workgroup and the Executive Board, shall preside at their respective meetings, and have the responsibility of overseeing contracts.

Section 4. The succession of officers is President, Vice President, Treasurer and Secretary, whom shall act in the absence of the ranking officer.

Section 5. The Administrative Agent, a contractor to the DRWW, shall receive and deposit all Workgroup monies, pay all invoices bills and present them for ratification to approved by the Executive Board, and be responsible for all banking and reporting requirements to state and federal agencies and shall maintain the records of the Workgroup, keep and distribute minutes and records of attendance of all meetings, and distribute all Workgroup notices and make a report to the membership of all such activities at the Annual Meeting.

Section 6. Reserved.

Section 7. The President shall serve as the principal spokesperson for the Workgroup and shall represent DRWW in discussions of mutual concern with governmental agencies or associations.

Section 8. The Executive Board, through its Administrative Agent, shall have the authority to enter into contracts and make payments for products and services reflected in the annual budget and to enter into agreements for grant funding for Workgroup purposes.

~~Section 9. Together the President and the Treasurer shall have the authority to authorize payments up to \$5,000 for goods and services that have been approved by the Executive Board.~~

Section 9. ~~10. Together the President and the Treasurer~~ The Executive Board may authorize expenditures up to \$10,000 that are an emergency and cannot be delayed for review at an Executive Board Workgroup meeting.

## **ARTICLE VI - Elections and Terms of Office**

Section 1. The Executive Board shall nominate individuals for the offices of President, Vice President, Treasurer, Secretary and **Member at Large** positions. The Executive Board shall attempt to nominate individuals who represent a cross section of Workgroup members. Prior to ~~Jan 1 of each year,~~ **the Annual Meeting of each odd numbered year**, the President shall send to the membership a complete list of Executive Board nominees. ~~and a copy of the proposed budget and proposed dues for the next fiscal year.~~

Section 2. Petition(s) presenting additional nominees for the Executive Board may be submitted to the Executive Board by Workgroup members no later than ~~Dec. 1~~ **10 business days before the Annual Meeting**. A petition must contain the signatures of Workgroup members representing a minimum of three Agency Members and each nominee's signature.

Section 3. Election of the Executive Board shall occur during the Annual Meeting ~~each~~ **every odd numbered year**, **by a simple majority of votes cast by the membership in accordance with the voting structure defined in Article III**. Only the names of the individuals who have been nominated according to the procedures described herein will be considered, and no nominations shall be permitted from the floor.

Section 4. The President, Vice President, Treasurer, Secretary, and member at large, shall be elected to two year terms, beginning at the close of the Annual Meeting of each odd numbered year.

Section 5. No one shall be eligible to serve as President until he or she has been a member of the Executive Board for one year.

Section 6. Board members may resign by submitting a letter to the President. If a Board Member's employment or group representation changes, their representation on the Board shall be reviewed by the Executive Committee. Vacancies shall be filled by appointment of the Executive Board until a successor is duly elected at the ~~first~~ **next** Annual Meeting **following the occurrence of the Board vacancy**.

## **ARTICLE VII - Workgroup (General Membership) Meetings**

Section 1. Workgroup meetings shall be held as needed but at least quarterly. Notice of Workgroup meetings and proposed meeting agendas will be provided to all Workgroup members at least seven days ~~seven days~~ prior to the meeting.

Section 2. An Annual Meeting of DRWW shall be held each ~~February~~ **year, at a date**, time and location to be determined by the Executive Board.

Section 3. Special Meetings of Workgroup members may be called by the President or the Executive Board or upon the written request of Workgroup members representing 25% addressed to the President or Executive Board.

Section 4. All meetings of the Workgroup shall be held within the watershed.

Section 5. Each Authorized Delegate and Individual member of the Workgroup shall be entitled to vote at Workgroup meetings.

Section 6. In the event an Authorized Delegate or Individual Member is unable to attend any Workgroup meeting, said member may designate, in writing, a proxy to cast the Member's vote(s) at a Workgroup meeting.

Section 7. At any Workgroup meeting, the presence of Workgroup members representing 25%, either in person or by proxy, shall constitute a quorum. A simple majority vote of a quorum of the Workgroup shall control the policies and actions of the Workgroup.

Section 8. The Workgroup shall maintain an informal atmosphere to ensure maximum participation of all members. However, to insure orderly procedure, Robert's Rules of Order may be invoked at any DRWW meeting.

## **ARTICLE VIII - Committees**

Section 1. The Workgroup shall have ~~three~~ **two** standing committees – Monitoring/**Water Quality Improvements** Committee ~~and, Impairments Committee,~~ Lakes Committee. The Executive Board may appoint such other committees as are necessary.

Section 2. The Monitoring/**Water Quality Improvements** Committee shall oversee the monitoring program ~~and~~ **water quality improvement initiatives/projects** for the Workgroup and make appropriate recommendations for program revisions to the Executive Board.

~~Section 3. The Impairments Committee shall oversee the impairments program of the Workgroup and make appropriate recommendations for program revisions to the Executive Board.~~

Section ~~3~~ **4**. The Lakes Committee shall assist in identifying lakes tributary to the Des Plaines River that impact the



water quality of the Des Plaines River and make appropriate recommendations for program revisions to the Executive Board.

Section 4. The President shall appoint the chairperson for all DRWW committees. The President shall attempt to appoint individuals as committee chairpersons who represent a cross section of Workgroup members. Each committee chairperson shall submit to the President a list of committee members. DRWW committee members may include any Workgroup member.

Section 5. The term of office of the chairperson of any DRWW committee shall be ~~one~~ two years.

#### **ARTICLE IX - Amendments**

Any revision to the Bylaws shall be submitted to the Executive Board for its review. Following review by the Executive Board, Bylaw revisions shall be submitted to the membership for a 30-day review and comment period. Any revision is effective after the comment and review period and with approval of a 2/3 vote of the Executive Board at a following Executive Board meeting.

#### **Article X - DISSOLUTION**

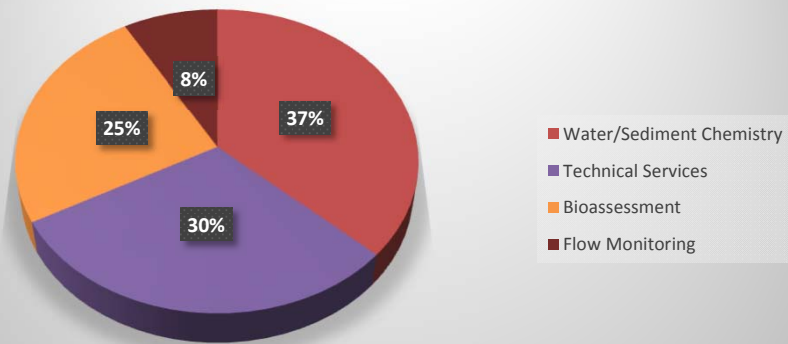
A motion to dissolve the Workgroup may be made by any Authorized Delegate at a regularly scheduled meeting at which a quorum is present. Upon receiving a proper second to the motion, the President shall defer action on the motion until the next regularly scheduled meeting of the Workgroup. All members shall be notified by mail of the pending motion to dissolve. At the next regularly scheduled meeting, the President shall, after discussion, call for a roll call vote on the motion to dissolve, which shall require the affirmative vote of 2/3 of all Workgroup member votes.



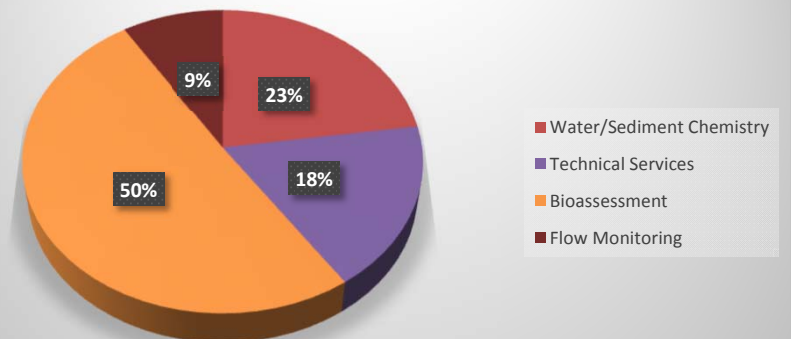
## DRWW Contract Status Report

Consultant	Original Contract Date	2016 Contract Amount	Amended Date	Amended Amount	Expended 2016	Carryover/Budget FY17	Status/ Comments
Beth Adler	10/20/2016	54,200			5,950	48,250	Oct/Nov 2016 expense
Beth Adler			3/16/2017	increase by 8,750 NTE 57,000 - 2017	8,750	8,750	small increase for reimbursable expenses
Burns & McDonnell	1/6/2016	39,600			21,155	18,445	Gage purchase, installation, measurement
Burns & McDonnell			1/19/2017	34,900		34,900	34,900 is 2017 proposal
Geosyntec	various mutli-yr	various multi-yr	6/16/2016	35,200	23,016	12,184	
MBI	1/6/2016	165,000	6/16/2016	increase by 30,350, Net 195,350	62,830	132,520	sampling complete, analysis and reporting
MBI			4/20/2017	\$65,000 for 1/3 yrly program		65,000	estimated new contract approval
Suburban Labs	2015	33,252	6/16/2016	115,000	93,595	20,000	33,252 carryover into 2016
Suburban Labs			4/20/2017	\$70,000 for 1/3 yrly program		68,700	estimated new contract approval (reduced 2017 need)
						408,749	

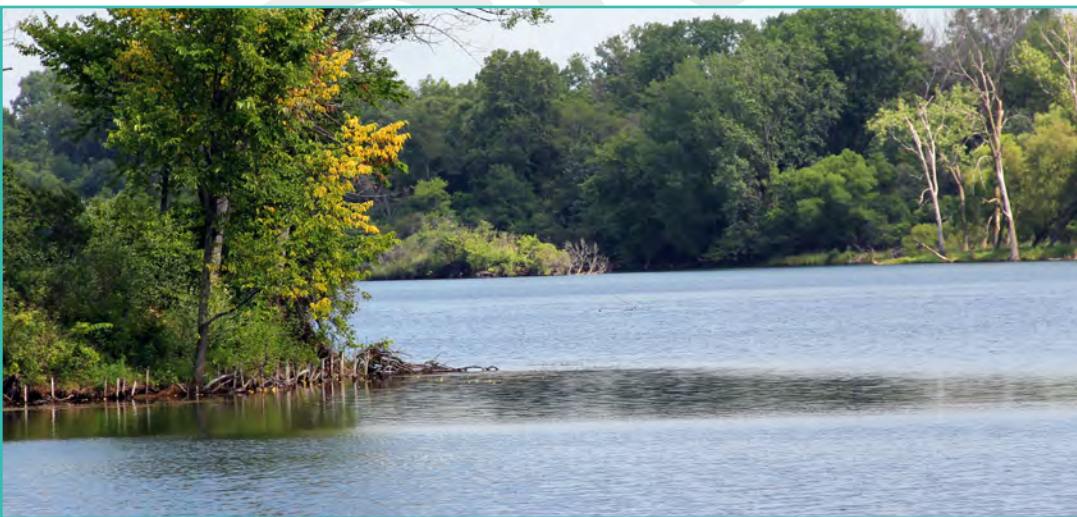
### DRWW 2016 Expenses



### DRWW 2017 Expenses



# DRAFT WORKPLAN 2017-2021



**D**es Plaines  
**R**iver  
**W**atershed  
**W**orkgroup

# DRWW: A BRIEF HISTORY

Lakes and streams within the Des Plaines River watershed have been identified by the Illinois Environmental Protection Agency (IEPA) as impaired for phosphorus, fecal coliform, chloride and other pollutants. The pollutants are a result of point and nonpoint source pollution, entering lakes, rivers, and streams through pipes and by sheet flow, after flowing across the landscape, or atmospheric deposition. These rivers and streams do not meet IEPA's designated uses of aquatic life, primary contact recreation, and fish consumption. IEPA's goal is to improve water quality so that waterbodies can be removed from the impaired list.

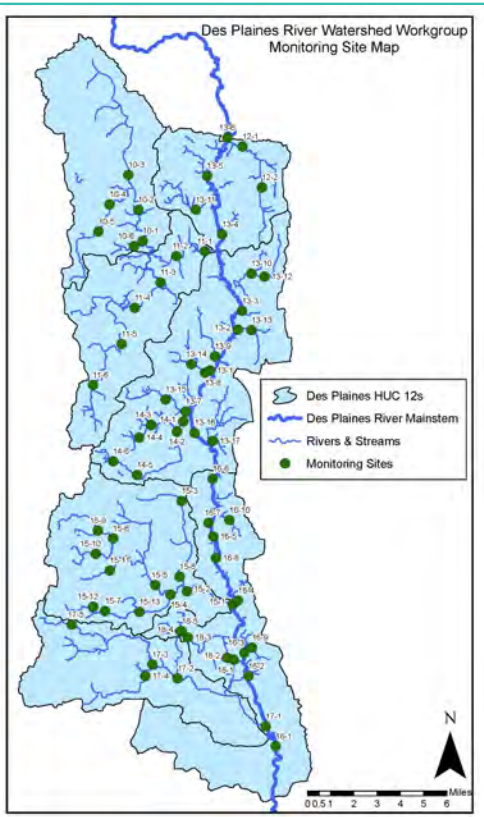
In lieu of imposing costly upgrades to publically owned treatment works' (POTWs) and more stringent permit limits to communities' National Pollutant Discharge Elimination System (NPDES) permits, IEPA supports the formation of a local workgroup, to take these issues of water quality impairment on at a local level. This model is being successfully implemented in areas across the state (the DuPage River Salt Creek Workgroup, for example).

In response, POTWs and communities within the Des Plaines River watershed in Lake County formed a workgroup in 2014: a voluntary, dues paying, membership organization that is monitoring water quality and strategizing to improve water quality based on scientific data, making decisions at the local level.

Membership consists of POTWs, municipal separate storm sewer permittees (MS4s), environmental groups, and concerned citizens. The Workgroup, the Des Plaines River Watershed Workgroup (DRWW), meets regularly, is governed by a set of bylaws and an elected executive board, and provides many benefits to the general membership including:

- Water quality data collection and reporting.
- Water quality improvement initiatives.
- Local decision making.
- Cost savings.
- NPDES permit compliance: shared monitoring effort, education and outreach materials.
- Continuing education credits to maintain professional certifications.

Annual dues are being used to implement a comprehensive, watershed wide monitoring program, which will be the basis for water quality improvement initiatives, and to cover technical and administrative support. The annual dues will also be used as match for completing the watershed planning effort within the Des Plaines River watershed, which is being funded in part by a Section 319 grant.



## THE DES PLAINES RIVER WATERSHED

The Des Plaines River watershed covers over 130,000 acres or just over 200 square miles in Lake County, Illinois. The Des Plaines River starts just west of Kenosha, Wisconsin and flows south through Racine and Kenosha Counties in Wisconsin, and then through Lake, Cook, and Will Counties in Illinois. The river then joins the Sanitary and Ship Canal in Lockport, flows west through Joliet, before converging with the Kankakee River to form the Illinois River. The Illinois River then flows into the Mississippi River, which flows south to the Gulf of Mexico.

In Lake County, there are nine subwatersheds that make up the larger Des Plaines River watershed: North Mill Creek, Mill Creek, Newport Drainage Ditch, Bull Creek, Indian Creek, Buffalo Creek, Aptakisic Creek, Upper Des Plaines main stem and Lower Des Plaines main stem. The Des Plaines River watershed includes 33 Lake County municipalities, 12 townships, and two drainage districts. There are eight publically owned treatment facilities that discharge approximately 80 million gallons a day of treated wastewater to the Des Plaines River within Lake County. The majority of the main stem of the river is bordered by forest preserve and open space.

*THE DRWW FORMED IN 2014. IT HAS ALREADY COMPLETED COMPREHENSIVE BASELINE MONITORING AT 69 SITES FOR WATER CHEMISTRY, SEDIMENT CHEMISTRY AND BIOLOGY (FISH, MACROINVERTEBRATES AND HABITAT). FLOW MONITORING BEGAN IN LATE 2016 AT 15 LOCATIONS IN ADDITION TO 6 EXISTING USGS LOCATIONS.*

## OUR MEMBERS (2017)

### DRWW Agency Members:

City of Lake Forest  
Village of Buffalo Grove  
Village of Deerfield  
Village of Grayslake  
Village of Green Oaks  
Village of Gurnee  
Village of Kildeer  
Lake County  
Lake County Public Works  
Lake County Forest Preserve District  
North Shore Water Reclamation District  
Village of Lake Zurich  
Village of Libertyville  
Village of Lincolnshire  
Village of Lindenhurst  
Village of Riverwoods  
Village of Round Lake Beach  
Village of Vernon Hills

### DRWW Associate Members:

Applied Technologies, Inc.  
Christopher Burke Engineering  
Lake County Stormwater Management Commission  
Sierra Club  
Wetlands Research, Inc.

## STRATEGY 1 – MONITORING AND WATER QUALITY ASSESSMENT

### OBJECTIVE 1:

Continue to assess water quality status and trends in the watershed and enhance these efforts as impairments and pollution sources are identified and resources allow.

#### 5-YEAR ACTION STEPS

The DRWW Monitoring/Water Quality Improvements and Lakes Committees will:

- Annually review the monitoring program to assess site locations, data parameters and budget.
- Consult with outside experts to ensure the most efficient use of resources in data collection, and that appropriate parameters are being monitored to achieve the goals of the DRWW.
- Make data available for watershed planning and to DRWW members.
- Use monitoring results to identify and prioritize impaired waters.
- Analyze monitoring results to pinpoint the sources of pollution.
- Use the monitoring results to evaluate effectiveness of watershed projects and initiatives.

### OBJECTIVE 2:

Assess the feasibility of creating a watershed-wide database of monitoring data.

#### 5-YEAR ACTION STEPS

The DRWW Monitoring/Water Quality Improvements and Lakes Committees will:

- Determine data needs of members.
- Identify other databases and evaluate the ease of interfacing with them, cost to create and maintain them, frequency that members query the database.

*POLLUTION FROM  
THE DES PLAINES  
WATERSHED  
CONTRIBUTES TO THE  
NORTHERN GULF OF  
MEXICO HYPOXIA  
(DEAD ZONE).*





## OBJECTIVE 1:

Create a working relationship with Illinois EPA, US EPA, and other agencies with regulatory oversight within the Watershed to discuss NPDES permit requirements (POTW and MS4) and explore the feasibility of alternative means to achieve water quality goals, such as the implementation of projects to improve water quality and feasibility of a water quality trading program.

### 5-YEAR ACTION STEPS

The Technical Coordinator and Members will:

- Meet one-on-one with Regulators
  - Discuss the Workgroup's goals, implementation plan, and resource needs
  - Keep them informed of Workgroup progress.
  - Stay abreast of regulatory program nuances and new requirements
  - Explore options regarding alternative methods to achieve water quality goals.
  - Explore economically beneficial permit allowances for POTWs.
- Attend other workgroup meetings or trainings, as time permits, to stay informed about what other groups are doing and discuss proposed regulatory changes.
- Create an annual report to satisfy the NPDES permit reporting requirements of its members.
- Create a single Nutrient Implementation Plan (NIP) that can be used by member Permittees for submittal to IL EPA for approval of renewal applications. The NIP must identify phosphorus input reductions by point source discharges, non-point source discharges, and other measures necessary to remove dissolved oxygen and offensive condition impairments in the Des Plaines River watershed.

## OBJECTIVE 2:

Encourage and support MS4's to include innovative water quality services, projects, BMPs and Green Infrastructure.

### 5-YEAR ACTION STEPS:

The Technical Coordinator with Membership support will:

- Identify MS4s who are leaders in this field.
- Organize annual tour of projects, BMPs, green infrastructure.
- Provide support and attendance at Municipal meetings as requested, for technical support
- Identify MS4 permit requirements that the DRWW can provide supplemental services to address.



#### WHAT IS A WATERSHED?

A WATERSHED IS AN AREA OF LAND THAT DRAINS INTO A WATER BODY SUCH AS A STREAM, RIVER, OR LAKE. WATERSHED BOUNDARIES ARE DEFINED BY RIDGES OR HIGH ELEVATION POINTS. RAIN THAT FALLS ANYWHERE IN THE WATERSHED WILL ULTIMATELY FLOW, BY THE FORCE OF GRAVITY, INTO THE WATER BODY.



# STRATEGY 3 – WATER QUALITY IMPROVEMENT PROJECTS PLANNING AND IMPLEMENTATION

## OBJECTIVE 1:

Cooperate with Lake County Stormwater Commission and participate in developing the Action Plan and the Implementation and Education and Outreach Strategies for the Des Plaines River Watershed-based Plan.

### 5-YEAR ACTION STEPS

The Technical Coordinator and Monitoring/Water Quality Improvements and Lakes Committees will:

- Provide monitoring data and the monitoring report to help identify Water Quality Improvement Projects and recommendations for the Watershed Action Plan.
- Attend and participate in Watershed Planning meetings in 2017-2018.
- Identify other Watershed Projects or Initiatives (rain garden initiatives, etc.) that will collectively improve water quality.

## OBJECTIVE 2:

Identify funding sources and support for Watershed Projects.

### 5-YEAR ACTION STEP

- Develop a list of high priority watershed improvement projects from the Watershed Action Plan for implementation.
- Investigate and identify all possible sources of funding, including grants, in-kind services and local sponsor contributions to implement watershed improvement projects.
- Inquire how other groups are funding watershed projects.
- Assist in identifying and coordinating multi-jurisdictional water quality implementation projects.
- Prepare a strategy to accumulate and sustain enough resources to meet the project budget, including operation and maintenance.
- Enlist watershed experts to review proposals for projects and offer advice to applicants, helping them to develop better, more competitive proposals.
- Develop educational/outreach materials or other support services for the project.

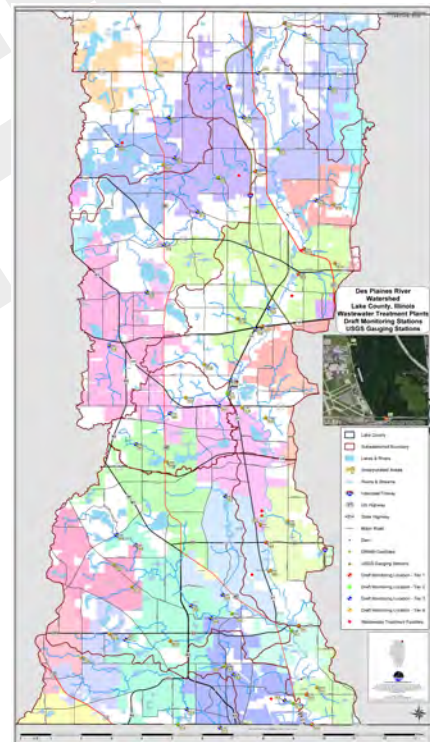
## OBJECTIVE 3:

Implement Water Quality Improvement Projects and long-term maintenance.

### 5-YEAR ACTION STEPS

The Technical Coordinator will assist the local sponsor to:

- Identify potential grants and funding sources on behalf of sponsor.
- Coordinate with project partners and prepare any necessary agreements.
- Preparation of design plans and specifications, if necessary, to implement the project.
- Prepare Requests for Proposals and put the project out for bid.
- Select a contractor.
- Provide oversight of contractors' work, as time permits.



**A WATERSHED PLAN IS IN PROGRESS AND SHOULD BE COMPLETE BY EARLY 2018. THE DRWW'S MONITORING DATA WILL BE USED TO ACCURATELY IDENTIFY IMPAIRMENTS. THE WATERSHED PLAN WILL PROPOSE WATERSHED PROJECTS TO ADDRESS THE IDENTIFIED IMPAIRMENTS.**

# STRATEGY 4 – LEADERSHIP & ENGAGEMENT

## OBJECTIVE 1:

Grow our members into game changer leaders through education, training, watershed experiences and role modeling.

### 5-YEAR ACTION STEPS

The DRWW Leadership and Technical Coordinator will:

- Allow every member to express and employ their talents, ideas, experiences, skills and expertise.
- Sponsor quarterly guest speaker series to educate about pressing watershed issues and to identify collaborative opportunities to address them.
- Collaborate with existing groups to sponsor a variety of watershed awareness events (i.e. clean ups, canoe trips, Earth Day, etc.) with an education component.

## OBJECTIVE 2:

Recognize members, businesses, groups, community leaders, elected officials, and other individuals that significantly contribute to the DRWW's mission and goals.

### 5-YEAR ACTION STEPS:

The DRWW Executive Board will:

- Nominate individuals or organizations who are making a substantial contribution.
- Agree on when and how recognition will be conferred.

## OBJECTIVE 3:

Develop an education and information program that identifies benefits the Workgroup provides to the public (stakeholders) in the watershed for recruitment of members and public education.

### 5-YEAR ACTION STEPS

The Technical Coordinator with assistance from the DRWW Committees will:

- Maintain an informative and useful web site.
- Publish an e-newsletter to members quarterly that includes work progress updates and timely information on watershed programs.
- Host events and speaking engagements with public officials in order to update them on crucial watershed issues and identify partnership opportunities.
- Reach out to additional public sector stakeholders – townships, park districts, drainage districts, school districts, etc. – to inform them of the Workgroup's activities and invite them to become DRWW members.
- Reach out to private sector stakeholders – business community, consultants, homeowner and lake associations, large property owners, not for profits – to inform them of the Workgroup's activities and invite them to partner with us.

## OBJECTIVE 4:

DRWW annual operations

### ANNUAL ACTION STEPS

The Technical Coordinator and Executive Board will:

- Develop, adopt and disseminate an annual:
  - Work plan for the DRWW.
  - Budget for the DRWW.
  - Report on DRWW accomplishments.
- Review member dues annually and send out notices for dues payment.
- Review DRWW by-laws.
- Organize and facilitate 4 quarterly general member meetings each year.



## OUR VISION



Waterbodies in the Des Plaines River Watershed will meet or exceed water quality standards and designated uses within the watershed in Lake County. The Workgroup consists of local leaders who are striving to become “game changers” for water quality improvement, providing a national model of water quality leadership and resulting in significantly improved water quality in the Des Plaines River Watershed.

## OUR THANKS

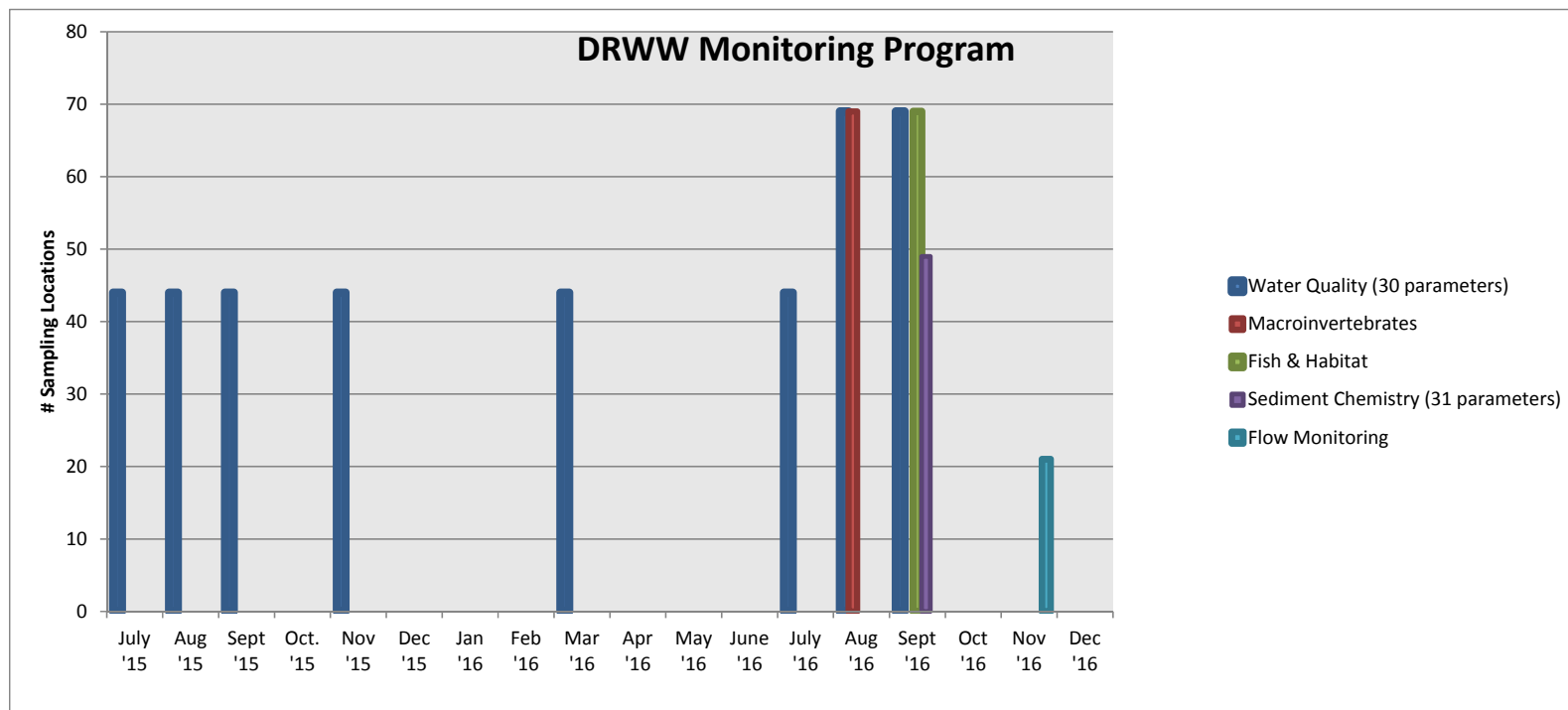
*To our executive board:* Brian Dorn, Michael Talbett, Paul Kendzior, Joe Robinson, Mike Adam, Peter Kolb.

*Our Monitoring Committee:* Joe Robinson, Mike Adam, Jim Bland, Al Giertych, Austin McFarlane, Jim Anderson and Steve Vella

*Our Lakes Committee:* Mike Adam, Alana Bartolai, Jim Bland, Rob Flood, Sharon Osterby, Gerry Urbanozo, Tom Morthorst and Nick Huber.

*Our Administrative Agent:* Lake County Stormwater Management Commission. Mike Warner, Patty Werner, Jeff Laramy, Neal Schindelar, Wendy Morey, Darcy McNeill, Beth Adler, and Haley Meents.

*THE MISSION OF THE WORKGROUP IS TO BRING TOGETHER A DIVERSE COALITION OF STAKEHOLDERS TO WORK TOGETHER TO DETERMINE AND RESOLVE PRIORITY STRESSORS AFFECTING WATER QUALITY AND STREAM RESOURCE QUALITY IN WATERBODIES IN THE DES PLAINES RIVER WATERSHED, RESULTING IN PERMIT LIMITS AND DESIGNATED USES BEING MET.*



**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



**MEETING AGENDA**

---

1. **Introductions and Announcements** – Brian Dorn, DRWW President and North Shore Water Reclamation District, will conduct introductions and provide an overview of the meeting.
2. **No previous meeting minutes to approve – May meeting was canoe outing**
3. **Public Comment**
4. **Des Plaines River Watershed Planning Meeting**
  - a. **Review and Approve by Consensus June 8, 2017 Meeting Summary**
  - b. **DRWW & Historical Monitoring Data**
    - i. **Brian O’Neill** – Burns and McDonnell DRWW Flow Data collected during 2016-2017.
    - ii. **Mike Prusila** – Lake County Stormwater Management Commission (LCSMC) - Historical Water Quality/Sediment and Fish/Macro/Habitat Data for the Des Plaines River Watershed
    - iii. **Chris Yoder** – Midwest Biodiversity Institute (MBI) DRWW Water Quality/Sediment, Fish/Macro/Habitat Data collected 2015-2016.
5. **DRWW Business**
  - a. **Committee Updates**
    - i. **Monitoring/Water Quality Improvements Committee**
    - ii. **Lakes Committee**
6. **Next DRWW General Membership meeting: Quarterly meeting: November 16, 2017**
7. **Old business**
8. **New business**
9. **Adjournment**

**Certificates for 1 Professional Development Hour will be at the back of the room.**

**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



**JOINT MEETING OF THE  
DES PLAINES RIVER WATERSHED WORKGROUP (DRWW)  
AND DES PLAINES RIVER WATERSHED PLAN (DPR PLAN)  
AUGUST 17, 2017 1:30-4:00 PM  
LIBERTYVILLE VILLAGE HALL, SECOND FLOOR  
118 W COOK STREET, LIBERTYVILLE, IL 60048**

**MEETING MINUTES**

5. **Introductions and Announcements** – Brian Dorn, North Shore Water Reclamation District (NSWRD) and DRWW President, called the meeting to order at 1:30 pm, conducted introductions, and provided an overview of the meeting.
6. **No previous meeting minutes to approve – May meeting was canoe outing**
7. **Public Comment.** None.
8. **Des Plaines River Watershed Planning Meeting** – Ashley Warren introduced the Des Plaines River watershed planning process and asked meeting attendees to review the June 8th, 2017 meeting summary.
6. **Approval of 6/8/17 Meeting Summary by Consensus.** Meeting summary was approved by consensus.
7. **DRWW and Historical Monitoring Data. (Note: All speakers powerpoint presentations are available at DRWW.org/meetings/meeting presentations & <http://www.lakecountyil.gov/3655/DPR-Watershed-Meeting-Summaries>)**
  - i. **Brian O’Neill – Burns and McDonnell.** Brian presented a powerpoint presentation regarding the importance of flow data, how to measure flow and results of data collected in the Des Plaines Watershed in 2016-2017.

Q - Will the data you are collecting be used in the plan?

A – Yes.

Q – With high rain events, that may continue to increase, how do you account for that?

A – That is a challenge for any of these types of relationships.

Comment: This flow monitoring is not intended to characterize flood relationships.



**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



Q – If you have a narrow stream channel and then during flooding it is very wide, wouldn't you need 2 curves to determine flow?

A – Yes.

Q – If you could estimate what was the baseline discharge from the Des Plaines River, what would that number be?

A – I have not done that calculation.

Q – Do you do any measurements on groundwater?

A – No.

**ii. Mike Prusila – Lake County Stormwater Management Commission** gave a powerpoint presentation on historical water quality/sediment and fish/macro/habitat data for the Des Plaines River Watershed. No questions.

**iii. Chris Yoder – Midwest Biodiversity Institute (MBI)** gave a powerpoint presentation of DRWW water quality/sediment, fish/macro/habitat data collected in 2015-2016.

Q - What the quality of the water coming from Wisconsin into Lake County, IL?

A – The 3 most northern sampling locations in Lake County had a lack of fish/macros. The water up there is more like a wetland than a river, it is somewhat stagnant.

Q – There were some Polycyclic Aromatic Hydrocarbons (PAHs) detected over the limit in the Des Plaines River (mainstem), but good macroinvertebrate numbers, can you comment on that?

A – The macroinvertebrate numbers were good, but the fish diversity was not. The biology (fish and macros) is going to trump the pollutants, which means that if we can improve the fish diversity we will not have to worry about the pollutants.

Q – There are a lot of lakes in the watershed. Pollutant loads become a critical issue for evaluating lakes. More frequent collection of data would need to be done to evaluate lakes effectively. Any comment on this over the long haul?

A – I would generally agree with you, if that's what your goal is.

**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



Mike Adam – The DRWW Lakes Committee will be looking at this and deciding if we can resolve this through modeling or if we need more data.

Chris Yoder – And that's a different goal or end point – a trophic state, which is based on water clarity, which is different than the one we are going for. The goal or end point we are going for is a high IBI number – which means there are healthy levels of fish and macroinvertebrates. If the IBI = 41 then the stream reach is considered to not be impaired.

Q – Comment on their being a bias in the metrics against headwater streams (tributaries) vs. Des Plaines River proper. Tributaries cannot have as many fish species as the river.

A – Illinois Indexes of Biological Integrity (IBI) is for wadeable streams, but it worked pretty good, so I'm not sure if this is a major issue. I agree with your concern, but I don't think it's quite that bad. We are more concerned that almost none of the 70 sites are meeting the IBI, which means it may be set too high or this regions' calibration is incorrect. MBI will have to do due diligence on that. We look at habitat sensitive species.

Q – One of the first slides says you are sampling based on potential aquatic uses, but most of your talk was about meeting state criteria, not aquatic use. It seems like all the push is to go back to a pre-settlement-type of condition.

A – No. The general use goal incorporates the aftermath of human development, finding the best of what's left, and calibrating the criteria to that. This is not a pristine goal. Lower DuPage at Shanahan Dam scores a 60 (highest score, but fish cannot re-establish above the dam. The species of fish you need to boost the IBI are not present above the dam. We may have to transport fish around the watershed.

Q – Why is the aquatic use above the dam the same as below the dam?

A – The dam is an impairment, and we need to fix that, but the problem is that not every impairment is not able to be fixed. We're not going to lower the bar due to socio-economic issues that cannot be resolved. The system starts from a reasonable statement of what a restored condition would look like and it's not asking for presettlement conditions. But there is a place to put them if we ever find them on this yardstick, which is important so you can go and protect those places.

Comment: Restorability helps us to determine what actions to take.



**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



Q – One of the big negative impacts was chloride levels and siltation. You said reduction of road salt was a goal to get chloride levels down, what about silt? Does the silt come from (only?) farming?

A – Sediment from bank erosion mostly causes siltation in streams, so you can do bank erosion protection to reduce silt in streams. The U.S. Geological Society (USGS) did a tracer study which showed most of the silt came from stream banks and not farming. I was surprised to see the result of the USGS tracer study.

**9. DRWW Business**

**a. Committee Updates**

- i. Monitoring/WQ Improvement Committee.** Joe Robinson, chairman, gave the update. Joe stated that the presentations that had just been given by Brian O'Neill and Chris Yoder summarized all the work the committee has been doing. The committee will continue to discuss modifications to the monitoring program. Anyone who would like to be on the committee should come to the committee meetings – on the third Thursday of each month from 1:00 – 2:30 pm. Check DRWW.org for meeting dates, times, locations and agendas.
- ii. Lakes Committee.** Mike Adam, chairman, gave the update. The committee is working on analyzing/summarizing lakes data and how to incorporate it into the river data. The committee meets quarterly and anyone who wants to join is welcome. Check DRWW.org for meeting dates, times, locations and agendas.

**10. Next meeting for DRWW General Members: November 16, 2017. Location: TBT**

- a. Next Des Plaines River Watershed Planning Meeting (Topic: Transportation Planning & Winter Maintenance) will be September 14, 2017, 1:00pm -3:00pm at the Central Permitting Facility, 2<sup>nd</sup> Floor, 500 W. Winchester Road, Libertyville, IL 60098

**11. Old business:** None

**12. New business:** None

**13. Adjournment:** Joe Robinson made a motion to adjourn. Michael Talbett seconded the motion. The motion passed unanimously.

**DRWW Members and Delegates Present:**

Al Giertych, Lake County DOT

**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**



Alana Bartolai, Lake County Health Department  
Ashley Warren, Lake County SMC  
Betty Harrison, Village of Lake Zurich  
Brandon Janes, Village of Deerfield  
Brian Dorn, North Shore Water Reclamation District  
Donald Hey, Wetlands Research, Inc.  
Jim Anderson, Lake County Forest Preserve District  
Jim Bland, Sierra Club  
Joe Robinson, North Shore Water Reclamation District  
Kathleen Paap, Wetlands Research, Inc.  
Michael Talbett, Village of Kildeer  
Mike Warner, Lake County Stormwater Management Commission  
Paul Kendzior, Village of Libertyville  
Steve Vella, Village of Libertyville  
Tom Morthorst, Village of Third Lake  
Mike Adam, LCHD  
Ernesto Huaracha, LCSMC  
Mike Prusila, LCSMC (speaker)  
Nan Buckardt, LCFPD  
John Nelson, LCFPD  
Eileen Davis, LCFPD  
Monica Rockstroh, Christopher B Burke Engineering  
Graael Urbanoz, LCHD  
David Brown, Vernon Hills  
Geoff Szafranski, Vernon Hills  
Gaby Rodriguez, Vernon Hills  
Cameron Crombie, LCHD  
Rob Flood, North Shore Water Reclamation District

**Additional Attendees:**

Beth Adler, DRWW Technical Coordinator  
Clint Bailey, USGS  
Brian O'Neill, Burns and McDonnell (speaker)  
Chris Yoder, MBI (speaker)  
Patty Werner, citizen  
Aaron Goldberg, NEIU.edu  
Jeff Boeckler, Northwater Consulting  
Todd Peck, Zion Park Dist  
Adam Boeche, Mundelein  
Rosemary Heilemann, League of Women Voters  
Ross Sweeney, citizen

**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING  
& DES PLAINES WATERSHED PLAN JOINT MEETING**

**AUGUST 17, 2017 1:30-3:30 PM  
LIBERTYVILLE VILLAGE HALL  
118 W. COOK AVE., SECOND FLOOR  
LIBERTYVILLE, IL 60048**

Holly Hudson, CMAP  
Don Wilson, citizen  
Arlene Hickory, CAPOW  
Todd Gedvile, Vernon Twp  
Frank Abderholden, Trib Publications  
Ann Maine, Lake County Board  
Vince Mosca, Hey and Assoc.  
Scott Kuykendall, McHenry County  
Thomas Chefalo, LCPB&D  
Maria Gaytan-Martinez, House of Representatives  
Fred Schneider, citizen  
Bob Pfeil, citizen  
Cindy Bundaco, Wildwood Park District  
Jan Papn, Blue Stem Eco





**DES PLAINES RIVER WATERSHED WORKGROUP  
GENERAL MEMBERSHIP MEETING AND DES PLAINES WATERSHED PLAN  
JOINT MEETING  
NOVEMBER 16, 2017 1:30-3:30 PM  
LAKE COUNTY CENTRAL PERMIT FACILITY  
500 W. WINCHESTER ROAD, SECOND FLOOR  
LIBERTYVILLE, IL 60048**

**MEETING AGENDA**

- 1. Introductions and Announcements** – Al Giertych, DRWW Vice-President and Lake County Department of Transportation, will conduct introductions and provide an overview of the meeting.
- 2. Public Comment**
- 3. Des Plaines River Watershed Planning Meeting**
  - a. Review and Approve by Consensus October 12, 2017 Meeting Summary**
  - b. Prioritized Action Plan** – Ashley Warren, SMC
  - c. Watershed Plan Implementation – Potential Action Plan Recommendations**  
Northwater Consulting
- 4. DRWW Business**
  - a. DRWW previous meeting minutes to approve – 08/17/17**
  - b. Committee Updates**
    - i. Monitoring/Water Quality Improvements Committee** – Joe Robinson, Chair.
      1. Draft Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries (2016); and
      2. Draft Flow Monitoring Report (2016).
    - ii. Lakes Committee** – Mike Adam, Chair
- 5. Old business**
  - a. Approval of Technical Coordinator Contract**
- 6. New business**
- 7. Next General Membership (Annual Meeting): February 15, 2018 at Lake County Central Permit Facility, second floor.**
- 8. Adjournment**

**Certificates for 1 Professional Development Hour (PDH)  
will be at the back of the room.**



**JOINT MEETING OF THE  
DES PLAINES RIVER WATERSHED WORKGROUP (DRWW)  
AND DES PLAINES RIVER WATERSHED PLAN (DPR PLAN)  
AUGUST 17, 2017 1:30-4:00 PM  
LIBERTYVILLE VILLAGE HALL, SECOND FLOOR  
118 W COOK STREET, LIBERTYVILLE, IL 60048**

## **MEETING MINUTES**

1. **Introductions and Announcements** – Brian Dorn, North Shore Water Reclamation District (NSWRD) and DRWW President, called the meeting to order at 1:30 pm, conducted introductions, and provided an overview of the meeting.
2. **No previous meeting minutes to approve – May meeting was canoe outing**
3. **Public Comment.** None.
4. **Des Plaines River Watershed Planning Meeting** – Ashley Warren introduced the Des Plaines River watershed planning process and asked meeting attendees to review the June 8th, 2017 meeting summary.
  - a. **Approval of 6/8/17 Meeting Summary by Consensus.** Meeting summary was approved by consensus.
  - b. **DRWW and Historical Monitoring Data. (Note: All speakers powerpoint presentations are available at DRWW.org/meetings/meeting presentations & <http://www.lakecountyil.gov/3655/DPR-Watershed-Meeting-Summaries>)**
    - i. **Brian O'Neill – Burns and McDonnell.** Brian presented a powerpoint presentation regarding the importance of flow data, how to measure flow and results of data collected in the Des Plaines Watershed in 2016-2017.

Q - Will the data you are collecting be used in the plan?

A – Yes.

Q – With high rain events, that may continue to increase, how do you account for that?

A – That is a challenge for any of these types of relationships.

Comment: This flow monitoring is not intended to characterize flood relationships.

Q – If you have a narrow stream channel and then during flooding it is very wide, wouldn't you need 2 curves to determine flow?

A – Yes.

Q – If you could estimate what was the baseline discharge from the Des Plaines River, what would that number be?

A – I have not done that calculation.

Q – Do you do any measurements on groundwater?

A – No.

ii. **Mike Prusila – Lake County Stormwater Management Commission** gave a powerpoint presentation on historical water quality/sediment and fish/macro/habitat data for the Des Plaines River Watershed. No questions.

iii. **Chris Yoder – Midwest Biodiversity Institute (MBI)** gave a powerpoint presentation of DRWW water quality/sediment, fish/macro/habitat data collected in 2015-2016.

Q - What the quality of the water coming from Wisconsin into Lake County, IL?

A – The 3 most northern sampling locations in Lake County had a lack of fish/macros. The water up there is more like a wetland than a river, it is somewhat stagnant.

Q – There were some Polycyclic Aromatic Hydrocarbons (PAHs) detected over the limit in the Des Plaines River (mainstem), but good macroinvertebrate numbers, can you comment on that?

A – The macroinvertebrate numbers were good, but the fish diversity was not. The biology (fish and macros) is going to trump the pollutants, which means that if we can improve the fish diversity we will not have to worry about the pollutants.

Q – There are a lot of lakes in the watershed. Pollutant loads become a critical issue for evaluating lakes. More frequent collection of data would need to be done to evaluate lakes effectively. Any comment on this over the long haul?

A – I would generally agree with you, if that's what your goal is.

Mike Adam – The DRWW Lakes Committee will be looking at this and deciding if we can resolve this through modeling or if we need more data.

Chris Yoder – And that's a different goal or end point – a trophic state, which is based on water clarity, which is different than the one we are going for. The goal or end point we are going for is a high IBI number – which means there are healthy levels of fish and macroinvertebrates. If the IBI = 41 then the stream reach is considered to not be impaired.

Q – Comment on their being a bias in the metrics against headwater streams (tributaries) vs. Des Plaines River proper. Tributaries cannot have as many fish species as the river.

A – Illinois Indexes of Biological Integrity (IBI) is for wadeable streams, but it worked pretty good, so I'm not sure if this is a major issue. I agree with your concern, but I don't think it's quite that bad. We are more concerned that almost none of the 70 sites are meeting the IBI, which means it may be set too high or this regions' calibration is incorrect. MBI will have to do due diligence on that. We look at habitat sensitive species.

Q – One of the first slides says you are sampling based on potential aquatic uses, but most of your talk was about meeting state criteria, not aquatic use. It seems like all the push is to go back to a pre-settlement-type of condition.

A – No. The general use goal incorporates the aftermath of human development, finding the best of what's left, and calibrating the criteria to that. This is not a pristine goal. Lower DuPage at Shanahan Dam scores a 60 (highest score, but fish cannot re-establish above the dam. The species of fish you need to boost the IBI are not present above the dam. We may have to transport fish around the watershed.

Q – Why is the aquatic use above the dam the same as below the dam?

A – The dam is an impairment, and we need to fix that, but the problem is that not every impairment is not able to be fixed. We're not going to lower the bar due to socio-economic issues that cannot be resolved. The system starts from a reasonable statement of what a restored condition would look like and it's not asking for presettlement conditions. But there is a place to put them if we ever find them on this yardstick, which is important so you can go and protect those places.

Comment: Restorability helps us to determine what actions to take.

Q – One of the big negative impacts was chloride levels and siltation. You said reduction of road salt was a goal to get chloride levels down, what about silt? Does the silt come from (only?) farming?

A – Sediment from bank erosion mostly causes siltation in streams, so you can do bank erosion protection to reduce silt in streams. The U.S. Geological Society (USGS) did a tracer study which showed most of the silt came from stream banks and not farming. I was surprised to see the result of the USGS tracer study.

## **5. DRWW Business**

### **a. Committee Updates**

- i. Monitoring/WQ Improvement Committee.** Joe Robinson, chairman, gave the update. Joe stated that the presentations that had just been given by Brian O'Neill and Chris Yoder summarized all the work the committee has been doing. The committee will continue to discuss modifications to the monitoring program. Anyone who would like to be on the committee should come to the committee meetings – on the third Thursday of each month from 1:00 – 2:30 pm. Check DRWW.org for meeting dates, times, locations and agendas.
- ii. Lakes Committee.** Mike Adam, chairman, gave the update. The committee is working on analyzing/summarizing lakes data and how to incorporate it into the river data. The committee meets quarterly and anyone who wants to join is welcome. Check DRWW.org for meeting dates, times, locations and agendas.



**6. Next meeting for DRWW General Members: November 16, 2017. Location: TBT**

a. Next Des Plaines River Watershed Planning Meeting (Topic: Transportation Planning & Winter Maintenance) will be September 14, 2017, 1:00pm -3:00pm at the Central Permitting Facility, 2<sup>nd</sup> Floor, 500 W. Winchester Road, Libertyville, IL 60098

**7. Old business:** None

**8. New business:** None

**9. Adjournment:** Joe Robinson made a motion to adjourn. Michael Talbett seconded the motion. The motion passed unanimously.

**DRWW Members and Delegates Present:**

Al Giertych, Lake County DOT  
Alana Bartolai, Lake County Health Department  
Ashley Warren, Lake County SMC  
Betty Harrison, Village of Lake Zurich  
Brandon Janes, Village of Deerfield  
Brian Dorn, North Shore Water Reclamation District  
Donald Hey, Wetlands Research, Inc.  
Jim Anderson, Lake County Forest Preserve District  
Jim Bland, Sierra Club  
Joe Robinson, North Shore Water Reclamation District  
Kathleen Paap, Wetlands Research, Inc.  
Michael Talbett, Village of Kildeer  
Mike Warner, Lake County Stormwater Management Commission  
Paul Kendzior, Village of Libertyville  
Steve Vella, Village of Libertyville  
Tom Morthorst, Village of Third Lake  
Mike Adam, LCHD  
Ernesto Huaracha, LCSMC  
Mike Prusila, LCSMC (speaker)  
Nan Buckardt, LCFPD  
John Nelson, LCFPD  
Eileen Davis, LCFPD  
Monica Rockstroh, Christopher B Burke Engineering  
Graael Urbanoz, LCHD  
David Brown, Vernon Hills  
Geoff Szafranski, Vernon Hills  
Gaby Rodriguez, Vernon Hills  
Cameron Crombie, LCHD  
Rob Flood, North Shore Water Reclamation District

**Additional Attendees:**

Beth Adler, DRWW Technical Coordinator  
Clint Bailey, USGS  
Brian O'Neill, Burns and McDonnell (speaker)  
Chris Yoder, MBI (speaker)

Patty Werner, citizen  
Aaron Goldberg, NEIU.edu  
Jeff Boeckler, Northwater Consulting  
Todd Peck, Zion Park Dist  
Adam Boeche, Mundelein  
Rosemary Heilemann, League of Women Voters  
Ross Sweeney, citizen  
Holly Hudson, CMAP  
Don Wilson, citizen  
Arlene Hickory, CAPOW  
Todd Gedvile, Vernon Twp  
Frank Abderholden, Trib Publications  
Ann Maine, Lake County Board  
Vince Mosca, Hey and Assoc.  
Scott Kuykendall, McHenry County  
Thomas Chefalo, LCPB&D  
Maria Gaytan-Martinez, House of Representatives  
Fred Schneider, citizen  
Bob Pfeil, citizen  
Cindy Bundaco, Wildwood Park District  
Jan Papn, Blue Stem Eco

# Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries 2016

## Background

In 1969 the Cuyahoga River in Cleveland, Ohio was saturated with raw sewage, industrial waste, floating debris, and no sign of aquatic life. Sparks from a passing train set fire to the river for the 13<sup>th</sup> time. When photos were published, concern erupted nationwide. Americans wanted their rivers cleaned up, no more raw sewage, industrial pollutants and debris. In response, Congress passed the Clean Water Act (CWA) (1972) whose primary objective is to restore and maintain the “integrity” of the nation’s waters.

For many years the focus of the CWA was on the chemical aspects of the water quality “integrity” goal. During the past three decades, however, more attention has been given to physical and biological integrity. CWA programs, as they evolved over nearly 50 years, have shifted from a program-by-program, source-by-source, pollutant-by-pollutant approach to more holistic watershed-based strategies guided by holistic indicators such as biological assemblages (looking to see if all of the various species that exist in a particular habitat are present).

Under a watershed approach, equal emphasis is placed on protecting healthy waters and restoring impaired ones. A full array of issues are addressed, not just those subject to CWA regulatory authority.

The DRWW hired three contractors to collect data on the health of the rivers and streams in the watershed and baseline data was collected by end of 2016. On Aug. 31, 2017 DRWW received the draft report from Midwest Biodiversity Institute (one of DRWW’s contractors) on the results of the baseline data. The draft report is called “Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries 2016” and is summarized below:

### What is a Biological and Water Quality Survey?

A biological and water quality survey, or “bioassessment”, consists of (1) a biological survey (how many and which species of fish, macroinvertebrates, insects, etc. live in the stream), (2) sampling for pollutants in water and sediment, and (3) an assessment of the quality of habitat the stream provides for the fish, invertebrates, and other organisms that need to live there in order for it to be healthy.

The goal of the biological and water quality survey is to document (1) pollutants in the water and sediments, (2) the amount of habitat the stream provides, (3) the amount of life in the stream and (4) the major stressors that affect the health of the stream. This data is compared to the Illinois Water Quality Standards, specifically the Aquatic Life Use Standard, to determine if the sampling location meets the standards or, if it doesn’t, it is labeled “non-supporting,” or “partially supporting.”

Of the 69 sites assessed:

- 0 were fully supporting (met all standards)
- 22 were non-supporting-fair
- 26 were non-supporting-poor
- 21 were partially supporting

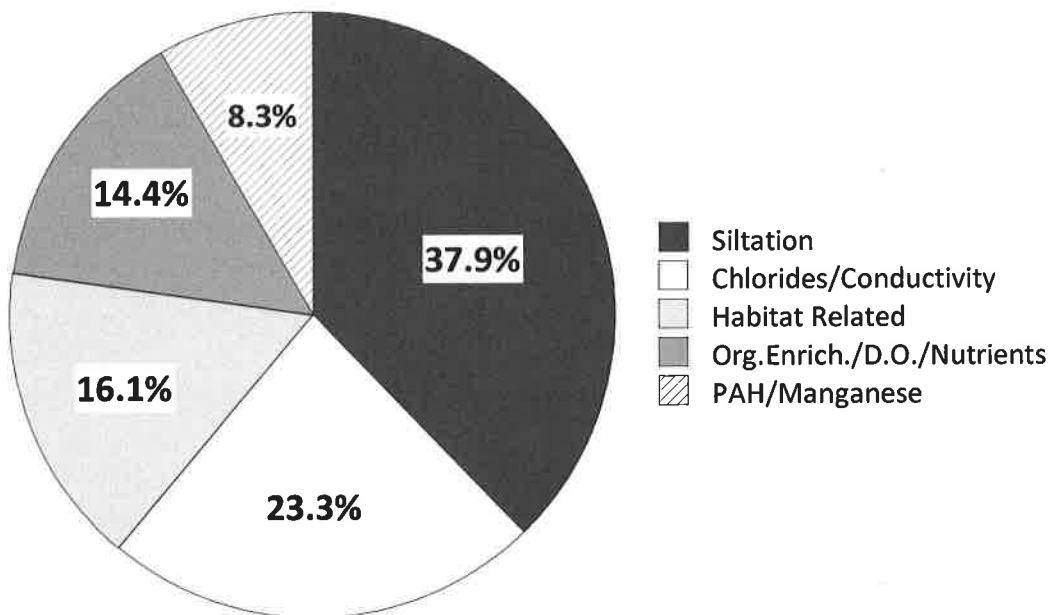
The fish collected did not meet the standard (not enough diversity in fish species found) for most of the non-supporting and all of the partially supporting sites.

### Causes

The reasons the

standard was not met, or the major causes for non-support, were identified based on lines of evidence and professional judgment.

### **Major Causes Associated with Aquatic Life Impairments: Upper Des Plaines 2016**



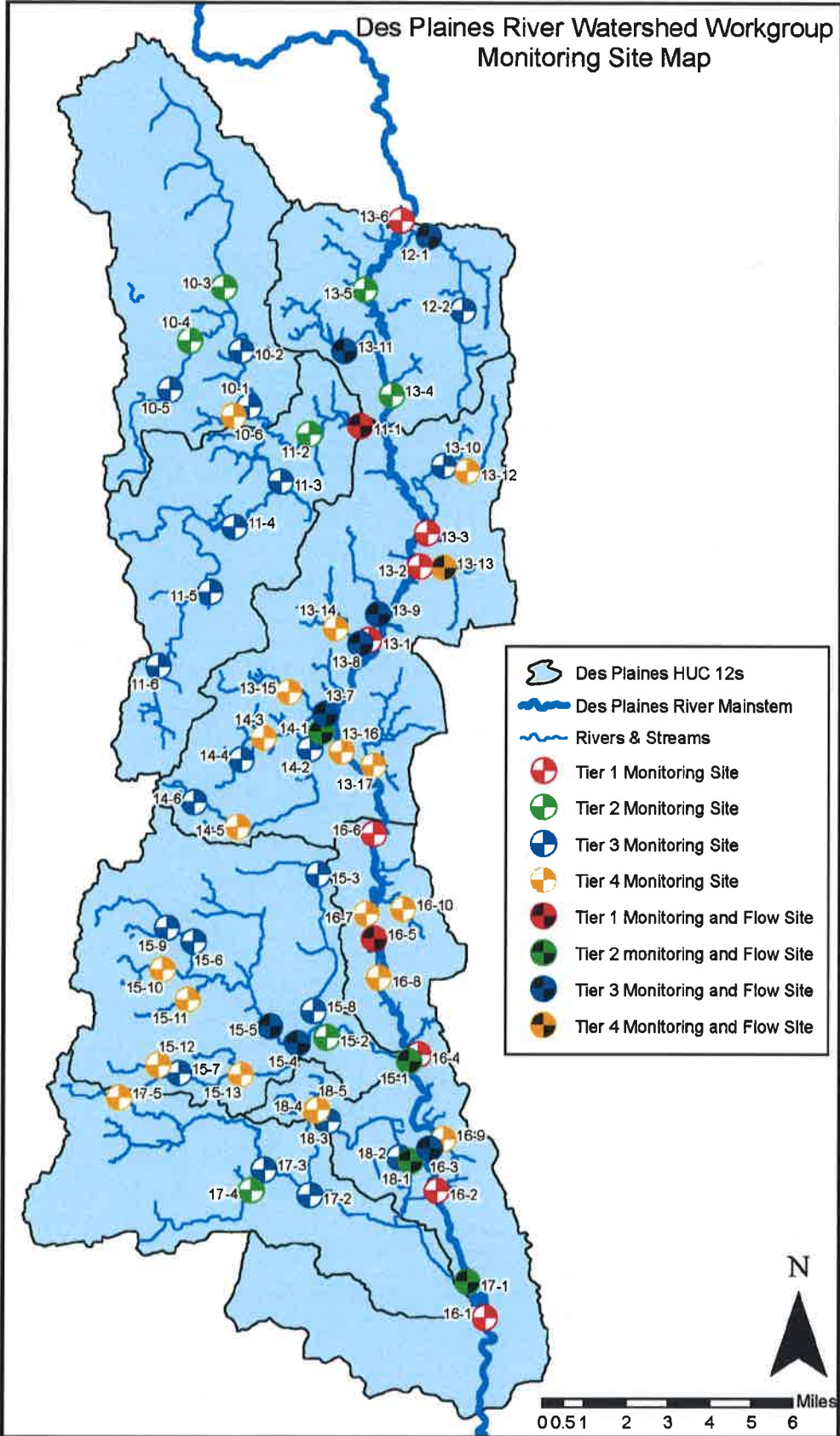
- Siltation reduces spawning and feeding habitat for fish
- Chlorides are harmful to many animals living in rivers and streams
- Habitat Related (refers to things like: no riparian zone, bank erosion, channel modification)
- Organic Enrichment/Dissolved Oxygen/Nutrients create low oxygen levels that some fish cannot tolerate or large fluctuations of oxygen in the water between day and nighttime
- PAH/Manganese are pollutants

Siltation and Chlorides were pervasive (found at almost all sampling sites).

### **Sources of the Causes**

1. Urban runoff (sediments, nutrients, pollutants, streambank erosion)
2. Habitat alterations (straightening streams, dams, etc.)
3. Altered hydrology (rainwater not soaking into the ground, loss of native ecosystems such as wetlands)
4. Wastewater Treatment Plant discharge (nutrients, pollutants)

# Des Plaines River Watershed Workgroup Monitoring Site Map





## **Conclusions**

The problems most commonly found across all the 69 sites sampled were:

(1) heavy siltation caused by habitat alterations and altered hydrology from urban and suburban stormwater runoff and (2) high levels of chlorides from road salting.

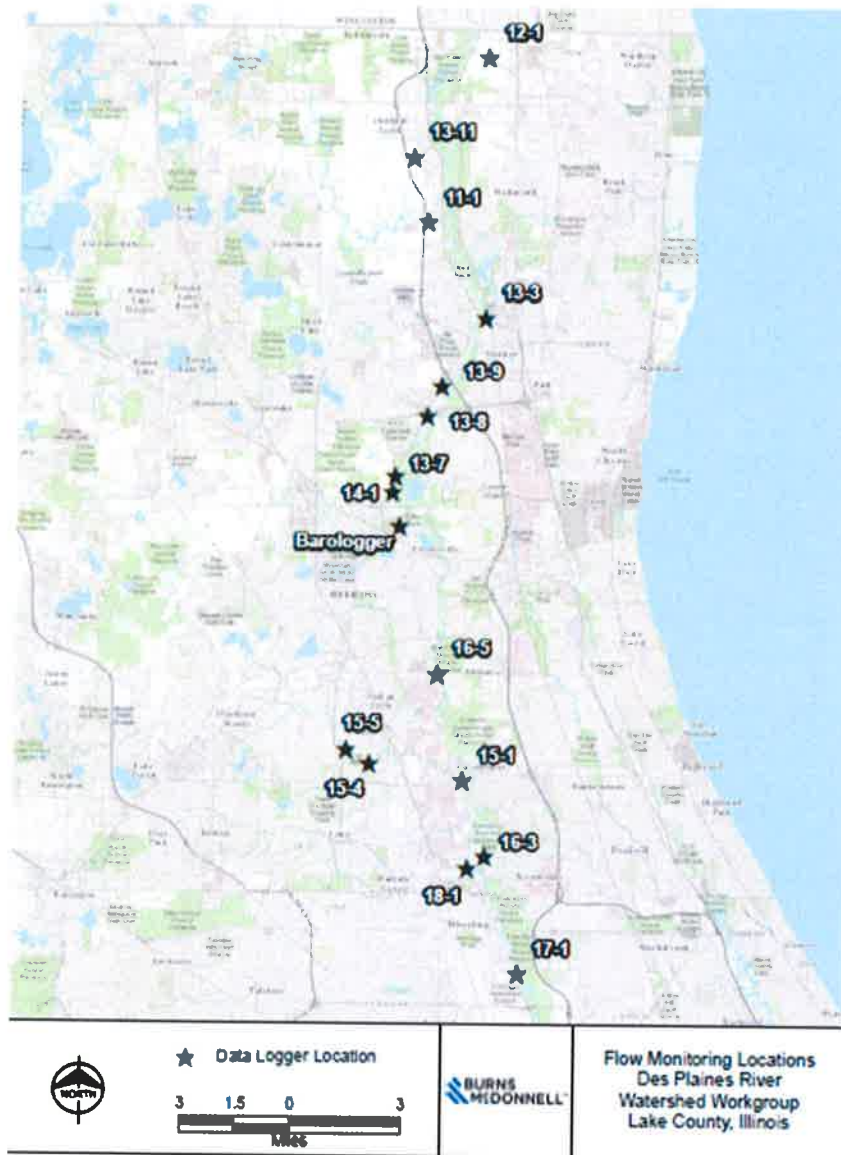
## **Recreational Use**

The recreational use in and on the waters in the watershed were evaluated based on amount of E. Coli bacteria found in samples. Many samples had higher levels of E. Coli than recommended by the U.S. EPA. Wastewater treatment plant discharge and stormwater runoff from urban and agricultural land are the possible sources of the high levels.

---

## Summary of: Des Plaines River Watershed Flow Monitoring Project (Oct. 2017)

Burns & McDonnell Engineering Company, Inc. (B&M), one of DRWW's contractors, installed a flow monitoring network of 15 in-stream stage data loggers in late 2016 and collected data from the data loggers in 2017 to estimate flow in the Main Branch of the Des Plaines River and tributaries. Data from 6 existing U.S. Geological Survey (USGS) data loggers were also used, for 21 locations total. Flow data helps to estimate pollutant loads and track water quality and biological community trends.

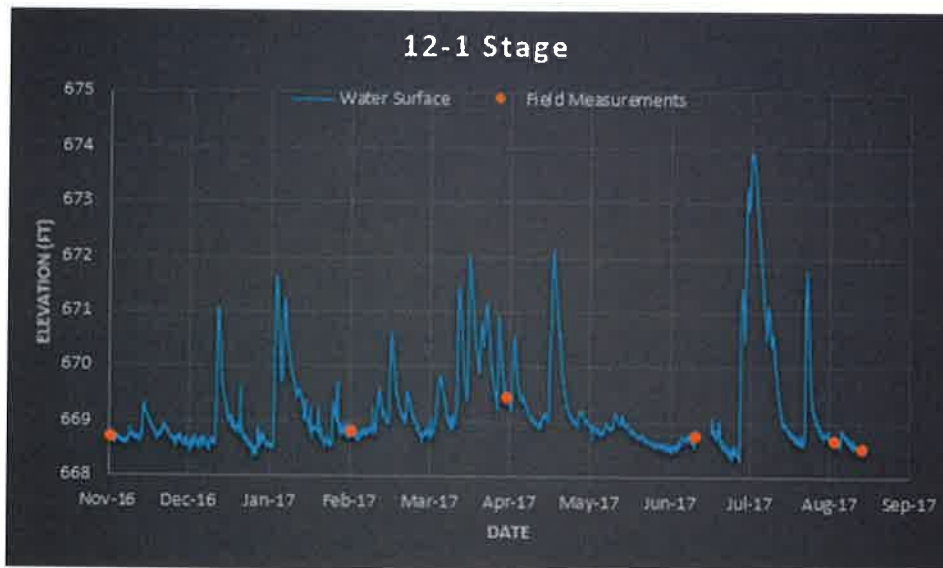


Field measurements were taken 6 times at the 15 locations to confirm the data collected by the loggers reflected actual field conditions.

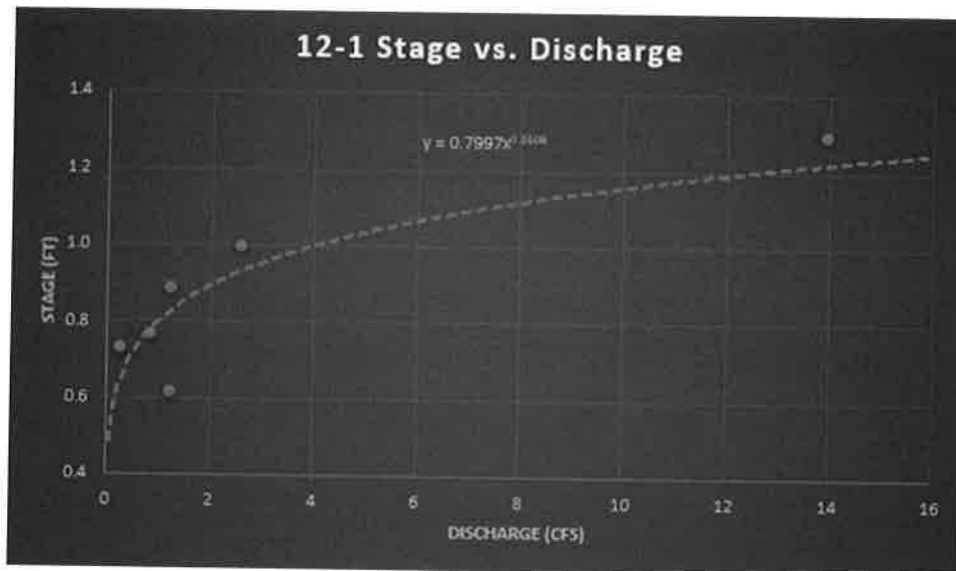
All of this data was used to create 3 graphs for each of the 15 locations. The first graph illustrates the x-section of the stream where the data logger was installed.



The second graph shows the elevation of water in the stream over time. The red dots are where the actual measurements were taken by field crews.



The third graph is the stage vs. discharge graph, which allows us to estimate the amount of flow in that section of the stream during various water levels (or during rain events). The blue dots are the actual field measurements taken by field crews.



The proposed monitoring locations were chosen based on a qualitative review of the current DRWW stream monitoring network within the watershed. Sites were chosen based on position in the watershed, proximity to existing gage stations, proximity to existing water quality sampling locations, and relative contribution of flow from subwatersheds. The intent of the study was to establish a baseline of monitoring locations and begin to develop reliable stage-discharge relationships that can be used to estimate pollutant loads within the watershed. Pollutant loads are calculated as the product of stream discharge and the concentration of a pollutant in water. Loads can be calculated as an instantaneous value or summed to provide an annual load. Understanding the relative magnitude and timing of pollutant loads across subwatersheds provides a powerful tool when prioritizing water quality improvement projects and determining where to allocate scarce resources

All the stage vs. discharge graphs can be located on DRWW's website. To access them, go to [www.DRWW.org](http://www.DRWW.org), click on the "Maps & Photos" tab, click on "Maps," then "Lake County Impaired Waters Web Map (WebApp)." The flow monitoring locations are identified with a rain cloud. Click on a rain cloud to see the map (you may have to scroll down on the dialog box to see the map). If you have any questions, feel free to contact Beth Adler, DRWW technical coordinator at 847-377-7702 or [Badler@lakecountyil.gov](mailto:Badler@lakecountyil.gov).

**CONSULTING SERVICES AGREEMENT**  
between the  
**DES PLAINES RIVER WATERSHED WORKGROUP**  
and  
**BETH ADLER**  
for  
**TECHNICAL COORDINATOR SERVICES**

This is an agreement (Agreement) by and between the DES PLAINES RIVER WATERSHED WORKGROUP, 500 West Winchester Road, Suite 201, Libertyville, Illinois 60048 (DRWW) and Beth Adler, 1216 Lake Shore Drive, Barrington, IL 60010 (Consultant).

**PURPOSE**

The DRWW is a consortium of publicly owned wastewater treatment works, local governments, citizen advocacy groups, and professional firms focused on improving water quality in the Des Plaines River watershed. The DRWW formed in response to USEPA and IEPA regulatory mandates and has taken a shared services approach to most efficiently and economically achieve the challenges put forth in POTW and MS4 permit requirements. Both IEPA and USEPA have recognized the benefits of a watershed-based approach to addressing water quality issues in the Des Plaines River by allowing DRWW members to collaboratively use shared data to comply with their individual permit conditions.

The DRWW is a data-driven, forward-thinking, organization that analyzes and implements strategies to achieve Clean Water Act (CWA) goals in the Des Plaines River Watershed. This contract is for the DRWW Consultant at a work effort level expectation of approximately **1040 hours during the 12-month** contract time period with those hours dedicated to forwarding the mission of the DRWW as generally described in the scope of services.

**SCOPE OF SERVICES**

The Consultant will work with the DRWW Executive Board, Committees, Members, Administrative Group (SMC) and regulatory agencies. The Consultant will work as part of a team, including an administrative support group, to implement; a comprehensive monitoring program (aquatic life, physical habitat, dissolved oxygen, water column and sediment chemistry and chloride management strategies); watershed planning and assessment activities; nutrient removal planning; nutrient trading programs, and to pursue and manage grant and funding opportunities related to the work of the DRWW. The following tasks are not listed in priority order and it is not envisioned this task list would be completed through this contract period, but represents an ongoing and projected list of tasks the Consultant would provide.

- A. **Meeting Attendance:** Executive Board, Committees and General Membership meetings
- B. **Comprehensive Monitoring Program:** Work as part of a team to:
  - 1) **QAPP Coordination:** Assist SMC administrative support staff and DRWW with the QAPP coordination; including coordination with consultants and SMC on updating QAPPs for the monitoring program, pertaining to additional parameters to sample for lakes, streams, and flow monitoring.
  - 2) **Monitoring Work Plan:** Coordinate with SMC administrative support staff, DRWW and subconsultants on development of the monitoring data needs, locations, maps and schedule.
  - 3) **Subcontractor Management:** Develop scopes of work, assist with procurement processes to engage needed support services, coordinate subcontractor work efforts and deliverables, including but not limited to; water chemistry monitoring, fish and macroinvertebrate sampling, database development, flow monitoring, other consulting or subcontractor services that are identified and approved by the Executive Board.
  - 4) **Monitoring Data - Database Options:** Present monitoring data database and geospatial options to the Executive Board, coordinate decision point on optimal tools for DRWW based on data collected, user-friendliness, financial, and other criteria as defined by the DRWW, and manage the development of a database and subcontracts as necessary. The DRWW work plan would define the goals, timeline, and budget for the monitoring database.



*Consulting Services Agreement Adler*

- C. Development and Coordination of DRWW Work Plan: Coordinate with the Executive Board and prepare a work plan, including DRWW action items for the **current contract year** and long term goals and objectives for the next three to five years. The work plan will be a living document and outline for the DRWW compatible with the watershed plan for the next three to five years.
- D. Watershed Assessment Activities
- 1) Technical Review of Watershed Assessment: Based on the watershed assessment data gathered through watershed planning and monitoring efforts, assist SMC administrative support staff with preliminary technical review of assessment data and provide comments for completeness.
  - 2) Review of Watershed Plan Documents: Preliminary review assistance of draft watershed plan documents and provide comments. Provide review assistance of the final draft of the watershed plan prepared by SMC administrative support staff for submittal to the IEPA.
- E. Regulatory and Granting Agency Coordination: Represent the DRWW in coordination with IEPA, USEPA, and other regulatory agencies or granting sources to further the mission and goals of the DRWW, including but not limited to; a nutrient trading program, POTW and MS4 permit conditions and standards, grant opportunities, TMDL issues, and specific water quality parameter concerns.
- F. Meeting Support Services: Coordination with the SMC administrative support staff for meetings with the DRWW, including Executive Board meetings, Monitoring/**Water Quality Improvements Committee** meetings, Lakes Committee meetings, and quarterly meetings of the General Membership. Prepare meeting agendas, meeting minutes; meeting materials and coordination of or provision of presentations.
- G. Website Coordination: Coordination with SMC administrative support staff of website announcements of meeting content, news or other media information. Print material will be generated by SMC.
- H. Educational Outreach and Membership Development: Coordination with SMC administrative support staff of an educational and stakeholder outreach program. Provide strategic leadership regarding potential future group partnerships and members. Coordination with SMC administrative support staff of public notices, press releases, and email announcements to promote the DRWW goals and objectives.
- I. Freedom of Information Act/Open Meetings Act: Copy all correspondence to SMC, the DRWW designated FOIA officer. To ensure no conflicts with OMA deadlines, a final draft of all meeting materials shall be transmitted to SMC one calendar week ahead of each meeting.
- J. Attendance at Conferences or training sessions: The DRWW may request the Consultant to attend relevant conferences and trainings with respect to the purpose of this Agreement.

The DRWW, with agreement of the Consultant, may develop general consultant assistance tasks that do not fall within the exact description of tasks A. thru J. listed above but will forward the overall mission and goals of the DRWW. This Agreement will then be amended in accordance with the Terms and Conditions, below.

#### COMPENSATION

1. The Consultant agrees to perform the work outlined in the Scope of Services for a fee (Agreement Amount) **not to exceed \$59,860 at a rate starting on December 1, 2017 of \$51.50/hour**. The Consultant will determine her own work schedule through the contract time period which lasts from December 1, 2017 through November 30, 2018.
2. The Consultant shall furnish the DRWW with an itemized invoice at a minimum, on a monthly basis. Invoices shall describe the work completed; show the number hours worked on a per task basis; and DRWW approved reimbursable expenses (e.g.; out of town travel, lodging, meals, specialized software) that have been incurred (**estimated at \$2,000**). Payments by the DRWW shall be made within 45 days of receipt and approval of the Consultant's invoice.
3. **DRWW agrees that reasonable pre-Agreement expenses for requested services rendered and costs incurred may be invoiced by the Consultant in the first monthly invoice to cover the contract period for 86 hours between November 2, 2017 through November 30, 2017 at an expense of \$4,300.**

#### AGREEMENT TIME FRAME

This Agreement will run from December 1, 2017 and continue through November 30<sup>th</sup> 2018.



**TERMS AND CONDITIONS**

1. The DRWW may issue written changes in the scope of work, with written agreement of both parties, if such changes are within the general scope of the Agreement. The Consultant will not be compensated for services performed outside of the Scope of Work, without an approved Change Order.
2. The Consultant when prioritizing tasks will take final direction from the DRWW President, but may use professional judgement and advice from the DRWW Executive Board, DRWW Members and day to day coordination with the SMC administrative support staff.
3. The DRWW or Consultant may at any time terminate this Agreement in whole or in part by a thirty day written, electronic or verbal notice confirmed in writing. Upon termination, for convenience of the DRWW, the DRWW will assume responsibility for services rendered and costs incurred prior to notification. Any and all services, property, publications or materials provided during or resulting from the Consultant shall be the property of the DRWW.
4. This Agreement shall be governed by and construed according to the laws of the State of Illinois.
5. This Agreement supersedes any and all other agreements, oral or written, between the parties hereto with respect to the subject matter hereof.
6. This agreement shall not be assigned, altered or modified without the express written consent of both parties except as provided in paragraph one above. The Consultant shall not reject any reasonable change that is proposed solely in the best interest of the DRWW.

**NOTICES AND COMMUNICATION**

All notices and communications given to either party by the other relative to this agreement shall be addressed to the respective parties as follows:

<p><b>To the DRWW:</b>  Des Plaines River Watershed Workgroup  500 West Winchester Road, Suite 201  Libertyville, Illinois 60048  ATTENTION: Mike Warner  <u><a href="mailto:mwarner@lakecountyil.gov">mwarner@lakecountyil.gov</a></u></p>	<p><b>To the Consultant:</b>  Beth Adler  1216 Lake Shore Drive  Barrington, IL 60010  <u><a href="mailto:beth3adler@gmail.com">beth3adler@gmail.com</a></u></p>
---	--

**For the DRWW:**

**Attest:**

\_\_\_\_\_  
Brian Dorn, President  
Des Plaines River Watershed Workgroup

\_\_\_\_\_

Date: \_\_\_\_\_

**For the Consultant:**

**Attest:**

\_\_\_\_\_  
Beth Reiner (Adler), Proprietor

\_\_\_\_\_

Date: \_\_\_\_\_