Special Monitoring/Water Quality Improvements Committee Agenda
05/15/2025 12:30-1:30 p.m.
Lake County Division of Transportation
600 W. Winchester Rd.
Libertyville IL 60048

Discussion and Possible Approval of the Following:

1. Call to Order
2. Roll Call
3. Public Comment
4. Approval of Meeting Minutes
    a. *04/21/25 Monitoring/Water Quality Improvements Committee Meeting Minutes
5. Old Business
    a. Discussion of the 2026 DRWW Monitoring Strategy
        i. DRWW Program Goals
        ii. Water Column Sampling
        iii. Sediment Sampling and Bioassessment Monitoring Program
        iv. Continuous Monitoring
6. New Business
    a. Review of Geosyntec's Response to Address Dr. Burkholder's Comments to the DRWW Nutrient Assessment Reduction Plan (NARP)
    b. Review of DRWW Response to Ettinger comments
    c. *DRWW Monitoring Committee Meeting Schedule Change to June 12, 2025, 12:30-1:30pm
7. Member Comments
8. Next Meeting(s)
    a. Monitoring/Water Quality Improvements Committee Meeting June 19, 2025 at 12:30pm (LCDOT Conference Room A)
9. Adjournment

***** = DRWW Action Item***

Monitoring/Water Quality Improvements Committee Agenda
04/17/2025 12:30-1:30 p.m.
Lake County Division of Transportation
600 W. Winchester Rd.
Libertyville IL 60048

Discussion and Possible Approval of the Following:

1. **Call to Order**
   Steve Waters, Monitoring Committee Chair, called the meeting to order at 12:30.

2. **Roll Call**
   Anna Niedzinski, DRWW Coordinator performed roll call. Members present: Chair **Steve Waters**, North Shore Water Reclamation District (NSWRD); **James Fitzgerald**, Lake County Health Department (LCHD); **Christine Morris**, Lake County Public Works; **Nick Huber**, Lake County Forest Preserve District; **Brian Kuebker**, Village of Libertyville; **Chris Johnson**, Sierra Club; and **Jim Bland**, EPS Inc. A quorum was present.

   Others present: Anna Niedzinski, Lake County Stormwater Management Commission (SMC); Ashley Strelcheck, SMC: Chuck Bodden, NSWRD; Rob Flood, NSWRD; Don Wilson, EPS Inc.; and Rishab Mahajan, Geosyntec Consultants.

3. **Public Comment**
   There was no public comment.

4. **Approval of Meeting Minutes**

   a. ***03/20/25 Monitoring/Water Quality Improvements Committee Meeting Minutes**
      Johnson noted a correction to the minutes, the second to last line in item 6, the word "competition" should be replaced with the word "completion". Motion by Johnson, seconded by Kuebker to approve the 03/20/25 Monitoring/Water Quality Improvements Committee Meeting Minutes with the correction. Motion passed with a consensus vote.

5. **Old Business**

   a. **Discussion of the 2026 DRWW Monitoring Plan**

      i. **DRWW Program Goals**
         The Monitoring Committee discussed the program goals. There was discussion of lakes and lake monitoring within the watershed, and it was decided that the Lakes Committee would discuss the DRWW Monitoring Strategy at an upcoming meeting. The Committee suggested the addition of a map containing the sample sites, jurisdictional boundaries, impaired segments, and where TMDLs have been implemented within the document. It was proposed that the Monitoring Strategy should be designed to support a feasible water quality model.

      ii. **Water Column Sampling**

***** = DRWW Action Item***

The Monitoring Committee discussed the water column sampling program. The was a correction of the type of chlorophyl-a sampling. There were several questions on several parameters, including sulfates, hardness, and E. coli, and the NPDES permit requirements and the frequency of sampling. The LCHD 2026 contract will need to be reviewed for accuracy. A member suggested doing a comprehensive water quality summary utilizing the DRWW's data to identify impaired sections and to focus monitoring.

iii. Sediment Sampling

The Monitoring Committee discussed sediment sampling. The Committee decided that the DRWW should reach out to Chris Yoder and ask for his feedback on how frequently sediment should be sampled.

iv. Bioassessment Monitoring Program

The Monitoring Committee discussed the frequency of the Bioassessment Monitoring Program. The Committee decided that the DRWW should reach out to Chris Yoder as well as from other watershed workgroups and ask for feedback on how frequently a bioassessment should be performed.

v. Continuous Monitoring

The Monitoring Committee discussed possibly resuming continuous monitoring. The Committee discussed the range of continuous monitoring. The DRWW has reached out to the United States Geological Service (USGS) concerning installation of their Next Generation Water Quality Monitoring Station at the Wisconsin-Illinois border. The USGs provided a rough estimate of approximately $130,000 for installation, with an annual operation and maintenance cost of $70,000. It was proposed that the DRWW can cost share the gage with Wisconsin. If there is interest in resuming continuous monitoring utilizing NSWRD. A Committee member brought up analysis of the additional data, potentially using AI.

6. New Business

a. *Recommendation to Publish 2024 Annual Report data to the DRWW website

Fitzgerald motioned to recommend to the Executive Board to publish the 2024 DRWW Water Quality Data on the DRWW website seconded by Morris. Motion passed with a unanimous vote.

b. Overview of Supreme Court ruling on San Fransisco vs. EPA

Bland provided a summary of the Supreme Court ruling on San Fransisco vs. EPA which stated that the EPA's generic prohibitions without providing clear metrics standards exceeded its authority.

c. DRWW June 2025 Meeting Schedule Change to May 15, 2025

Fitzgerald motioned to move the June 19th, 2025 Monitoring Committee meeting to May 15th, 2025, seconded by Kuebker. Motion passed with a unanimous vote.

7. Member Comments

Mahajan provided an update on Burkholder's comments and have found some issues in some of the assertions Burkholder has made and will be referencing data and recent literature.

8. Next Meeting(s)

a. Monitoring/Water Quality Improvements Committee Meeting May 15, 2025 at 12:30pm (LCDOT Conference Room A)

9. Adjournment

Motion by Kuebker, seconded by Fitzgerald to adjourn. Motion passed with unanimous vote. Waters adjourned the meeting at 1:44pm.

***** = DRWW Action Item***

Des Plaines River Watershed Workgroup
2026 Monitoring Strategy

Purpose

This Monitoring Strategy for the Des Plaines River Watershed in Lake County, Illinois was developed by the Des Plaines River Watershed Workgroup (DRWW) Monitoring Committee and approved by the Illinois EPA in 2016. This Monitoring Strategy is being updated to document changes to the DRWW's monitoring program beginning in 2025.

The Monitoring Strategy is considered a living document. The DRWW Monitoring Committee will continue to use adaptive management to review the results of the monitoring program and will revise and update the Monitoring Strategy if changes are needed. In 2020, the DRWW modified its Monitoring Strategy to focus the attention on the Watershed Group's Nutrient Assessment Reduction Plan (NARP).

Introduction and Background

The Des Plaines River Watershed covers over 130,000 acres or just over 200 square miles. 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.

Portions of the Des Plaines River, tributaries and lakes within the watershed in Lake County are listed as impaired by the Illinois EPA and do not meet their designated uses under the Clean Water Act. Segments listed as impaired for pollutants including arsenic, chloride, fecal coliform, manganese, mercury, methoxychlor, phosphorus, polychlorinated biphenyls, sediment/silt, and total suspended solids. Other impairments affecting the Des Plaines River include algae, cover loss, dissolved oxygen, flow alteration, flow modification, stream alterations, and unknown causes. Segments are listed as impaired for pollutants including arsenic[AN1], chloride, dissolved oxygen, fecal coliform, iron, manganese, methoxychlor, mercury, phosphorous, polychlorinated biphenyls, and total suspended solids[AS2][AS3] Phosphorous is currently limited by regulatory action through Publicly Owned Treatment Works (POTWs) National Pollutant Discharge Elimination System (NPDES) permits. In addition, Total Maximum Daily Loads (TMDLs) have been completed for some stream segments and lakes within the watershed and more may continue to be developed. However, it is unclear as to whether any of these regulatory mechanisms will ultimately allow for the impaired waterbodies to meet Clean Water Act standards.as impaired for pollutants including arsenic, chloride, dissolved oxygen, fecal coliform, manganese, methoxychlor, mercury, phosphorous, polychlorinated biphenyls, sediment/silt, and total suspended solids. Other impairments impacting the Des Plaines River include stream alteration, flow modification, nuisance algae, and cover loss. Phosphorous is currently limited by regulatory action through Publicly Owned Treatment Works (POTWs) and National Pollutant Discharge Elimination System (NPDES) permits. In addition, Total Maximum Daily Loads (TMDLs) have been completed for some stream segments and lakes within the watershed and more may continue to be developed. However, it is unclear as to whether any of these regulatory mechanisms will ultimately allow for the impaired waterbodies to meet Clean Water Act standards. The Des Plaines River Watershed Workgroup (DRWW) brings together local stakeholders to 1) better determine stressors to the aquatic system through a long-term water quality monitoring program; and 2) to work together to preserve and enhance water

quality in the Des Plaines River and its tributaries. The NARP process however represents a dramatic shift from historic monitoring and requires a multi-year sampling program at multiple sites.

- **Nutrients:** total phosphorus (TP),soluble reactive phosphorus (SRP) ,nitrate, nitrite, and ammonia
- **Sediments:** Total Suspended Solids (TSS)
- **Contaminants:** heavy metals ,PCBs ,PCFs ,hydrocarbons ,pesticides
- **Indicators of Ecological Health:** Dissolved oxygen (DO),pH, temperature, chlorophyll-a, and biological oxygen demand
- **Physical Data:** flow rate, discharge rate (cfs),rainfall

DRWW Monitoring Summary

2016 & 2017

In 2016, 44 locations were sampled for water chemistry, 49 locations for sediment, and 69 locations were sampled for biology. Midwest Biodiversity Institute's (MBI) Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries (2016) report documents the results of the baseline sampling. In 2017, the DRWW sampled 70 locations; 50 locations for water chemistry, and 1/3 of the 70 sites for biological/sediment. Indian Creek, Aptakisic Creek, and Buffalo Creek sub-watersheds plus direct tributaries to Des Plaines River adjacent those sub-watersheds and nested between the mainstem and the sub-watershed boundaries (23 sites) were sampled for biology/sediment. Continuous Flow Monitoring was conducted at 21 locations. Chlorophyll-a sampling and continuous monitoring at 14 locations for temp, pH, DO, and specific conductance.

Two Quality Assurance Project Plans (QAPPs) were developed for the monitoring program; a Bioassessment QAPP and a Flow Monitoring QAPP are attached to this Monitoring Strategy (attachments XX).

2018 & 2019

In 2018, the DRWW sampled 71 locations for water chemistry, and 1/3 of the 71 sites for biological/sediment. The Upper Des Plaines mainstem (18 sites) plus small direct tributaries to the lower one-half of the mainstem (2 sites) were sampled for biology/sediment in 2018 (1/3 of the watershed). Continuous Flow Monitoring was conducted at 21 locations. Chlorophyll-a sampling and continuous monitoring was collected at 14 locations for temp, pH, DO, and specific conductance. Winter season Continuous Monitoring program for conductivity as a surrogate for chlorides was collected at 9 locations. In 2019, the DRWW sampled 73 locations for water chemistry, and the remaining 1/3 of the 73 sites for biological/sediment. This included sites in the Mill Creek and Bull Creek sub-watersheds plus direct tributaries to the Des Plaines River adjacent to those two watersheds and nested between the mainstem and the sub-watershed boundaries (30 sites). Continuous Flow Monitoring was conducted at 21 locations. Chlorophyll-a sampling and continuous monitoring was collected at 14 locations for temp, pH, DO, and specific conductance.

2020

In 2020, the DRWW sampled 73 locations for water chemistry, 14 core site locations for benthic chlorophyll-a and 20 (including the 14 core site locations) site locations for biological fish, habitat and macroinvertebrate sampling. 3 datasondes were deployed for continuous flow monitoring. In addition to sampling, DRWW has contracted with MBI for Integrated Prioritization System (IPS) Modeling-; an in-depth analysis of all chemical, physical, and biological data collected. The DRWW contracted with Geosyntec to develop a Preliminary Nutrient Assessment & Reduction Plan Workplan in 2020.

2021

In 2021, the DRWW sampled 73 locations for water chemistry and 3 datasondes were deployed for continuous flow monitoring. Analysis was performed on for 2020 benthic chlorophyll a and biological fish, habitat and macroinvertebrate samples. MBI integrated DRWW's 2020-2021 biological monitoring data into the IPS Model. The DRWW contracted with Geosyntec to develop a NARP (2021 – 2023).

2022

In 2022, the DRWW sampled 73 locations for water chemistry, 14 core site locations for benthic chlorophyll a and 20 (including the 14 core site locations) site locations for biological fish, habitat and macroinvertebrate sampling. 3 datasondes were deployed for continuous flow monitoring. MBI integrated DRWW's 2022 biological monitoring data into the IPS Model.

2023

In 2023, DRWW's monitoring program included Water Quality sampling and analysis at 73 Monitoring Locations and 14 core site locations for benthic chlorophyll a. Analysis and reporting of 2022 fish, habitat, macroinvertebrate, and sediment chemistry was performed. The DRWW submitted the DRWW Nutrient Assessment Reduction Plan (NARP) to the Illinois EPA on December 29, 2023.

2024

In 2024, DRWW's monitoring program included Water Quality sampling and analysis at 73 Monitoring Locations and 14 core site locations for benthic chlorophyll a. Analysis and reporting of 2022 fish, habitat, macroinvertebrate, and sediment chemistry was completed June 2024.

2025

In 2025, DRWW's monitoring program included Water Quality sampling and analysis at 73 Monitoring Locations and 14 core site locations for benthic chlorophyll a.

See DRWW Water Column and Sediment Chemistry Monitoring section below for 2025 DRWW monitoring efforts.

Program Goals

The DRWW will undertake a comprehensive monitoring program to fulfill the following goals:

- Develop and implement a comprehensive monitoring program that will include chemical, physical, and biological components that will accurately identify the quality of stream and river ecosystems as well as stressors associated with non-attainment of water quality standards and designated uses. The DRWW monitoring program will establish baseline conditions, and then measure progress towards meeting water quality standards. Baseline conditions were established and documented in MBI's report Biological and Water Quality Assessment of the Upper Des Plaines River and Tributaries (2016)[AS4]. *Progress: On-going; living document*
-

- Assist NPDES permittees in meeting monitoring permit requirements, including monitoring requirements for upstream and downstream of POTWs and Municipal Separate Storm Sewer Systems (MS4s). *Progress: On-going*

- Develop a Nutrient Assessment Reduction Plan with the intended purpose to identify phosphorus input reductions and other measures needed to help ensure that dissolved oxygen and offensive aquatic algae and aquatic plant criteria are met throughout the watershed. *Progress: DRWW NARP submitted to Illinois EPA December 2023*

Monitoring goals include:

- Tracking regulatory conformance for regional lakes and streams as described in Section 303d of the Clean Water Act.
- Assessment of pollutant loads (nutrients, sediments, and/or contaminates) from both point and nonpoint sources
- Evaluation of the efficacy of point and nonpoint mitigation measures
- Documentation of performance against the NARP nutrient reduction program
- Analysis of regional fisheries and macroinvertebrate fauna, along with the identification of chemical, biological, and physical stressors affecting them.
- Creation of a defensible hydrologic and hydraulic model for the Upper DesPlaines

The revised monitoring program will focus on meeting the analytical requirements of the NARP while continuing to document the existing water quality status of the rivers and streams of the Des Plaines River watershed within Lake County, Illinois. The monitoring program will emphasize the direct assessment of biological assemblages by sampling fish and macroinvertebrates using standardized sampling and assessment methodologies. In addition to determining aquatic life status, the monitoring program will also ascertain the associated causes and sources associated with biological impairments by using paired chemical, physical, and other stressor data and information within a systematic analytical process detailed in a comprehensive plan of study, specifically monitoring habitat and water and sediment chemistry.

Water Column and Sediment Chemistry Monitoring

Water column and sediment chemistry is being sampled using a tiered site design to allow for more frequent monitoring of sites with greater flow and tributary area while still allowing for comprehensive coverage of the watershed. Water samples will be collected using grab samples upstream of the monitoring station unless otherwise noted in site description maps. If high pollutant loads are detected, follow up sampling at a refined scale may be undertaken to further determine the cause.

- **Tier 1:** 14 sites located on the mainstem Des Plaines River and Mill Creek. These sites will be included in the biological assessment, sestonic and benthic chlorophyll a studies, and water column and sediment monitoring programs.
- **Tier 2:** 41 sites located on the Des Plaines and tributary streams. These sites will be included in the 6-year biological assessment and water column and sediment monitoring programs.
- **Tier 3:** 18 stream stations located on tributary streams within the watershed. These sites will be included in the 6-year biological assessment and water column monitoring programs.[AN5]

The following is a summary of the DRWW Monitoring Program for 202~~3~~5:[SA6]

- *Water Column Sampling/Analysis Programs*
  - 73 Monitoring Locations for 2023
  - Five water column collection periods in 2023
  - February, May, July, August, & September
  - Increase monitoring for nutrients to 4 "summer" sampling periods.
  - Add Dis. Reactive Phosphorus & ammonia nitrogen to parameters. These changes address needs from NARP.[SA7]
  - Remove metals & organics from Water Analyses Program.[AS8]
  - E. coli, conductivity, chloride, sulfate, hardness 2x/year (February & August)

- *Sediment Sampling/Analysis Programs*
  - Samples sediment every 6 years – starting rotation in 2026[AS9]
  - Continue to Sample Sediments at Tier 1 & 2 Sites[SA10]
  - This will focus on metals, and organic chemical analyses

- *Bioassessment Monitoring Program*
  - Conduct full Bioassessment (73 sites) every 6 years - starting rotation in 2026
  - Conduct Bioassessment Studies biennial on 14 core sites and 6 additional sites located on the main stem of the Des Plaines River (2020, 2022, 2024).
  - This biennial assessment will be used to track progress of biology scores within the watershed.

- *Continuous Monitoring / Chlorophyll a Sampling & Analyses Programs*
  - Deployment of (3) datasondes collecting D.O. temperature, TSS, pH, chlorophyll and conductivity data.
  - Deploy continuous monitoring sondes year-round at 3 sites on annual basis (2020-2023). Sites 13-6, 13-1 and 16-4 on Des Plaines River mainstem.
  - Collection of benthic chlorophyll a samples annually at 14 core sites.
  - Sampling & analysis of sestonic Chlorophyll a at 14 sites over four summer-time sampling dates.

Quality Assurance Project Plan[AS11]

All monitoring is being conducted under two Illinois EPA approved QAPPs (2016). The DRWW ~~used~~ utilized the DuPage River Salt Creek Workgroup's (DRSCW) approved QAPP and adapted it to be watershed specific for the Des Plaines Watershed bioassessment monitoring. A separate QAPP was developed and submitted to Illinois EPA for flow monitoring.

Illinois EPA requires the development of a QAPP for any activity involving the collection and analysis of environmental data. A QAPP presents the policies and procedures, organization, objectives, quality assurance

requirements, and quality control activities designed to achieve the type and quality of environmental data necessary to support project or program objectives. It is the policy of Illinois EPA that no data collection or analyses will occur without an approved QAPP. All in-house and external environmental data collection activities are subject to this requirement. All contracts must address quality assurance requirements (e.g., data quality and reporting requirements) when those contracts pertain to, or have an impact on, data collection or analysis activities. Additionally, all grants and contracts need to address quality assurance requirements specified in applicable state acquisition or procurement regulations. The DRWW QAPP follows U.S. and Illinois EPA guidance for the development of a project specific QAPP.

Data and Reporting

Lake County Health Department

The Lake County Health Department, ~~the~~ DRWW water ~~and sediment~~ chemistry contractor, sends water column ~~and sediment~~ chemistry data to the DRWW following analysis via email in the format of one final report of laboratory analysis in pdf form per site. After data is collected at each site for that sampling event, the laboratory sends an Excel spreadsheet summarizing all sites and parameters. DRWW staff take this data and format it to fit the Illinois EPA requirements for reporting surface-water - monitoring data format (EDDMasterStructureAndFormat_VersionAsOf2015_06_30_ToChrisDavis_2016_02_1...).[AS12]

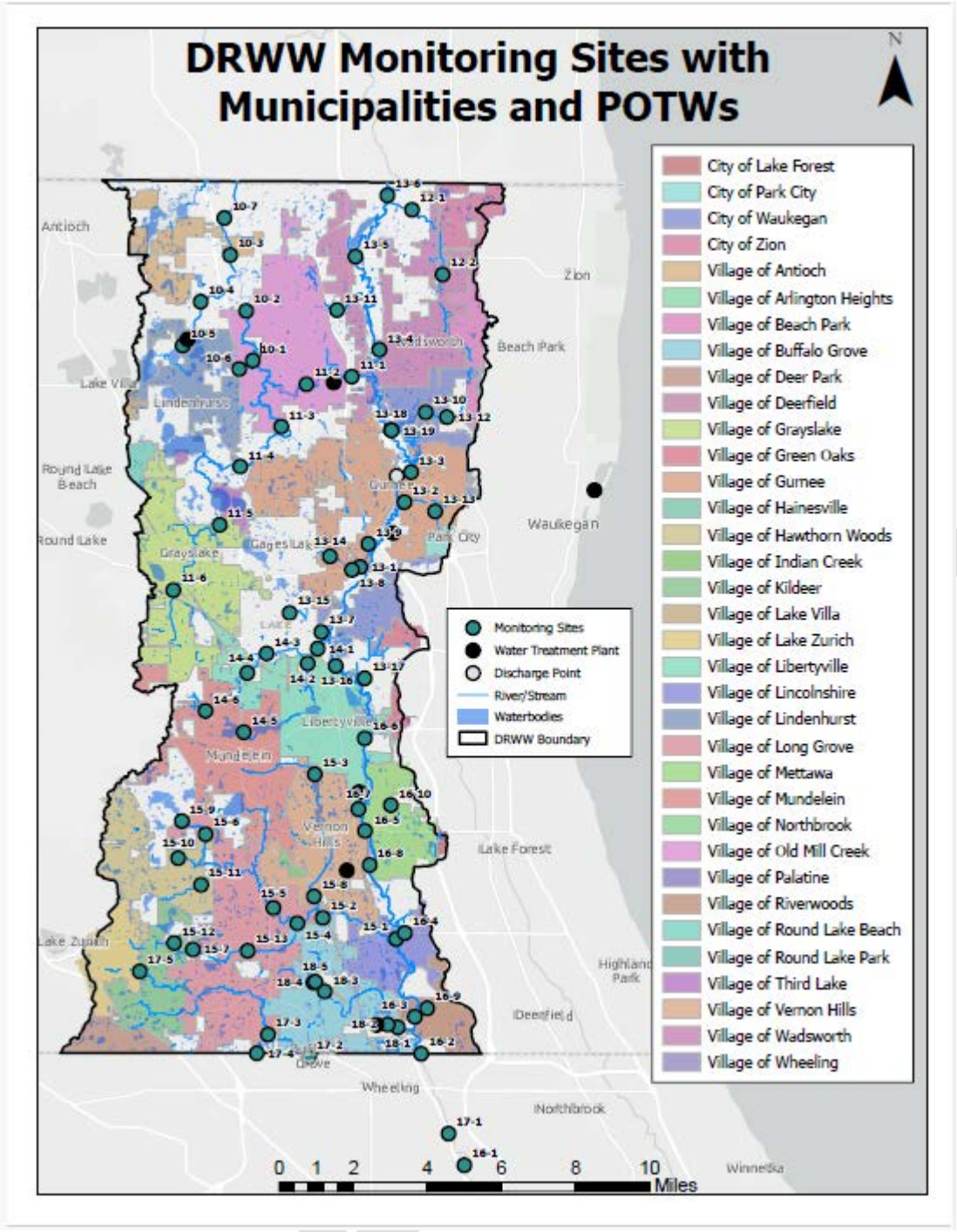
Midwest Biodiversity Institute

Midwest Biodiversity Institute (MBI), ~~the~~ DRWW bioassessment contractor, will send biological data to the DRWW and will be appended to the project database. MBI will also be responsible for completing a final monitoring report, analyzing the results of the water column and sediment chemistry as well as the fish, macroinvertebrate, and habitat data. Interpretative statistics, such as long-term central tendencies, will be based on all available data within the database, developed over time, including past data collection efforts.

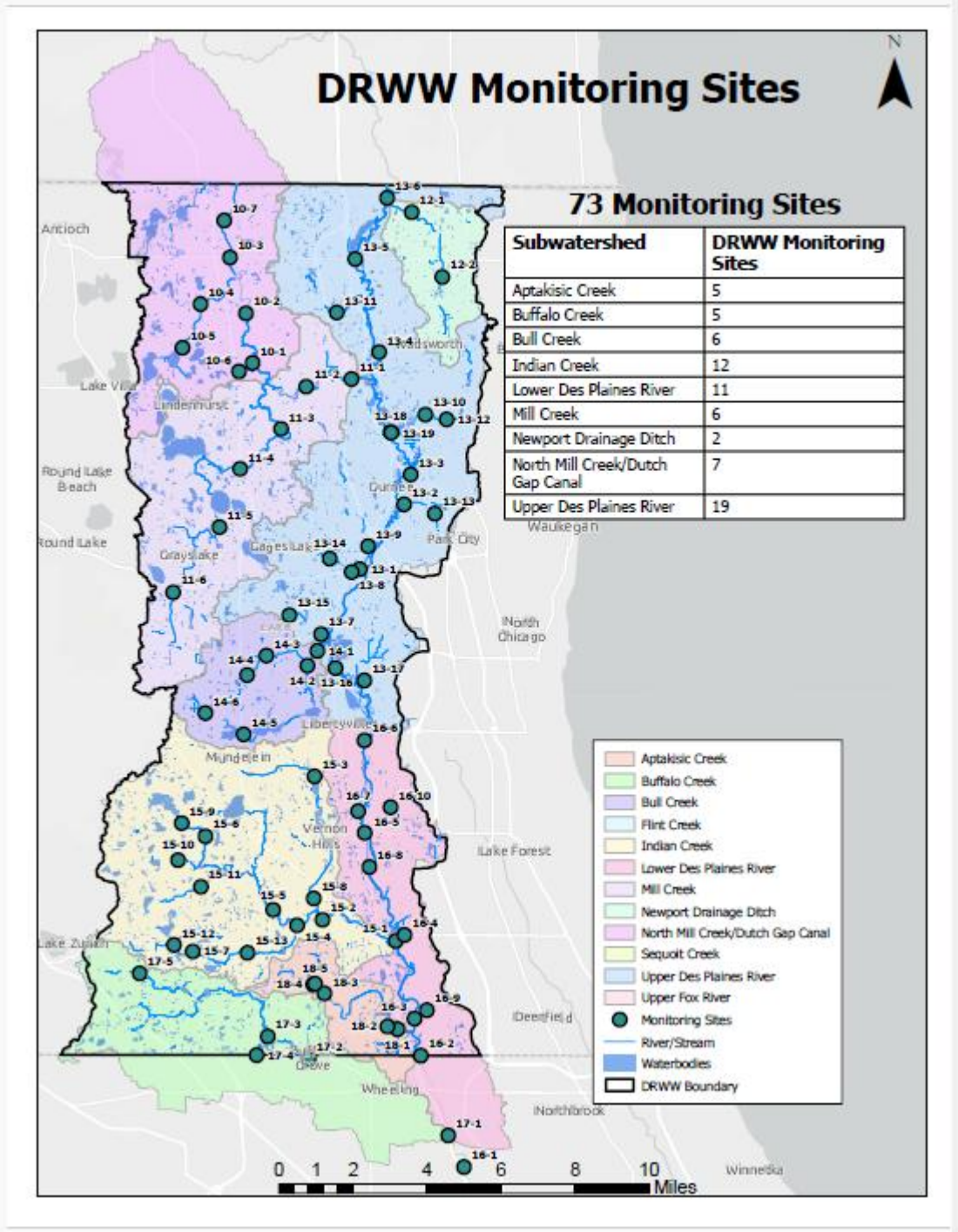
Data will be submitted annually to Illinois EPA by March 31st.[AS13]

Suggestion to add Appendix A most recent monitoring site locations map?

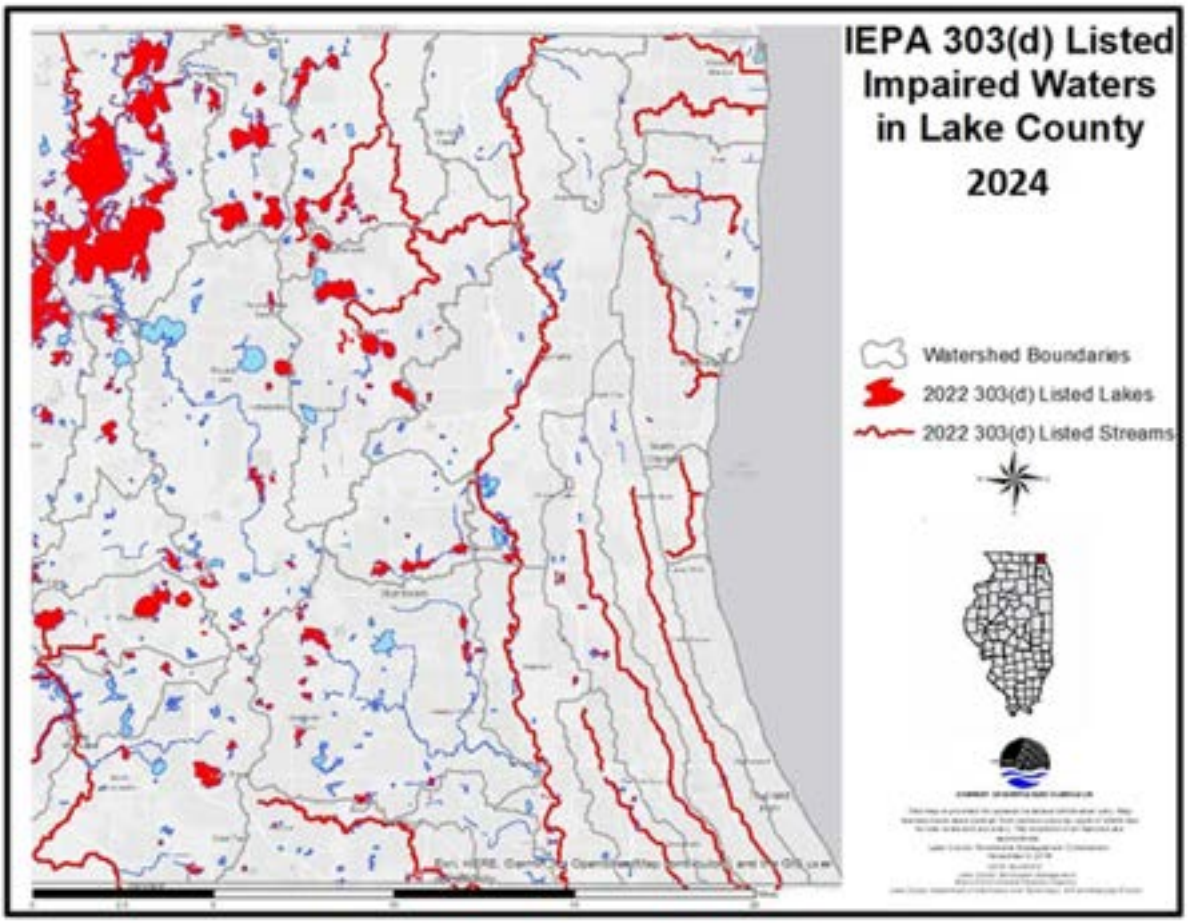
Appendix A


DRWW Monitoring Sites with Municipalities and POTWs
N
City of Lake Forest
City of Park City
City of Waukegan
City of Zion
Village of Antioch
Village of Arlington Heights
Village of Beach Park
Village of Buffalo Grove
Village of Deer Park
Village of Deerfield
Village of Grayslake
Village of Green Oaks
Village of Gurnee
Village of Hainesville
Village of Hawthorn Woods
Village of Indian Creek
Village of Kildeer
Village of Lake Villa
Village of Lake Zurich
Village of Libertyville
Village of Lincolnshire
Village of Lindenhurst
Village of Long Grove
Village of Mettawa
Village of Mundelein
Village of Northbrook
Village of Old Mill Creek
Village of Palatine
Village of Riverwoods
Village of Round Lake Beach
Village of Round Lake Park
Village of Third Lake
Village of Vernon Hills
Village of Wadsworth
Village of Wheeling
Monitoring Sites
Water Treatment Plant
Discharge Point
River/Stream
Waterbodies
DRWW Boundary
Antioch
Zion
Beach Park
Lake Villa
Lindenhurst
Round Lake Beach
Round Lake
Grayslake
Gages Lake
Gurnee
Park City
Waukegan
Libertyville
Mundelein
Vernon Hills
Lake Forest
Lake Zurich
Highland Park
Deerfield
Wheeling
Northbrook
Winnetka
0 1 2 4 6 8 10
Miles

Appendix B



Appendix C



Appendix D
303d List

DES PLAINES RIVER WATERSHED WORKGROUP

May 13, 2025

Ms. Joey L. Logan-Pugh
Chief of the Bureau of Water
Illinois EPA, Bureau of Water
1021 N. Grand Ave. East
Springfield, Illinois 62794-9276

Dear Ms. Logan-Pugh,

On behalf of the Des Plaines River Watershed Workgroup, hereinafter referred to as "DRWW" or the "Workgroup", I am writing regarding the letter titled "Informal comments on nutrient assessment and reductions plans (NARPs) that have been submitted to IEPA", sent to IEPA on August 16, 2024 by representatives of the Sierra Club and the Environmental Law and Policy Center (referred to herein after as "the SC/ELPC letter"). The SC/ELPC letter raises concerns as to various nutrient plans that have been submitted to IEPA by watershed groups. The DRWW submittal was called the Nutrient Assessment Reduction Plan for the Upper Des Plaines River and is called the "NARP" in this response. Regarding the NARP, several statements made within the SC/ELPC letter are incorrect. This response explains why that is the case.

In summary, the DRWW has the following response to the SC/ELPC letter:

Outreach

While we do not wish to belabor the past, we believe that a greater effort must be made in the future to bring community, environmental, agricultural and business interests into the NARP process up front. Without doing this, it is impossible to formulate a reduction plan that has any level of detail or that will work.

We recognize that it is not possible to force non-permittees to come to the table but both local organizations and state organizations that may be in a position to give input regarding NARPs should be clearly invited to participate. It is not acceptable for those writing NARPs to keep the process as something between the permittee and its consultant until it is sent to IEPA, perhaps after being flashed by a local committee. Also, promises to involve stakeholders in the future do not satisfy the requirement to involve stakeholders in the development of the NARPs.

The SC/ELPC letter's statement that the Workgroups did not work with stakeholders is incorrect. The DRWW engaged in outreach and communication on the NARP at multiple stakeholder levels. These are detailed in Attachment 1[AN1] but in short:

Members of the DRWW are public agencies that answer to elected officials. These agencies have already reviewed the budget and schedule outline included in the NARP and how it would be integrated into the agencies' budgets.

- We had multiple meetings with all watershed workgroup members who hold the permit condition (public agencies) to design, review and approve the NARP.
- We had multiple presentations at the general meetings the Workgroup that included members of the Sierra Club and other interested stakeholders.
- We made several dedicated presentations on individual NARP components to members and parallel groups that attended.

- Several individual members conducted outreach to their elected officials/oversight committees.
- Representatives of the Sierra Club attended several meetings on the subject of the NARP, and are member of the DRWW Monitoring Committee meeting.
- The NARP was posted to the DRWW website and was featured in DRWW newsletters that was directly emailed to all member mayors and managers, and all interested parties that were subscribed to the email distribution list.
- All DRWW meeting are free and open to the public to attend.

Target Levels[AN2]

As mentioned above, except for the CF/Tetra/MBI NIPs, none of the NARPs identify specific water quality targets for the affected rivers and streams and, thus, they necessarily fail to provide specific steps to reach such targets. Indeed, these NARPs fail to provide details for any reductions beyond the reduction to 0.5 mg/L total phosphorus (TP) in sewage treatment plant effluent, to which sewage treatment plants are already committed.

Under the NARP special permit conditions, a proper NARP must identify the numeric phosphorus per liter target *for the water body* that will prevent eutrophication. Modeling based on uncalibrated or inadequate data will not set an ambient target for point and nonpoint sources.

Further, NARP targets cannot rest solely on consideration of the proper effluent levels of sewage treatment plants, although, of course, selecting acceptable treatment plant phosphorus effluent levels will be very important in developing a plan to get TP levels down to the NARP target and to making the necessary case for a variance to the Illinois Pollution Control Board under 35 Ill. Adm. Code 104 subpart E.

It is probably easiest and most correct to use the science-based Wisconsin target of 0.1 mg/L. Further, we must caution that it is highly improbable that a proper target level can be set much above 0.1 mg/L total phosphorus. That was the level adopted in Wisconsin after much study of the waters of that neighboring state. See also Dodds, Jones and Welch, Suggested Classification of Stream Trophic State: Distribution of Temperate Stream Types for Chlorophyll, Total Nitrogen and Phosphorus, Wat. Res. Vol 32 No.5 (1998) p. 1457 (streams with over .075 mg/L TP eutrophic.

A study that looked at numerous Illinois waters found that there was a close correlation between phosphorus levels and sestonic algae levels at sites with sufficient sunlight up to a level of 0.2 mg/L but that there was no relationship above .2 mg/L. Royer, T., Gentry, L., Mitchell, C., Starks, K., Heatherly II, T. and Whiles, M., Assessment of Chlorophyll a as a Criterion for Establishing Nutrient Standards in the Stream and Rivers of Illinois, Journal of Environmental Quality, Vol. 37 March-April 2008 p. 440-41. In other words, above 0.2 mg/L Illinois water bodies are essentially phosphorus saturated.

We should not expect, then, to see a difference in unnatural plant or algal growth between waters with 0.3 mg/L and 0.6 mg/L or expect that models will predict substantial differences in dissolved oxygen levels or unnatural plant or algal growth if they do not consider ambient levels of phosphorus well below 0.2 mg/L TP. A protective standard will limit pollution at levels well below the level at which it does not matter anymore.

For impounded waters, it is likely that the protective level for phosphorus will be far below 0.2 mg/L TP. The Illinois lake phosphorus standard is 0.05 mg/L and recently developed U.S. EPA criteria guidelines suggest still lower numbers for lakes. For this reason, dam removal may be an important component of a NARP.[AN3]

Reduction Plans and Next Steps

A NARP "shall identify phosphorus input reductions from point sources and non-point sources in addition to other measures necessary to remove the risk of eutrophication characteristics that will cause or may cause violation of a water quality standard." This requires at a minimum a real plan as to how to achieve the target value. If, for example, it is found that DO violations caused by phosphorus or unnatural plant or algal growth may occur if total phosphorus levels are greater than 0.08 mg/L, a plan should be developed by stakeholders as to how to reduce phosphorus loadings from all sources in order to reach that level.

Obviously, in watershed in which the vast bulk of the phosphorus comes from non-point sources, it will not be possible to reach the target level simply by tightening permit limits. However, as the permit language makes clear, even in the case of watersheds where most phosphorus comes from non-point sources, NARPs must include a detailed plan as to how to get P levels in affected water bodies down to target levels.

~~In this regard, we note that animal feeding operations (AFOs) have been found to be a major source of phosphorus in some areas. Phosphorus from AFOs may be point source pollution and, in any case, a NARP should attempt to identify situations where AFOs are a significant source of phosphorus in the watershed.~~[AN4]

Whatever the sources the phosphorus pollution, it may well take time, money and effort to implement a proper NARP. Indeed, it may be necessary to obtain, through evidence presented to the Illinois Pollution Control Board, a variance, pursuant to 40 CFR 131.14 and 35 Ill. Adm. Code 104 subpart E, based on the scientific and economic factors that have been identified by the U.S. Environmental Protection Agency, IEPA and the IPCB.

The agency cannot know if a variance is necessary if the NARP does not set a proper target, identify the highest attainable use for waters affected by phosphorus pollution, and develop a detailed plan for attaining the target as soon as it is attainable. A NARP or a variance that delays meeting the target for years or decades must be supported by economic studies showing that earlier compliance is not attainable. 40 CFR 131.14(b)

DRWW stands by their approach to developing the NARP and believe they met the NPDES permit requirements. The NARP clearly identified a target concentration, identified the sources of TP and allocated reductions in a manner that will predictably meet the target. It relies on proven practices supported by 10 years of data, robust statistical analysis and calibrated models.

DRWW will continue to run their monitoring and assessments both to verify that the TP goals of the NARP are met and to allow the IPS analysis and DO model [AN5]to be calibrated for the new condition once it is achieved.

DES PLAINES RIVER WATERSHED WORKGROUP

The DRWW respectfully request that the IEPA issue permits that adhere to the schedule and limits set out in the NARP. DRSCW and LDRW have drafted permit language for the agency's consideration (see chapter 9 of the NIP).

Thank you for considering our response.

Sincerely,

Paul Kendzior, P.E., C.F.M.

President, DRWW