Fano, Raymund

From: Fano, Raymund
Sent: Tuesday, March 30, 2021 9:46 AM
To: epa.ms4noipermit@illinois.gov
Subject: 2021 NOI IL40 Permit Issuance - City of Naperville
Attachments: Naperville ILR 40_20210315113028___.pdf; LDRWC_ILR40Activities_2020-2021 with Outreach Summary_.pdf

Dear EPA,

Attached please find the following:

- Notice of Intent for Renewal of General Permit for Discharges from MS4's.
- Lower DuPage river Watershed Coalition IL40Activities (March 2020 – February 2021)

If you have any questions, please give me a call.

Raymund F. Fano, P.E., CFM
Project Engineer | Transportation, Engineering and Development Business Group
City of Naperville | 400 S. Eagle St. Naperville, IL 60540
Office: 630-305-5534 | fanor@naperville.il.us

Illinois Environmental Protection Agency

1021 North Grand Avenue East • P.O. Box 19276 • Springfield • Illinois • 62794-9276 • (217) 782-3397

Notice of Intent for New or Renewal of General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4's)

Part I. Municipal (MS4) Contact Information

1. Name of Municipality: City of Naperville MS4 #: ILR400396

   Population (based on 2010 census): 141,853

2. MS4 Mailing Address: 400 South Eagle Street City: Naperville , IL Zip: 60540

3. Primary MS4 Contact Person (Authorized Representative for MS4 Permit)

   Name: William J. Novack, P.E. Title: Director of TED / City Engineer

   Phone: 630-420-6704 Email Address: Novackw@naperville.il.us

General Information

4. Latitude and Longitude at approximate geographical center of MS4 for which you are requesting authorization to discharge:

   Latitude: 41 (Degrees) 46 (Minutes) 16.05 (Seconds) Longitude: 88 (Degrees) 09 (Minutes) 12.12 (Seconds)

5. Community Type: City Other:

6. Name(s) of governmental entity(ies) in which MS4 is located:

City/Village	Township	County
Naperville	Naperville	DuPage
	Lisle	DuPage
	Wheatland	Will
	DuPage	Will
	Milton	DuPage

7. Area of land within your MS4 in square miles: 39.73

8. Percent of MS4 served by combined sewer: 0 Percent of MS4 served by separate sewer: 100

Impaired Waters

The most recent 303(d) list may be found at https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/303d-list.aspx. Information regarding TMDLs may be found at https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Pages/default.aspx.

9.

Name(s) of known receiving waters (in and within 3 miles of MS4 area)	Impairment listed on 303d List or TMDL?
West Branch of DuPage River	☑ Yes ○ No
East Branch of DuPage River	☑ Yes ○ No
DuPage River	☑ Yes ○ No
Waubansee Creek tributary to Fox River	○ Yes ☑ No

9a. If impaired, which potential causes and source?

Causes: See DuPage County NOI for list of causes Source: See DuPage County NOI for list of sources.

9b. Are the receiving waterbodies included in an approved TMDL or alternate water quality management plan? ☑ Yes ○ No

If yes, what measures to comply with the TMDL waste load allocation (WLA) are being implemented or are planned?

The DRSCW (DuPage River Salt Creek Workgroup) formed in 2005 in response to concerns about TMDLs (Total Maximum Daily Loads) being set for the East and West Branches of the DuPage River and Salt Creek. The DRSCW seeks to implement targeted watershed activities that resolve priority waterway problems efficiently and cost effectively.

9c. Is the MS4 community included in the chloride variance? ◯ Yes ⊘ No

Program Responsibility

10. **Shared Responsibility**

Is your MS4 responsible for any permit requirements of another MS4 community? ◯ Yes ⊘ No

Does your MS4 Community rely on another MS4 to satisfy any of the permit requirements? ⊘ Yes ◯ No

If yes: Which MS4 community?: DuPage County

Which minimum control measurements is the other MS4 responsible for?

- ☑ Public Education and Outreach
- ☑ Public Participation/Involvement
- ☑ Illicit Discharge Detection and Elimination
- ☐ Construction Site Runoff Control
- ☐ Post-Construction Runoff Control
- ☐ Pollution Prevention/Good Housekeeping

11. **Co-Permittee**

Is your MS4 Community a Co-Permittee with another MS4 Community? ⊘ Yes ◯ No

If yes: MS4 Permittee you are Co-Permittee with: DuPage County

Co-Permitee MS4 Permit #: ILR400502

A copy of the intergovernmental agreement between your MS4 community and the Co-Permittee shall be submitted with this NOI. Is the intergovernmental agreement attached? ⊘ Yes ◯ No

12. Other contacts responsible for implementation or coordination of Stormwater Management Program

Name: _____ Title: _____

Phone: _____ Email: _____

Area of Responsibility: _____

Part II. Best Management Practices (include shared responsibilities) which have been implemented or are proposed to be implemented in the MS4 area

A. Public Education and Outreach

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

- ☐ A.1 Distributed Paper Material
- ☐ A.2 Speaking Engagement
- ☐ A.3 Public Service Announcement
- ☐ A.4 Community Event
- ☐ A.5 Classroom Education Material
- ☐ A.6 Other Public Education

B. Public Participation/Involvement

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

- ☐ B.2 Educational Volunteer
- ☐ B.3 Stakeholder Meeting
- ☐ B.4 Public Hearing
- ☐ B.5 Volunteer Monitoring
- ☐ B.6. Program Involvement
- ☐ B.7 Other Public Involvement

C. Illicit Discharge Detection and Elimination

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

- ☐ C.1 Sewer Map Preparation
- ☐ C.2 Regulatory Control Program
- ☐ C.3 Detection/Elimination Prioritization Plan
- ☐ C.4 Illicit Discharge Tracing Procedures
- ☐ C.5 Illicit Source Removal Procedures
- ☐ C.6 Program Evaluation and Assessment
- ☐ C.7 Visual Dry Weather Screening
- ☐ C.8 Pollutant Field Testing

☐ C.9 Public Notification

☐ C.10 Other Illicit Discharge Controls

D. Construction Site Runoff Control

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

☐ D.1 Regulatory Control Program

☐ D.2 Erosion and Sediment Control BMPs

☐ D.3 Other Waste Control Program

☐ D.4 Site Plan Review Procedures

☐ D.5 Public Information Handling Procedures

☐ D.6 Site Inspection/Enforcement Procedures

☐ D.7 Other Construction Site Runoff Controls

E. Post-Construction Runoff Control

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

☐ E.1 Community Control Strategy

☐ E.2 Regulatory Control Program

☐ E.3 Long Term O & M Procedures

☐ E.4 Pre-Construction Review of BMP Designs

☐ E.5 Site Inspections During Construction

☐ E.6 Post-Construction Inspections

☐ E.7 Other Post-Construction Runoff Controls

F. Pollution Prevention/Good Housekeeping

Approximate date first implemented: _____ Frequency of each BMP program: _____

Qualifying Local Programs

Measurable Goals (include shared responsibilities)

☐ F.1 Employee Training Program

☐ F.2 Inspection and Maintenance Program

☐ F.3 Municipal Operations Storm Water Control

☐ F.4 Municipal Operations Waste Disposal

☐ F.5 Flood Management/Assess Guidelines

☐ F.6 Other Municipal Operations Controls

BMPs Currently Implemented and Proposed

BMP Number	Location

Approximate Pollutant Reduction Resulting from each BMP

BMP Number	Pollutant	Reduction

Instream Monitoring Program

Is there an instream monitoring program currently in place? ◯ Yes ◯ No

Is an instream monitoring program currently being proposed? ◯ Yes ◯ No

Sediment Monitoring

Is sediment monitoring currently taking place? ◯ Yes ◯ No

Sample Monitoring of Outfalls

Is sample monitoring of outfalls currently taking place? ◯ Yes ◯ No

Other Monitoring

Describe other types of monitoring implemented or proposed to evaluate the BMP effectiveness or water quality impact of stormwater.

Please refer to DuPage County NOI for the three above sections on monitoring.

Part III. Certification

I certify under penalty of law that this document an all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fines and imprisonment.

Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony (415 ILCS 5/44 (h)).

Willliam J. Novack, P.E.	Director of TED / City Engineer
Authorized Representative Name	Title
Authorized Representative Signature	Date 3/15/21

You may complete this form online and save a copy locally before printing and signing the form. It should then be sent to:

Illinois Environmental Protection Agency
Bureau of Water
Division of Water Pollution Control
Attn: Permit Section
P.O. Box 19276
1021 North Grand Avenue East
Springfield, IL 62794-9276

Information required by this form must be provided to comply with 415 ILCS 5/39 (2000). Failure to do so may prevent this form from being processed and could result in your application being denied.

Lower DuPage River Watershed Coalition ILR40 Activities
March 2020 – February 2021

PART I. COVERAGE UNDER GENRAL PERMITS ILR40

Not applicable to the work of the LDRWC.

PART II. NOTICE OF INTENT (NOI) REQUIREMENTS

Not applicable to the work of the LDRWC.

PART III. SPECIAL CONDITIONS

Not applicable to the work of the LDRWC.

PART IV. STORM WATER MANAGEMENT PROGRAMS

A. Requirements

Not applicable to the work of the LDRWC.

B. Minimum Control Measure

1. Public Education and Outreach on Stormwater Impacts

- The LDRWC website was maintained during the reporting period and periodically updated (http://www.dupagerivers.org).
- A Seasonal Outreach Campaign was implemented throughout year. The "Members" tab on the website includes all past and present seasonal outreach materials for download. Materials for each season include text for websites, newsletters, posters, blogs and social media posts. The website has also been expanded to utilize this information to enhance the experience for visitors to the LDRWC website. Campaign specific materials were also developed – see examples attached at end of report. For the winter season www.SaltSmart.org website is also used as a clearinghouse of winter BMPs for residents, public agencies and private deicing companies. This website has provided a wider reach beyond the Lower DuPage River watershed and has organically grown into a regional Salt Smart Collaborative.

  Seasonal outreach topics:

  - Spring – Rain Gardens, Rain Barrels, Using native plants
  - Summer – Healthy Lawns, Stream Ecology, Impacts of Dams
  - Fall – Proper leaf collection/disposal
  - Winter – SaltSmart – Winter Snow & Ice Management BMPs

2. Public Involvement and Participation **–** Due to the Coronavirus pandemic restrictions the LDRWC did not attend any in-person events. LDRWC did work with members to provide resources on setting up rain barrel sales program and materials to encourage residents to install rain barrels and rain gardens to help minimize stormwater runoff from residential properties. Over 200 rain barrels were sold within the Lower DuPage and Lower Des Plaines watershed areas.

3. Illicit Discharge Detection and Elimination – no activities

4. Construction Site Storm Water Runoff Control - no activities

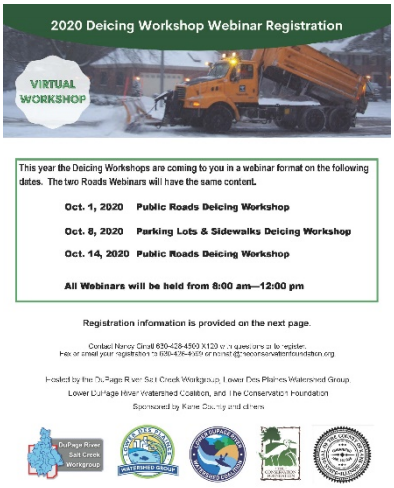
5. Post-Construction Stormwater Management in New Development and Redevelopment - no activities

6. Pollution Prevention/Good Housekeeping for Municipal Operations

Chloride Reduction Workshops

In the past several years, deicing workshops have been held separately by The Conservation Foundation in partnership with Kane County, the DuPage River Salt Creek Workgroup, and the Lower DuPage River Watershed Coalition in partnership with Lower Des Plaines Watershed Group. In 2020, it was decided that these groups would collaborate and host the webinars jointly.

Figure 1. Deicing Workshops Registration Form, 2020.



During the reporting period, three chloride reduction workshops and four technical webinar briefs were held. Due to precautions necessitated by the Coronavirus pandemic, the workshops were held in a webinar format. Registration was also made available to agencies in McHenry, Lake and Cooks counties as their usual deicing workshops were not being held. Accordingly, the webinars were attended by staff in DuPage, Will, Kane, Kendall, Lake, McHenry and Cook counties.

Public Roads Deicing Workshops were held on October 1 and October 14, 2020. Fortin Consulting, Inc. from Minnesota was engaged to present the material. A registration fee was required per agency in order view the webinar. The links were sharable so the webinars could be viewed individually or in groups. A poll was taken at the beginning of each webinar asking how many persons were in the room. The polling results indicated that there were 280 persons viewing the Oct. 1 webinar and 190 persons viewing the Oct. 14th webinar for a total of 470 attendees for the Public Roads webinars. Certificates of attendance were provided to those

who requested them. Evaluation surveys were sent to the persons who logged in to the webinars. A link to the *Minnesota Snow and Ice Control: Field Book for Snowplow Operators* was provided to each registrant.

On October 8, 2020 the Parking Lots and Sidewalks Deicing
Workshop webinar was held with Fortin Consulting, Inc. presenting. The polling results indicated that there were 123 persons viewing the webinar. Certificates of attendance were provided to those who requested them. Evaluation surveys were sent to the persons who logging in to the webinars. A link to the *Minnesota Pollution Control Agency Winter Parking Lot & Sidewalk Maintenance Manual* was provided to each registrant.

Figure 2. Welcome & Introduction to Parking Lots & Sidewalks Presentation, 2020.

Questions from participants were entered into the chat and answered by Fortin Consulting staff, Workgroup staff as well as others participating in the training. A summary of all links provided during the training as well as other links added to the chat were captured and provided to the participants after the webinar.

Figure 3. Links from webinar presentation and chat, 2020.

To complement the Winter Deicing Workshops, the Winter Technical Briefs – Mini-Webinar Series was presented to focus on specific issues. Topics in 2020 included: October 20 – Reducing Salt With Organics: The Boost & Reduce Method, October 27 – Sourcewell & Cooperative Purchasing, November 10 – Benefits of Segmented Blades and November 17 – The Fine Art of Brine Making. Staff also worked with local partners to create a training video on how to calibrate a walk behind salt spreader. These webinars and training video are posted on at www.saltsmart.org .

Figure 4. Winter Technical Briefs, 2020.

Qualifying State, Country or Local Program

Not applicable to the work of the LDRWC.

C. Sharing Responsibility

This report outlines the activities conducted by the LDRWC on behalf of its' members related to the implementation of the ILR40 permit. It is the responsibility of the individual ILR40 permit holders to utilize this information to fulfill the reporting requirements outlined in Part V.C. of the permit.

D. Reviewing and Updating Stormwater Management Programs

Not applicable to the work of the LDRWC.

PART V. MONITORING, RECORDKEEPING, AND REPORTING

A. Monitoring

The ILR40 permit states that permit holders "must develop and implement a monitoring and assessment program to evaluate the effectiveness of the BMPs being implemented to reduce pollutant loadings and water quality impacts". The LDRWC monitoring program meets the following monitoring objectives and requirements outlined in the permit:

- Measuring pollutants over time (Part V. A. 2. b. ii)
- Sediment monitoring (Part V. A. 2. b. iii)
- Assessing physical and habitat characteristics such as stream bank erosion caused by storm water discharges ((Part V. A. 2. b. vi)
- Collaborative watershed-scape monitoring (Part V. A. 2. b. x)
- Ambient monitoring of total suspended solids, total nitrogen, total phosphorus, fecal coliform, chlorides, and oil and grease (Part V. A. 2. c.)

BIOASSESSMENT

Overview and Sampling Plan

A biological and water quality survey, is an interdisciplinary monitoring effort coordinated on a waterbody specific or watershed scale. This may involve a relatively simple setting focusing on one or two small streams, one or two principal stressors, and a handful of sampling sites or a much more complex effort including entire drainage basins, multiple and overlapping stressors, and tens of sites. The LDRWC bioassessment is the latter. The LDRWC bioassessment program began in 2012 with sampling 26 stations in the Lower DuPage River watershed. In 2015 an additional 15 stations were added for a total of 41 stations monitored. Forty-one stations were sampled in the summer of 2018. The bioassessment program functions under a quality assurance plan agreed on with the Illinois Environmental Protection Agency.

The LDRWC bioassessment program utilizes standardized biological, chemical, and physical monitoring and assessment techniques employed to meet three major objectives:

1) determine the extent to which biological assemblages are impaired (using IEPA guidelines);
2) determine the categorical stressors and sources that are associated with those impairments; and,
3) add to the broader databases for the DuPage River watershed to track and understand changes through time in response to abatement actions or other influences.

The data collects as part of the bioassessment is processed, evaluated, and synthesized as a biological and water quality assessment of aquatic life use status. The assessments are directly comparable to previously conducted bioassessments such that trends in status can be examined and causes and sources of impairment can be confirmed, amended, or removed. A final report containing a summary of major findings and recommendations for future monitoring, follow-up investigations, and any immediate actions that are needed to resolve readily diagnosed impairments is prepared following each bioassessment. The bioassessment reports are posted on the LDRWC at http://www.dupagerivers.org/bioassessment-monitoring/ . It is not the role of the bioassessments to identify specific remedial actions on a site specific or watershed basis. However, the baseline data provided by the bioassessments contributes to the Integrated Priority System that was developed by the DuPage River Salt Creek Workgroup to help determine and prioritize remedial projects and is now being updated to incorporate Lower DuPage River

watershed data. A final draft of the IPS model update was completed in 2020 and is being utilized to identify and design restoration projects aimed at improving aquatic life scores.

Sampling sites for the bioassessment were determined systematically using a geometric design supplemented by the bracketing of features likely to exude an influence over stream resource quality, such as CSOs, dams and wastewater outfalls. The geometric site selection process starts at the downstream terminus or "pour point" of the watershed (Level 1 site), then continues by deriving each subsequent "panel" at descending intervals of one-half the drainage area (D.A.) of the preceding level. Thus, the drainage area of each successive level decreases geometrically. This results in in seven drainage area levels in each of the three watersheds, starting at the largest (150 sq. mi) and continuing through successive panels of 75, 38, 19, 9, 5 and 2 sq. mi. Targeted sites are then added to fill gaps left by the geometric design and assure complete spatial coverage in order to capture all significant pollution gradients including reaches that are impacted by wastewater treatment plants (WWTPs), major stormwater sources, combined sewer overflows (CSOs) and dams. The number of sampling sites by method/protocol and watershed are listed in Table 1 and illustrated in Figure 1.

Representativeness – Reference Sites

Data is collected from selected regional reference sites in northeastern Illinois preferably to include existing Illinois EPA and Illinois DNR reference sites, potentially being supplemented with other sites that meet the Illinois EPA criteria for reference conditions. One purpose of this data will be to index the biological methods used in this study that are different from Illinois EPA and/or DNR to the reference condition and biological index calibration as defined by Illinois EPA. In addition, the current Illinois EPA reference network does not yet include smaller headwater streams, hence reference data is needed to accomplish an assessment of that data. Presently thirteen (13) reference sites have been established.

Figure 5. Lower DuPage River Watershed bioassessment monitoring sites for 2015 and 2018

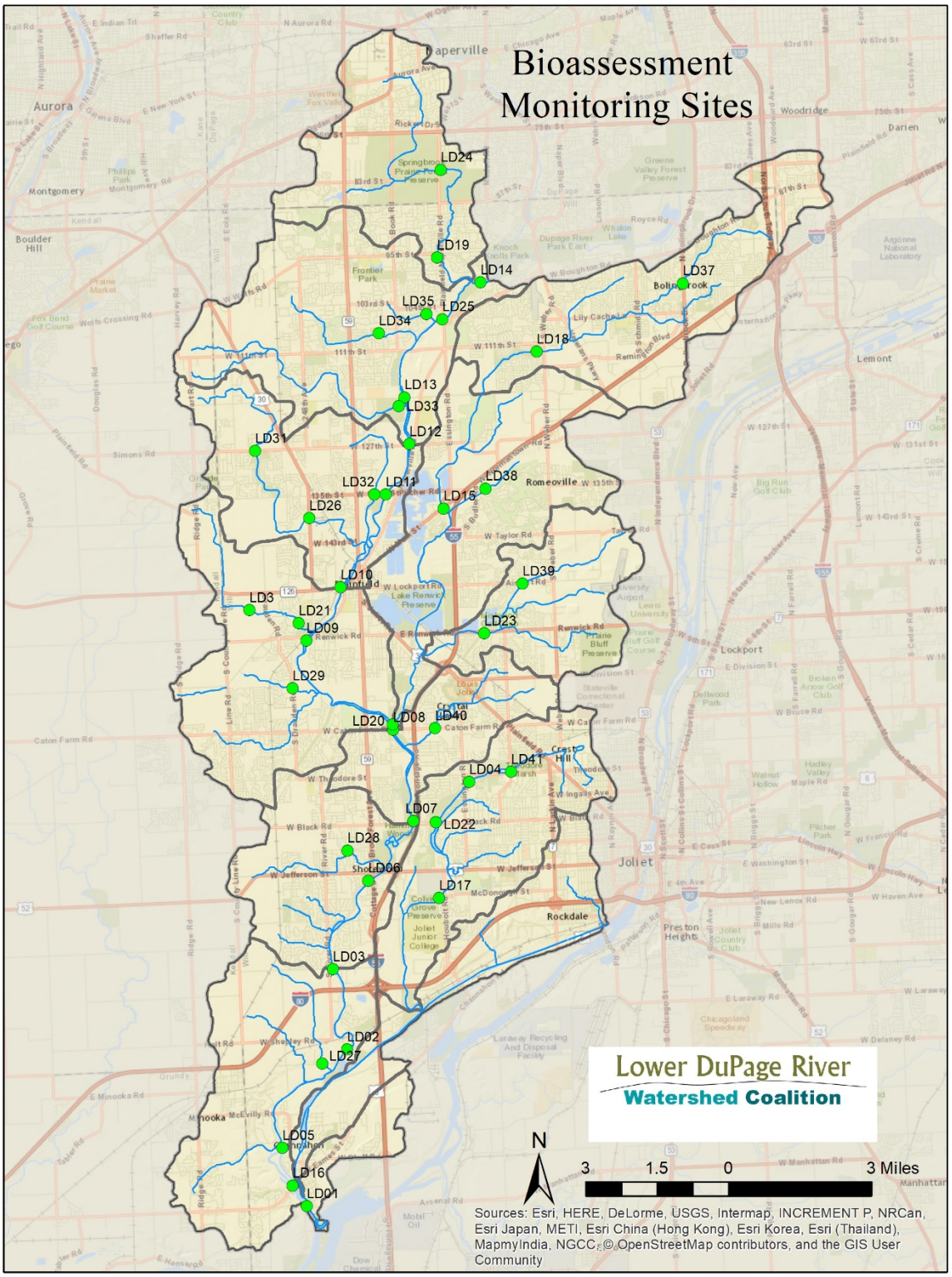


Table 1. Number of sampling sites in the LDRWC project area.

Method/Protocol	Lower DuPage River (2012)	Lower DuPage River (2015 & 18)
Biological sampling	26	41
Fish	26	41
Macroinvertebrates	26	41
QHEI	26	41
Water Column Chemical/Physical Sampling		
Nutrients*	26	41
Water Quality Metals	26	41
Water Quality Organics	8	0
Sediment Sampling	7	7

*Also included indicators or organic enrichment and ionic strength, total suspended solids (TSS), DO, pH and temperature

The bioassessment sampling includes four (4) sampling methods/protocols: biological sampling, Qualitative Habitat Evaluation Index (QHEI), water column chemical/physical parameter sampling and sediment chemistry. The biological sampling includes two assemblages: fish and macroinvertebrates.

FISH

Methodology

Methods for the collection of fish at wadeable sites was performed using a tow-barge or longline pulsed D.C. electrofishing apparatus (MBI 2006b). A Wisconsin DNR battery powered backpack electrofishing unit was used as an alternative to the long line in the smallest streams (Ohio EPA 1989). A three-person crew carried out the sampling protocol for each type of wading equipment sampling in an upstream direction. Sampling effort was indexed to lineal distance and ranged from 150-200 meters in length. Non-wadeable sites were sampled with a raft-mounted pulsed D.C. electrofishing device in a downstream direction (MBI 2007). Sampling effort was indexed to lineal distance over 0.5 km. Sampling was conducted during a June 15-October 15 seasonal index period.

Samples from each site were processed by enumerating and recording weights by species and by life stage (y-o-y, juvenile, and adult). All captured fish were immediately placed in a live well, bucket, or live net for processing. Water was replaced and/or aerated regularly to maintain adequate D.O. levels in the water and to minimize mortality. Fish not retained for voucher or other purposes were released back into the water after they had been identified to species, examined for external anomalies, and weighed either individually or in batches. While the majority of captured fish were identified to species in the field, any uncertainty about the field identification required their preservation for later laboratory identification. Identification was made to the species level at a minimum and to the sub-specific level if necessary. Vouchers were deposited and verified at The Ohio State University Museum of Biodiversity (OSUMB) in Columbus, OH.

Results

The fish sampling results presented in this report summarize the findings for the mainstem reaches of the DuPage River. Information on the tributaries and detailed analysis of all results can be found at http://www.dupagerivers.org/bioassessment-monitoring/ Results from the 2018 bioassessment will be available in late 2020.

The fish and macroinvertebrate results are presented as Index of Biotic Integrity (IBI) scores. IBI is an evaluation of a waterbodies biological community in a manner that allows the identification, classification and ranking of water pollution and other stressors. IBIs allow the statistical association of various anthropogenic influences on a water body with the observed biological activity in said water body and in turn the evaluation of management interventions in a process of adaptive management. Chemical testing of water samples produce only a snapshot of chemical concentrations while an IBI allows an evaluation of the net impact of chemical, physical and flow variables on a biological community structure. Dr. James Karr formulated the IBI concept in 1981.

DuPage River

As in previous studies, fish assemblages in the lower DuPage River watershed ranged from poor to good in 2015 (Figure 6), but in 2018 three sites in the mainstem fully attained the Illinois general aquatic life thresholds (LD01, LD06 and LD14). The only site with consistently good quality assemblages during all surveys is found in the Channahon Dam tailwaters, a short reach wedged in between the dam and the Des Plains River. Mainstem fish communities at most sites have improved since 2012 and 2015, and no sites were in the poor range in 2018. In contrast to the mainstem, conditions in the tributaries tended to improve from mostly poor, to mostly fair quality between 2012 and 2015, but regressed somewhat in 2018 (see figure 7).

Figure 6. Fish Index of Biotic Integrity (fIBI) scores for the Lower DuPage River from 1976-2018, in relation to municipal WWTPs and existing low head dams (noted by bars adjoining the x-axis). The shaded region demarcates the "fair" narrative range.

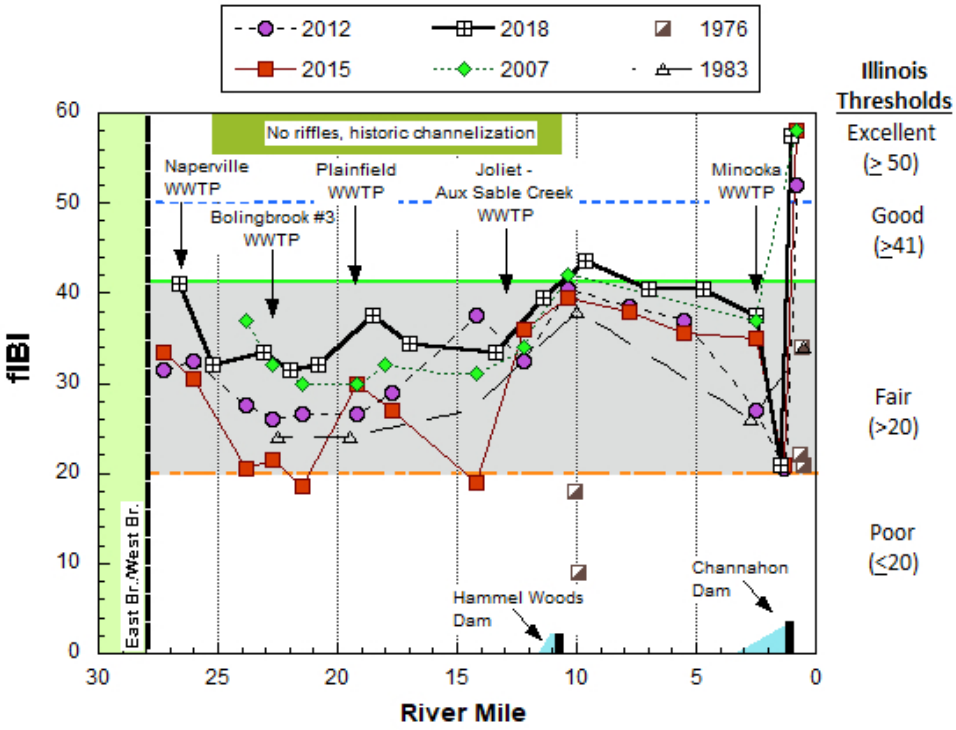
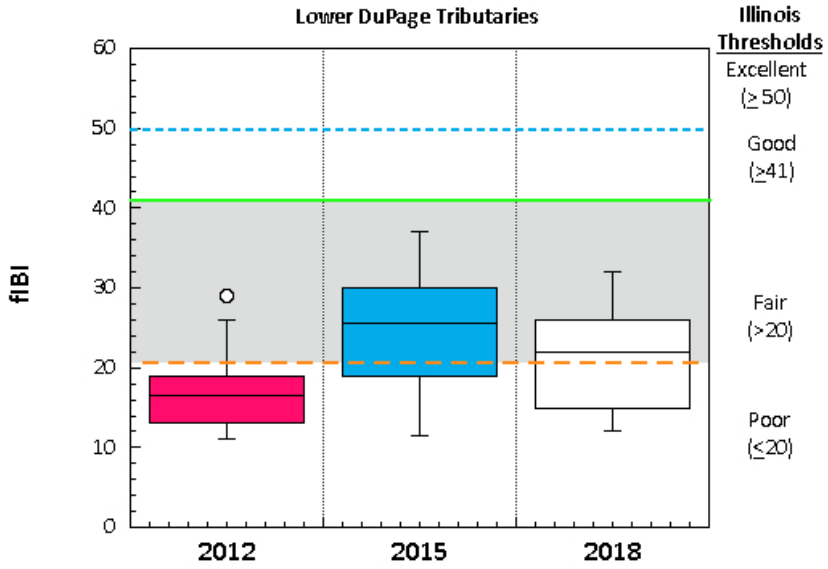


Figure 7. Box and whisker plot of fIBI scores from Lower DuPage River tributary sites in 2012, 2015, and 2018



MACROINVERTEBRATES

Methodology

The macroinvertebrate assemblage is sampled using the Illinois EPA (IEPA) multi-habitat method (IEPA 2005). Laboratory procedures followed the IEPA (2005) methodology for processing multi-habitat samples by producing a 300-organism subsample with a scan and pre-pick of large and/or rare taxa from a gridded tray. Taxonomic resolution is performed to the lowest practicable resolution for the common macroinvertebrate assemblage groups such as mayflies, stoneflies, caddisflies, midges, and crustaceans, which goes beyond the genus level requirement of IEPA (2005). However, calculation of the macroinvertebrate IBI followed IEPA methods in using genera as the lowest level of taxonomy for mIBI calculation and scoring.

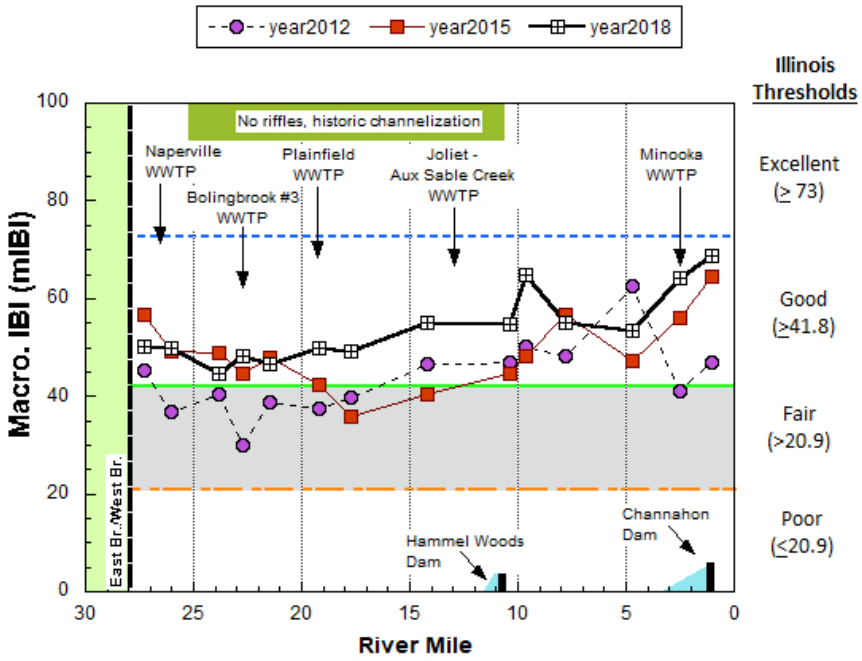
Results

The macroinvertebrate sampling results presented in this report summarize the findings for the mainstem reaches of the DuPage River. Information on the tributaries and detailed analysis of all results can be found at http://www.dupagerivers.org/bioassessment-monitoring/ A final draft of the 2018 is under review and should be released in mid-2021.

DuPage River

Macroinvertebrate assemblage performance in the lower DuPage River watershed (mainstem and tributaries) were all in the good range in 2018 an improvement over 2012 and 2015 (see Figure 8); 7 sites were rated as fair in 2012 and 3 in 2015. Mainstem communities improved at almost all stations compared to 2012 and 2015. The lower scoring sites (still in the good range) were in the long sluggish, historically channelized reach between the Naperville WWTP and Hammel Woods dam. The reach consists of mostly pooled or slow-run habitats with fine substrates and an abundance of macrophytes.

Figure 8. Macroinvertebrate Index of Biotic Integrity (mIBI) scores for the Lower DuPage River in 2012, 2015, and 2018 in relation to municipal WWTPs and existing low head dams (noted by bars adjoining the x-axis). The shaded region demarcates the "fair" narrative range.



HABITAT

Methodology

Physical habitat was evaluated using the Qualitative Habitat Evaluation Index (QHEI) developed by the Ohio EPA for streams and rivers in Ohio (Rankin 1989, 1995; Ohio EPA 2006b) and as modified by MBI for specific attributes. Attributes of habitat are scored based on the overall importance of each to the maintenance of viable, diverse, and functional aquatic faunas. The type(s) and quality of substrates, amount and quality of instream cover, channel morphology, extent and quality of riparian vegetation, pool, run, and riffle development and quality, and gradient used to determine the QHEI score which generally ranges from 20 to less than 100. QHEI scores and physical habitat attribute were recorded in conjunction with fish collections.

Results

The QHEI data presented in this report summarize the findings for the mainstem reaches of the Lower DuPage River. Information on the tributaries and detailed analysis of all results can be found at http://www.dupagerivers.org/bioassessment-monitoring/ A final draft of the 2018 is under review and should be released in mid-2021.

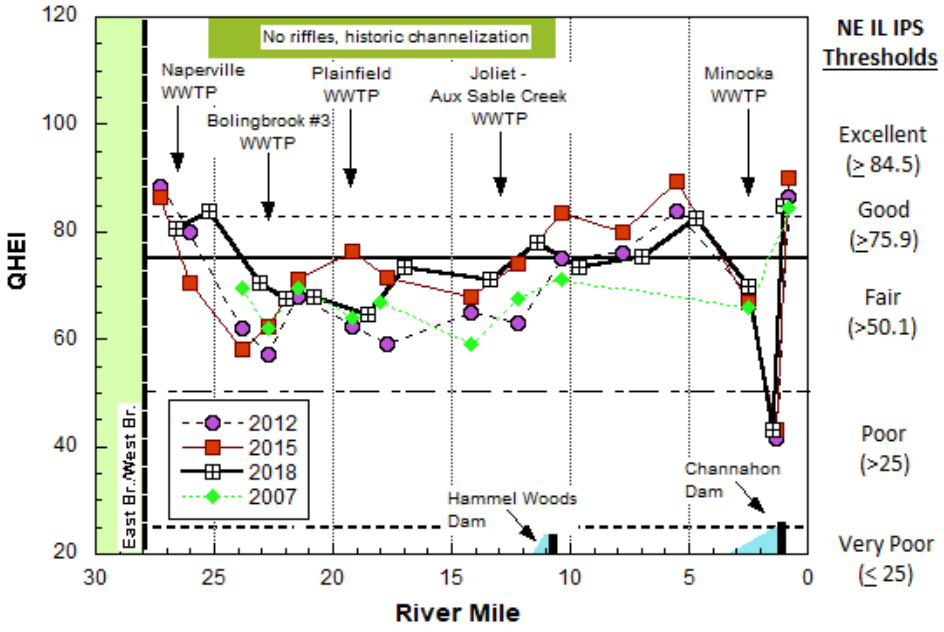
The physical habitat of a stream is a primary determinant of biological quality. Streams in the glaciated Midwest, left in their natural state, typically possess riffle-pool-run sequences, high

sinuosity, and well-developed channels with deep pools, heterogeneous substrates and cover in the form of woody debris, glacial tills, and aquatic macrophytes. The QHEI categorically scores the basic components of stream habitat into ranks according to the degree to which those components are found in a natural state, or conversely, in an altered or modified state.

DuPage River

As in previous surveys, 2015 DuPage River habitat quality varied by location but was more than adequate to support warm water communities throughout most of its 27.8-mile length (see figure 4). Extreme upper mainstem habitats remained clearly exceptional, but continued to decline to the lower good range in the sluggish, historically channelized reach between the Naperville WWTP and the Hammel Woods low-head dam (~ RMs 25-10.6). Two projects are being developed to improve habitat and dissolved oxygen levels within this reach. The first project is to removed the Hammel Woods dam. This project is designed and is awaiting permits. Construction is anticipated to take place during low flows in 2021.

Figure 9. Qualitative Habitat Evaluation Index (QHEI) scores and narrative ranges in the Lower DuPage River in 2007, 2012, 2015 and 2018 in relation to municipal WWTPs and existing low head dams (noted by bars adjoining the x-axis). QHEI scores less than 45 are often typical of highly modified channels or dam pools. The IPS narrative ranges of QHEI scores from excellent to very poor are indicated by solid and dashed lines.



Water and Sediment Chemistry

Methodology

Water column and sediment samples are collected as part of the LDRWC bioassessment programs. The total number of sites sampled is detailed in Table 1. The number of samples collected at each site is largely a function of the sites drainage area with the frequency of sampling increasing as drainage size increases. Organics sampling is a single sample done at a subset of sites. Sediment sampling is done at a subset of 41 sites using the same procedures as IEPA.

The parameters sampled for are included in Table 2 and can be grouped into demand parameters, nutrients, demand, and metals. Locations of sample sites are shown on Figure 5. All sampling occurs between May and October of the sample year. The Standard Operating Procedure for water quality sampling can be found at http://www.dupagerivers.org/bioassessment-monitoring/ A final draft of the 2018 is under review and should be released in mid-2021.

Table 2. Water Quality and sediment Parameters sampled as part of the LDRWC Bioassessment Program.

Water Quality Parameters	Sediment Parameters
Demand Parameters	**Sediment Metals**
5 Day BOD	Arsenic
Chloride	Barium
Conductivity	Cadmium
Dissolved Oxygen	Chromium
pH	Copper
Temperature	Iron
Total Dissolved Solids	Lead
Total Suspended Solids	Manganese
	Nickel
Nutrients	Potassium
Ammonia	Silver
Nitrogen/Nitrate	Zinc
Nitrogen – Total Kjeldahl	
Phosphorus, Total	
	Sediment Organics
Metals	Organochlorine Pesticides
Cadmium	PCBS
Calcium	Percent Moisture
Copper	Semivolatile Organics
Iron	Volatile Organic Compounds
Lead	
Magnesium	
Zinc	

Results

The discussion presented below focuses on the constituents listed in the MS4 permit: total suspended solids, total nitrogen, total phosphorus, and chlorides. Total nitrogen is presented as ammonia, nitrate, and total kjeldahl nitrogen (TKN). Fecal coliform and oil and grease sampling will be added to all future bioassessment sampling starting in 2021 ensuring that both parameters will be sampled during the effective period of the ILR40 permit. A final draft of the 2018 is under review and should be released in mid-2021.

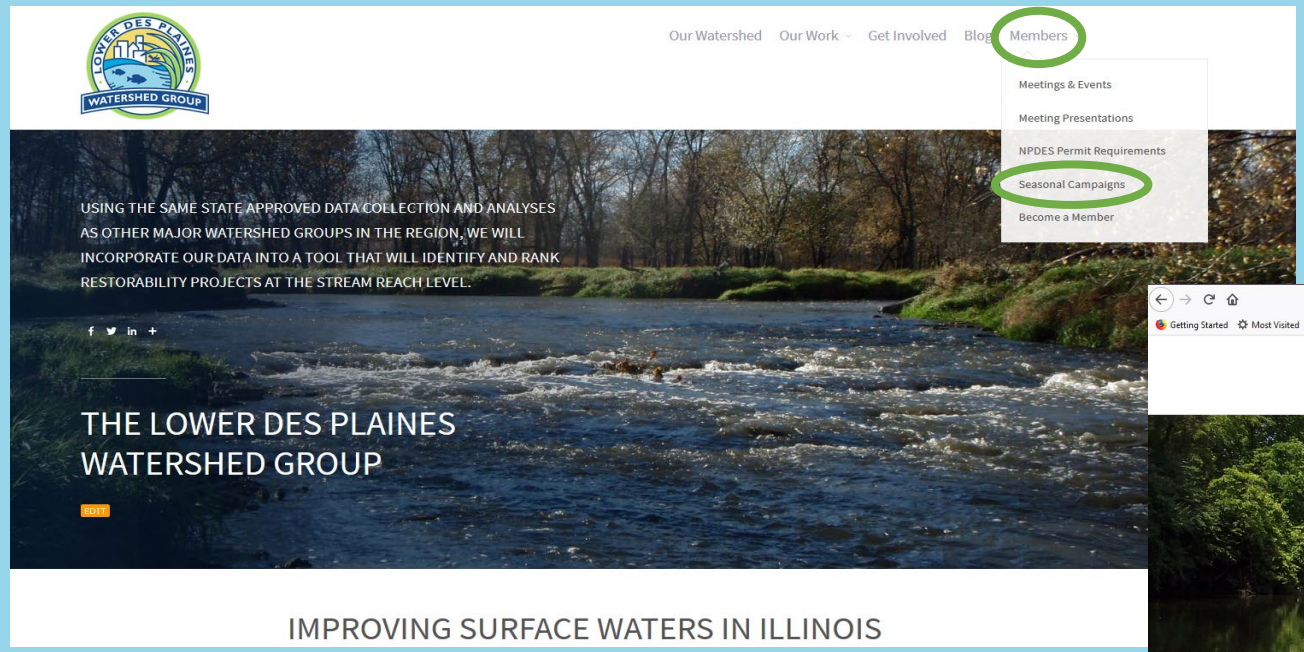
Detailed analysis and results for the other water quality constituents is located at http://www.dupagerivers.org/bioassessment-monitoring/

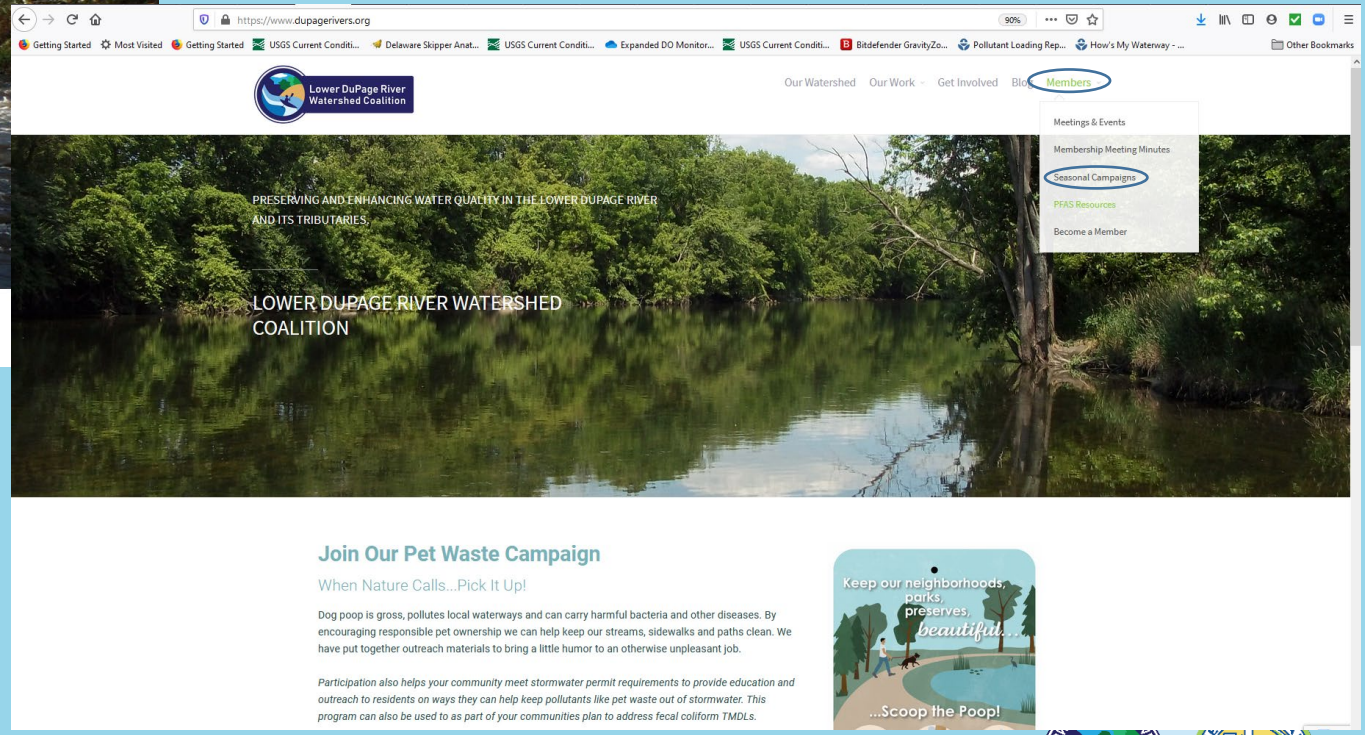
Lower DuPage River - Chemical Water Quality

As discussed in previous reports, nutrient levels in the Lower DuPage River mainstem are heavily influenced by WWTP inputs from its sources upstream, the East and West Branches. In each Lower DuPage survey, phosphorus and nitrate levels have ranged from highly elevated to slightly elevated (based on NE Illinois IPS Model thresholds), depending largely on flow conditions and contributions from upstream point sources. Concentrations have tended to be highest in the extreme upper mainstem, nearer to the confluence with the branches. Under very low-flows in 2012, nitrates routinely exceeded the 10 mg/l criterion in the upper reach and phosphorus was almost entirely above the recommended 1.0 mg/l effluent limit from headwaters to mouth. In both surveys, contributions from WWTPs along the Lower DuPage mainstem may have helped maintain nutrient levels but parameters experience minimal change downstream from the discharges. Both median and mean ammonia concentrations were near or below detection throughout the DuPage River mainstem in 2012 and 2015, but there was an increase in ammonia in 2018, albeit in the IPS fair range, but none were exceedances of water quality criteria that depend on temperature and pH (Figure 8, top)**.** This likely originated in the upper part of the watershed. A final draft of the 2018 is under review and should be released in mid-2021.

2020 Watershed Outreach Summary

2020 Outreach Materials



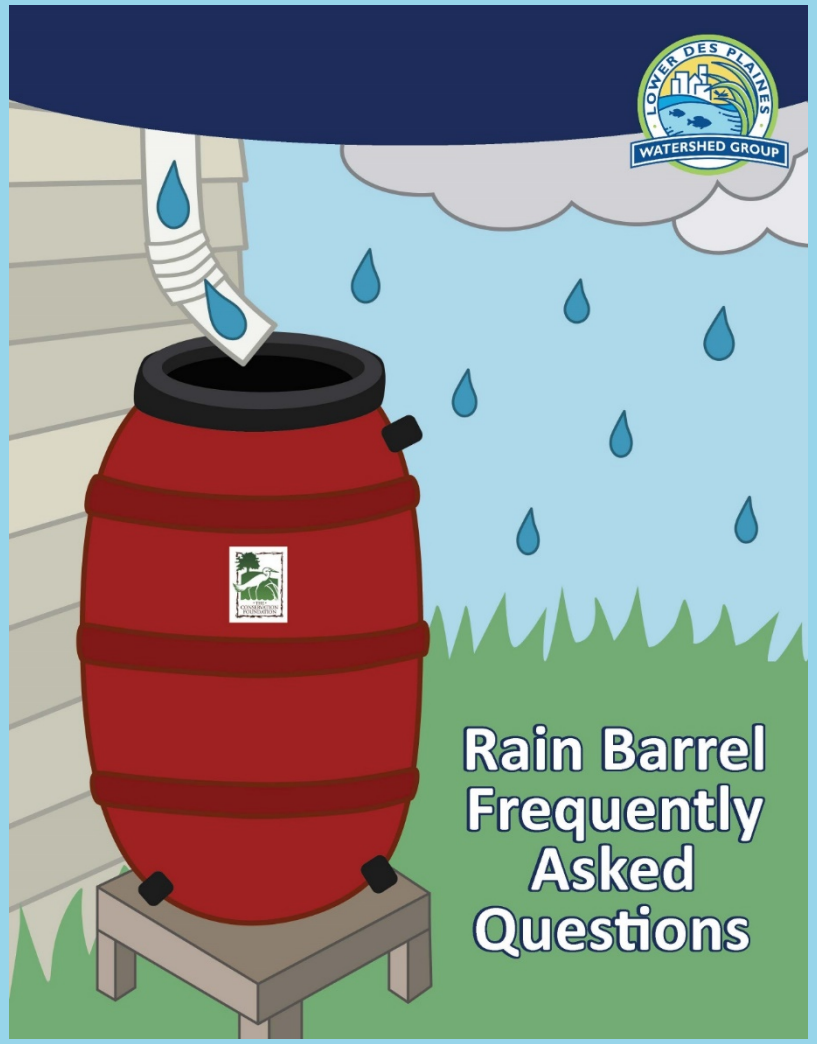


lowerdesplaineswatershed.org/seasonal-campaigns
dupagerivers.org/seasonal-campaigns

Spring

Topics:

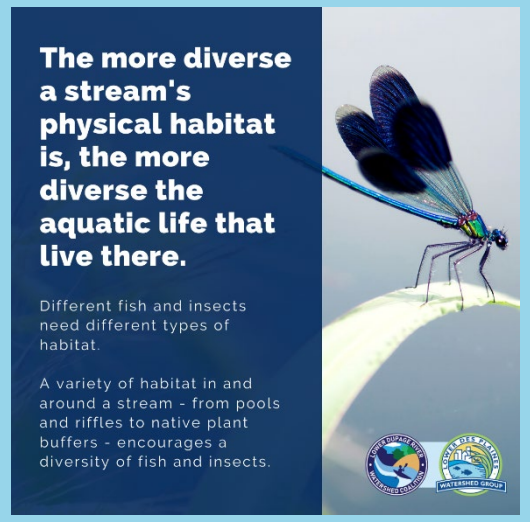
- Stormwater runoff
- Rain gardens
- Rain barrels



Summer

Topics:

- Lawn maintenance
- Components of a healthy stream
- Aquatic insects
- Impact of dams



Fall

Topics:

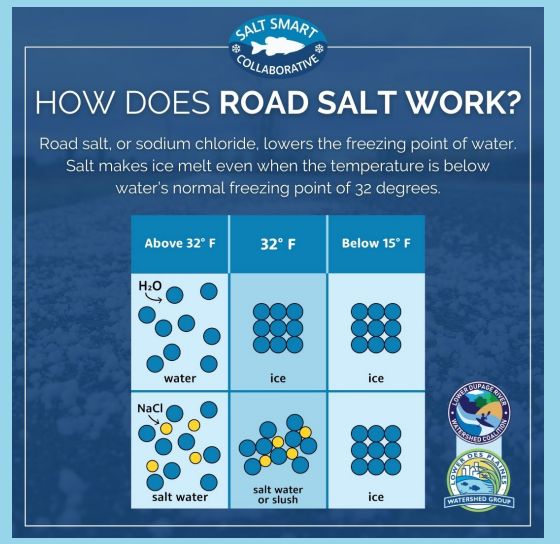
- Leaf collection before a storm protects water quality – Madison case study
- Creating a leaf mold bin
- Where do dragonflies go in the winter?

Winter – Salt Smart

saltsmart.org

Topics:

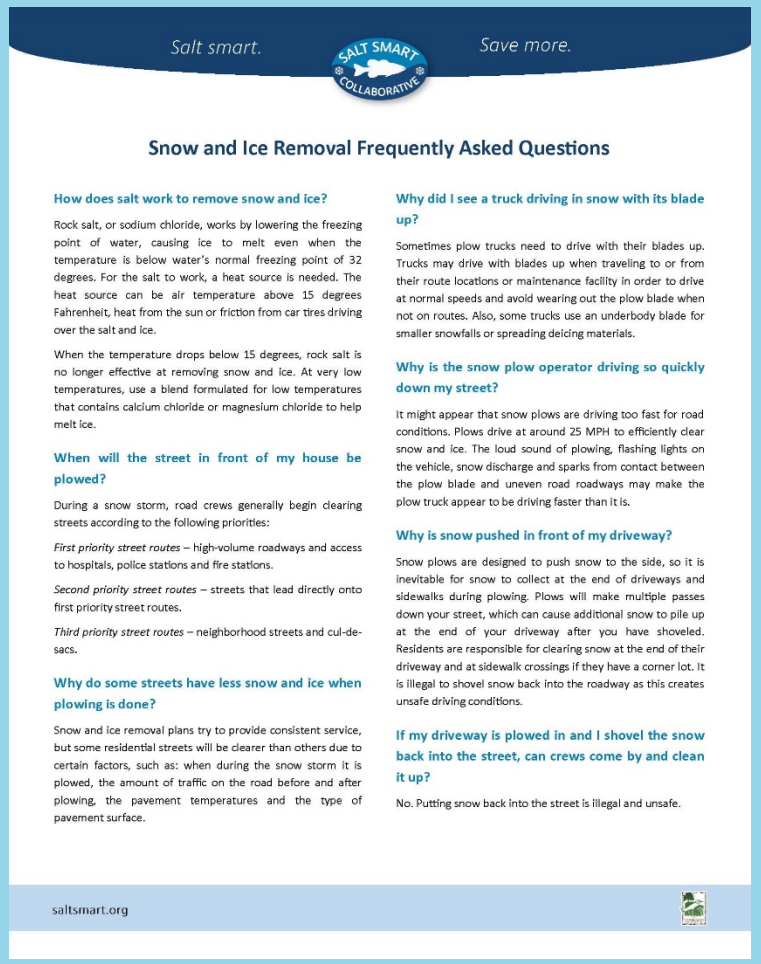
- Anti-icing
- How salt works
- Where do fish go in the winter?



Winter – Salt Smart

Safe Driving Poster/Graphic

Snow + Ice Removal FAQ



Salt smart. Save more.

Snow and Ice Removal Frequently Asked Questions

How does salt work to remove snow and ice?

Rock salt, or sodium chloride, works by lowering the freezing point of water, causing ice to melt even when the temperature is below water's normal freezing point of 32 degrees. For the salt to work, a heat source is needed. The heat source can be air temperature above 15 degrees Fahrenheit, heat from the sun or friction from car tires driving over the salt and ice.

When the temperature drops below 15 degrees, rock salt is no longer effective at removing snow and ice. At very low temperatures, use a blend formulated for low temperatures that contains calcium chloride or magnesium chloride to help melt ice.

When will the street in front of my house be plowed?

During a snow storm, road crews generally begin clearing streets according to the following priorities:

First priority street routes – high-volume roadways and access to hospitals, police stations and fire stations.

Second priority street routes – streets that lead directly onto first priority street routes.

Third priority street routes – neighborhood streets and cul-de-sacs.

Why do some streets have less snow and ice when plowing is done?

Snow and ice removal plans try to provide consistent service, but some residential streets will be clearer than others due to certain factors, such as: when during the snow storm it is plowed, the amount of traffic on the road before and after plowing, the pavement temperatures and the type of pavement surface.

Why did I see a truck driving in snow with its blade up?

Sometimes plow trucks need to drive with their blades up. Trucks may drive with blades up when traveling to or from their route locations or maintenance facility in order to drive at normal speeds and avoid wearing out the plow blade when not on routes. Also, some trucks use an underbody blade for smaller snowfalls or spreading deicing materials.

Why is the snow plow operator driving so quickly down my street?

It might appear that snow plows are driving too fast for road conditions. Plows drive at around 25 MPH to efficiently clear snow and ice. The loud sound of plowing, flashing lights on the vehicle, snow discharge and sparks from contact between the plow blade and uneven road roadways may make the plow truck appear to be driving faster than it is.

Why is snow pushed in front of my driveway?

Snow plows are designed to push snow to the side, so it is inevitable for snow to collect at the end of driveways and sidewalks during plowing. Plows will make multiple passes down your street, which can cause additional snow to pile up at the end of your driveway after you have shoveled. Residents are responsible for clearing snow at the end of their driveway and at sidewalk crossings if they have a corner lot. It is illegal to shovel snow back into the roadway as this creates unsafe driving conditions.

If my driveway is plowed in and I shovel the snow back into the street, can crews come by and clean it up?

No. Putting snow back into the street is illegal and unsafe.

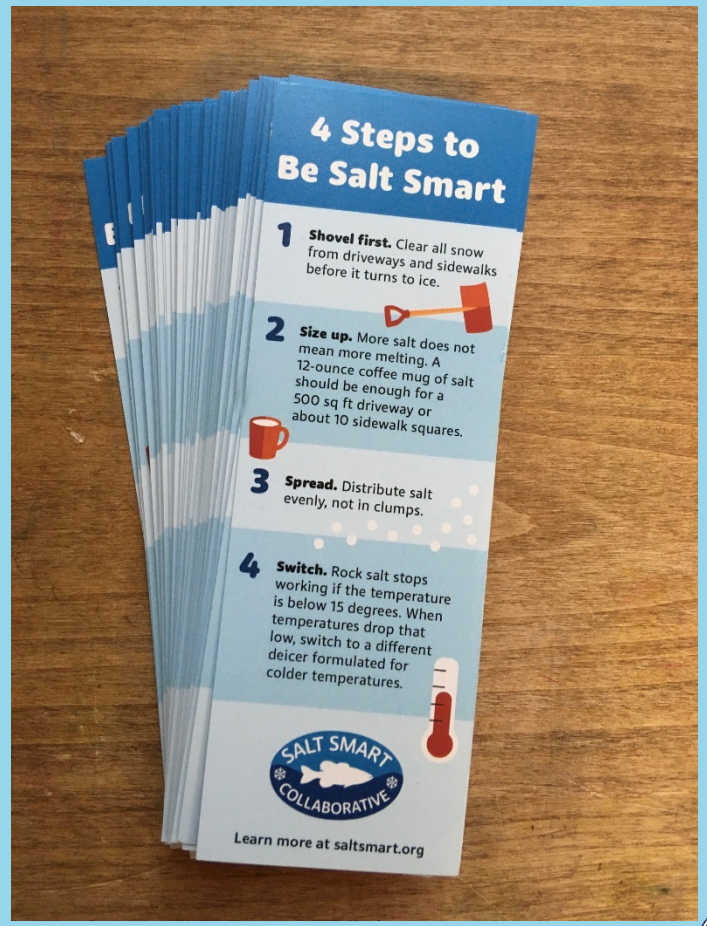
saltsmart.org

Bookmark

Winter – Salt Smart

Cups and bookmarks are available now – contact Jennifer or Lea to put in your order

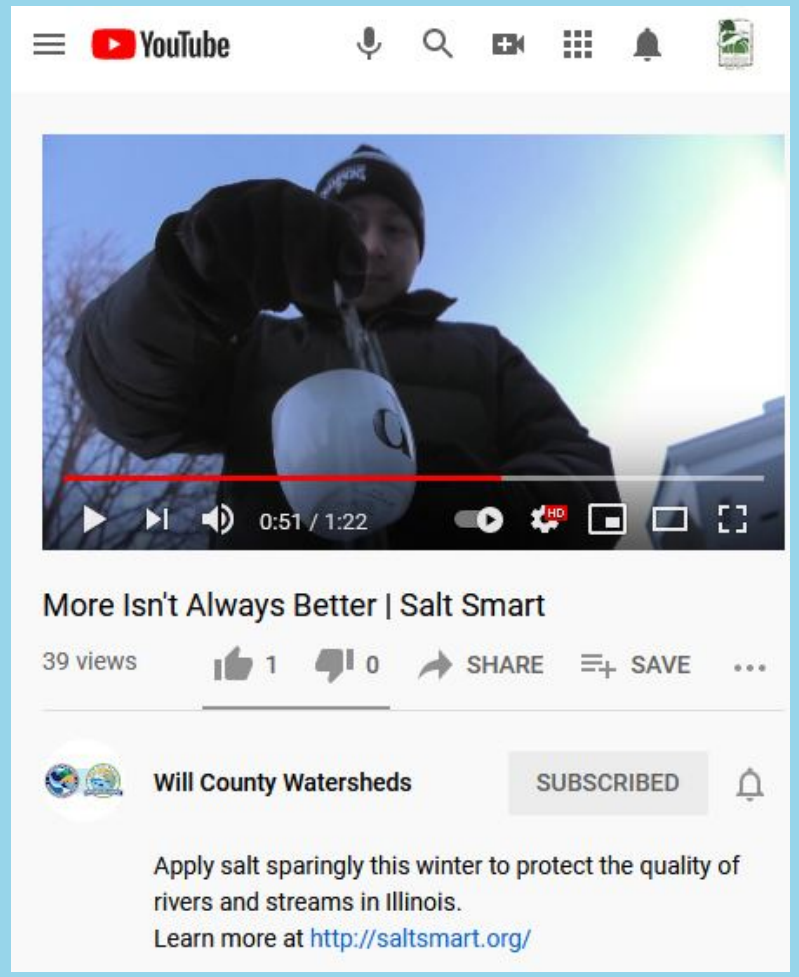
Scatter cups



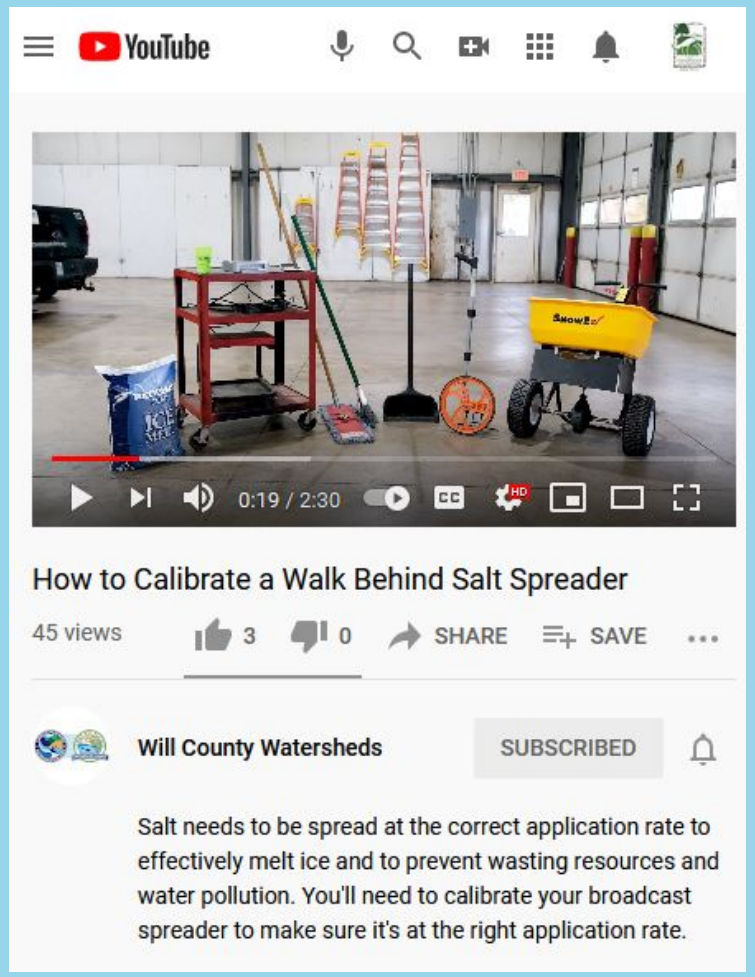
Bookmarks

Winter – Salt Smart

New Videos!



Fun PSA for Residents



Salt Spreader Calibration Tutorial

Winter Deicing Technical Briefs

Recordings available at
Saltsmart.org/workshops
and
"Will County Watersheds"
YouTube Page

Join the Pet Waste Campaign

Remind residents to scoop the poop to protect water quality!

- **We Provide:**
  - Sign + Dog Waste Bag Dispenser and bags
  - Or Just Sign(s)

- **You Provide:**
  - Post & Installation – send us a picture
  - Participate in Social Media Campaign

Funded By:
Illinois American Water Environmental Grant

ILLINOIS AMERICAN WATER
WE KEEP LIFE FLOWING™

Connect With Us!