Lower DuPage River Watershed Coalition ILR40 Activities
March 2019 – February 2020

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. Media tool kits have been replaced with a "Members" tab on the website that 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. All materials described in this report are available on the LDRWC website.
    - Spring – Using native plants
    - Summer – Stormwater Pond Maintenance
    - Fall – Proper leaf collection/disposal
    - Winter – SaltSmart – Winter Snow & Ice Management BMPs

- Hosted a table representing LDRWC at the Bluestem Earth Festival in Joliet on May 18, 2019

2. Public Involvement and Participation **–** The Lower DuPage River Watershed Coalition participated in a Restoration Event in Romeoville on October 12, 2019 with information and activities for families on water quality.

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

Illinois Parks and Recreation Association Annual Conference January 22, 2019
LDRWC staff presented a session titled: How to Be a Salt Smart Park District – Chloride Reduction Through Improved Deicing Strategies. The presentation focused on ways that Park Districts could reduce chloride use at their facilities and work with their local communities to meet reduction goals.

APWA Expo May 23, 2019
LDRWC staff presented a session titled: How to Be a Salt Smart Community – Chloride Reduction Through Improved Deicing Strategies at the APWA Expo. Attendees included public works directors and public works staff from communities across the region.

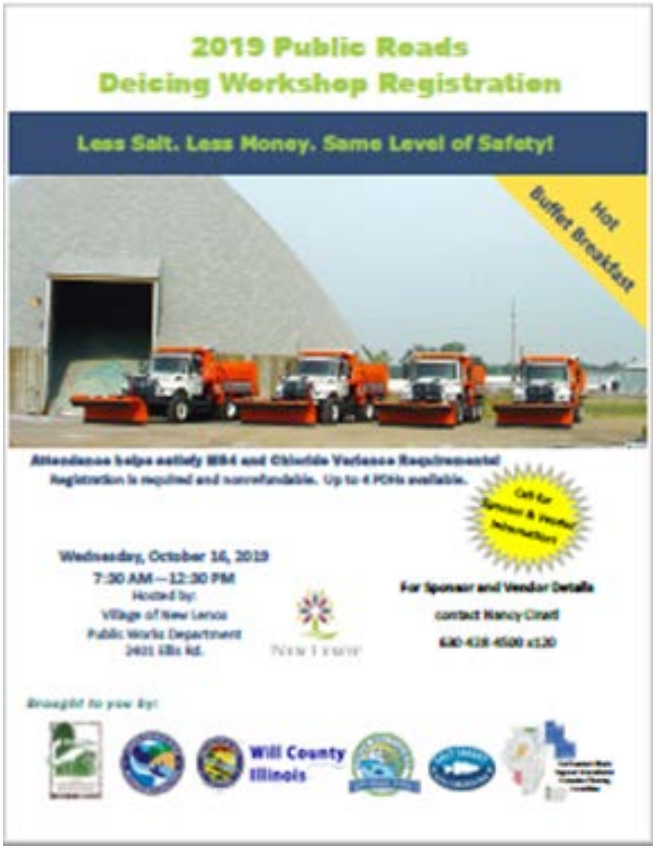
Chloride Reduction Workshops

Two chloride reduction workshops were held during the reporting period ending March 2020 in partnership with the Lower DuPage River Watershed Coalition.

The **public roads deicing workshop** held at Village of New Lenox Public Works Facility on October 16, 2019. Fortin Consulting was hired to present the Public Roads course with exam with the following agenda:

7:30 am Registration and Breakfast
8:00 am Welcome/ Housekeeping, Shawn Vandenberg, Village of New Lenox
9:00 am Information on developing efficient and cost-effective snow fighting operations, appropriate product selection, equipment selection, application rates, equipment calibration, ambient conditions monitoring. Presenters: Carolyn Dindorf, Fortin Consulting and Chris Walsh, (former Public Works Director, City of Beloit, WI)
11:30 am Test on Workshop Materials
12:15pm: Closing Remarks and Evaluations

Attendance – 66 registered, 2 presenters, 7 sponsors/exhibitors = 77 total. All participants received a certificate of attendance. We received 60 feedback forms from participants.



Photographs from the Will County Public Roads Deicing Workshop, 2019.

The **parking lots and sidewalks deicing workshop** was held at the Village of New Lenox's Public Works Facility on October 15, 2019 with the following agenda:

7:30 am Registration and Breakfast
8:00 am Introduction of topic and the relevance to Will County, *Jennifer Hammer, The Conservation Foundation*

8:15 am Ambient conditions and regulatory update and information on developing efficient and cost-effective snow fighting operations, appropriate product selection, equipment selection, application rates, equipment calibration, ambient conditions monitoring. Presenters: *Carolyn Dindorf, Fortin Consulting and Chris Walsh*, (former Public Works Director, City of Beloit, WI)
11:30 am Test on workshop materials.
12:15 pm Closing Remarks and Evaluations

Attendance - 22 registrations, 2 presenters, 2 staff, 5 exhibitors = 31 total. All participants received a training certificate. We received 21 feedback forms from participants.

Photographs from the Will County Parking Lots and Sidewalks Workshop, 2019.

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.)

The LDRWC water quality monitoring program is made up of two components: 1) Bioassessment and 2) DO monitoring.

BIOASSESSMENT

Overview and Sampling Plan

A biological and water quality survey, or "bio-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. The IPS model update will be completed in mid-2020.

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 1 Lower DuPage River Watershed bioassessment monitoring sites for 2015 and 2018

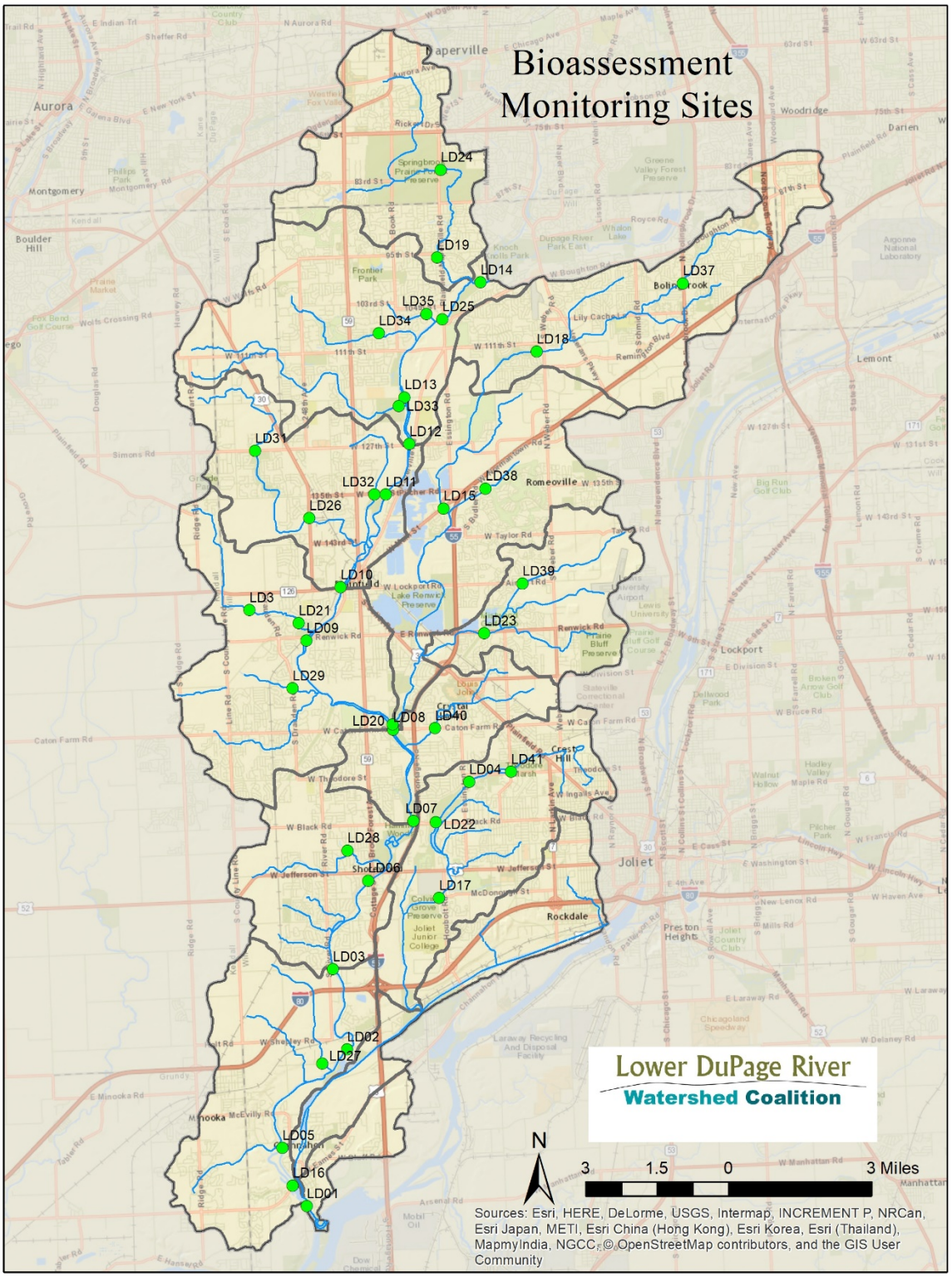


Table 1. Number of sampling sites in the LDRWC project area.

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

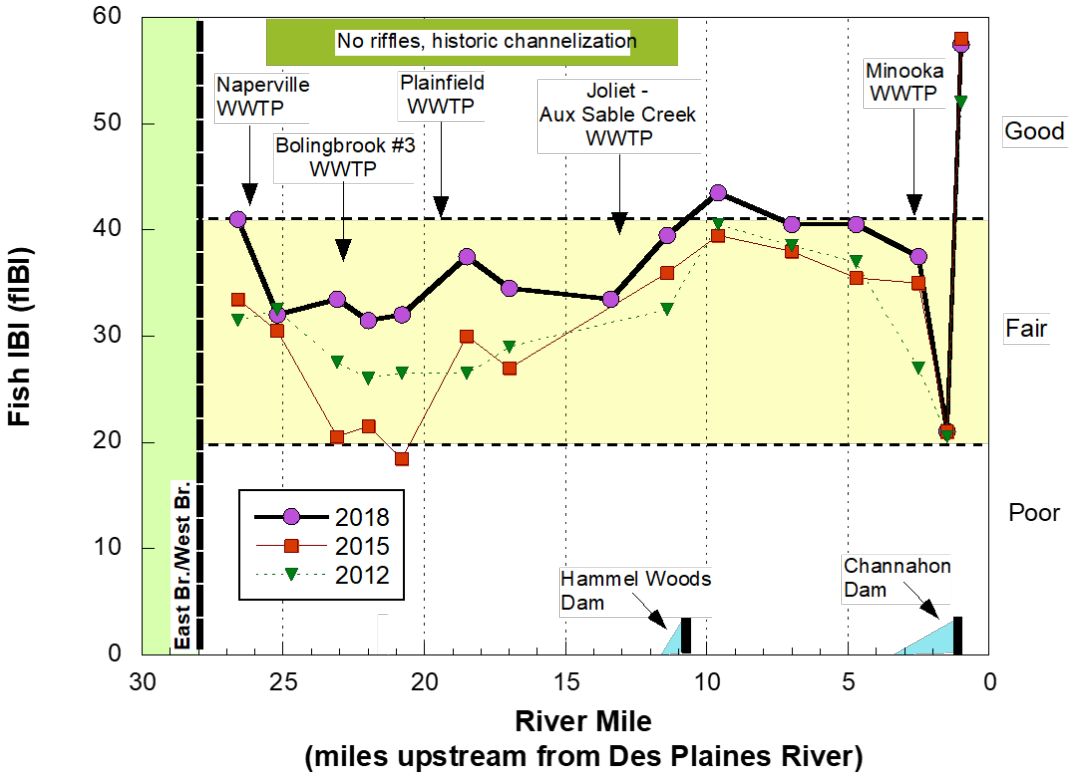
The fish sampling results presented in this report summarize the findings for the mainstem reaches of the DuPage River. Information on the tributaries and detailed analysis of all results can be found at http://www.dupagerivers.org/bioassessment-monitoring/ Results from the 2018 bioassessment will be 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 2). The only site with consistently good quality assemblages during all surveys is found in the Channahon Dam tail waters, a short reach wedged in between the dam and the Des Plains River. In 2018, the segment below the Hammel Woods Dam also made it up into the good range.

Figure 2. Fish IBI scores in the Mainstem DuPage River, 2012, 2015 and 2018 in relation to municipal POTW dischargers. Bars along the x-axis depict mainstem dams or weirs (only black bars impede fish passage). The shaded area demarcates the "fair" narrative range.



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.

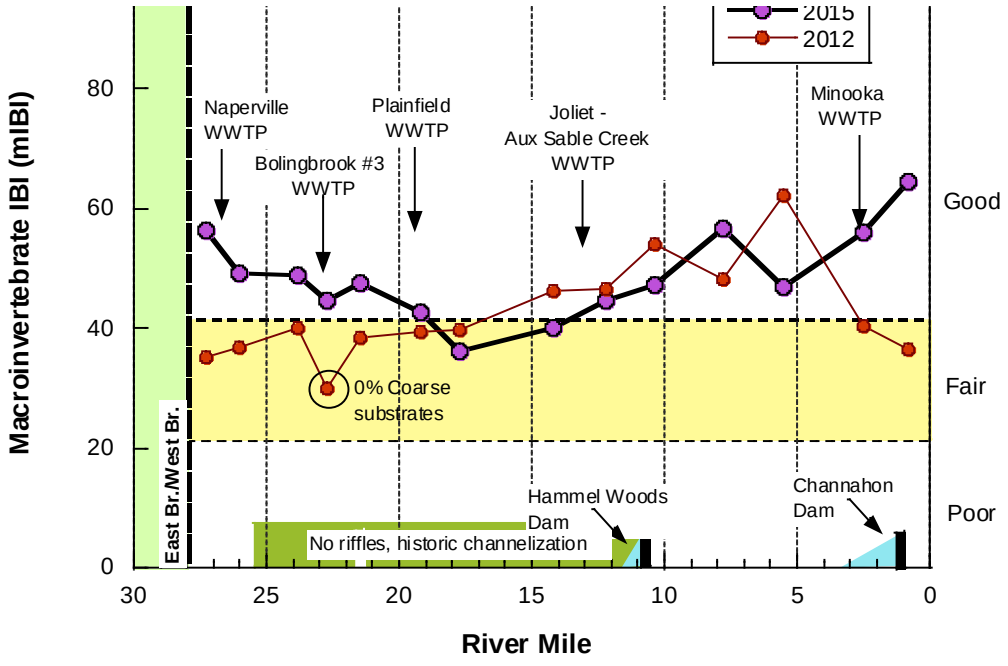
Results

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/ Results from the 2018 bioassessment will be available in late 2019.

DuPage River

Macroinvertebrate assemblage performance in the lower DuPage River watershed ranged from poor to good in 2015. Mainstem communities improved at almost all stations compared to 2012. Macroinvertebrate data from 2018 is not yet available.

***Figure 3**. Macroinvertebrate Index of Biotic Integrity (mIBI) scores for the Lower DuPage River in 2012 and 2015 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

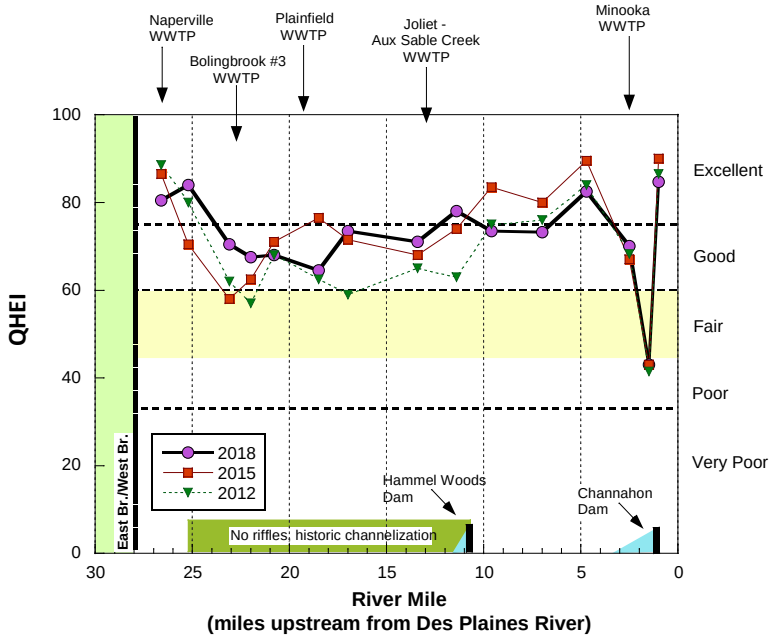
The QHEI data presented in this report summarize the findings for the mainstem reaches of the East Branch DuPage River, the West Branch DuPage River and Salt Creek. Information on the tributaries and detailed analysis of all results can be found at http://www.dupagerivers.org/bioassessment-monitoring/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

The 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). Three 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 2020.

Figure 4. *Qualitative Habitat Evaluation Index (QHEI) scores and narrative ranges in 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). QHEI scores less than 45 are often typical of highly modified channels or dam pools.*



Sediment Chemistry

Detailed analysis and results for sediment chemistry is located at http://www.dupagerivers.org/bioassessment-monitoring/ Results from the 2018 bioassessment will be available in late 2020.

Water 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. Total number of collected samples by watershed typical for a full assessment are given in Table 2. 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 (Table 3). 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 4 and can be grouped into demand parameters, nutrients, demand, metals and organics. Locations of organic and sediment sites are shown on Figure 1. All sampling occurs between June and October of the sample year. The Standard Operating Procedure for water quality sampling can be found at http://www.dupagerivers.org/bioassessment-monitoring/ Results from the 2018 bioassessment will be available in late 2020.

Table 2. Total number of samples typical for a full assessment

Watershed	Approximate # Sites	Demand Samples	Nutrients Samples	Metals Samples
Lower DuPage	41	239	239	138

Table 3. Approximate distribution of sample numbers by drainage area across the monitoring area.

Drainage Area and site numbers	>100 sq mi (n=12)	>75 sq mi (n=25)	>38 sq mi (n=11)	>19 sq mi (n=11)	>8 sq mi (n=15)	>5 sq mi (n=24)	>2 sq mi (n= 46)
Mean # Samples demand /nutrients	12	9	6	6	4	4	2
Mean # Samples metals	6	6	4	4	2	2	0

Table 4. 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 ensuring that both parameters will be sampled during the effective period of the ILR40 permit. Results from the 2018 bioassessment will be available in late 2020.

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

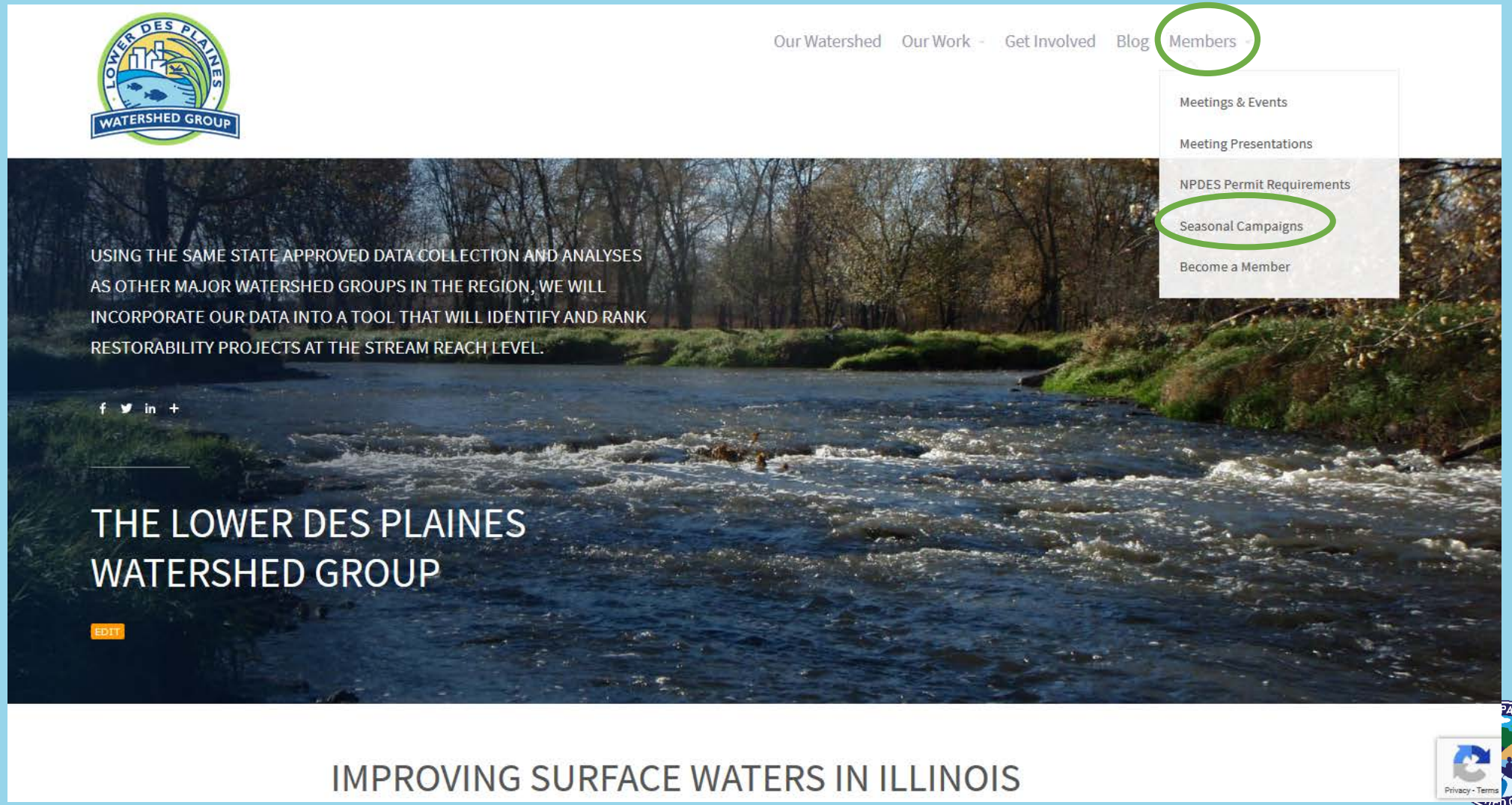
As noted in the 2012 Lower DuPage report, summer base flows in the DuPage River are largely a product of the effluent dominated flows of the East and West Branches. As such, water quality is highly influenced by the concentrations and composition of chemical constituents in those effluents as well as runoff from the urban and developed land cover in those watersheds. In 2015, Lower DuPage River water quality samples were collected at higher flows than in 2012, and the quality of treated effluent, with respect to regulated parameters (i.e., cBOD5, TSS, NH3-N), remained generally good. Effluents did not result directly in exceedances of water quality standards and rarely exceeded threshold levels considered protective of biological assemblages for these parameters. Mainstem nutrient levels at late summer flows are largely related to wastewater discharges, but were at lower concentrations (particularly for nitrates) in 2015 than in 2012 due largely to higher river flows. Results from the 2018 bioassessment will be available in late 2020.

See attached 2019 Outreach Summary for materials produced.

2019 Watershed Outreach Summary

Member Tab – Seasonal Campaigns

Available on DuPageRivers.org or LowerDesplainesWatershed.org



Seasonal Campaigns

To make it easy for municipalities to conduct outreach with residents about important stormwater management topics, the Coalition has worked to develop four seasonal outreach campaigns. Municipalities can customize and incorporate these messages into their existing communications strategies.

Check this page for routine updates throughout each season! Members can contact **Lea Rodbarry** at lrodbarry@theconservationfoundation.org or (630)428-4500 x109 with any questions or requests to customize material to your agency.

RECENT ARTICLES

Winter Clean-Up Tips
November 13, 2019

What to Expect During a Storm
November 12, 2019

Salt Smart Tips for Staying Safe on the Roads this Winter
November 11, 2019

UPCOMING EVENTS

There are no upcoming events at this time.

NAVIGATE

Our Watershed

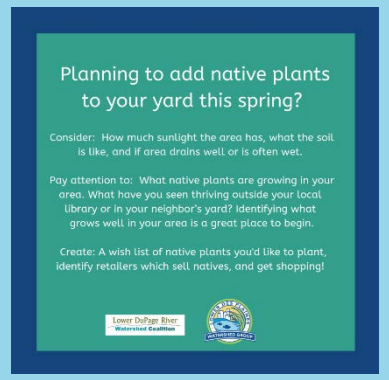
Our Work

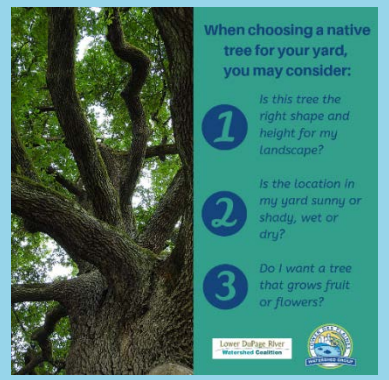
Seasonal Outreach - Spring

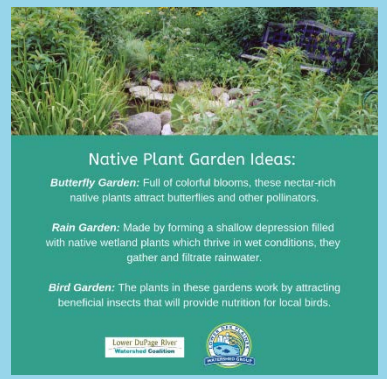
Infographic

Seasonal Outreach - Spring

Social Media Posts







Seasonal Outreach - Spring

Blog Posts & Newsletter Articles

Blog Posts

- **Adding Native Trees to your Landscape** | Download as Word Document
- **Native Plants 101** | Download as Word Document
- **Planting Native Plants in your Landscape** | Download as Word Document

Newsletter Articles (summarized versions of blog posts)

- **Adding Native Trees to your Landscape** | Download as Word Document
- **Native Plants 101** | Download as Word Document
- **Planting Native Plants in your Landscape** | Download as Word Document

Seasonal Outreach - Summer

Checklist

Summer Seasonal Campaign Checklist

Use this checklist to track your use of outreach materials to meet MS4 Public Education and Outreach requirements. Access these materials at lowerdesplaineswatershed.org/seasonal-campaigns/ and dupagerivers.org/seasonal-campaigns/

Blog Posts

- ☐ Stormwater Detention Basin Basics
- ☐ Benefits of Native Buffers for Detention Basins
- ☐ 5 Ways Homeowners Impact Detention Basins
- ☐ Shoreline Erosion
- ☐ Blocked Inlet and Outlet Structures
- ☐ Invasive Species

Newsletter articles

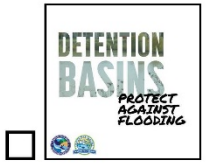
- ☐ Stormwater Detention Basin Basics
- ☐ Benefits of Native Buffers for Detention Basins
- ☐ 5 Ways Homeowners Impact Detention Basins

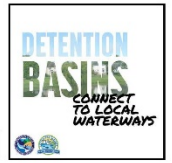
Handouts

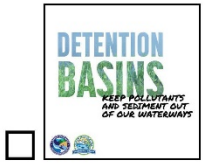
- ☐ HOA Stormwater Pond Maintenance handout

Social Media Posts

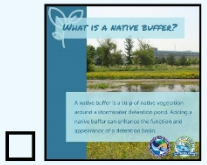
Stormwater Detention Basin Basics

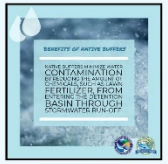






Benefits of Native Buffers

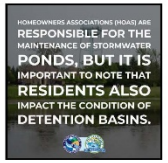


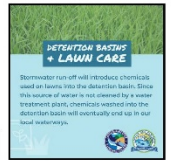


Pick and choose the messaging that fits your community. Contact us to customize social media posts with your logo, images, or unique messaging:

Lea Rodbarry, Watershed Education & Outreach Assistant: lrodbarry@theconservationfoundation.org

5 Ways Homeowners Impact Detention Basins





Outreach Effort Totals

- ☐ # of blog posts
- ☐ # of newsletter articles
- ☐ # of handouts
- ☐ # of social media posts

Seasonal Outreach - Summer

Stormwater Pond Maintenance Guide

HOA Stormwater Pond Maintenance

Common Problems Affecting Pond Function

Inspect your stormwater pond monthly to ensure that the pond is in good condition and functioning properly. Below are common issues you should look for when inspecting a stormwater pond.

Shoreline Erosion

☐ Stable shoreline ☐ Mild ☐ Severe

What it looks like: An eroding shoreline will have signs of an unstable bank, such as collapsing and loose soil around the shoreline.

Why it's an issue: Shoreline erosion results in murky-muddy looking water. Erosion also fills in detention basins with sediment and reduces stormwater storage capacity. Shallow water and excess nutrients, in the soil and from runoff, can lead to unattractive algae blooms.

What you can do: Buffers of deep-rooted native vegetation can protect against shoreline erosion. Visit the websites on the back of this sheet for more information on planting native buffers.

Blocked inlet and outlet structures

☐ Trash and debris ☐ Sediment or vegetation ☐ Collapsed or damaged structures

What it looks like: Signs of blocked inlets and outlets can be the accumulation of sediment and debris as well as vegetation growing around the inlet and outlet structures.

Why it's an issue: Blocked inlet and outlet structures can cause disturbances in the flow of water coming through the structures. The blockage can affect stormwater pond water levels and possibly lead to local flooding.

What you can do: Remove debris and sediment from inlet and outlet sources as well as trim or remove vegetation around the structures. If inlet and outlet structures are collapsed or falling in the pond, engineer services will be required.

Invasive species

☐ Phragmites ☐ Cattails ☐ Reed canary grass

What it looks like: Invasive species found commonly around detention basins include, but are not limited to, giant reed/phragmites, cattails, and reed canary grass.

Why it's an issue: These invasive species in particular have very aggressive growth habits and accumulate sediment, filling in ponds and reducing stormwater storage capacity. They will take over any other vegetation growing around the pond and block views of the water.

What you can do: Removal of invasive species and weeds should be carried out to prevent invasive species from filling in the pond and overtaking beneficial native plants around the detention basin. Assistance from a qualified contractor may be needed. Visit the websites below for more information on managing invasive species.

Improve stormwater ponds with native buffers

What it looks like: Stormwater ponds with native buffers will have stable shorelines and emergent plants at the waters edge. The native plants do not need fertilizers and once established require a different, but less intensive management.

Why it's beneficial: Native buffers reduce erosion, filter contaminants from runoff, require less intensive maintenance, discourage Canada goose, and can create an aesthetic amenity for the community.

What you can do: Some tips to keep your stormwater pond healthy include adding a native buffer, reducing pesticides and herbicides, and educating residents on how they can do their part to keep their stormwater pond functional and beautiful. Visit the websites below for more information on maintaining your detention basin.

Learn more

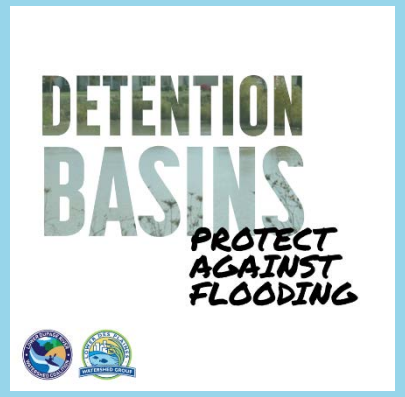
To learn more about shoreline erosion, issues with inlet and outlet structures, invasive species, and native buffers, visit:

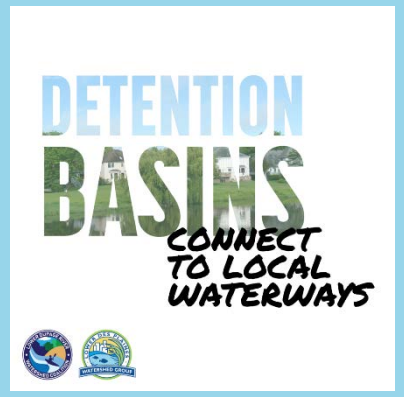
lowerdesplaineswatershed.org
dupagerivers.org

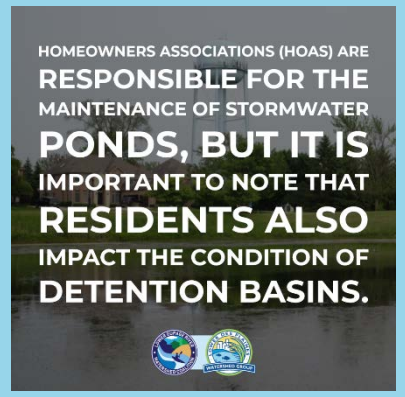
Seasonal Outreach - Summer

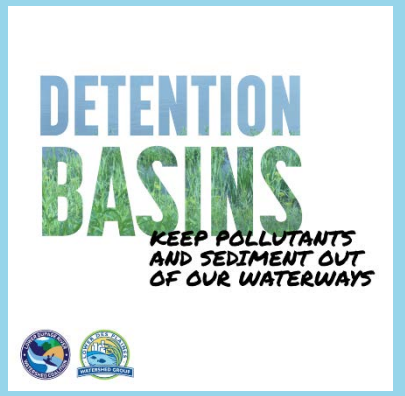
Social Media Posts

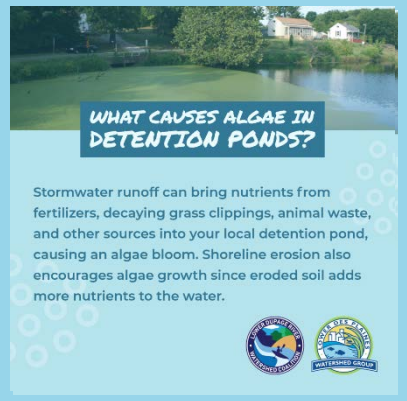
Stormwater Detention Basics







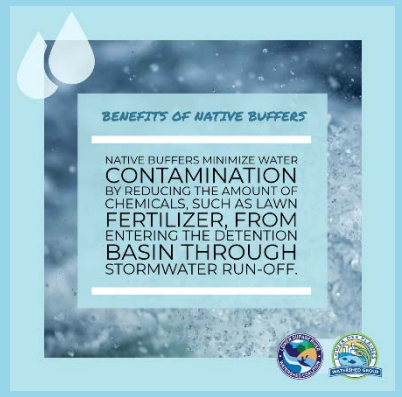


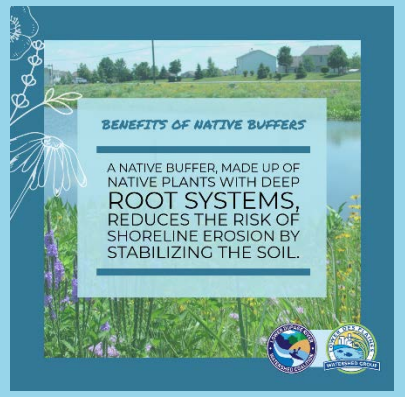


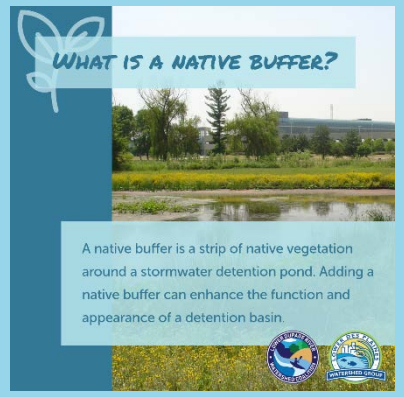
Seasonal Outreach - Summer

Social Media Posts

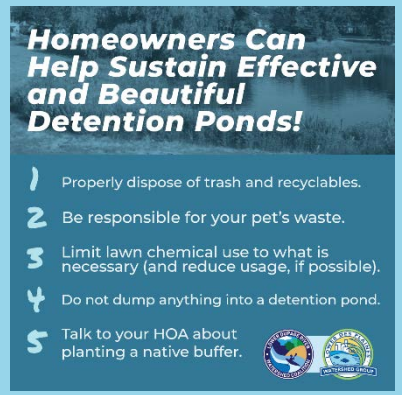
Benefits of Native Buffers for Detention Basins

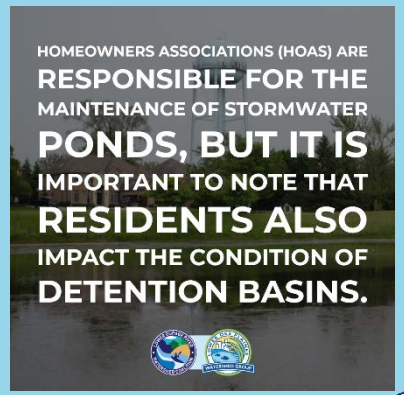






Ways Homeowners Impact Detention Basins





Seasonal Outreach - Summer

Blog Posts & Newsletter Articles

Blog Posts

- **Stormwater Detention Basin Basics** | Download as Word Document
- **Benefits of Native Buffers for Detention Basins** | Download as Word Document
- **5 Ways Homeowners Impact Detention Basins** | Download as Word Document
- **Shoreline Erosion** | Download as Word Document
- **Blocked Inlet and Outlet Structures** | Download as Word Document
- **Invasive Species** | Download as Word Document

Newsletter Articles (summarized versions of blog posts)

- **Stormwater Detention Basin Basics** | Download as Word Document
- **Benefits of Native Buffers for Detention Basins** | Download as Word Document
- **5 Ways Homeowners Impact Detention Basins** | Download as Word Document

Seasonal Outreach - Fall

Checklist

Fall Seasonal Campaign Checklist

Use this checklist to track your use of outreach materials to meet MS4 Public Education and Outreach requirements. Access these materials at lowerdesplaineswatershed.org/seasonal-campaigns/ and dupagerivers.org/seasonal-campaigns/

Blog Posts

- ☐ The Connection Between Leaves and Water Quality
- ☐ This Fall, Use Leaves as a Resource!
- ☐ The Effects of Leaves on Storm Drains

Newsletter articles

- ☐ The Connection Between Leaves and Water Quality
- ☐ This Fall, Use Leaves as a Resource!
- ☐ The Effects of Leaves on Storm Drains

Handouts

- ☐ "Where You Leave Your Leaves Matters" Infographic

Social Media Posts

Consider posting these graphics with a link to "The Connection Between Leaves and Water Quality"

☐ 

☐ 

☐ 

Consider posting this graphic with a link to "This Fall, Use Leaves as a Resource!"

☐ 

Consider posting these graphics with a link to "The Effects of Leaves on Storm Drains"

☐ 

☐ 

☐ 

Try using social media posts to remind residents about leaf collection!

☐ 

☐ 

Pick and choose the messaging that fits your community. Contact us to customize social media posts with your logo, images, or unique messaging:

Lea Rodbarry, Watershed Communications Specialist:
lrodbarry@theconservationfoundation.org

Outreach Effort Totals

- ☐ # of blog posts
- ☐ # of newsletter articles
- ☐ # of handouts
- ☐ # of social media posts

Seasonal Outreach - Fall

Poster

Seasonal Outreach - Fall

Social Media Posts

The Connection Between Leaves & Water Quality

This Fall, Use Leaves as a Resource

Seasonal Outreach - Fall

Social Media Posts

The Effects of Leaves on Storm Drains

Leaf Collection Reminder Posts

Seasonal Outreach - Fall

Blog Posts & Newsletter Articles

Blog Posts

- **The Connection Between Leaves and Water Quality** | Download as a Word Document
- **This Fall, Use Leaves as a Resource** | Download as a Word Document
- **The Effects of Leaves on Storm Drains** | Download as a Word Document

Newsletter Articles (summarized versions of blog posts)

- **The Connection Between Leaves and Water Quality** | Download as a Word Document
- **This Fall, Use Leaves as a Resource!** | Download as a Word Document
- **The Effects of Leaves on Storm Drains** | Download as a Word Document

Seasonal Outreach - Winter

Checklist

Winter Campaign Checklist

Use this checklist to track your use of outreach materials to meet MS4 Public Education and Outreach requirements. Access these materials at lowerdesplaineswatershed.org/winter/ and dupagerivers.org/winter/

Blog Posts

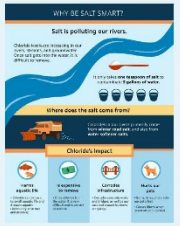
- ☐ Salt Smart Tips for Staying Safe on the Roads this Winter
- ☐ What to Expect During a Snow Storm
- ☐ Winter Clean-Up Tips

More articles coming soon.

Newsletter articles

- ☐ Salt Smart Tips for Staying Safe on the Roads this Winter
- ☐ What to Expect During a Snow Storm
- ☐ Winter Clean-Up Tips

Handouts



- ☐ Bookmark for residents
- ☐ Infographic handout (also available as webpage infographic)
- ☐ Snow Removal FAQs (also online at saltsmart.org/faq)

Social Media Posts

Salt Smart Tips for Staying Safe on the Roads

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Winter Clean-Up Tips

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☐

☐

What to Expect During a Snow Storm

☐

☐

Pick and choose the messaging that fits your community. Contact us to customize social media posts with your logo, images, or unique messaging:

Lea Rodbarry, Watershed Communications Specialist:
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Outreach Effort Totals

- ☐ # of blog posts
- ☐ # of newsletter articles
- ☐ # of handouts
- ☐ # of social media posts

Seasonal Outreach - Winter

Bookmark & Cups

4 Steps to Be Salt Smart

1. **Shovel first.** Clear all snow from driveways and sidewalks before it turns to ice.
2. **Size up.** More salt does not mean more melting. A 12-ounce coffee mug of salt should be enough for a 500 sq ft driveway or about 10 sidewalk squares.
3. **Spread.** Distribute salt evenly, not in clumps.
4. **Switch.** Rock salt stops working if the temperature is below 15 degrees. When temperatures drop that low, switch to a different deicer formulated for colder temperatures.

SALT SMART COLLABORATIVE

Learn more at saltsmart.org

LOWER DUPAGE RIVER WATERSHED COALITION

LOWER DES PLAINES WATERSHED GROUP

Seasonal Outreach - Winter

Snow 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

Salt smart. Save more.

Snow and Ice Removal Frequently Asked Questions, continued

Is there anything I can do to help with my community's snow removal efforts?

Yes. They are several actions you can do to keep your neighborhood safe and help snow plow operators do their jobs better, including: not parking on the street after it snows, shoveling snow from sidewalks before it turns to ice, not putting snow back onto the streets, removing snow around fire hydrants, driving slowly during a snow storm and keeping distance between your vehicle and snow plows.

What are the requirements for shoveling sidewalks?

It is the responsibility of homeowners to clear snow from sidewalks in front of their property as soon as possible. Shovel snow before it gets walked on to reduce the amount of ice that forms. Requirements for when snow must be removed from residential sidewalks vary for each municipality.

If I own a corner lot, do I have to clear the curb ramp, the portion of the sidewalk leading to the street?

Yes, residents are responsible for clearing snow from sidewalks in front of their property, including curb ramps. Help keep sidewalks accessible for people in your neighborhood by removing snow when plows push snow from the road onto curb ramps.

Who should clear snow from around fire hydrants on my street?

You are responsible for maintaining access to fire hydrants in front of your home. Keep your neighborhood safe in the event of an emergency by clearing snow around fire hydrants on your property.

What are the parking rules in the winter?

Parking rules vary by municipality. In general, street parking is prohibited after a snowfall of 2 or more inches so plow trucks can effectively clear roads.

What are the white/wet lines on the streets in the winter?

The white or wet lines are salt brine applied before a forecasted storm to prevent snow and ice from bonding to pavement. This is called anti-icing. Anti-icing is cost-effective and environmentally-friendly since it reduces the time it takes to clear roads after a storm and requires much less deicing material.

saltsmart.org

Seasonal Outreach - Winter

Infographic

WHY BE SALT SMART?

Salt is polluting our rivers.

Chloride levels are increasing in our rivers, streams, and groundwater. Once salt gets into the water, it is difficult to remove.

It only takes **one teaspoon of salt** to contaminate **5 gallons of water.**

Where does the salt come from?

Chlorides in our rivers primarily come from **winter road salt**, and also from **water softener salts.**

The Impact of Chlorides

Harms aquatic life

- Chloride can be toxic to small aquatic life and disrupt aquatic community structure and diversity

Is expensive to remove

- Once chloride is in the water, it is very difficult and expensive to remove

Corrodes infrastructure

- Corrodes concrete roads and bridges, as well as our cars and around business entryways

Hurts our pets

- Burns, dries, and cracks our pet's feet
- Causes illness when licked off and injested

HOW CAN WE BE SALT SMART?

Road salt keeps us safe, but more salt does not equal more safe.

Let's be Salt Smart. Together we can protect our rivers and streams by shoveling snow first and using the right amount of salt.

Residents

- Always shovel first.
- Be Salt Smart when salting driveways and sidewalks. Only put salt where needed.
- Scatter salt so it is not clumped together.
- A 12-ounce coffee mug of salt is enough for 10 sidewalk squares.

Municipalities and private contractors

- Adopt best management practices that reduce the amount of salt used, while still maintaining levels of safety.

Commuters

- Give yourself extra time to drive safely.
- Don't Crowd the Plow.
- Stay home during snow storms if possible.

SALT SMART COLLABORATIVE

Learn more at saltsmart.org

DUPAGE RIVER COALITION

LOWER DES PLAINES WATERSHED GROUP

Seasonal Outreach - Winter

Social Media Posts

Winter Clean-up Tips

Seasonal Outreach - Winter

Social Media Posts

Salt Smart Tips for Staying Safe on the Road this Winter

What to Expect During a Storm

Seasonal Outreach - Winter

Blog Posts and Newsletter Articles

Blog posts

- **Salt Smart Tips for Staying Safe on the Roads this Winter** | Download as a Word Document
- **What to Expect During a Storm** | Download as a Word Document
- **Winter Clean-Up Tips** | Download as a Word Document

Newsletters (summarized version of blog post)

- **Salt Smart Tips for Staying Safe on the Roads this Winter** | Download as a Word Document
- **What to Expect During a Storm** | Download as a Word Document
- **Winter Clean-Up Tips** | Download as a Word Document

Additional Resources for Winter Deicing BMPs Available at:
www.SaltSmart.org

Seasonal Outreach - Winter

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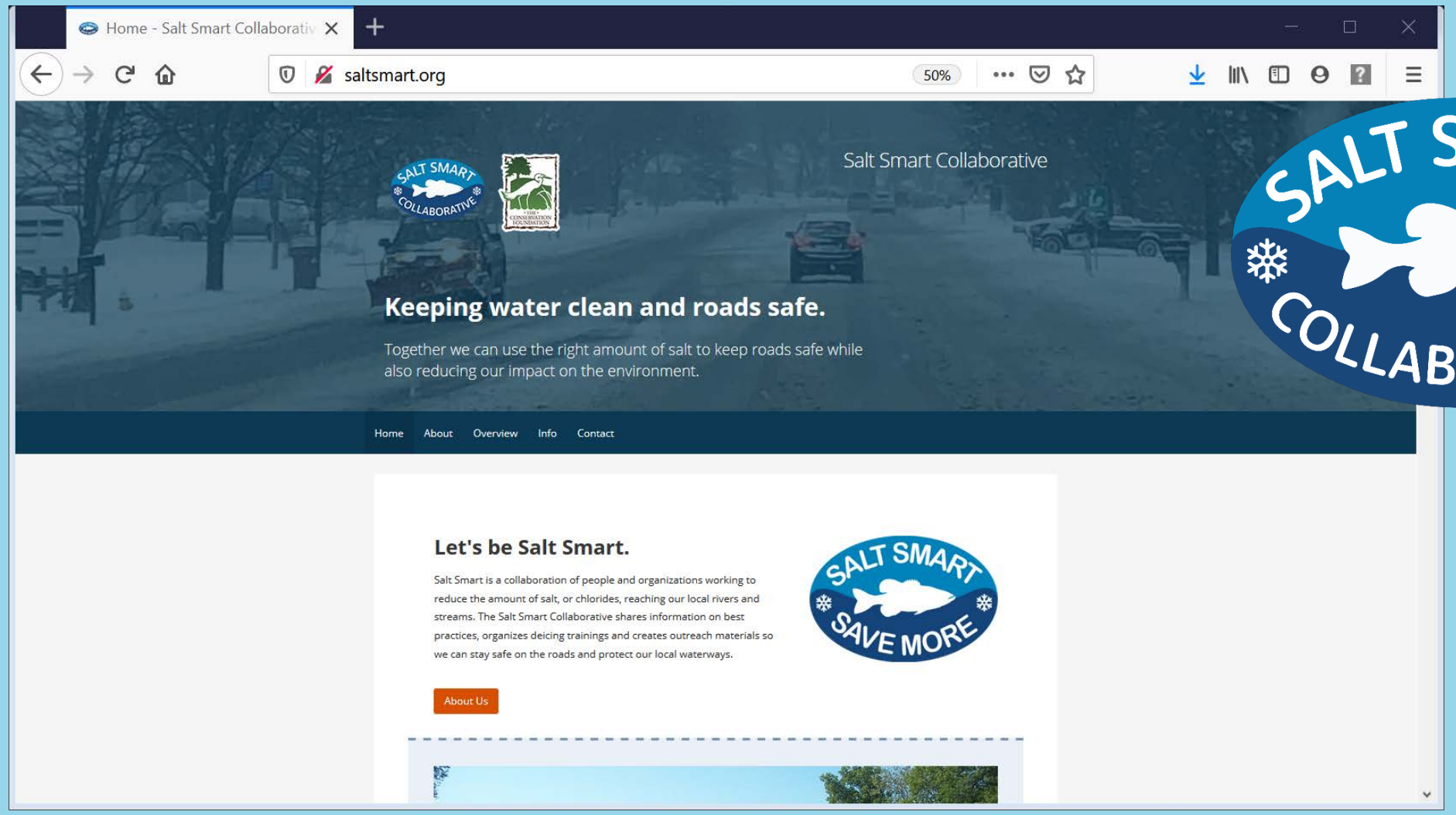
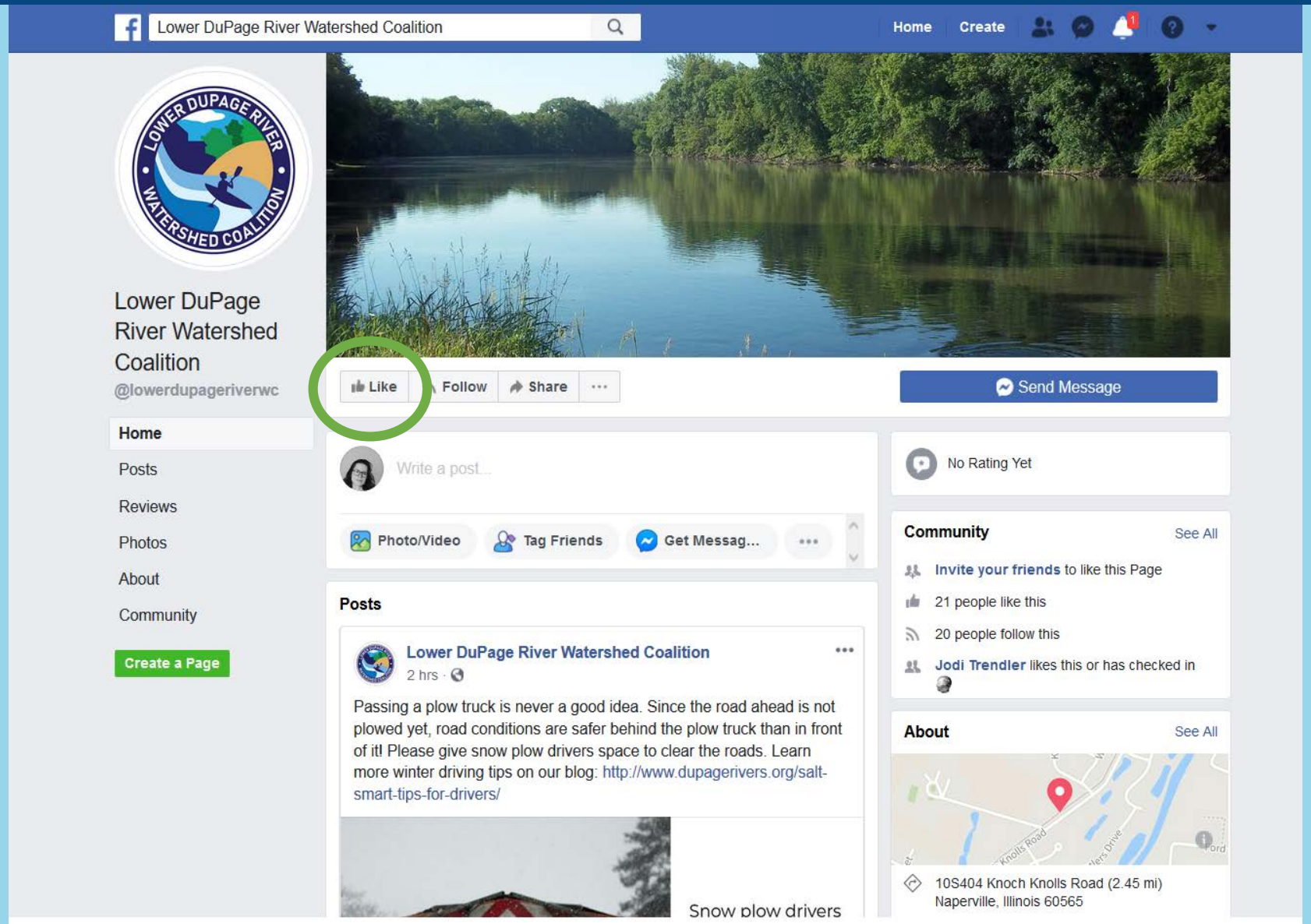


Facebook Pages



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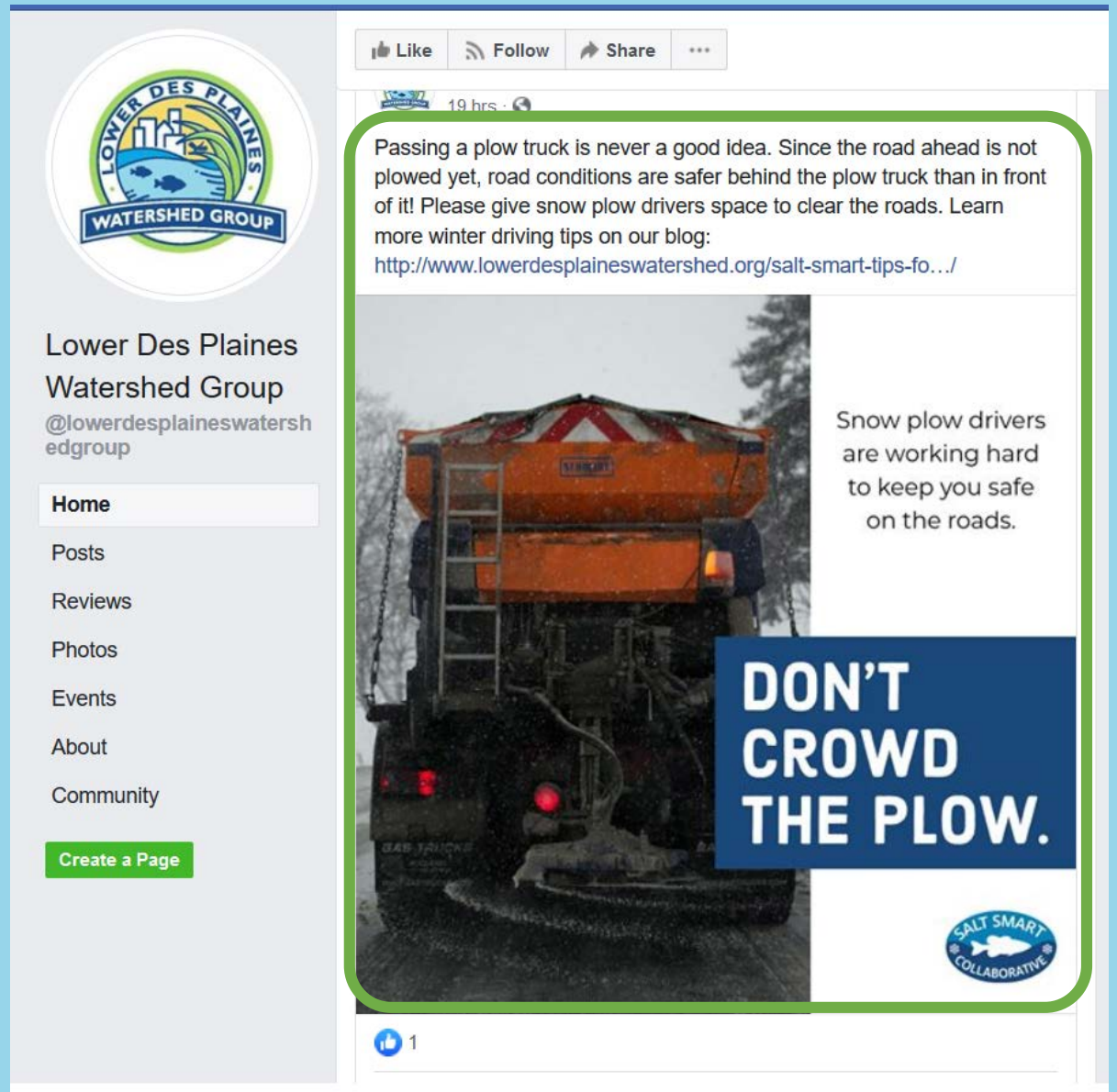

SAVE THE DATES for 2020!

2020 Public Roads Winter Deicing Workshops

Kane County October 1
Will County October 7
DuPage County October 16

SALT SMART
SAVE MORE

2020 Parking Lots & Sidewalks Winter Deicing Workshops

Will County October 6
DuPage County October 8

LOWER DUPAGE RIVER WATERSHED COALITION
LOWER DES PLAINES WATERSHED GROUP