



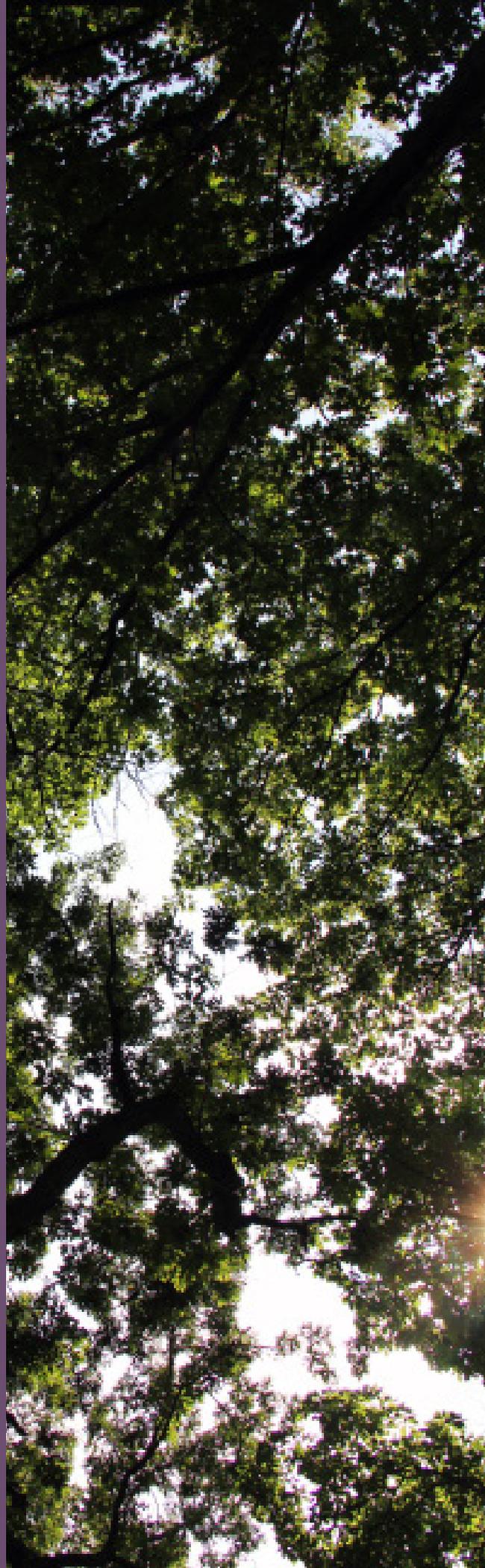
STORMWATER MANAGEMENT COMMISSION

Solving the “Flood” Problem

Stormwater Management Commission Annual Report

2019

year in review





Message from the Director
Mike Warner,
 P.E., CFM

Problem-solving for flood mitigation.

The Commission staff are outstanding problem-solvers on flooding and water quality issues. We utilize state-of-the-art techniques and professional abilities to address problems encountered countywide. Finding a suitable solution is accomplished by:

1. Defining the problem (Determine causes – Engage stakeholders and residents for information – gather data – Clearly state the problem);
2. Generate alternative solutions (Stakeholder inclusiveness - Brainstorm ideas – be cost effective and efficient);
3. Select Alternative and Proceed (Ensure highest resolution level achieved – Environmental protections provided - Project Plan/Design);
4. Implement and follow up on the solution (Construct/Implement Plan – Monitor/Measure/Evaluate – Adaptive Management as Needed).

These steps support the involvement of interested parties, the use of factual information, comparison of expectations to reality, and focuses on root causes of a problem. The Commission operates transparently with many public access points, regularly utilizing high-level civic engagement to assist us in accomplishing our goals and ensuring outcomes are supported. This problem-solving approach also generates trust from the public in our capabilities and finished projects. We have found that involving others in implementation is an effective model, and regardless of how the solution is rolled out, feedback channels allow for continuous monitoring and adaptive management of on-the-ground results. We are grateful to the County Board and supporters all over the County for the enhanced budget approved this year. There are many projects underway, that will make the most of the expanded budget to problem-solve flood mitigation issues countywide and enable us to respond to future challenges. - Mike Warner

SMC Staff

Mike Warner,
 P.E., CFM, Executive
 Director

Kurt Woolford,
 P.E., CFM, LEED AP,
 Chief Engineer

Mea Blauer,
 Senior Civil Engineer

Tim Cook,
 CFM, CPESC, CWS,
 Water Resources
 Professional

Juli Crane,
 CWS, LEED, PWS,
 CFM, Principal
 Wetland Specialist

Bob Gardiner,
 P.E., CFM, Principal
 Permit Engineer

Ernesto Huaracha,
 Water Resources
 Professional

Jacob Jozefowski,
 Associate Water
 Resource Professional

Jeff Laramy,
 GISP, Senior GIS
 Analyst

Darcy McNeill,
 Executive Assistant

Wendy Morey,
 Business Office
 Supervisor

Stuart Nissenbaum
 MS4 Technical
 Coordinator
 Consultant

Sharon Østerby,
 Water Resources
 Professional

Angela Panateri,
 Associate
 Communication
 Specialist

Michelle Pope,
 GIS Specialist/
 Engineering Tech

Mike Prusila,
 CFM, Planning
 Supervisor

Dijana Silber,
 Accounting Tech

Ashley Strelcheck,
 Water Resources
 Professional

Kelcey Traynoff,
 E.I.T., Regulatory
 Supervisor

Glenn Westman,
 PWS, CWS, CFM,
 Principal Wetland
 Specialist

Board of Commissioners

Craig Taylor,
 Chair — County Board District 19

Kristina Kovarik,
 Vice Chair —
 Mayor, Village of Gurnee

Alternate:
Michael Danforth —
 County Board District 17

Alternate:
Glenn Ryback —
 President, Village of Wadsworth

Leon Rockingham,
 Secretary — Mayor, North Chicago

Ann Maine,
 Treasurer — County Board District 21

Alternate:
Adam Didech —
 County Board District 20

Nandia Black—
 President, Village of Kildeer

Mike Rummel —
 County Board District 12

Alternate:
Mike Talbett —
 Administrator, Village of Kildeer

Alternate:
Paul Frank
 — County Board District 11

Diane Hewitt —
 County Board District 2

John Hucker —
 Mayor, Village of Beach Park

Alternate:
Brent Paxton —
 County Board District 4

Alternate:
Richard Gust —
 Trustee, Village of Beach Park

John Wasik—
 County Board District 6

Linda Pedersen —
 County Board District 1

Alternate:
Jennifer Clark —
 County Board District 15

Alternate:
Judy Martini —
 County Board District 5

Donald Schmit —
 Mayor, Village of Fox Lake

Casey Urlacher —
 Mayor, Village of Mettawa

Alternate:
Donovan Day —
 Community Development Director, Village of Fox Lake

Alternate:
Roger Byrne —
 Mayor, Vernon Hills

2019 By the Numbers

Leveraging Funding and
Partnerships for Projects



7 Municipalities
2 Park Districts
4 Associations
4 Lake County Entities
8 Other

Granting Agencies: IEPA



10 Completed
Total cost: \$1,786,404.09
SMC Contribution: \$231,170

2019 Water Quality Initiatives

The Des Plaines River Watershed Workgroup (DRWW)

The DRWW continues to fulfill the monitoring requirements of its constituents. According to the Illinois EPA (IEPA), almost all the waterways within the Des Plaines River Watershed are impaired. To remove the watershed from the IL EPA's list of impaired waters, the Midwest Biodiversity Institute is determining the most cost-effective watershed-wide restoration projects. In anticipation of the permit renewal process in 2021 by the IEPA, the workgroup is addressing the regulatory requirements of its constituents. The DRWW also provided professional development opportunities to members, stakeholders and constituents.

2019 Project Summaries



Grandwood Park Lake Dam Grand Reopening

SMC works hard to address and correct local flooding issues. One of the ways LCSMC does this is by partnering on projects that have a large impact on minimizing a community's flood risk. The Grandwood Park Lake Dam, which was experiencing constant flooding and was in danger of collapse, is just one example of how SMC partners with communities to address floodprone areas. Through the collaboration between Grandwood Park, the Grandwood Park District, SMC and other partners, the dam was rehabilitated to help with flood control in Grandwood Park and other communities downstream. Officials celebrated the reopening of the dam on Friday, Sept. 20, 2019.



Municipal Separate Storm Sewer Systems (MS4) Permit Program

Through the MS4 program, SMC provides a variety of stormwater management activities across Lake County and assists Lake County's MS4s in meeting the requirements of the Illinois Environmental Protection Agency's (Illinois EPA's) National Pollutant Discharge Elimination System Municipal Stormwater Program. The current Illinois EPA ILR40 General Storm Water Permit for MS4s requires programs to meet six minimum control measures (MCMs).

Lake County has multiple departments that report MCM activities as part of the permit compliance of Lake County. In 2019 an MS4 Program Coordinator Consultant was selected to manage and oversee the Lake County MS4 Program. 2019 services included:

- Compiling and filing of the Year 16 Annual Facilities Inspection report with Illinois EPA.
- Coordinating countywide stormwater, Illicit Discharge Detection and Elimination (IDDE) and good housekeeping training.
- Continuing to update the stormwater network map system to address all County properties.
- Inspection of 85 Lake County outfalls for potential illicit discharges.



Libertyville Township/Bull Creek Headwaters Restoration Project

Libertyville Township Open Space District completed the implementation of the Libertyville Township Bull Creek Headwaters Restoration Project in Fall 2019, which addressed 44 acres of degraded farmland in central Lake County. The project area is located in Libertyville Township on the north side of Casey Road in between Casey Road and Almond Road. Funding for this project is provided, in part, by the Illinois Environmental Protection Agency through Section 319 of the Clean Water Act and Lake County Stormwater Management Commission.

The Libertyville Township Bull Creek Headwaters Restoration Project included disabling 13,813 linear feet of drain tile, restoring seven acres of wetland (wet prairie), installing 14 rock check control structures, replacing two culvert crossings, 3,150 feet of vegetated swales (and stabilizing 887 linear feet of existing gullies) and installing 35 acres of permanent native vegetation to reduce water flow, stabilize the soils in the field and dissipate its energy in the project area and downstream. The elimination of the active erosion and lower runoff volume will reduce sediment, phosphorus, and nitrogen loads to the north branch of Bull Creek, to Peterson Pond and the downstream reach of the Des Plaines River, which are impaired.

Wetland Restoration and Preservation Plan (WRAPP)

SMC finished development of the technical summary report and web-based Decision Support Tool for the Wetland Restoration and Preservation Plan (WRAPP) for Lake County in 2019. The draft report and Decision Support Tool are available for public review on the SMC website. The WRAPP identifies local wetland functions, as well as identifies opportunities for preserving, restoring, and enhancing wetlands in the County. The goal of the WRAPP is to provide a wide audience of end-users with the decision-making support to help prioritize wetland restoration and preservation efforts using an on-line decision support tool.

Watershed Development Ordinance

Lake County has been experiencing more frequent and stronger rainfall events and is receiving between 20 and 45 percent high rainfall amounts. This increase has left a significant impact on Lake County residents, business owners, and public and private development projects. SMC began reviewing its Watershed Development Ordinance to make updates based on the increased rainfall Lake County is receiving. The revisions are expected to take effect in 2020 and will help provide more flood control measures for new developments. As part of the process, staff held four public information and floodproofing meetings.

Lake Michigan Watershed-Based Plan

Development of a comprehensive management plan for the Lake Michigan watershed in Lake County and seven ravines in northern Cook County was well underway in 2019. A comprehensive inventory of detention basins, ravine systems, and streams was completed, and stakeholder meetings were held to determine watershed priorities. The plan is expected to be completed in late 2020. When complete, the Lake Michigan Watershed-Based Plan will provide recommendations to local governments, property owners, and other stakeholders to reduce flood damages, improve water quality and stormwater management measures, and enhance the natural drainage system. The project is funded, in part, by the Illinois Environmental Protection Agency through Section 319 of the Clean Water Act and by the Illinois Department of Natural Resources Coastal Management Program.



Bull Creek Vegetative Restoration

Bull Creek is a ravine at the bottom of three tributaries located in the Dead River Watershed. It flows through Beach Park, into Illinois Beach State Park and enters Lake Michigan. The Bull Creek Stream Restoration Project was completed in 2017. During 2019, the vegetative maintenance was performed to the 2.77-acre project area, which will help to improve the long-term success of the habitat that exists.

Municipal Advisory Committee (MAC)

MAC is a resource for local government representatives on inter-jurisdictional issues, projects, and committee and administration recommendations. The current IEPA ILR40 General Storm Water Permit for MS4s requires programs to meet six MCMs.

SMC is a continual resource for all of Lake County's MS4 programs, serving as a Qualifying Local Program (QLP) and performing activities in support of the MCMs.

2019 support included:

- Updating the Year 16 Facilities Annual Reporting template, which is an annual permit requirement resource that SMC provides to all Lake County MS4 communities.
- Providing educational opportunities at the MAC meetings, including information on permit updates, template use, and important compliance information.
- MAC chair and co-chair, Erika M. Frable, Village of Hawthorn Woods Director of Public Works/Village Engineer and Chris Bouchard, RHMGE Engineers (Mundelein) vice-chair continued to support.

North Branch Chicago River Watershed-Based Plan

The North Branch Chicago River (NBCR) Watershed-Based Plan grant period extends from November 15, 2018 through December 31, 2020. To date, draft chapters 1, 2, and 8 have been completed, and draft versions of chapters 3 and 4 are in progress.

SMC completed the NBCR stream inventory in Lake County and partnered with the Metropolitan Water Reclamation District of Greater Chicago, Forest Preserve District of Cook County and Triton College to perform a stream and detention basin inventory in the Cook County portion of the watershed. The North Branch Chicago River Watershed Workgroup (NBWW) has completed a full cycle of monitoring data that will be utilized as local match towards the grant and incorporated into the watershed plan update.

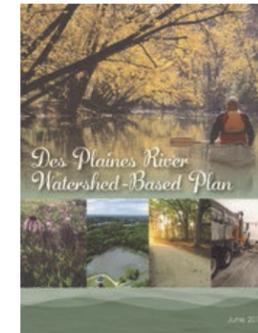
SMC has hosted four watershed planning meetings in conjunction with the NBWW General Membership Meetings. These meetings have provided an opportunity to stakeholder to provide feedback on the watershed-based plan update. SMC anticipates completion of the watershed-based plan in late 2020.



2020 Major Initiatives

Des Plaines River Watershed Plan Committee

In 2018, the Stormwater Management Commission and Lake County Board adopted the Des Plaines River Watershed Based Plan. By the end of 2019, more than 30 local units of government passed resolutions adopting or supporting the recommendations of the watershed plan. In order to continue the broad support for watershed plan implementation, SMC convened the initial meeting of the Des Plaines River Watershed Plan Committee in October 2019. The purpose of the group is to lead, coordinate and support new projects, evaluate progress on plan implementation, and ultimately update the watershed plan. This is an ad hoc committee of watershed stakeholders and its meetings are open to the public. A steering group will meet in early 2020 to propose priorities for the coming year.



Fiscal Year 2019 Section 319 Grant Watershed-Based Plan Implementation Program

In 2019, SMC was successful in obtaining \$1.2 million in grant funding from the Illinois Environmental Protection Agency through Section 319 of the Clean Water Act for seven projects identified in watershed plans. While some preliminary work began in 2019, the bulk of the project work will occur in 2020 and 2021. Local project partners are providing the cost-share match required to complete these projects. Partners and projects funded under this program include: Lake County Forest Preserve District, Van Patten Woods Hydrological Restoration and Enhancement; Lake County Health Department, Removal of Carp to Reduce Nutrient Enrichment; The Park District of Highland Park, Highland Park Country Club Shoreline Restoration and Wetland Enhancement; East Skokie Drainage District, Skokie River Stream Stabilization; The Village of Glenview, Pine Street Streambank Stabilization; Timberlake Estates Civic Association, Timber Lake Inlet Stabilization; and the Flint Creek/Spring Creek Watersheds Partnership, Flint Creek Watershed BMP Monitoring Project.

Capital Improvement Program

With Lake County receiving stronger and more frequent rainfall, stormwater management projects have become critical. SMC received funding to launch a capital improvement program, which will enable them to prioritize, design and construct the most beneficial and regionally impactful projects while improving conditions in flood-prone areas. The program will be focused on three improvement areas: surface water/flood mitigation infrastructure, flooded property buyouts, and stream maintenance.



Staff Acknowledgements



In early 2019, Sharon Østerby received her professional certification as a Certified Floodplain Manager (CFM) through the national CFM program managed by the Association of State Floodplain Managers. CFMs have expertise in floodplain mapping, have a thorough understanding of the National Flood Insurance Program, know how to make floodplain management work at the community level, and so much more. Sharon's knowledge is vital to the effective management of floodplain resources and flood mitigation, which makes her an invaluable resource to Lake County and its residents.



In December 2019, Ashley Strelcheck became a Certified Professional in Erosion & Sediment Control (CPESC). CPESC professionals have expertise in current and potential erosion and sedimentation issues, as well as, knowledge of implementing practices that are cost effective, and meet environmental and regulatory requirements. From watershed planning to best management practices for erosion and sediment control, Ashley's knowledge is an integral part of the work we do.

New Staff



Stuart Nissenbaum

MS4 Technical Coordinator Consultant: Stuart is responsible for advancing Lake County's environmental goals and supporting compliance with the National Pollution Discharge Elimination System (NPDES) MS4 permit.