

# *Managing Change for Positive Outcomes*



# **2016** *year in review*

*Stormwater Management Commission Annual Report*



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

At the Lake County Stormwater Management Commission, we saw great changes in 2016, and have several noteworthy accomplishments to report to you. The pace of change is increasing: internally in our business process, and externally regarding planning, design, construction, and regulations that affect the environmental sector. SMC remains focused on transitioning our staff and organization to utilize resources, funding, and partnerships to most efficiently achieve program goals.

In 2016, SMC connected with hundreds of residents in our watershed planning and workshop efforts; provided technical training to dozens of colleagues on state-of-the-art practices in engineering and water resources; and collaborated with the emergency response community on the 'All Natural Hazards Mitigation Plan.' Several significant infrastructure projects were completed; including the Strawberry Condominium drainage improvement and Bull Creek restoration projects.

We have achieved much in 2016, but know there is even more to do. We have begun 2017 with a positive arc that will see additional progress on planning, construction of much-needed surface water infrastructure, and new initiatives that will be communicated throughout the coming year.

We appreciate your support and look forward to working with you and the Lake County community in the future.  
- Mike Warner



## STORMWATER MANAGEMENT COMMISSION

### Board of Commissioners

- **Craig Taylor, Chair - County Board District 19**  
Alternate Chair: Nick Sauer - County Board District 17\*
- **Kristina Kovarik, Vice Chair - Mayor, Village of Gurnee**  
Alternate Vice Chair: Glenn Ryback - President, Village of Wadsworth
- **Dean Argiris, Secretary - President, Village of Wheeling**  
Alternate Secretary: Terry Weppler - Mayor, Village of Libertyville
- **Brent Paxton, Treasurer - County Board District 4**  
Alternate Treasurer: Bill Durkin - County Board District 8
- **Nandia Black - President, Village of Kildeer**  
Alternate: Mike Talbett - Administrator, Village of Kildeer
- **Steve Carlson - County Board District 7**  
Alternate: Tom Weber - County Board District 3
- **Sandra Hart - County Board District 13**  
Alternate: Mike Rummel - County Board District 12
- **John Hucker - Mayor, Village of Beach Park**  
Alternate: Richard Gust - Trustee, Village of Beach Park
- **Ann Maine - County Board District 21**  
Alternate: Carol Calabresa - County Board District 15
- **Linda Pedersen - County Board District 1**  
Alternate: Bonnie Thomson Carter - County Board District 5\*
- **Leon Rockingham - Mayor, City of North Chicago**
- **Donald Schmit - Mayor, Village of Fox Lake**

\*These alternates have since moved on, SMC thanks you for your service.

### SMC Staff

- Mike Warner, P.E., CFM, Executive Director
- Kurt Woolford, P.E., CFM, LEED AP, Chief Engineer
- Patty Werner, AICP, CFM, Planning Supervisor
- Scott Griffith, P.E., Regulatory Engineer Supervisor
- Tim Cook, CFM, CPESC, CWS, Water Resource Professional
- Juli Crane, CWS, LEED, PWS, CFM, Principal Wetland Specialist
- Bob Gardiner, P.E., CFM, Principal Permit Engineer
- Jeff Laramy, GISP, GIS Analyst
- Darcy McNeill, Executive Assistant
- Haley Meents, Associate Communications Specialist
- Wendy Morey, Business Office Supervisor
- Sharon Osterby, Water Resource Professional
- Mike Prusila, CFM, Water Resource Professional
- Neil Schindelar, Engineering Technician
- Dijana Silber, Accounting Tech
- Kelcey Traynoff, Senior Civil Engineer
- Ashley Warren, Water Resource Professional
- Glenn Westman, PWS, CWS, CFM, Principal Wetland Specialist
- Beth Adler, DRWW Technical Coordinator

# 2016 By the Numbers

LEVERAGING FUNDING AND PARTNERSHIPS FOR PROJECTS



## FUNDING RATIO

**\$4.4 : 1**

\$4.4 for Every \$1 of SMC Cash and In-Kind.



**83 : 1**

Project / Program Partnerships

\$4,600,000 Total Project Costs

\$1,050,000 SMC Funding and In-Kind

22 Projects Completed

49 Municipalities

5 Park Districts

4 Townships

2 Not-For-Profits

14 Homeowners Associations

County, FPD, FWA

Granting Agencies:

FEMA, IEMA, NFWF, IDNR/ICMP, IEPA, USEPA/GLRI

# 2016 Policy & Procedure Changes

## MUNICIPAL SEPARATE STORM SEWER SYSTEMS (MS4) PERMIT PROGRAM

The Illinois EPA reissued the ILR40 General Storm Water Permit for MS4s on February 10, 2016 with an effective date of March 1, 2016. The permit contains a variety of new and modified requirements that will improve water quality and require local MS4 programs in Lake County to reevaluate their programs minimal control measures (MCMs).

We are a continual resource for Lake County's MS4 permit as a Qualifying Local Program (QLP) by performing activities in support of the MCMs.

- SMC updated the Stormwater Management Program Plan (SMPP) template, which addresses the new permit requirements for 2017.
- Our website has numerous MS4 resources and educational materials available to the public.
- Educational opportunities are provided at the Municipal Advisory Committee (MAC) quarterly meetings, including information on permit updates, template use, and important compliance information.



## MUNICIPAL ADVISORY COMMITTEE (MAC)

MAC continues to serve as a resource for local government representatives on inter-jurisdictional issues, projects, NPDES Phase II programs, and committee and administration recommendations.

- Darren Monico, Buffalo Grove Village Engineer was appointed as Chairman and Chris Bouchard, RHMG Engineers, Inc. was appointed as Vice-Chair for a two-year term on June 2, 2016.
- Presentations were offered through three meetings informing MS4 communities on permit changes, potential impacts, improvements, compliance, and reporting.
- Water quality improvement projects were presented for potential beneficial impact, including 319 grant-based projects (Agricultural, BMP projects, parking lot bioswales, and WRAPP).



## THE DES PLAINES RIVER WATERSHED WORKGROUP (DRWW)

DRWW is a voluntary, dues paying organization with a mission to bring together a diverse coalition of stakeholders to work together to improve water quality in the Des Plaines River and its tributaries. Over the course of 2016, DRWW adjusted some of its policies to increase efficiency and reduce the number of meetings.

- Dues and fiscal year policies were adjusted to align the DRWW's fiscal year with its administrative agent (currently SMC).
- The three standing committees (Monitoring, Lakes, and Impairments) were reduced to two standing committees (Monitoring/Water Quality Improvements and Lakes Committees.) The "Impairments Committee Chairman" position will be replaced by an elected "Member at Large."
- The term of office of the committee chairmen was increased from one to two years.



# 2016 Project Summaries

## DES PLAINES RIVER WATERSHED 319 GRANT EFFORTS

The Des Plaines River is identified as an “impaired waterbody” by the Illinois Environmental Protection Agency (Illinois EPA). In 2016, efforts began to create an “umbrella” plan for the 235 square foot mile watershed to protect and restore water quality, reduce flood damage, and protect and enhance natural resources. The total project cost is \$1,155,724 (this is for both planning and projects – watershed planning and water quality monitoring is \$644,000.) Funding for this project is provided, in part, by the Illinois EPA through Section 319 of the Clean Water Act.

SMC organized and conducted nine Des Plaines River Watershed planning meetings in 2016, with topics ranging from flooding and conservation, to stream inventories and agriculture. Draft versions of chapters one and two of the watershed plan report were completed, and we collected and analyzed soils, demographics, land use, transportation, and water quality data for chapters three and four (to be completed in 2017.)

SMC sent flood questionnaires to watershed stakeholders, including property owners in identified flood problem areas, to learn more about when and where flooding occurs and what impacts property owners. We also sent maps and inventory forms to municipalities and townships in the watershed, requesting flood damage information to use in updates to the Flood Problem Area Inventory for their community.

In addition to watershed planning, three Best Management Practice (BMP) projects with an estimated cost of \$469,664 were started in 2016, as part of the larger Des Plaines River Watershed project:

- College of Lake County Parking Lot Bioswales
- Mundelein Park & Recreation District for Bull Creek Stabilization and Pond Enhancements at Community Park - Phase 2
- Lake County Forest Preserve District, Dutch Gap Agricultural BMP Implementation Project



Left to right: Neil Schindelar (Intern Supervisor), Robert McClellan, Syerra Cunningham, Scott Kangas, Aleksandra Gawronska, Dominic Pasquesi, Melissa Marra, Robert Flood, Jeff Laramy (Intern Program Coordinator.)

A large component of the Des Plaines River Watershed Plan relies on stream and detention basin field inventories. We hired seven interns in 2016 to supply the manpower to conduct these inventories. The interns were fitted with field gear and were able to walk most of the streams, but they had to canoe the main stem of the Des Plaines River – *a first for SMC!*

Stream inventories assess channel conditions such as: bank height; erosion problems and bank vegetation; hydraulic structures such as bridges, culverts, and dams; pipes and swales draining to the stream or river (point discharges); land use and vegetative cover along the stream corridor; and available habitats in the stream. Detention basin inventories assess current conditions, noting maintenance and retrofit needs, and opportunities to improve the water quality, flood mitigation, and habitat functions of the basins.

We are using the data collected by the intern team to make recommendations in the watershed plan in order to identify areas for possible stream restoration or detention basin retrofit opportunities. A big THANK YOU to our 2016 intern crew!

## Des Plaines River by the Numbers

The data the interns collected helped to identify the areas of concern within the watershed:

- **98** miles of streams inventoried, including **38** miles of the Des Plaines River main stem.
- **810** hydraulic structures identified, with **92** noted as potential problems.
- **1,022** point discharges identified, with **181** noted as potential problems.
- **2,073** debris jams identified, with **1,553** noted as obstructing flow.
- **1,279** detention basins inventoried, with **676** maintenance recommendations.
- **979** detention basin outlets identified.
- **2,600** detention basin inlets identified.



## STRAWBERRY CONDO DRAINAGE IMPROVEMENTS

The Strawberry Condo area was hit by a storm in 2014 that deposited 5 inches of rain, which caused significant flooding - 54 units had over a foot of water on their first floor. We worked with several other agencies to solve the previously unknown flooding problem, by replacing the outlet structure to optimize the basin and provide a safe overland flow path from the tributary area to the basin. This helped to reduce the overflow elevation of the berm and provide additional storage and flow capacity. SMC provided design services, bid assistance, and construction oversight for the project. We also utilized a shared services opportunity by hiring Lake County Public Works to assist with cleaning out the pipe that ran under the berm.

## SKOKIE RIVER RESTORATION

The Park District of Highland Park worked on restoring an impaired area of the Skokie River at the southeast corner of US 41 and IL 22 (Half Day Rd.) This project improved stormwater, water quality, and habitat wetland functions, and resulted in 2.76 acres of wetland restoration and creation, 13.75 acres of wetland enhancement, and 9.71 acres of buffer enhancement.

### Key project components:

- Excavation of fill to expose hydric soils and restore a wet/sedge meadow community
- Removal of a small dam and installation of an adjustable water control structure to restore a northern flatwoods community
- Clearing of buckthorn within the buffer that improved both wetland and buffer conditions
- Provided habitat protection for wood ducks and blue-spotted salamanders

A State and Tribal Assistance Grant and Park District funding were used for project design, and Park District and SMC Wetland Restoration Funds were used during implementation. The Wetland Restoration Fund required the project to generate 8.44 acres of mitigation credit, which it exceeded, generating 8.63 acres of credit.





## BULL CREEK RESTORATION

We received grants from the National Fish and Wildlife Foundation, the Illinois Coastal Management Program, and the US EPA Great Lakes Restoration Initiative to develop the engineering design and complete the Bull Creek Restoration Project in Beach Park Illinois. The desired ecological conditions for the restoration include stabilized streambanks, expanded native plant communities within the riparian corridor, and improved water quality and aquatic habitat. Construction of the in-stream stabilization practices began in September 2016 and final plant installation and plant buffer management will be completed in 2017.

## ALL NATURAL HAZARDS MITIGATION PLAN (ANHMP)

The ANHMP identifies activities and projects to reduce the damages caused by natural hazards such as tornadoes, floods, and severe summer and winter storms. The ANHMP also allows the County and municipalities to be eligible for hazard mitigation grants from the Federal Emergency Management Agency (FEMA). FEMA requires that the ANHMP be updated every five years and we are in the process of updating the plan now.

### Process Summary

- Conducted four meetings, surveys, and focus groups to gather input
- Collected input from Lake County Municipalities
- Report finalization underway

### Takeaways

- Flooding problems continue to be a major issue
- Emerging issues include increasing rainfall intensities and amounts
- Need for expanded public education and outreach efforts

### Results

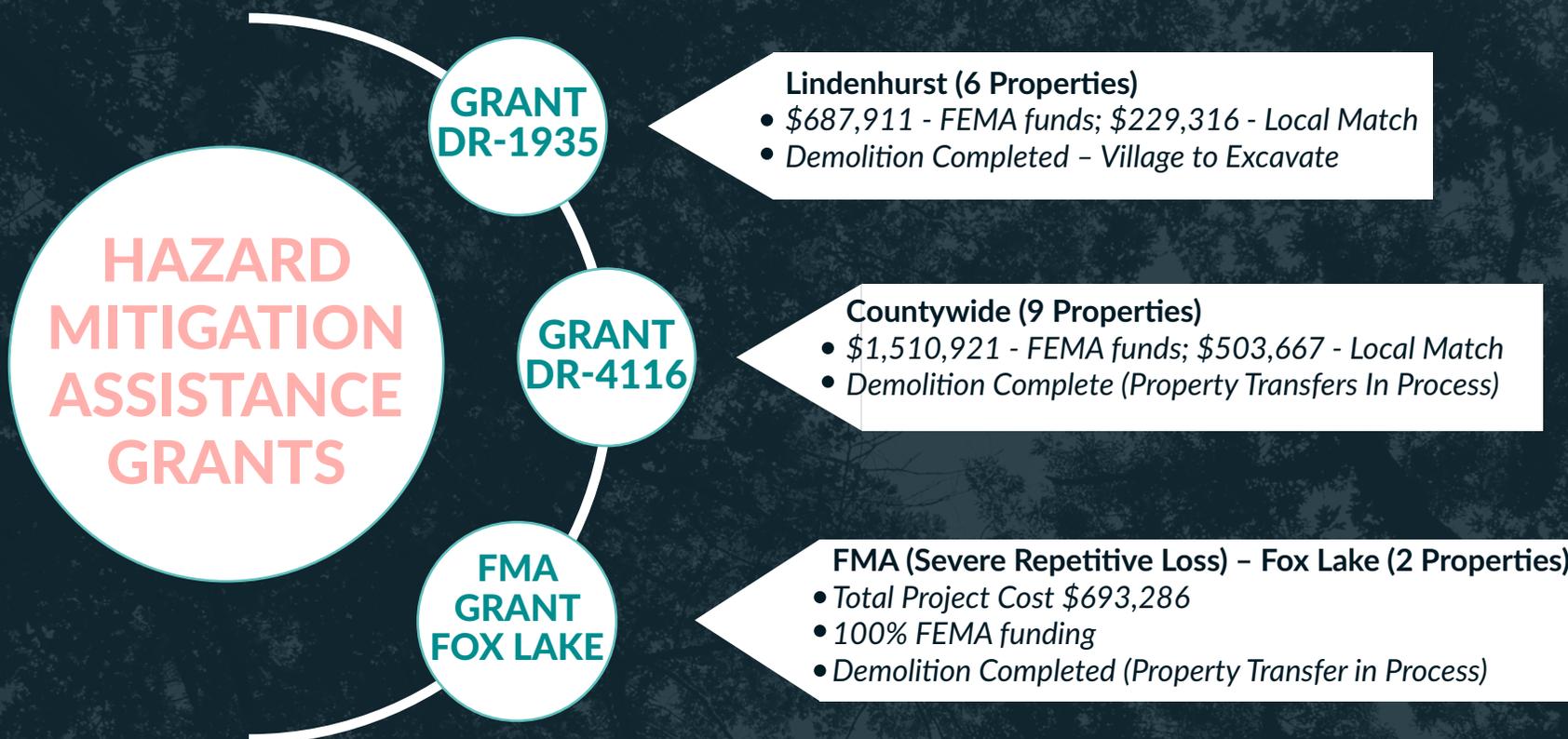
- A plan in place to protect life, health, and safety, and to reduce damage to property and infrastructure from natural hazards.
- Eligible for Hazard Mitigation Grants from FEMA/IEMA



## FLOODPLAIN BUYOUT PROJECTS

The voluntary purchase of houses that are repetitively damaged is one of the most cost-effective flood reduction tools we have in our mitigation toolbox. Buying and removing flood-prone structures ensure they are not damaged by floods in the future, and a recent study shows that over 80% of previous buyout owners stay in Lake County after selling the flood-prone property. We were involved in several buyout projects this past year.

## COMPLETED FLOODPLAIN BUYOUT PROJECTS:



## WETLAND RESTORATION AND PRESERVATION PLAN (WRAPP)

SMC is part of an initiative to develop a Wetland Restoration and Preservation Plan (WRAPP) for Lake County. The WRAPP will identify local wetland functions, as well as identify opportunities for preserving, restoring, and enhancing wetlands in the area. A Technical Advisory Group (TAG) of local, regional, and federal wetland professionals, worked throughout 2016 to develop methods and criteria to assess wetland function in Lake County, a key piece of the plan. Project staff and TAG members visited more than 50 field sites to understand the various wetland types and conditions in Lake County, and to help inform and refine the study methodology.

The overall objectives for developing the WRAPP include enhancing floodwater storage, surface water quality improvement, groundwater recharge, aquatic and wildlife habitat, and recreational and aesthetic benefits for communities. The final plan will include a technical report and summary, as well as the development of an online planning tool and mapping application. The project is funded by a \$159,489 USEPA Wetland Program Development grant with in-kind match, and is scheduled to be completed in 2017.



Mike Prusila and Patty Werner, SMC, discuss wetland function with TAG and staff members from the Lake County GIS Division, Lake County Forest Preserves, and Illinois Department of Natural Resources at an inter-dunal swale site in Illinois Beach State Park.

# Staff Acknowledgements



Susan Vancil was SMC's Public Information Coordinator from August 1991 to September 2016. For 25 years, Susan was the point of contact for media relations, website creation, and a project manager. She oversaw the creation of Lake County's first Hazard Mitigation Plan and provided flood response services during six major flooding disasters. Through contacts she made during these events, she eventually became Secretary of the Illinois Emergency Managers Association.

Susan was also very active in the early efforts to establish the Illinois Association of Floodplain Managers, and was elected to that board of directors, through which she attained Certified Floodplain Manager Certification. She also achieved a Master's Degree in Communications from DePaul University while working at the Commission. Susan assisted with the formation of the SMC Municipal Advisory Committee and the Skokie River Consortium and provided staff support for these groups. In addition, she organized the first and all subsequent annual Homeowner Association Workshops and was a key team member in organizing the annual Deicing Training workshops. Susan's press coverage spanned hundreds of projects throughout her career and touched many lives in the greater Lake County community. Her dedication and service will be remembered and we wish her the best in her Florida retirement.

## NEW STAFF MEMBERS



**Ernesto Huaracha**

*Water Resources Professional:*  
Ernesto manages watershed assessment and planning; stormwater and watershed management program development; surface water monitoring; stream restoration project planning, design, and construction; stormwater management practice planning, design, and construction; and grant procurement, management, and administration.



**Beth Adler**

*DRWW Technical Coordinator:*  
Beth manages the challenging technical service needs of the Des Plaines River Watershed Workgroup (DRWW) and assists with all aspects of the DRWW work plan and programming.



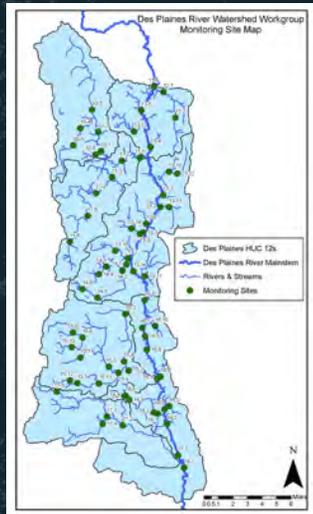
**Haley Meents**

*Associate Communications Specialist:*  
Haley assists Stormwater with all of their communication needs including: website edits and recommendations; managing social media accounts; planning, filming, and editing relevant videos; designing and distributing graphics; and evaluating all associated analytics.

# 2017 Major Initiatives

## TYLER ENERGOV PERMITTING SYSTEM

Lake County is in the final stages of implementing a new integrated permit and inspection system across several departments. The system will create cross-departmental efficiencies, improve communication, and reduce the amount of time it takes for permits and inspections. Moving to a more streamlined and efficient permitting and inspection process will provide a better customer experience and save valuable time and resources. The new system is set to go live Spring 2017.



## DES PLAINES RIVER WATERSHED PLANNING AND PROJECTS

The Des Plaines River Watershed Plan made a lot of progress in 2016, but it isn't finished yet. The plan is scheduled for completion in May of 2018, so this next year will be focused on meeting with stakeholders and gathering input and completing a draft plan. The Des Plaines River Watershed Workgroup (DRWW) will be working on collecting and compiling water quality data, including the water chemistry data. Several projects are slated for completion this year as well, including the College of Lake County parking lot bioswales and Lake County Forest Preserve District (LCFPD) agricultural best management projects.

## WHAT TO EXPECT IN 2017

- Complete Comprehensive Stormwater Management Plan
- Wetland Restoration and Preservation Plan completion
- All Natural Hazards Mitigation Plan adoption
- New WMB/SIRF projects (17)
- Skokie River wetland/flood storage project (Dady Slough)
- Training workshops, outreach, and education efforts





**STORMWATER MANAGEMENT COMMISSION**

*Thank you for your support!*

