

# 2021 Biennial Report

## URBAN STORMWATER SECTOR

**Eliana Brown**

Water Quality Specialist

Illinois Extension/Illinois Indiana Sea Grant



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY

# Urban Stormwater Sector



## Stormwater runoff:

- Defined as rainfall and snowmelt flowing off impervious surfaces in developed areas.
- Source of numerous pollutants, including P and N.
- Science Assessment determined that the stormwater statewide load is small compared to other sectors. But, can impair local water quality in Illinois lakes and rivers.
- **Implementation can be challenging to track.**

### Report data sources:

- Stormwater sector partner spreadsheets.
- MS4 reports.
- MWRDGC Annual Stormwater Reports.
- Illinois EPA Grants.



# Tracking Measures



*The NLRS Logic Model*

Biennial Reports are structured to report data on these tracking measures by each sector.



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY



***Resources reported by the stormwater sector partners***

Nutrient Reduction-Related Activity	2019	2020
Grants or Loans Received	\$981,932	\$1,095,454
Grants Given	\$1,266,898	\$731,925
Funded Programs	\$2,150	\$2,328
Total	\$2,250,980	\$1,829,707

***Number of MS4 communities reporting that they received or gave grants and loans in 2019 and 2020.***

Nutrient Reduction-Related Activity	Number of MS4 Communities
Received Grants and Loans	75
Gave Grants and Loans	32





### *Outreach activities reported by the stormwater sector partners*

Type of Activity	Number of Events	Attendance
Field Days	26	2,535
Presentations	90	7,329
Conferences	14	2,489
Workshops	19	1,987
<b>Total</b>	<b>149</b>	<b>14,340</b>

### *Scope of stormwater sector outreach as reported by MS4s*

Type of Activity	Number of MS4s	Percent of MS4s
Education and Training Workshops	323	89%
Presentations	300	83%
Conferences	118	33%
Field Days	55	15%
Technical Assistance	220	61%





## Section 319

### Number of practices

+

### Acres of practices

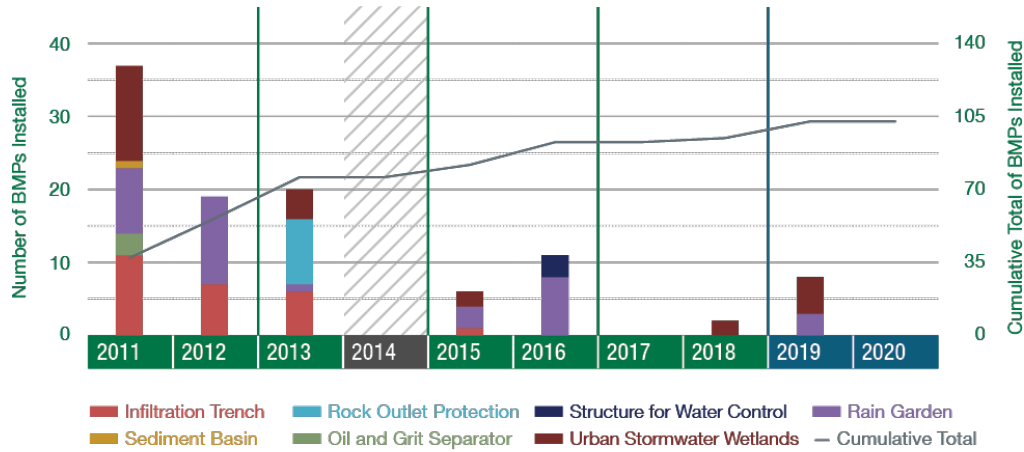


Figure 6.1. Number of urban practices installed under Section 319 grant program 2011–20

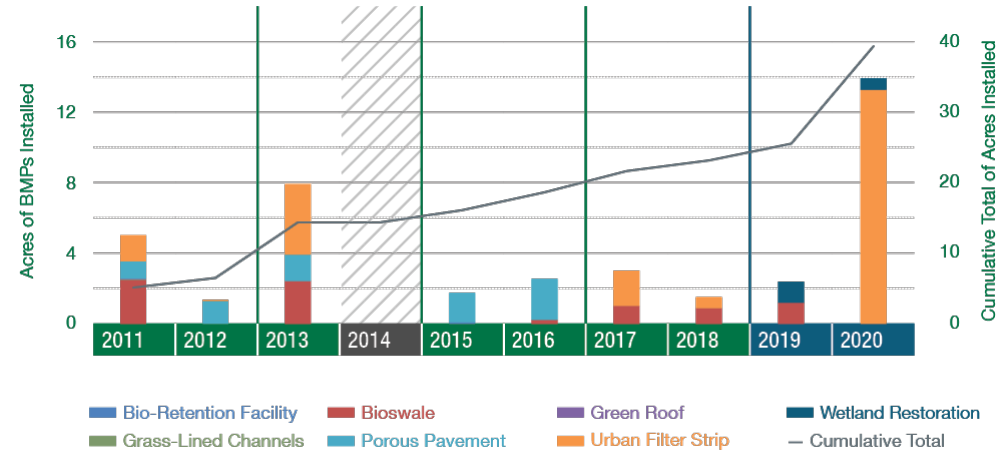
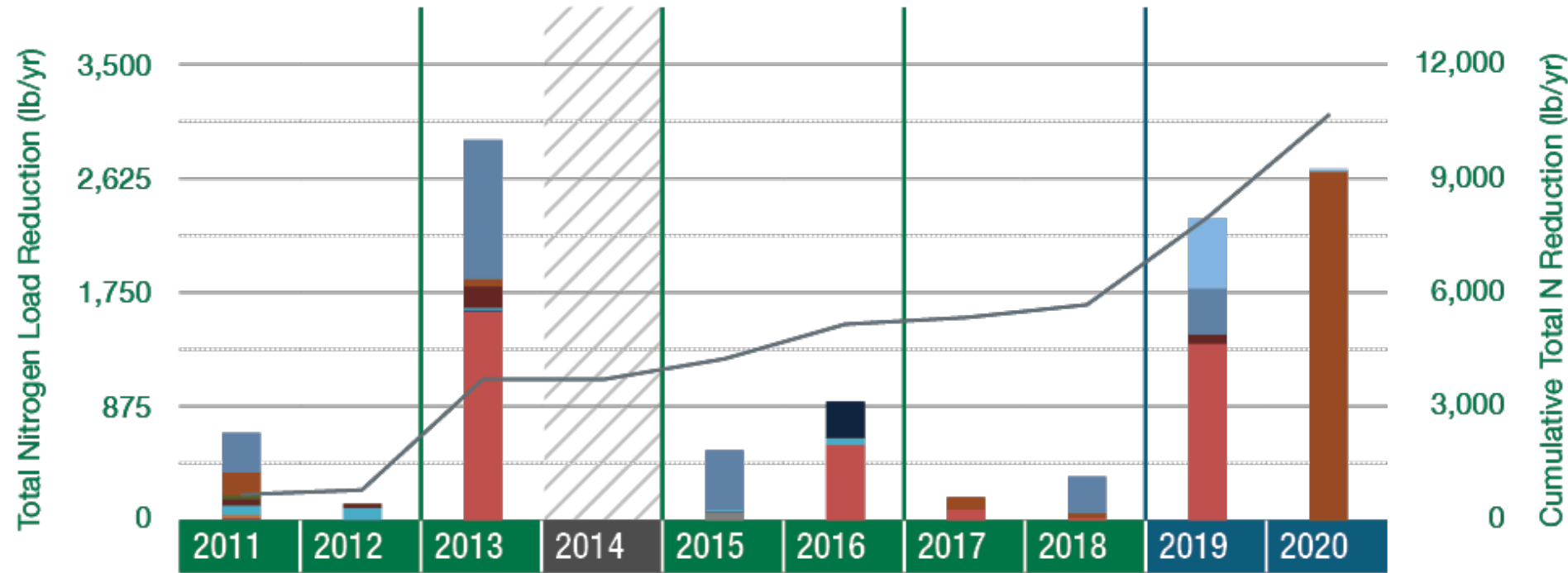


Figure 6.2. Acres of urban practices installed under Section 319 grant program 2011–20





Annual load reductions are based on the year the practices were implemented; reductions are achieved annually through the life of each practice.



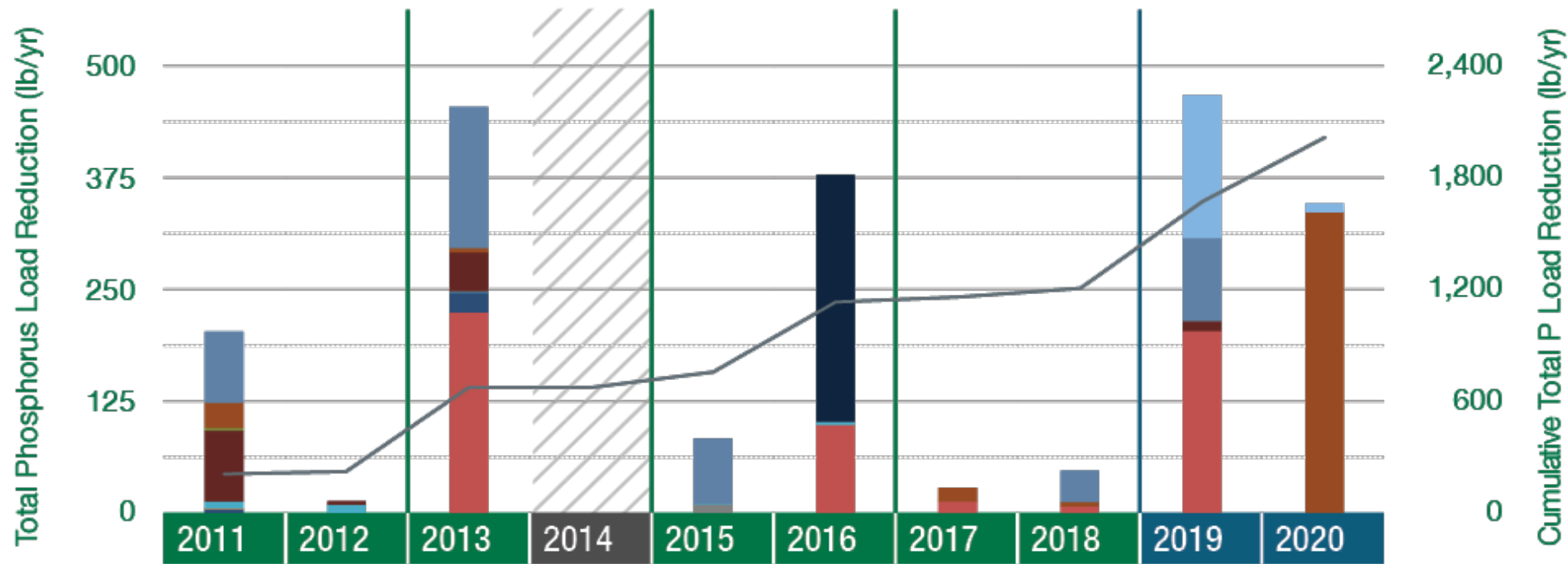
**Figure 6.3.** Calculated total nitrogen load reduction (lb/yr) from Section 319 grant program urban practices 2011–20



## Section 319

## Total N Load Reduction





Annual load reductions are based on the year the practices were implemented; reductions are achieved annually through the life of each practice.



**Figure 6.4. Calculated total phosphorus load reduction (lb/yr) from Section 319 grant program urban practices 2011–20**



## Section 319

## Total P Load Reduction



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY





## Section 319

### Load Reduction

# Load reductions estimated for urban practices implemented under Section 319:

## 2019

2,322.5 pounds of total nitrogen reduced

467.5 pounds of total phosphorus reduced

## 2020

2,703 pounds of total nitrogen reduced

346 pounds of total phosphorus reduced



**GIGO**

## Green Infrastructure Grant Opportunities (GIGO)

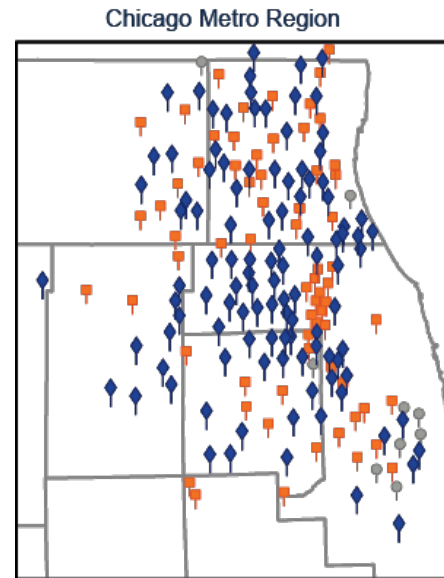
Of 47 GIGO applications, 11 grants totaling \$5M were awarded. Local match is estimated to be almost \$4M for an estimated total project implementation cost of \$9M.

These projects submitted the following annual estimates:

- 4,973 pounds of nitrogen reduced.
- 1,423 pounds of phosphorus reduced.
- 1,063 tons of sediment reduced.
- 31,414,497 gallons of stormwater retained.



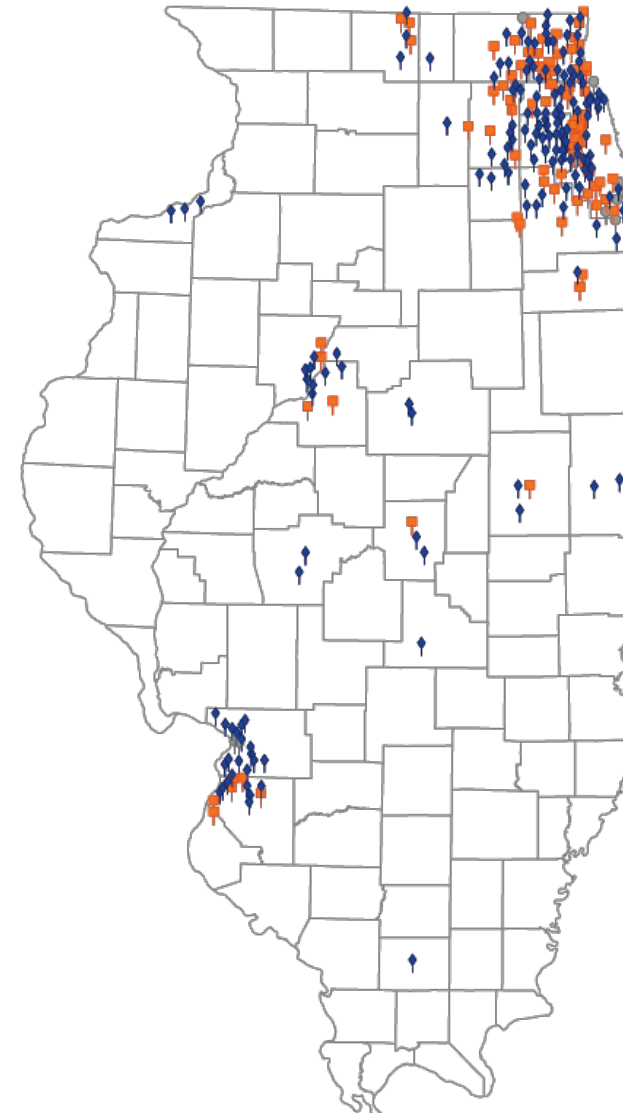
**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY



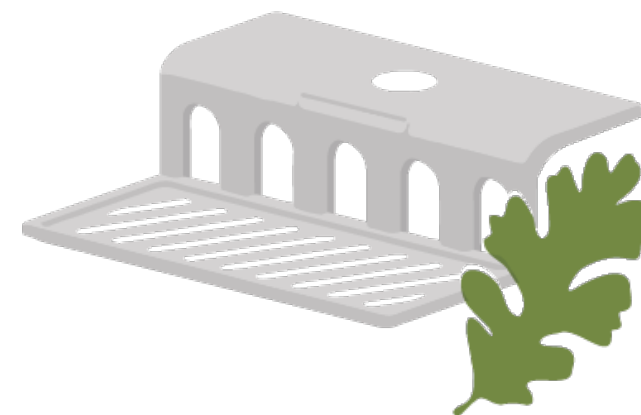
**Legend**

- ◆ 2019 & 2020 MS4 Communities
- 2020 MS4 Communities
- 2019 MS4 Communities

**Figure 6.5.** Illinois MS4 communities evaluated in 2019 and 2020



	2018		2019		2020	
Number of Communities Reporting	287		214		314	
Practice	Number of Communities	%	Number of Communities	%	Number of Communities	%
Community outreach	278	97%	212	100%	308	99%
Erosion control programs	Not measured	-	204	96%	299	96%
Electronics recycling programs	40	14%	185	87%	259	83%
Street sweeping programs	114	39%	166	78%	239	77%
Household hazardous waste collections	92	32%	166	78%	227	73%
Litter cleanup events	51	18%	148	70%	213	68%
De-icer management programs	101	35%	132	62%	202	65%
Leaf collection programs	Not measured	-	134	63%	203	65%
Detention basin management/ inspection programs	89	31%	113	53%	154	49%
Green infrastructure grants	32	12%	97	46%	119	38%
Detention pond inventories	Not measured	-	77	36%	102	33%
Green infrastructure requirements in new development and redevelopment	Not measured	-	65	31%	79	25%
Stormwater master plans	27	9%	65	31%	71	23%
Green infrastructure inventories	Not measured	-	49	23%	48	15%
Rain barrel programs	80	27%	25	12%	41	13%
Homeowner rain garden incentives	23	8%	3	1%	41	13%
Stormwater utility fees	24	8%	10	5%	22	7%
Community rain gardens	30	10%	12	7%	12	4%



**77%** of MS4 communities have implemented street sweeping.

**64%** of MS4 communities have leaf collection.





# Metropolitan Water Reclamation District of Greater Chicago



## Green Infrastructure Program

- From 2017-2019, MWRDGC selected 60 green infrastructure projects to develop with several municipalities. Total design retention capacity is approximately 6 MG.
- MWRDGC are contributing nearly \$3M to the projects selected in 2019
- In June of 2020, another call for projects was issued and an additional 16 were selected.





# Metropolitan Water Reclamation District of Greater Chicago



## Space to Grow

- Since 2014, MWRDGC has invested in 20 schools, providing 3.65 MG of design retention capacity.
- Construction was completed at five schools in 2020. Another five projects were designed for 2021 construction.
- The program was amended to continue through 2022, funding green infrastructure at up to 34 schools for a total investment of approximately \$18M.



Photo: C. Eliana Brown



**ILLINOIS**  
**NUTRIENT LOSS**  
REDUCTION STRATEGY



# STORMWATER SECTOR SUMMARY



- Stormwater partners held numerous educational events despite pandemic obstacles. Found new ways to reach a wide audience by shifting online.
- MWRDGC provided funding and technical support via 1. green infrastructure (GI) program and 2. Space to Grow.
- Analysis showed 61% of MS4s offered technical assistance and that a majority have implemented street sweeping (77-78%) and leaf collecting (63-65%).
- In 2020, Illinois EPA began receiving project applications for the Green Infrastructure Grant Opportunities (GIGO) program. 11 projects were awarded \$9M in total investment (\$5M GIGO and \$4M local match).

Urban Stormwater Working Group recommends statewide green infrastructure inventory for tracking.



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY



Photo: C. Eliana Brown



# Thank you!



**ILLINOIS**  
NUTRIENT LOSS  
REDUCTION STRATEGY