

Des Plaines River Watershed Workgroup (DRWW)

Annual Meeting - February 15, 2018

ILLINOIS EPA

NPDES PERMIT & TMDL PROGRAM UPDATE

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NPDES PERMIT UPDATE

- Water Quality Nutrient Trading (MWRDGC)
- Nutrient Implementation Plan (NIP) Update
 - DRSCW, FRSG, DRWW
- NPDES -TP Effluent Limits (Major Dischargers)
- MS₄ – Watershed Approach
- IEPA and NGO NPDES Permit Negotiations



Water Quality Trading – MWRD Trading

Metropolitan Water Reclamation District Act
amended by adding Section 57 – Nutrient Trading
(HB0659):

- The District may participate in any available nutrient trading program in the State for meeting water quality standards,
- Any trading program must comply with Environmental Protection Act and rules adopted under the Act,



- Preference to trading investments that will benefit low income or rural communities and where local water quality improvements can be realized,
- Effective January 1, 2018,
- Stickney, Calumet and O'Brien NPDES permits include a Special Condition allowing MWRD to participate in a trading program,



DuPage River Salt Creek Workgroup Trading –

NPDES permits include a Special Condition to modify the permit if:



- A trading program for POTWs has been developed and implemented,
- Program provides for reallocation of allowed phosphorus loadings between two or more POTWs in the watershed,
- Delivers the same results of overall watershed phosphorus point-source reduction and loading anticipated from the uniform application of the applicable 1 mg/L monthly average effluent limitation,



- Removes DO and offensive condition impairments, and
- Meets applicable DO criteria (35 IAC 302.206) and narrative offensive aquatic algae criteria (35 IAC 302.203),

- **Offensive Conditions**

Waters of the State shall be free from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity of other than natural origin. The allowed mixing provisions of Section 302.102 shall not be used to comply with the provisions of this Section.



DRSCW NIP Components

- ❖ Nutrient Trading Program
- ❖ QUAL 2K updates for the East Branch and Salt Creek
- ❖ NPS Feasibility Analysis
- ❖ Identification and Prioritization System (IPS)
- ❖ Chloride Reduction
- ❖ Additional Monitoring
- ❖ More (to be determined)

Nutrient Trading Program

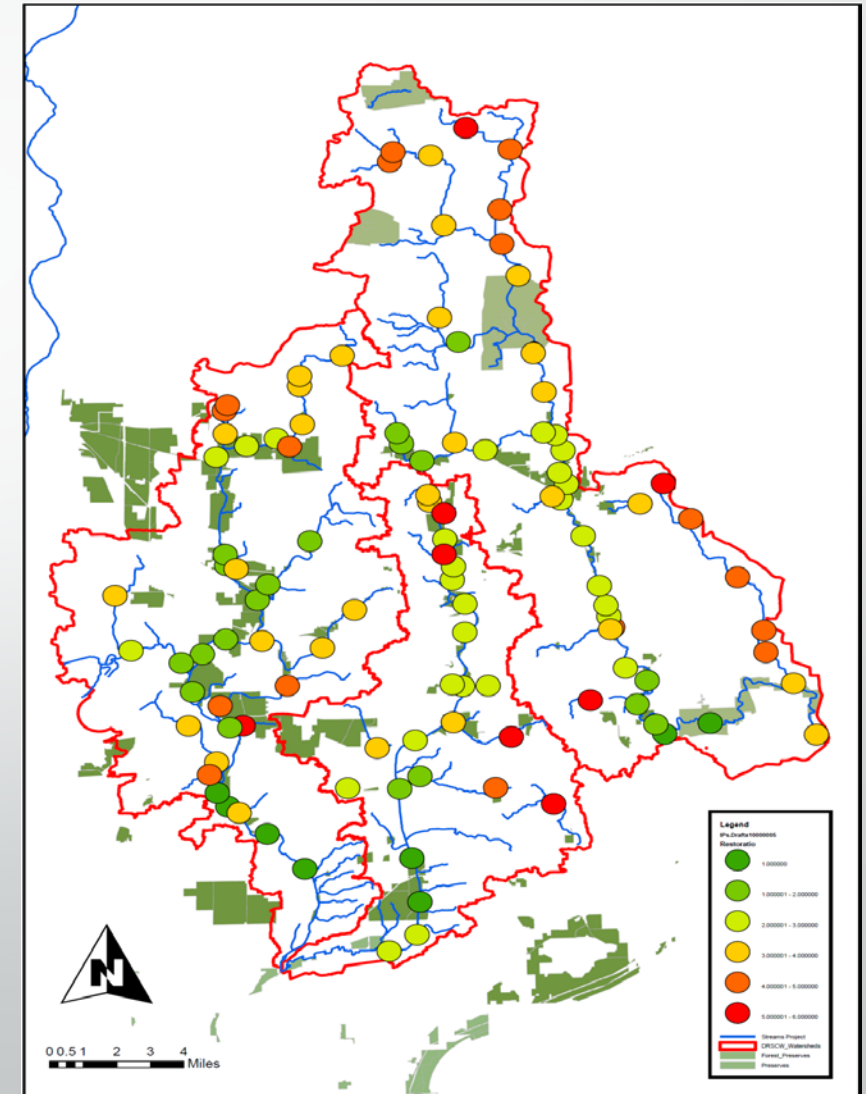
- ❖ To analyze the feasibility (supply-demand) of nutrient trading that:
 - Focus on nutrient trading viability among POTWs
 - Analysis of stream restoration crediting
- ❖ To create a voluntary nutrient trading framework based on feasibility analysis that:
 - Establishes economic incentives for nutrient pollutant reductions
 - Reduces the cost of implementing nutrient removal at various levels through greater efficiency and flexible approaches

Nutrient Trading Program (continued)

- Supports a watershed approach that optimizes environmental and economic benefits
- Offsets new or increased discharges resulting from growth to maintain levels of water quality that support all designated uses

Identification and Prioritization System (IPS)

- ❖ Focused on biological impairment
- ❖ Identifies stressors on a reach level
 - Stressors categories include habitat, hydrologic, water chemistry (water column and sediment), energy source (nutrients and nutrient processing), and biotic factors (alien and displaced species)
- ❖ Tasks to be completed
 - Recalibrate and update IPS with IEPA data and DRSCW, LDRWC, and DRWW data collected since 2007.
 - Identify and prioritize future projects



Non-Point Source Feasibility Analysis

- ❖ To identify and quantify nutrient inputs from non-point sources
- ❖ Tasks to be completed
 - Assess NPS reductions from leaf litter and street sweeping
 - Funding support of USGS study on leaf litter
 - Development and calibration of a NPS model (model TBD)
 - Identification and prioritization of projects



FRSG - Nutrient Implementation Plan (NIP) –

Fox River Implementation Plan (FRIP) – dated:
December 17, 2015

- Primary goal is to address water quality impairments for DO and excessive algal growth and achieve water quality standards in Fox River between Stratton Dam and the Illinois River,
- Alternative to the traditional Total Maximum Daily Load (TMDL) approach,



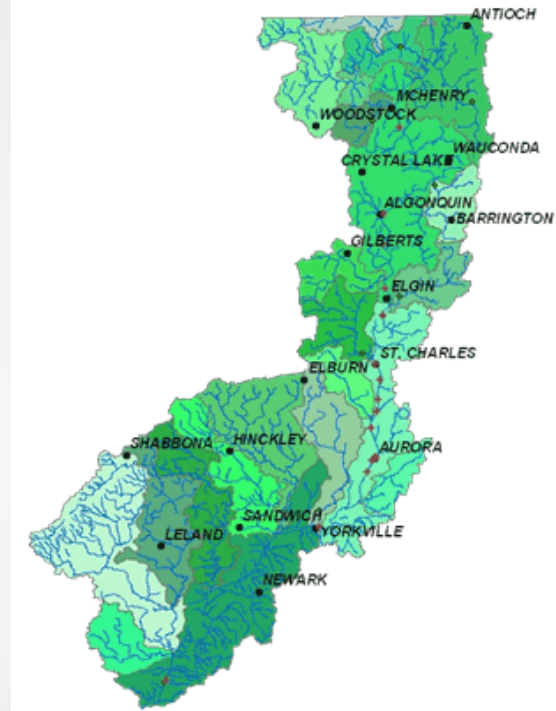
- Water quality model used to evaluate alternatives for water quality improvement.
- Alternatives did not identify actions that would meet DO water quality standards in the Fox River at all locations and at all times of the year under critical low flow conditions.
- FRSG is pursuing additional WQ model time



- **Near-term FRIP actions include:**

Phosphorus effluent limit of 1 mg/L for all majors,

- Upstream phosphorus TMDL (Draft Stage 3 Report in progress),
- Dam removals, Carpentersville and North Aurora dams (IDNR)
- MS4s tracking phosphorus load reductions from projects to reduce pollution from stormwater runoff,



FRIP (continued)

- ❖ Monitoring
 - ❖ Periodic Review (every 5 years)
 - ❖ Reporting
 - ❖ Public Engagement
 - ❖ Ten-Year Action Plan

FRIP (continued)

- Fox River Study Group NPDES permits are currently being renewed. Draft conditions require that the Implementation Plan be amended based on improved modelling,
- Final conditions will need USEPA approval,
- A request for a time extension to submit the NIP would need to include a schedule for submittal with justification for the additional time,



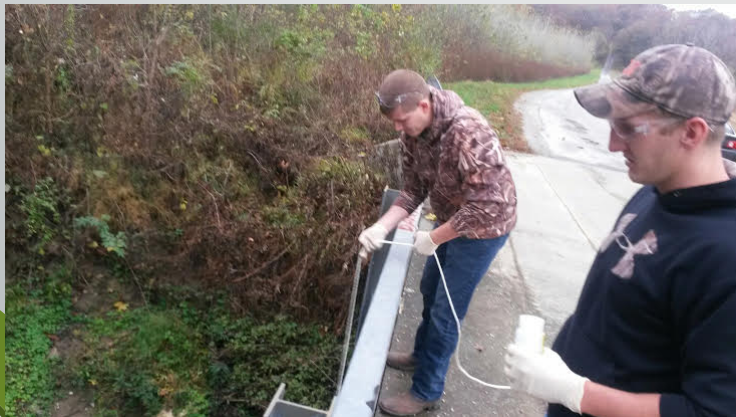
Des Plaines River Watershed Workgroup (DRWW)

- Des Plaines River Nutrient Implementation Plan submittal due in 2020,
- Nutrient Trading Study/Evaluation in progress



Watershed MS4 Permit –

- Existing MS4 general permit (ILR40) expires February 28, 2021
- Next General Permit (with USEPA's Approval) that would include requirements and action items specific to the watershed



Watershed MS4 permit –

- Incorporate reductions for non-point source discharges identified in the Nutrient Implementation Plan necessary to remove DO and offensive condition impairments in the watershed,
- If developed and issued prior to expiration of existing MS4 general permit, coverage approval letter could be issued for watershed MS4 permit,
- If issued after expiration of existing MS4 general permit, coverage during interim period would need to comply with ILR40 renewal,



Negotiations between IAWA and Environmental Groups – Background Information -

MWRDGC Permit Appeal - Illinois Appellate Court decision February 26, 2016:

- “Must ensure that the permit prevents discharges of pollutants having the ‘reasonable potential’ of violating Illinois water quality standards contained in the narrative standards.”

MWRDGC settlement agreement additional Special Conditions:

- Chicago Area Waterways Nutrient Oversight Committee (NOC)
 - Three members – one chosen by Permittee, one by environmental groups and one by the Agency
 - Develop Implementation Plan by December 31, 2023
 - Include phosphorus input reductions for point and non-point sources
- Technology based effluent limit of 0.5 mg/L Total Phosphorus annual geometric mean by 2030



- Feasibility study for reducing phosphorus levels to – 0.5, 0.3 and 0.1 mg/L,
- Continuous monitoring gauge at Illinois Route 53 (Ruby St), and the Des Plaines River in Joliet, IL
 - MWRDGC Calumet, Stickney and O'Brien NPDES permits modified July 6, 2017 with above conditions,
 - Permits also include interim monthly average 1 mg/L phosphorus effluent limit with compliance schedules,



IAWA and Environmental group negotiations:

To address “reasonable potential” of violating narrative water quality standards

- Promoting biological nutrient removal

Future conditions in NPDES permits for all major facilities may include:

- Technology based effluent limit of 0.5 mg/L Total Phosphorus annual geometric mean by 2030,
- Exceptions include not economically reasonable
- Implementation Plan-Nonpoint Source BMPs, if impaired waterbody or if waterbody has characteristics of an impaired waterbody,



Draft conditions are currently being reviewed by:

Illinois Association of Wastewater Agencies
multiple Environmental Groups

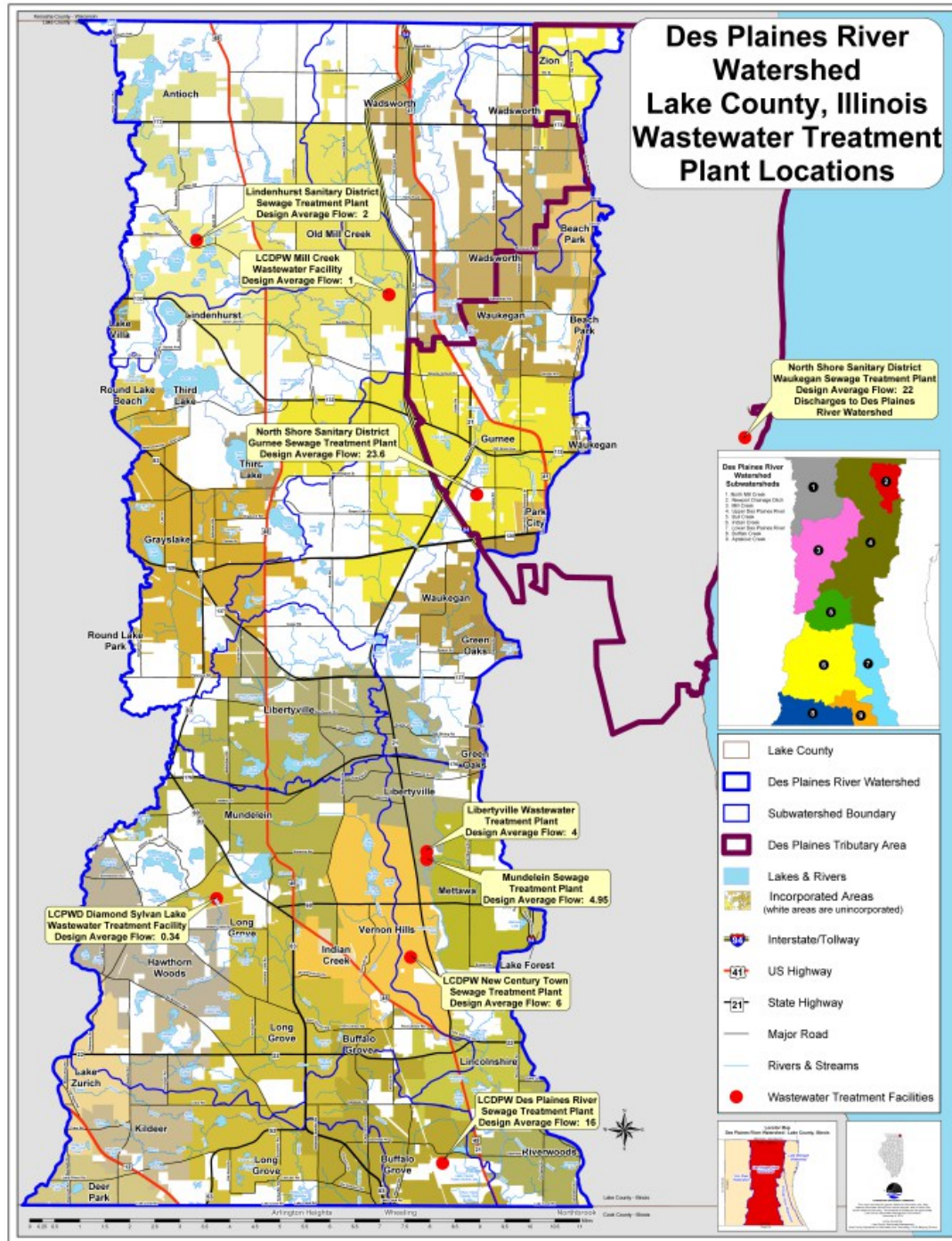
Final conditions will need USEPA approval.



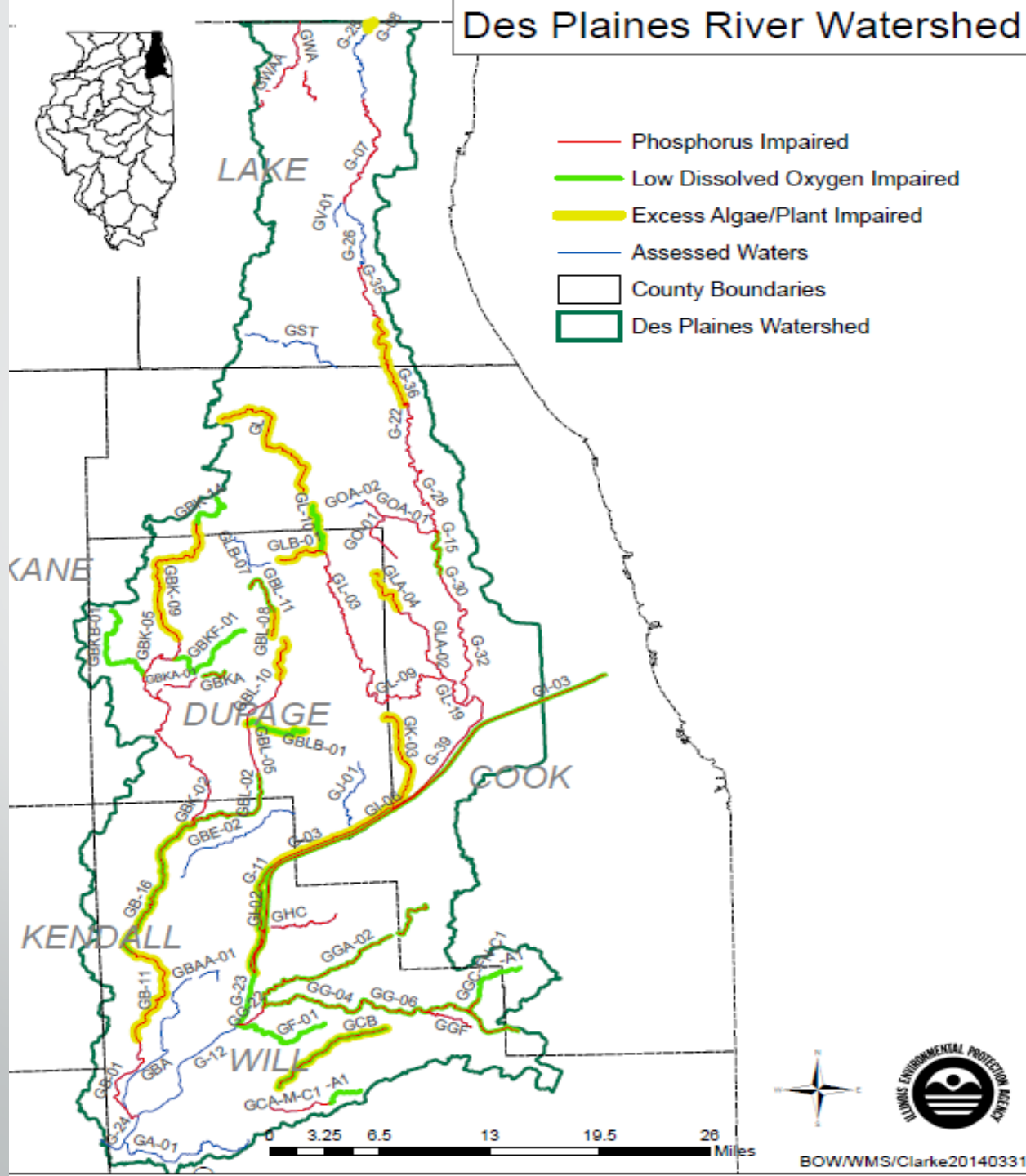
TMDL PROGRAM UPDATE



Des Plaines River Watershed Lake County, Illinois Wastewater Treatment Plant Locations

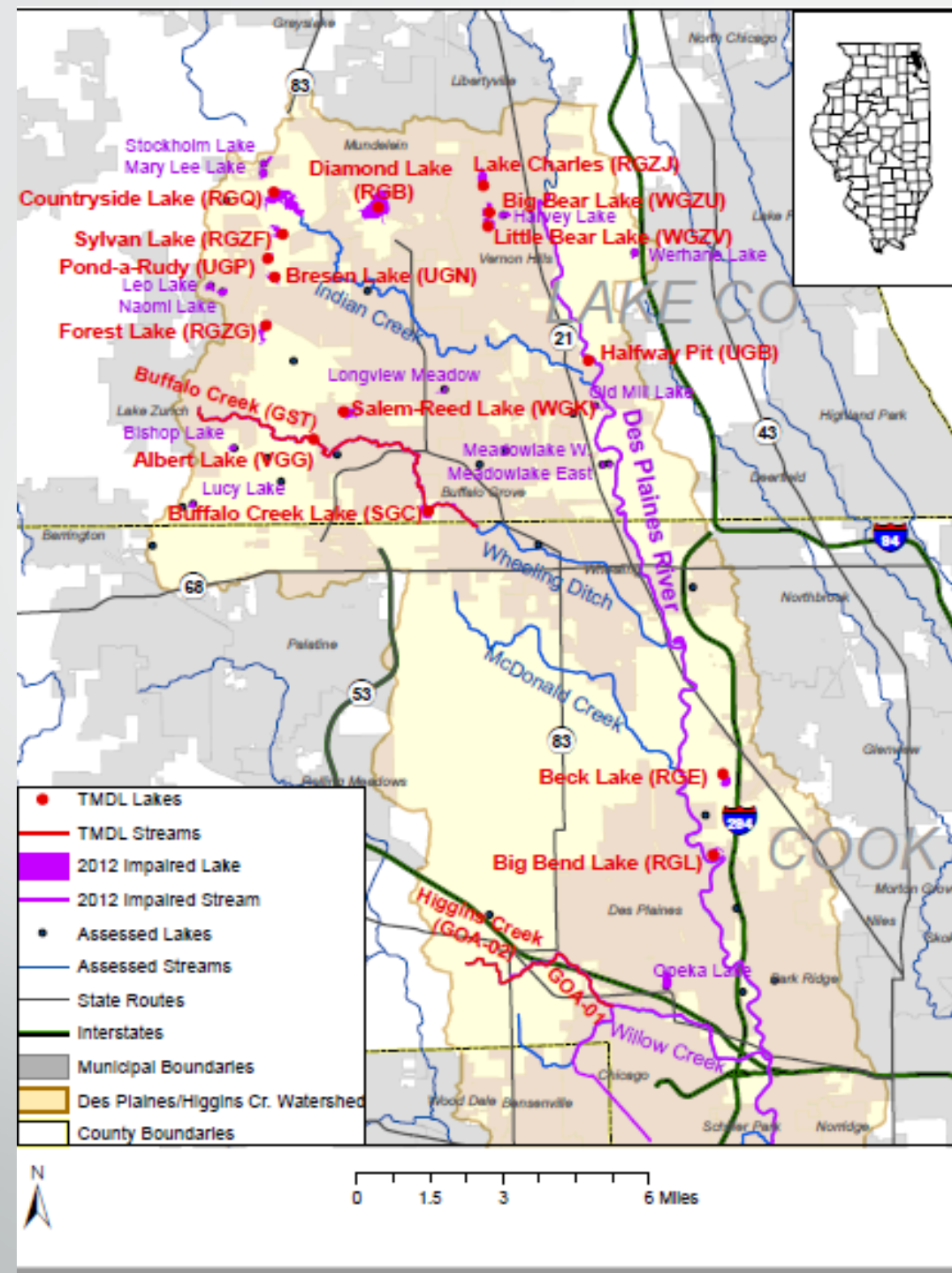


Des Plaines River Watershed



Des Plaines River/ Higgins Creek TMDL Watershed (August - 2013)

- Total Phosphorus (TP)
- Fecal Coliform
- Ammonia
- CBOD
- Chloride



Northeastern Illinois TMDL Projects

- Lake Michigan (Beaches) Watershed – Bacteria TMDL
(Approved – July 2013)

Lake Michigan (Nearshore) Watershed – PCB/Mercury TMDLs
(pending approval)

Chicago River – North Branch Watershed TMDL (Draft Stage 3)

- Upper Fox River- Chain O'Lakes Watershed TMDL
(Draft Stage 3)

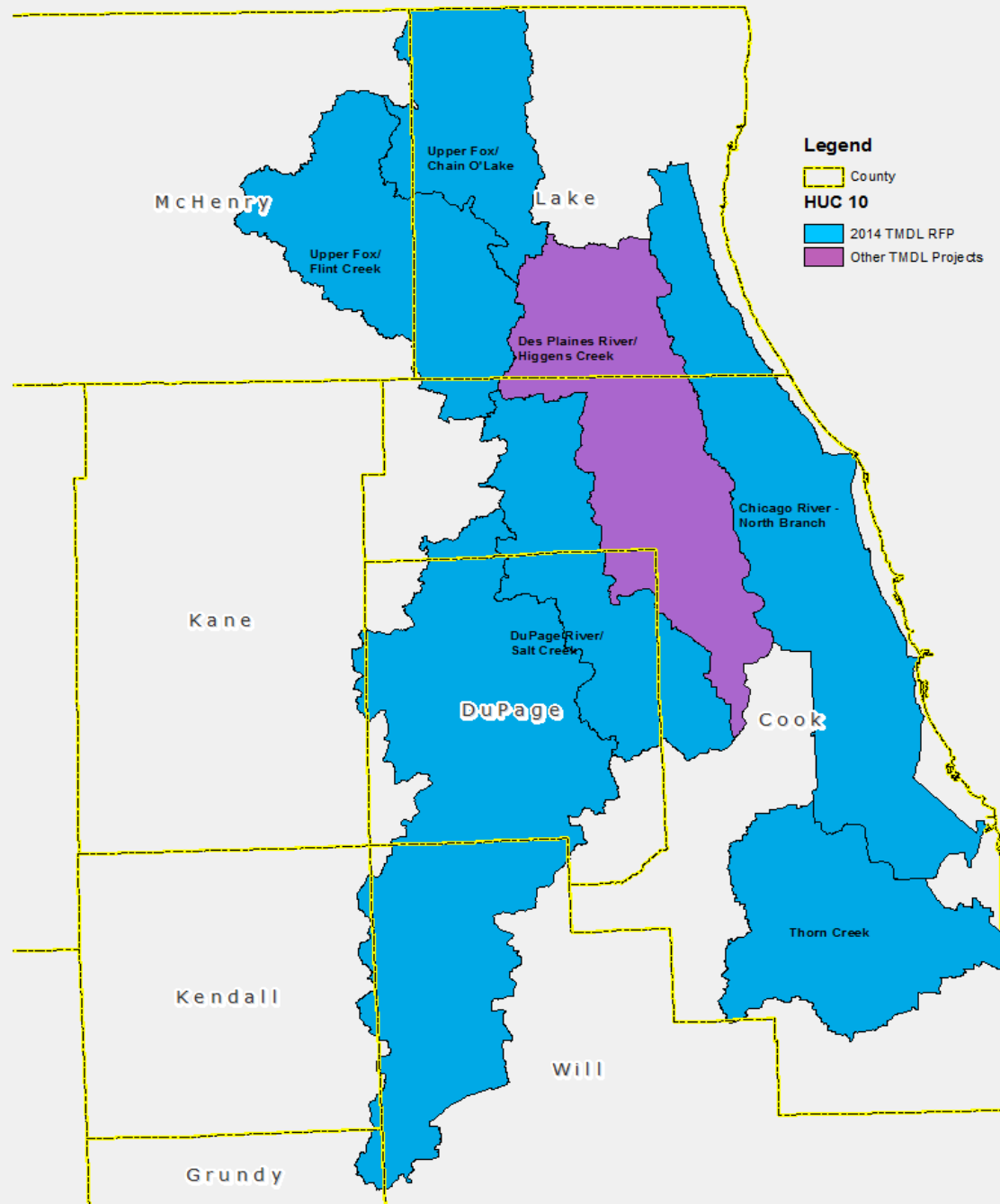
- Upper Fox River- Flint Creek Watershed TMDL (Draft Stage 3)

- DuPage River/Salt Creek (Draft Stage 3)

- Thorn Creek Watershed TMDL (Draft Stage 3)



Northeastern Illinois Watershed TMDL Projects





Questions?

For more information:

- NPDES - Contact Permit Section
(217)782-0610

Illinois EPA TMDL web site:

<http://www.epa.illinois.gov/topics/water-quality/watershed-management/tmdls/index>

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