



# Chicago Area Waterway System (CAWS) Chloride Reduction Initiative

Summary  
September 2015

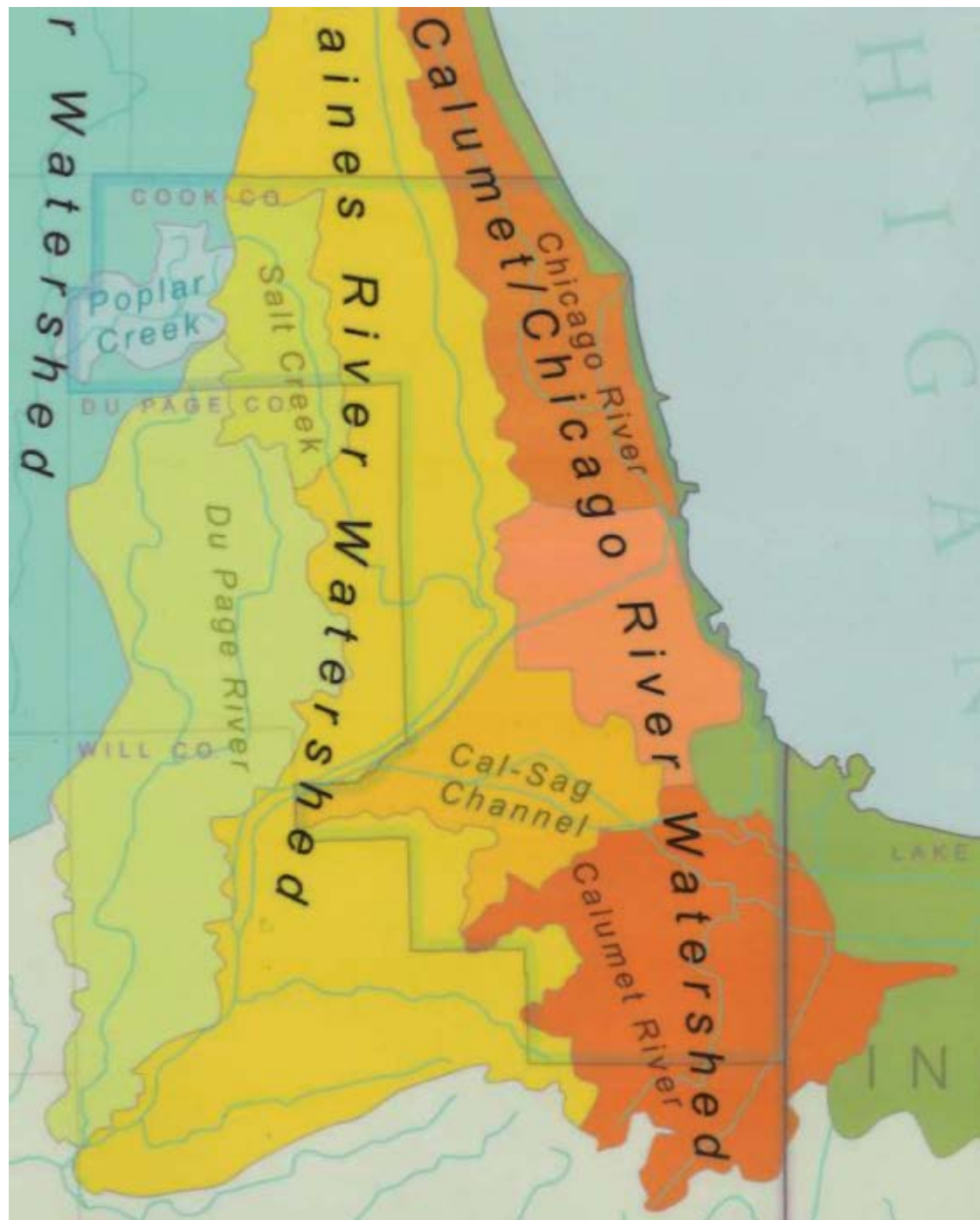
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For more information, please visit:  
[chlorides.mwrdd.org](http://chlorides.mwrdd.org)

# Chicago Area Waterway System (CAWS)

## Watersheds:

- Chicago River
- Calumet River
- Cal-Sag Channel





# Rulemaking

Water Quality Standards (WQS), Section 302.407(g)(2, 3):

- Effective 7/1/2015 – 7/1/2018:
  - Chloride WQS: 500 mg/L (5/1 – 11/30)
- **Effective 7/1/2018:**
  - **Chloride WQS: 500 mg/L (at all times)**

Section 303.449:

- The above does not apply to the Chicago Sanitary and Ship Canal.
- Effective 7/1/2015:
  - Chronic Chloride WQS: 620 mg/L (12/1 – 4/30)
  - Acute Chloride WQS: 990 mg/L (12/1 – 4/30)



# Rulemaking

- CAWS do not meet the proposed winter chloride standard of 500 mg/L on a consistent basis.
- Effluent limits based on the new standards will be difficult or impossible to meet.
- The cost of technological controls for end-of-pipe solutions for water discharges would be enormous and impractical.
- The IPCB has provided a delay in the implementation of the new rule to allow reduction in road salt use through July 1, 2018.

Summary of Chloride Exceedances of 500 mg/L during December - March, 2004 through 2013 in the Chicago Area Waterway System

Location	N Observations	N Excursions	% Excursions
Oakton Street, North Shore Channel	32	0	0.0
Touhy Avenue, North Shore Channel	39	7	17.9
Foster Avenue, North Shore Channel	35	7	20.0
Wilson Avenue, North Branch Chicago River	34	9	26.5
Diversey Parkway, North Branch Chicago River	40	3	7.5
Grand Avenue, North Branch Chicago River	34	5	14.7
Lake Shore Drive, Chicago River	23	1	4.3
Wells Street, Chicago River	38	1	2.6
Madison Street, South Branch Chicago River	32	2	6.2
Loomis Street, South Branch Chicago River	40	2	5.0
Archer Avenue, Bubbly Creek	33	2	6.1
Damen Avenue, Chicago Sanitary & Ship Canal	34	3	8.8
Cicero Avenue, Chicago Sanitary & Ship Canal	40	2	5.0
Harlem Avenue, Chicago Sanitary & Ship Canal	40	1	2.5
Route 83, Chicago Sanitary & Ship Canal	32	3	9.4
Stephen Street, Chicago Sanitary & Ship Canal	37	1	2.7
Lockport Forebay, Chicago Sanitary & Ship Canal	163	17	10.4
Ewing Avenue, Calumet River	18	0	0.0
130th Street, Calumet River	19	0	0.0
Burnham Avenue, Grand Calumet River	18	0	0.0
Indiana Avenue, Little Calumet River	19	0	0.0
Halsted Street, Little Calumet River	33	1	3.0
Ashland Avenue, Calumet Sag Channel	30	2	6.7
Cicero Avenue, Calumet Sag Channel	31	1	3.2
Route 83, Calumet Sag Channel	27	1	3.7



# Rulemaking

- IEPA has asked MWRD to convene and lead a work group to address the chloride issues during this 3-year period.
- Goals:
  - Stakeholders will develop and implement Best Management Practices (BMPs) to address chloride issues.
  - Stakeholders will take action to develop and propose to the IPCB appropriate mechanisms to address compliance issues, including a water quality variance.



# Variance Preparation

- A variance is a temporary exemption from any specified rule, regulation, requirement or order of the Board...for a period of time not to exceed five years (Title 35, Part 104, Subpart B).
- Extensions of the variance may be granted.
- Variance is granted when the petitioner presents adequate proof that compliance with the rule would impose an arbitrary or unreasonable hardship.
- The designated use in place is retained as the long-term goal when feasible progress can be made.
- The variance provides a time-limited revision to the water quality standard that reflects the highest attainable condition.



# Variance Preparation

- The work group will pursue, if possible, a waterbody-specific variance or a multi-discharger variance.
- Typically variances are adopted for individual dischargers.
- The work group will work together to prepare the needed information for the petition.
- Work group committees will be set up to coordinate the required information for the petition.
- A legal committee will coordinate the preparation of the petition.
- A best management practices (BMPs) committee will coordinate the needed solutions.





# Variance Preparation

- Development of best management practices (BMPs) is the primary goal of the work group.
- The BMP program will be the basis for a legally and scientifically sound regulatory compliance structure for chlorides in the CAWS.
- The regulatory compliance structure could take the form of a waterbody variance or individual variances for specific dischargers, up to a maximum of 5 years.
- The goal will be to develop the BMP program, and create the regulatory structure and regulatory approval by July 1, 2018, then assess for effectiveness.



# Variance Preparation

- Implementation of BMPs that reduce the use of road salt during the winter:
  - BMPs should be watershed-specific to be effective.
  - There is often a significant lag between implementation of BMPs and significant water quality improvements.
  - Adaptive management is necessary.
  - **It will take time for regulatory agencies and stake holders to review data, assess options, and to determine BMPs and an implementation schedule.**



# Variance Preparation

- During the 3-year period through July 1, 2018, or longer if necessary, the work group will provide periodic reports to the IPCB on the status of the work group's discussions.
- At the end of the work group's efforts, the work group will provide a final report to the IPCB, including recommendations and any proposed changes to regulations needed to implement the recommendations.
- The cost of an effective BMP program has not been estimated.



# Agenda

- Work Group discussion
  - Legal
  - Data acquisition
  - Best Management Practices
  - Water Quality
  - Social and Economic Impact



# Work Group

- Data Acquisition Committee:
  - **Coordinates data acquisition.**
  - Acquires winter water quality data.
    - MWRD, IEPA, USGS, discharger data.
    - Each entity must ensure they have sufficient data.
  - Coordinates description of facility operations for each entity seeking a variance.
    - Description of nature and amount of chlorides used.
    - Description of chloride controls and BMPs in use (survey).



# Survey

- Please complete the distributed survey ([chlorides.mwrdd.org](http://chlorides.mwrdd.org)) indicating:
  - Contact information.
  - Interest of your organization in participating in this stakeholder work group.
  - Interest in participating in the committees.
  - Interest in attending or presenting at future training workshops.
  - Salt use information.



# Work Group

- Water Quality Committee:
  - **Analysis of water quality data.**
  - Demonstrate that compliance cannot be immediately reached in the receiving stream and discharges.
  - Discussion of the compliance plan: BMPs to be undertaken; a schedule; and estimated costs.
  - Discussion of the environmental impact of the compliance plan, and measures to minimize the impact.
  - Discussion of interim numerical discharge limitations.
  - Develop a monitoring plan for each watershed.
  - Annual report documenting progress in each watershed.



# Work Group

- Best Management Practices Committee:
  - Discussion of alternatives and BMPs based on a literature search.
  - Discussion of alternatives and BMPs necessary to achieve compliance with the water quality standard.
  - Discussion of availability and selection of BMPs.
  - Discussion explaining why immediate compliance would cause an unreasonable hardship.
  - Documentation must be provided to the IPCB.
  - Annual report on implementation of cost-effective and reasonable BMPs must be provided to the IPCB.
  - BMP Training Workshops.





# BMP Training Workshops

- **Begin workshops in the Fall of 2015:**
  - BMPs for deicing of:
    - Roads
    - Parking lots and sidewalks
  - Presenters from the Chicago area and national experts.
  - Best methods, equipment and products for winter de-icing.
  - Equipment demonstrations.



# Work Group

- Social and Economic Impact Committee:
  - Social impact analysis.
  - Economic impact analysis.
  - **Affordability analysis.**
  - Documentation.



# Work Group

- Legal Committee:
  - Determine variance conditions. **Guide the committees.**
    - Type of variance.
    - Time frame.
    - Terms.
    - Effective date.
  - **Prepare the petition, using information from committees.**
  - Filing of petition.
  - Annual report to the IPCB describing steps taken to meet the requirements of the variance, using information from committees.



# Next Steps

- Stakeholders are requested to complete their surveys.
- Stakeholders are requested to sign-up to participate in one or more committees.
- Committees will convene to start working on their charges and timelines.
- Best management practices committee will start working on the Fall Workshop.



# Q/A

## Thank you!

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