



Chicago Area Waterway System (CAWS) Chloride Reduction Initiative De-icing Workshop

Overview and Update
October 29, 2015

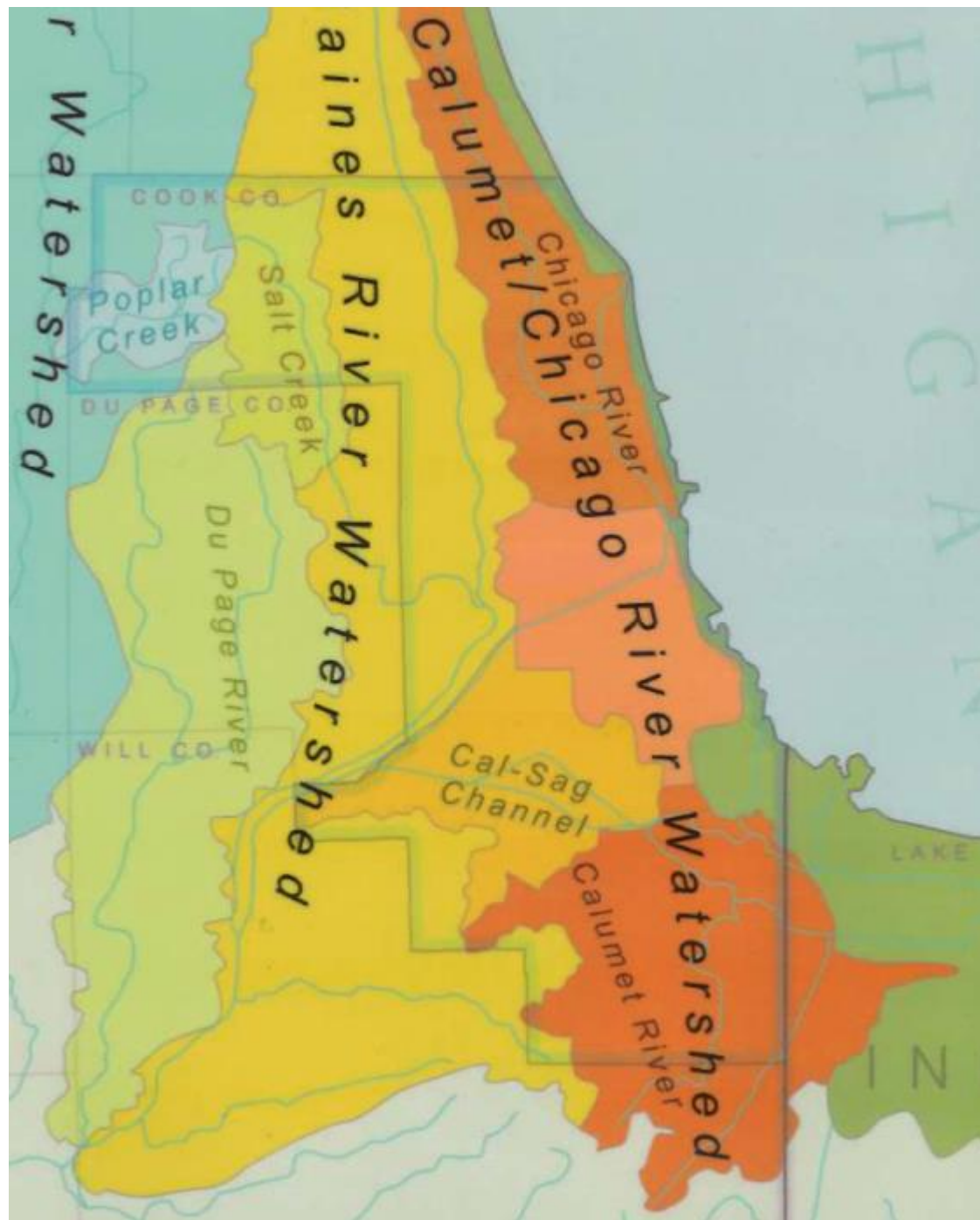
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For more information, please visit:
chlorides.mwrdd.org

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.
- The 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 5 years.
- Variance can be extended with satisfactory progress.
- 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.
- Annual report on implementation of cost-effective and reasonable BMPs, and water quality progress.



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 to show a problem exists.
 - 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) 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 interim numerical discharge limitations.
 - **Develop a monitoring plan for each watershed.**



Work Group

- Best Management Practices Committee:
 - Discussion of alternatives and BMPs based on a literature search and engineering studies.
 - Discussion of alternatives and BMPs necessary to achieve compliance with the water quality standard.
 - Discussion of availability and selection of BMPs, and costs.
 - Discussion explaining why immediate compliance would impose an arbitrary or unreasonable hardship.
 - Detailed compliance plan, including methods, time schedule, and estimated costs.



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

- Environmental, Human Health, Social and Economic Impact Committee:
 - Nature, amount and impact of discharges on the environment and human health, with a variance compared to immediate compliance.
 - Measures to be taken during the variance to minimize environmental and human health impacts.
 - Social and economic impacts of chloride controls.
 - Affordability analysis.



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.



Q/A

Thank you!

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