UMRBA
Upper Mississippi River Basin Association

# Resolution Adopted February 22, 2022

## Chloride Contamination in the Upper Mississippi River Basin

*Whereas* the Governors of Illinois, Iowa, Minnesota, Missouri, and Wisconsin work collaboratively through the Upper Mississippi River Basin Association (UMRBA) with the goal of advancing their shared commitment to protecting and improving the water quality of the Upper Mississippi River;

*Whereas* winter de-icing salt application and municipal wastewater treatment discharge into surface waterbodies throughout the Upper Mississippi River watershed are resulting in rising chloride levels;

*Whereas* state chloride monitoring programs beginning as early as 1961 have observed that chloride concentrations are increasing in the Upper Mississippi River Basin;[1]

*Whereas* the U.S. Environmental Protection Agency has declared that chloride concentrations greater than 230 mg/L (chronic exposure) and 860 mg/L (acute exposure) impact aquatic organisms and the ecosystem by interfering with osmoregulation, inhibiting vegetation growth, impairing reproductive cycles, salinizing soils and groundwater, and ultimately reducing the biodiversity in a waterbody;

*Whereas* U.S. Environmental Protection Agency ambient aquatic life water quality criteria numbers for chloride were published in 1988;

*Whereas* chloride contamination mobilizes metals and nutrients in soils and pavements, corrodes infrastructure, (e.g., roadways) and de-icing accelerates rusting of automobiles;

*Whereas* existing solutions for reversing chloride contamination are limited and expensive;

*Whereas* road salt application techniques exist that minimize chloride runoff while ensuring public safety and substantially reducing winter road maintenance costs for municipalities, cities, states, and private applicators;

*Whereas* Minnesota's *Smart Salting* program (applicator training and certification for private contractors) shows that strategic applications can reduce road salting rates by 30 percent to 70 percent in the Twin Cities Metro Area;

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[1] References to state-specific chloride trends:
Illinois EPA: http://www.umrba.org/il-epa-amb-chlor.pdf
Iowa DNR chloride trends: http://www.umrba.org/ia-dnr-chlor-trends.pdf
Minnesota PCA: https://www.pca.state.mn.us/sites/default/files/wq-s1-71.pdf
Missouri DNR: http://www.umrba.org/mo-dnr-chloride-trend-analysis.pdf
Wisconsin DNR: https://wisconsindnr.shinyapps.io/riverwq/

*Whereas* states may offer limited liability protection to road salt applicators against ice-related injuries and property damage to provide incentives to minimize salt application;

*Whereas* the general public is mostly unaware of trends in chloride contamination and the associated impacts as well as methods to minimize chloride runoff;

*Therefore, Be it Resolved,* UMRBA urges the U.S. Environmental Protection Agency to improve the scientific understanding of chloride-related impacts to designated uses in surface and groundwater;

*Therefore, Be it Resolved,* UMRBA will work with its member states and the federal agencies with water quality responsibilities to develop and implement a communications strategy for the purposes of informing government officials, decision makers, and applicators about chloride trends, negative effects of excessive use, and best management practices to minimize runoff;

*Be if Further Resolved*, UMRBA will work collaboratively with state and federal water quality and transportation agencies as well as local units of government and private organizations to secure resources needed for monitoring and research as well as implementing best management practices to reduce salt usage and addressing policy needs, such as reducing liability and providing training to private applicators.