

WATER SUPPLY MANAGEMENT OPTIONS FOR NORTHEASTERN ILLINOIS

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- About the Project
- Table of Contents
- List of Figures

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List of Figures

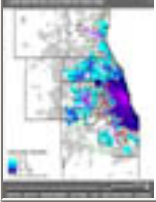
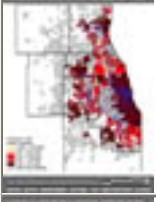
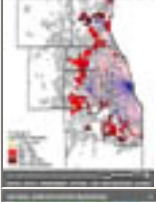

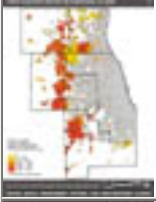
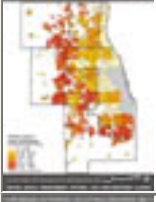

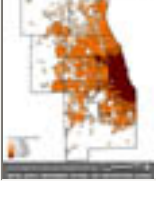
Figure 1.	 A map of the Chicago area showing water allocation in 2000. The map uses a color scale from blue to purple to represent different allocation levels across various regions.	Lake Water Allocation in Year 2000.
Figure 2.	 A map of the Chicago area showing the change in lake water allocation from 2000 to 2020. The map uses a color scale from red to dark red to indicate the magnitude of change.	Change in Lake Water Allocation: From 2000 to 2020.
Figure 3.	 A map of the Chicago area showing the percentage change in lake water allocation from 2000 to 2020. The map uses a color scale from red to purple to represent the percentage change.	Percentage Change in Lake Water Allocation: From 2000 to 2020.
Figure 4.	 A map of the Chicago area showing natural surface water resources. The map uses a green color to highlight areas with natural surface water resources.	Natural Surface Water Resources
Figure 5.	 A map of the Chicago area showing deep aquifer withdrawal in 2000. The map uses a color scale from red to orange to represent the withdrawal levels.	Deep Aquifer Withdrawal in 2000.
Figure 6.	 A map of the Chicago area showing shallow aquifer withdrawal in 2000. The map uses a color scale from red to orange to represent the withdrawal levels.	Shallow Aquifer Withdrawal in 2000.
Figure 7.	 A map of the Chicago area showing the percentage withdrawal of potential yield of the shallow aquifer in 2000. The map uses a color scale from yellow to orange to represent the percentage withdrawal.	Percentage Withdrawal of Potential Yield of Shallow Aquifer, 2000.
Figure 8.	 A map of the Chicago area showing non-cooling water demand in 2020. The map uses a color scale from orange to dark red to represent the demand levels.	Non-Cooling Water Demand in 2020.

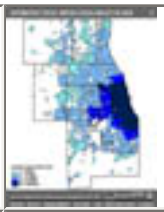
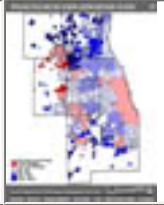

Figure 9.		Estimated Total Water Availability in 2020.
Figure 10.		Projected Water Surplus/Shortage in 2020.
Figure 11.		Water Rates for Residential Customers in 2000.

Table of Contents

List of Figures

Acknowledgments

Chapter I. Water Supply Resources in Northeastern Illinois

Lake Michigan

Inland Surface Waters

Deep Aquifers

Shallow Aquifers

Regional Projections

Conjunctive Use

Chapter II. The Legal Framework for Water Supply Management

Common Law and Public Trust Principles

Allocating the Lake Michigan Diversion

International Law Issues

Federal Law Issues

Supreme Court Rulings

The Great Lakes Mediation Memorandum of Understanding

State Legislative Issues

Groundwater Allocation Issues

Chapter III. Governmental Management Alternatives

Organizational Considerations

Regulatory Considerations

Who Should Regulate Water Use?

To Whom Should Water be Transferred?

Chapter IV. Market-Based Strategies

The Benefits of Water Markets

Water Pricing

Transferable Water Permits

Pollution Trading Analogies

Evaluating Pollution Trading

[Would Water Markets Work?](#)

[Chapter V. Conclusions](#)

[References](#)

[Appendix: The Great Lakes Mediation Memorandum of Understanding \(July 29, 1996\)](#)

About the Project

Analyses of projected water demand and available supply suggest that there may be future localized water shortages in the Chicago metro region. The region's access to Lake Michigan water is legally constrained, while the use of inland surface water resources is also limited by competing navigational, recreational, and environmental needs. The deep aquifer system is still being used at an unsustainable rate, leaving the shallow aquifers as the region's primary future water supply resource. However, little is known about the extent, capacity and characteristics of the shallow aquifer system. Communities facing projected water shortfalls may also be able to combine a variety of water resources to meet their water supply needs, a strategy known as conjunctive use.

Water resources, especially the Lake Michigan diversion that accounts for most of the water consumed for municipal and industrial purposes in northeastern Illinois, are subject to a complex web of legal doctrines, international, federal and state law, and judicial and administrative rulings. Although the region's water supply resources are comprehensively managed as to water quality, only the use of Lake Michigan water is regulated as to water quantity. This problem of how the region's limited water resources ought to best be shared among users can be addressed by either expanding the state's regulatory authority to allocate water or by employing market-based strategies to efficiently direct the limited supplies of water to where prospective demand is greatest.

The expansion of state management authority is the most feasible option to better manage the region's water resources for water supply purposes. The state's Office of Water Resources already allocates the Lake Michigan diversion and this experience provides an existing institutional framework to expand state management authority to other water resources. Economies of scale and financing constraints may further integrate municipal water supplies through the creation of additional sub-regional joint action water agencies or water districts in the Chicago metro region.

Water markets offer theoretical advantages in being able to transfer water more efficiently than governmental allocation schemes, but also have some significant disadvantages, as well. The most serious of these are the inability of markets to address third-party, public, or environmental interests in bilateral water transactions between sellers and buyers. Proposals to better address these transactional externalities, or to incorporate them in water pricing, generally require some type of increased governmental involvement with market transactions, market interventions that can either create price distortions or generate high transaction costs for market entities. Experience in creating markets to efficiently reallocate emission or discharge credits among polluters indicates that such markets rarely work as efficiently as initially envisioned:

either broad-based market participation is lacking or prices set by the markets are below marginal abatement costs, both results suggesting some form of market failure or distortion. Governmental water allocation strategies may therefore be preferred over market-based ones.

