

Northeast Illinois Lake Michigan Drinking Water Allocation — Can We Do Better?

By Richard (Dick) Lanyon, February 2025

Recent Developments

The DuPage Water Commission (DWC) announced on May 8, 2024, the purchase of the 127-acre former Green Acres Golf Club in Northbrook, Illinois. No, the DWC isn't going into the recreation business. The acquisition is about fifteen miles from the nearest part of DuPage County. Why? It is the latest in the fulfillment of a long standing dream for DuPage County to have its own straw in Lake Michigan.

The dream helped reignite the long simmering (since 1922) litigation between Illinois and the Lake States (MI, MN, NY, OH, PA, and WI) over the diversion of water at Chicago from Lake Michigan to the Mississippi River. In 1959, the tree towns (Elmhurst, Lombard, and Villa Park) announced their intention to build a pipeline from Lake Michigan in Lake County, IL, to have their own straw in the lake to bring them drinking water because their deep groundwater wells were beginning to run dry.

The pipeline was never built, water was purchased from the City of Chicago, and the litigation resulted in the historic 1967 US Supreme Court Decree that allowed Illinois to divert water for domestic purposes and to keep Chicago-region canals and rivers in reasonably satisfactory sanitary condition. Later, the DWC was created and entered into a forty-year contract with the City of Chicago to purchase purified drinking water for distribution to municipalities and other water users in DuPage County.

The DWC announced in February, 2024, that the forty-year contract with the Chicago Department of Water Management (CDWM) would be extended for only seventeen years to allow the DWC the "...opportunity to explore other options for water service to DuPage County." This followed a May, 2023, announcement that the DWC commissioned the Alternative Source Water Study due to a delay or impasse in the negotiations for an extension of the water contract with the CDWM.

With the purchase of the golf club, it appears that the DWC has already found its alternative to having its own straw in Lake Michigan. This would be accomplished by building a pumping station on the lakefront and a pipeline to deliver raw water to the golf club site, building a water purification plant on the 127-acre site, and building another pipeline to deliver drinking water from the plant to DuPage County. All this will replicate infrastructure—pipelines, pumps, and purification plant—already in existence and being used to deliver drinking water from the CDWM to the DWC. On its face, it is wasteful and may increase the cost of water for DWC customers.

The delay and impasse in contract negotiations is due to the reluctance of the CDWM to give the DWC the same contract terms that were recently given to the new Grand Prairie Water Commission (GPWC), a commission serving the City of Joliet and five nearby municipalities. Here is the back story.

The City of Joliet obtains its water from deep groundwater wells, but due to population growth the demand for water was expected to outgrow the resource. In addition, the quality of the groundwater is less than desirable. The city conducted its own study for an alternative water source. Surface water in the Des Plaines and Kankakee rivers also had poor water quality issues. Joliet could have its own straw in Lake Michigan, but a very long pipeline and purification plant would be needed. Purified Lake Michigan water could be obtained from the CDWM or the City of Hammond, Indiana. Further study revealed that the most feasible source was from the CDWM's Southwest Pumping Station on Kedvale Avenue at 84th Street, where water from the Eugene Sawyer Water Purification Plant on the lakefront at 79th Street is distributed to the southwest side of the city and several southwest suburbs.

Contract discussions with the CDWM were not fruitful. Joliet favored use of the American Water Works Association (AWWA) cost of service methodology for determining water rates, whereas CDWM wanted to use the same rates that applied to Chicago customers. Discussions with the City of Hammond were more productive. They offered to use the AWWA method, but the longer pipeline exceeded capital cost limits. During Joliet's deliberations, five surrounding municipalities expressed interest in obtaining lakewater. The idea of a commission began to gel.

Joliet decided to try Chicago one more time, but instead of the CDWM, they went directly to then-Mayor Lori Lightfoot. After explaining the different rate calculation methods, the mayor agreed with Joliet and directed CDWM to negotiate using the cost of service method. Meanwhile the GPWC was formed and the final contract is between the CDWM and GPWC. DWL would like the same cost of service method to be used in a new contract but the CDWM was not agreeable. Using the cost of service method in all suburban contracts would result in a loss of revenue to the CDWM.

The Southland Water Agency is another example of suburbs trying to free themselves of dependency on the CDWM for their water supply. Formed in 2019 by charter members East Hazel Crest, South Holland and Thornton, the agency hopes to include as many as a dozen other south suburbs to engage in planning, engineering, legal and land acquisition activities for the alternative water supply system that may begin service by 2028. Perhaps they may purchase water from Hammond, Indiana, as some other suburbs are doing.

Long Standing Problems Come to Light

Two articles in the *Chicago Tribune* in 2017 illustrate widespread problems with drinking water management in the Chicago region.

October 29, 2017, *Chicago Tribune*, pages 1, 10 through 12. Tribune investigation, The Water Drain, article headline, *SAME LAKE – UNEQUAL RATES, Why water bills are surging – and why black and poor suburbs pay more.*

Consider Ford Heights, a predominantly African-American suburb, where people pay nearly six times more for water than Highland Park, a predominantly wealthy and white suburb. Little is stopping local leaders from raising water rates; Illinois regulators have no oversight authority over local water rates. This disparity is known as environmental injustice. Local leaders

acknowledge that people are paying for water lost through cracked pipes and leaking hydrants, and others say high rates are imposed to pay for replacement of poor infrastructure.

Little accountability exists in rate setting and infrastructure maintenance. Unlike regulated utilities, controls on municipal water utilities are nonexistent. Nonpayment of water bills sometimes result in unannounced water shutoffs by municipalities. In one suburb, 20 percent of water accounts received water shutoff notices. The actual number of shutoffs is unknown. Residents often have to pay an exorbitant fee to resume water service.

In response to requests, 162 municipalities supplied data on water rates. One north shore suburb charged \$2.74 per 1,000 gallons. Two southwest suburbs didn't charge residents for water. Ford Heights charged \$17.00 per 1,000 gallons. Only one southwest suburb charged more than Ford Heights, a recent increase to pay for infrastructure upgrades. Overall, municipalities with median household incomes in the bottom 10 percent of the region pay 31 percent more for water than municipalities with median household incomes in the top 10 percent.

Those results also reflect municipal racial composition. Five of the ten municipalities (50%) with the highest water rates are predominantly Black. Only 13 percent of the 162 municipalities were predominantly Black.

The *Tribune* article offered three comparisons for the cost per 1,000 gallons: Northfield, predominantly white, high-income, \$7.27 vs. Posen, predominantly Latino, one-quarter live below the poverty line, \$12.92; Willowbrook, predominantly white, middle-income, \$9.67 vs. Glenwood, predominantly Black, low-income, \$13.52; Northbrook, predominantly white, high-income, \$5.00 vs. Chicago Heights, mixed race, low-income, \$7.20.

The CDWM owns and operates two water purification plants and 12 pumping stations that supply drinking water to consumers in the city and to most of the municipalities in the six-county northeast Illinois region. Many suburban municipalities are supplied by intermediate agencies or municipalities. These include the DWC and the Northwest Suburban Municipal Joint Action Water Agency (JAWA). The City of Evanston Public Works Agency, Bureau of Water Production, serves Evanston consumers, several other nearby suburbs, and the Northwest Water Commission. In Lake County, the Central Lake County JAWA supplies water to several suburbs in that county. The City of Hammond, Indiana, also supplies lake water to several suburbs in south Cook County.

Drinking water sometimes passes through several municipalities before reaching the consumers' municipality. Each municipality in the chain adds its own administrative overhead in selling water to the next municipality. For example, Chicago sells water to McCook for \$3.81 per 1,000 gallons, a wholesale rate. McCook sells water to Countryside for \$4.86 and Countryside sells water to Indianhead Park for \$5.98, and Indianhead Park sells water to its consumers for \$10.90.

Water rates are on the rise due to the age of infrastructure. Older suburbs developed early in the twentieth century are having to replace 100-year old water mains, rehabilitate storage reservoirs, and update pumping stations and purification facilities.

More than 25 billion gallons of Lake Michigan water was lost in 2016 as it flowed through crumbling infrastructure at a cost of \$44 million, according to records of the Illinois Department of Natural Resources and *Tribune* calculations. Some municipalities lost as much as one-third of their water and many reported losses in the 20% to 25% range. Water rates are based on keeping the municipal water system solvent. Property taxes are not used for water system operation and maintenance.

In 2012, Chicago began aggressively raising water rates, by 90% over four years, to pay for deferred maintenance. In 2016, a sales tax on water was imposed to generate money to make up for deferred payments into the pension fund. The rate increases were passed on to the suburban municipalities, meaning, in effect, the suburbs were paying for Chicago's deferred maintenance and pensions. As large water-using industries like steel making and food processing left town, the water cost burden shifted to residential customers.

Harvey was buying water from Chicago and selling it to its residents and other nearby suburbs. Starting in 2008, Harvey stopped paying what it owed to Chicago and diverted some water sale revenue to pay off bonds. Also, Harvey didn't pass on the increased Chicago water rates to some of its poorer neighboring municipalities. After Chicago sued Harvey for nonpayment, the court ordered Harvey to repay Chicago. Harvey appealed and also sought help from elected representatives in Springfield. No help was offered.

Several residents in various municipalities were interviewed about their unfortunate experience with their municipality over nonpayment of water bills and water shutoffs. Residents experienced frustration due to municipal inaction and were burdened with high costs for water and additional fees and penalties.

A map in this article showed there were 17 straws in Lake Michigan in 2017.

Straw owner a.k.a. water intake owner	Number of Illinois water systems supplied
Lake County, Illinois	
Lake County Public Water District	2
Waukegan	5
North Chicago	1
Naval Station Great Lakes	1
Central Lake County JAWA	12
Lake Forest	1
Highwood	1
Highland Park	5
Cook County, Illinois	
Northbrook	3
Glencoe	1
Winnetka	2
Kenilworth	1
Wilmette	4
Evanston	6
Chicago Jardine Water Purification Plant	91

Chicago Sawyer Water Purification Plant	65
Lake County, Indiana	
Hammond	7
Total	208

Several straws supply only one municipality. These isolated drinking water systems are not interconnected with other systems and in the event of catastrophic failure, their residents would be without water

November 1, 2017, *Chicago Tribune*, pages 1, 10 and 11, Tribune Investigation, The Water Drain, article headline, *CRACKED PIPES, LOST DOLLARS, Crumbling infrastructure leads to staggering water costs.*

This article focused on how lack of water system infrastructure maintenance affects water rates. In Maywood, a resident reported water bubbling up at ground level, presumably from a broken water main. The report was ignored or took months to repair. Nearly 40 percent of the water Maywood purchased from Melrose Park in 2016 never made it to consumers, demonstrating how poorly maintained leaking water mains drive up water rates. Overall, 25 billion gallons were lost in the Chicago region in 2016.

Eight municipalities, Burnham, East Hazel Crest, Flossmoor, Hometown, Lyons, Maywood, Posen, and Riverdale lost more than 30 percent of the water they purchased. The Illinois Department of Natural Resources (IL DNR), Office of Water Resources (OWR), is responsible for allocating Lake Michigan water and has a standard water loss of 12 percent. More than 1 in 4 municipalities exceed the standard. Municipalities with majority Black populations lost an average of 18 percent, whereas the average water loss for the Chicago region was 10 percent. The OWR has no enforcement authority to force compliance with the standard or to force municipalities to report water loss.

Water conservation is achieved by federal and state law requiring low flow water fixtures and this has been shown to work. There is no legal authority to force municipalities to repair or replace leaking water mains. Interviews with municipal officials of municipalities with high water loss revealed problems with old and inaccurate water meters, leaking fire hydrants, leaking water mains, inefficient pumps, delinquent water bill accounts, poor quality cast iron water mains, lack of financial resources, and lack of knowhow to deal with underground, unseen problems.

Current Condition

Since these 2017 articles, little has changed. Widespread frustration continues among urban and suburban water consumers. Distrust of municipal drinking water grows as management problems continue. Distrust leads people to turn from tap water to purchasing water in plastic containers, adding to plastic pollution. The high cost of water in plastic strains household budgets. These conditions were explained in two October, 2021, articles in the *Evanston RoundTable*, where resident surveys and interviews revealed that residents distrust the safety of tap water because

they can't find user friendly information and there are cultural difficulties and apparent biases in communicating with various members of the community.

Lake Michigan is a wonderful gift and beneficial resource for drinking water for northeastern Illinois. Mismanagement of this resource not only disrespects nature's gift; mismanagement also disrespects northeastern Illinois residents who rely on this resource and pay for its use. A regional drinking water authority is a way to correct these deficiencies.

The 1967 US Supreme Court Decree, amended in 1980, allows the State of Illinois to divert 2.1 billion gallons per day from Lake Michigan on a forty-year running average for domestic use and to maintain the canals and rivers in reasonably satisfactory sanitary condition. Included in the allowable diversion is the surface runoff from the 673-square-mile watershed that formerly was tributary to Lake Michigan but is now tributary to the Mississippi River. The US Army Corps of Engineers (Corps), with the assistance of the US Geological Survey, is responsible for determining the annual amount of surface runoff.

The Level of Lake Michigan Act, 615 ILCS 50, governs the allocation of diversion for domestic use and for canal and river operations. Under this act, the IL DNR, OWR, is responsible for allocating Illinois's diversion of water. Each municipality, private water utility, or other user of Lake Michigan water for domestic purposes must apply to receive an allocation order.

All recipients of an allocation order must report annually to the OWR the amount of water used, sold, or lost. As of this writing, allocation orders have been issued to 218 users of Lake Michigan water. There are 208 municipal and private utilities supplying water for domestic use, 9 commercial or institutional users, and the Metropolitan Water Reclamation District (MWRD), which uses water for maintenance of water quality standards in the canal and river system. The MWRD allocation includes water used for operation of two navigation locks operated by the Corps on the Calumet and Chicago rivers.

Using the data supplied by those authorized to use Lake Michigan water, the OWR reports usage to the Corps. Each year, the Corps compiles all relevant data and reports to the US Supreme Court to document compliance with the court's decree. All data is based on a water year (WY) that begins on October 1 and ends on September 30. As of this writing, the latest Corps report to the court was for WY 2019 ending on September 30, 2019. At the federal and state level, the allocation and reporting functions are performed according to established procedures. Due to technical issues, reports for WYs beyond 2019 have yet to be finalized. However, based on preliminary data, Illinois is complying with the court decree.

Periodically, the OWR reviews all allocation orders and actual usage and adjusts the allocations as appropriate. This review and adjustment is performed as a way of planning to assure that allocated amounts of water are actually being used, determine trends in water use, and provide for future needs. The most recent review was performed for the period WY 2008 through WY 2017 based on data for 216 users with allocation orders.

The OWR does not have authority to become involved in municipal and private utility issues regarding water sales, water rates, leakage control, etc.

The OWR has also published water rate information for municipalities and private utilities for the years 2005, 2010, and 2015. The average residential rate for 2005 was \$3.65 per 1,000 gallons and the average residential rate for 2010 and 2015 were \$5.22 and \$7.97, respectively. Water rate information for 2020 has not been reported by the OWR. Other data compiled by OWR includes each user's allocation, actual usage, and non-revenue water. The latter includes water used for firefighting, water main maintenance, lost water, etc.

An analysis of the OWR 2015 water rate survey reveals that for 208 municipal and private utility users of Lake Michigan water:

- Average rate was \$7.97 per 1,000 gallons
- Minimum rate was \$2.90 per 1,000 gallons
- Maximum rate was \$32.04 per 1,000 gallons
- 41 water rates exceeded \$10 per 1,000 gallons
- 10 of the 41 utilities were far from Lake Michigan

From the above, it is obvious that distance from Lake Michigan does not correlate with higher rates. Higher rates are more likely based on a lack of uniformity in rate calculation methods and poor management of the water resource.

Critical Issues

Based on the foregoing, several critical issues need to be addressed:

- uniformity in drinking water quality control, rate setting and billing,
- education to regain public trust in tap water,
- establishment and enforcement of standards for leakage control and infrastructure maintenance,
- distribution system redundancy to connect isolated water distribution systems,
- financing improvements, and
- treatment and distribution planning.

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