

WISCONSIN ET AL. v. ILLINOIS ET AL.

ON BILL IN EQUITY

No. 1, Orig. Decree April 21, 1930—Decree enlarged May 22, 1933—
Decree entered June 12, 1967—Decree amended December 1, 1980*

Decree amended.

Decree reported: 281 U. S. 696; decree enlarged: 289 U. S. 395; decree
entered: 388 U. S. 426.

ORDERED:

A. Paragraph 3 of the Decree entered by the Court herein
on June 12, 1967, is amended to read as follows:

3. For the purpose of determining whether the total amount
of water diverted from Lake Michigan by the State of
Illinois and its municipalities, political sub-divisions, agencies
and instrumentalities is not in excess of the maximum amount
permitted by this decree, the amounts of domestic pumpage
from the lake by the State and its municipalities, political
sub-divisions, agencies and instrumentalities the sewage and
sewage effluent derived from which reaches the Illinois water-
way, either above or below Lockport, shall be added to the
amount of direct diversion into the canal from the lake and
storm runoff reaching the canal from the Lake Michigan
watershed computed as provided in Paragraph 2 of this
decree. The annual accounting period shall consist of twelve
months terminating on the last day of September. A period
of forty (40) years, consisting of the current annual account-
ing period and the previous thirty-nine (39) such periods (all
after the effective date of this decree), shall be permitted,
when necessary, for achieving an average diversion which is
not in excess of the maximum permitted amount; provided,
however, that the average diversion in any annual accounting

*Together with No. 2, Orig., *Michigan v. Illinois et al.*, and No. 3,
Orig., *New York v. Illinois et al.*

period shall not exceed 3680 cubic feet per second, except that in any two (2) annual accounting periods within a forty (40) year period, the average annual diversion may not exceed 3840 cubic feet per second as a result of extreme hydrologic conditions; and, that for the first thirty-nine (39) years the cumulative algebraic sum of each annual accounting period's average diversion minus 3200 cubic feet per second shall not exceed 2000 cubic feet per second-years. All measurements and computations required by this decree shall be made by the appropriate officers, agencies or instrumentalities of the State of Illinois, or the Corps of Engineers of the United States Army subject to agreement with and cost-sharing by the State of Illinois for all reasonable costs including equipment, using the best current engineering practice and scientific knowledge. If made by the State of Illinois, the measurements and computations shall be conducted under the continuous supervision and direction of the Corps of Engineers of the United States Army in cooperation and consultation with the United States Geological Survey, including but not limited to periodic field investigation of measuring device calibration and data gathering. All measurements and computations made by the State of Illinois shall be subject to periodic audit by the Corps of Engineers. An annual report on the measurements and computations required by this decree shall be issued by the Corps of Engineers. Best current engineering practice and scientific knowledge shall be determined within six (6) months after implementation of the decree based upon a recommendation from a majority of the members of a three-member committee. The members of this committee shall be appointed by the Chief of Engineers of the United States Army Corps of Engineers. The members shall be selected on the basis of recognized experience and technical expertise in flow measurement or hydrology. None of the committee members shall be employees of the Corps of Engineers or employees or paid consultants of any of the parties to these proceedings other than

the United States. The Corps of Engineers shall convene such a committee upon implementation of this decree and at least each five (5) years after implementation of this decree to review and report to the Corps of Engineers and the parties on the method of accounting and the operation of the accounting procedure. Reasonable notice of these meetings must be given to each of the parties. Each party to these proceedings shall have the right to attend committee meetings, inspect any and all measurement facilities and structures, have access to any data and reports and be permitted to take its own measurements.

B. Paragraph 5 of the said Decree entered by the Court herein is amended by adding thereto an additional sentence to read as follows:

The amendment to Paragraph 3 of this decree shall take effect on the first day of October following the passage into law by the General Assembly of the State of Illinois of an amendment to the Level of Lake Michigan Act providing that the amount used for dilution in the Sanitary and Ship Canal for water quality purposes shall not be increased above three hundred twenty (320) cubic feet per second, and that in allocations to new users of Lake Michigan water, allocations for domestic purposes be given priority and to the extent practicable allocations to new users of Lake Michigan water shall be made with the goal of reducing withdrawals from the Cambrian-Ordovician aquifer.

C. A certified copy of the above legislation shall be served upon the parties and filed with the Clerk of the Supreme Court by the State of Illinois. If no party raises an objection to the adequacy of the legislation within 30 days of service, Illinois will have complied with the requirements of the amendment made by this Order to paragraph 5 of the Decree entered by the Court herein on June 12, 1967. Any such objection shall be raised in the manner set forth in Paragraph 7 of said Decree.

IT IS FURTHER ORDERED THAT:

Each of the parties to this proceeding shall bear its own costs. The expenses of the Special Master shall be borne by the State of Illinois and the Metropolitan Sanitary District of Greater Chicago, three-fifths thereof by the State of Illinois and two-fifths thereof by the Metropolitan Sanitary District of Greater Chicago.

JUSTICE MARSHALL took no part in the consideration or decision of this order.

STATEMENT OF INTENT AND TECHNICAL BASIS
FOR PROPOSED AMENDMENTS TO 1967 DECREE

This statement sets forth the intent of the parties and the technical basis for the revisions to certain of the provisions of paragraphs 3 and 5 of the 1967 Decree.

The proposed change in the 1967 Decree has been designed to alter in part the provisions of the existing Decree that prevent Illinois from effectively utilizing and managing the 3200 cubic feet per second (cfs) of Lake Michigan water which Illinois was allocated.

Under the existing system, increasing amounts of impervious areas and increasing demand by domestic users elevate the risk that the language of the decree will be violated in any one or five year period if additional allocations are made by the State to domestic users for a period of years consistent with good management practice.

The proposed change accomplishes the following:

1. Increases the period for determining compliance with the 3200 cfs limit from a five year running average to a forty year running average;
2. During the first thirty-nine years of the decree, allows Illinois to exceed the 3200 cfs limit by 2000 cfs-years in the aggregate (one cfs-year is the volume of water resulting from an average flow of one cfs for a period of one year);

3. Limits the average diversion in any one accounting period to 115% of 3200 cfs, but in two years of any forty year period permits the average diversion to reach 120% of 3200 cfs, to allow for extreme hydrologic conditions.

The lengthening of the averaging period from five to forty years reduces the variability of the averaged figure, thus decreasing the amount of water that needs to be held in reserve for storm water runoff and increasing the amount of water that may be allocated for domestic purposes to reduce in part the pumpage from the Cambrian-Ordovician aquifer.

The lengthening of the averaging period also allows an increase in the planning period to a period of time that is more compatible with the life of certain types of water supply facilities, thus permitting more efficient use of the available diversion without increasing the total allowable diversion, and permitting better management of all the water resources of the region.

In establishing the limits of paragraph three of the amended decree, the available data and uncertainties as to the behavior of and interactions between the various elements of the hydrologic regime under current and future conditions were limiting factors.

To estimate maximum hydrologic variations that must be considered in the allocation accounting process, the forty-four year precipitation and runoff data contained in "Water Yield, Urbanization, and the North Branch of the Chicago River," a report by the Northeastern Illinois Planning Commission and Hydrocomp, Inc., dated October 14, 1976, were used. These data assumed a 30% imperviousness factor and were used by the parties to approximate the conditions of the entire Lake Michigan diversion watershed at the present time.

These data indicate that the maximum departure above the mean annual stormwater flow is 59%. Assuming, there-

fore, that the mean annual stormwater flow is 683 cfs, the maximum departure is 405 cfs. This could result in a diversion of 13% above the allowable 3200 cfs maximum. Given the relatively short period of record and the likelihood of increased runoff resulting from urbanization, it was agreed that a 15% exceedance, to a maximum of 3680 cfs, would be allowed in any year to accommodate high stormflows and that in any two years of the 40 year accounting period the diversion may be increased by 20%, to a maximum of 3840 cfs, to accommodate extraordinary hydrologic conditions.

Because of year-to-year variations in storm runoff there will be series of years when the average annual diversion will need to exceed 3200 cfs for best management, and some years when the diversion will be less than the 3200 cfs average. Calculations of the cumulative sum of the annual departures show that the maximum cumulative exceedance of 3200 cfs would be slightly below 1500 cfs-years as indicated by the forty-four years of data that were used. The possibility exists that in the initial forty year period the cumulative exceedance may be greater than 1500 cfs-years. Since the record used is relatively short and urbanization is likely to increase runoff, the maximum cumulative exceedance has been established at 2000 cfs-years.

The goal of this amended Decree is to maintain the long-term average annual diversion of water from Lake Michigan at or below 3200 cfs.