



1971 WATER PLANNING REPORT

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QUESTION

This report summarizes the 1971 *Statewide Long-Range Plan for the Management of the Water Resources of Connecticut - Phase I Report*. A copy of the report is available at the Connecticut State Library.

SUMMARY

PA 477 of 1967 required various agencies to develop regional and statewide long-term plans to deal with the problem of maintaining appropriate water quality in the light of expanding demand for water.

In 1971, the Office of State Planning in the Department of Finance and Control (the predecessor to the Office of Policy and Management) published a Phase I report. The report's introduction describes the land-use planning, legislative, and organizational context of the report. The report then describes the state's population trends, land use characteristics, the use of natural resources, and existing water resource supply and use. Finally, it projects future water demand, both for consumption and non-consumptive uses such as recreation.

It does not appear that there were subsequent reports arising from the 1967 act.

REPORT CONTEXT

The Phase I report begins with a description of the land-use planning, legislative, and organizational context of the report. The report was developed in the wake of the Connecticut Interregional Planning Program (CIPP), a multiyear joint land-use and transportation planning effort. CIPP developed four planning scenarios, each based on the state's population growing to 5.1 million residents by 2000, compared to a 1970 population of 3 million (the actual 2000 population was 3.4 million). The report uses these four scenarios to estimate future water demand.

The report anticipates that water resources management would require managing all the water that fell on the land in a system that encompassed water supply and distribution, water quality, and public health, among other things.

POULATION TRENDS AND USE OF NATURAL RESOURCES

The second chapter of the report describes the state's population trends, land-use characteristics, and the use of natural resources. It breaks the state into three regions: central and coastal lowlands, the eastern upland (primarily Tolland and Windham counties), and the western uplands (Litchfield County and northern Fairfield County). It describes the state's population distribution, geology, climate, and hydrologic cycle (how water flows from precipitation to water bodies and aquifers). It notes that there was a large potential for groundwater development due to the state's geology. The report estimates that 5.8 billion gallons of water was theoretically available for human use each day, not counting significant losses due to pollution, runoff, and other factors.

EXISTING WATER RESOURCE SUPPLY AND USE

The report provides information on water supply and use and the disposal of wastewater. When the report was issued, detailed statewide data had not yet been compiled and the report describes on-going data collection efforts. An inventory of the state's public water supplies was conducted in conjunction with the report, creating data on the sources of water; reservoir storage capacity; the size and depth of wells for groundwater supplies; the safe daily yield of water; the type and number of treatment facilities; and the physical, chemical, and bacteriological characteristics of raw and treated water.

At the time the report was issued, the estimated safe yield of the water supplies was 497 million gallons per day. In contrast, public water systems supplied 356 million gallons of water per day for consumptive uses, primarily using surface supply sources. The report notes that the excess water was not uniformly distributed among utilities or across regions. While the Metropolitan District Commission and Waterbury Water Department had substantial reserves, other utilities had little or no reserves. Moreover, almost all of the remaining surface water supplies near population centers had been developed or pre-empted by incompatible uses, such as wastewater discharges.

There also were significant regional differences in how water was used. For example, the vast majority of water consumed in the lower Thames and Housatonic River basins and the coastal basin was used by industry, while in the southwestern basin (lower Fairfield County) more water was used for domestic and institutional

purposes than for industrial purposes. Among the major industrial users of water were transportation equipment, chemical, and primary metals firms. More than half of the water used in industry came from sources owned by the firms themselves.

The report discusses water quality and the development of wastewater treatment plants. At that time, water from 76 surface supply sources was being disinfected but not filtered, often leading to customer dissatisfaction with odors, taste, and the presence of living and dead organisms. The report notes that because of the diversity of discharges and stream characteristics, it was difficult to make generalizations about water pollution problems in the state. However, a majority of the stream miles in the state were categorized as "A" or "SA," the highest quality rankings.

The report also has an extended discussion of (1) non-consumptive recreational uses of water, e.g., for fishing, boating, and swimming and (2) flood control initiatives.

FUTURE REQUIREMENTS FOR WATER USE

The report describes how it projected population trends underlying its forecast for water demand. The report also used water planning efforts by the regional planning agencies in this forecast. The report projects water demand using the assumption that areas with a population density of 500 or more people per square quarter mile would be served by public water supply, rather than wells. The report estimated that statewide demand for water would rise to 710 to 790 million gallons of water per day, depending on which of the four CIPP scenarios was used.

Similarly, to estimate the need for new sewers and wastewater treatment facilities, the report assumes that areas with a population density of 500 or more people per square quarter mile would be served by such facilities. The projected facilities were plotted on U.S. Geological Survey maps. The report also maps future flood detention reservoirs and flood protection works.

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