



Robert D. Gerard

FROM SOUND TO LAKE—This map shows the proposed sites for the bridge-dams that would block off the ends of Long Island Sound from seawater and thus create a freshwater reservoir.

CONSERVATION

L. I. Lake Proposed

By turning salty Long Island Sound into a freshwater lake, in seven years the East Coast would have a vast supply of water—By Barbara Tufty

► **THE LARGEST** freshwater reservoir in the nation could be created by building dams at both ends of the 96-mile Long Island Sound. This would supply 12 times the normal daily water requirements of New York City.

With water shortages growing more serious in many parts of the country, the possibility of a huge freshwater lake along the eastern coast offers a refreshing answer to a recent appeal from the Office of Science and Technology in Washington, calling for more ideas for increased water resources.

The engineering aspects of this undertaking are within the scope of present technology, Dr. Robert D. Gerard of the Lamont Geophysical Observatory, part of Columbia University, said. The somewhat salty Sound could be turned into a freshwater lake in about seven and a half years, he reported in *Science*, 153:870, 1966.

Timing would depend upon hydraulic works, salinity, density and other factors. The resulting reservoir would be 10th largest in the world. Lake Mead

on the Colorado River is now the nation's largest man-made lake, with a capacity of 29.8 million acre feet.

Two rivers empty into the stretch of the somewhat salty Sound lying north of Long Island—the Connecticut River and the Housatonic River. The two together have a water flow averaging 21,700 cubic feet per second.

Other water sources, including streams, ground water and rainfall, would supply more each day than the New York City metropolitan area needs.

The proposed lake could store a volume of 41.8 million acre feet of water—three times larger than the present New York City storage system.

The possibility of constructing highway bridges across Long Island Sound to link the New York and New England express-highway systems is now under consideration by the New York State Department of Public Works. With alterations, the proposed bridge toward the eastern end of the Sound could be built as a bridge-dam, with the

Connecticut part of the dam ending east of the Connecticut River, so the fresh waters would flow into the enclosed Sound.

Construction of a shorter bridge-dam at the western end of the Sound would be a "relatively minor undertaking," and would provide a needed traffic crossing.

Benefits from the Long Island lake would also include \$40 million in revenue per year from highway tolls across the two bridges, and prospects of commercial and sport fishing activity.

The reservoir could be created without the loss of a single acre of land.

One of the major problems in the proposed scheme is the control of pollution in this heavily populated and industrialized area Dr. Gerard pointed out. Over the next decade, however, Federal, state and local efforts should be able to control the problem and maintain potable water in the reservoir.

One of the most challenging hydraulic engineering schemes ever attempted in the world is now underway in the southwestern delta region of The Netherlands, Dr. Gerard said. Under this project, known as the Delta Plan, some 12 miles of dams will be constructed, impounding the waters of the Rhine, Maas and Scheldt Rivers in order to keep sea water from intruding onto farm lands and strengthen the coastline against damaging North Sea storms.