**The Canada Water Act provides fines of up to $5,000 a day for industries depositing waste of any type.**

The I.J.C. reports have provided a major input for the Canadian legislation, and the U.S. Government has announced its support of I.J.C. recommendations to curb phosphate pollution of the waterway.

Perhaps the greatest single proof of Canada's determination to clean up its water has been the creation and continued support of the Canadian Center for Inland Waters at Burlington, Ontario. The current staff of about 300 will soon be increased to 1,000 and the headquarters moved from temporary quarters to a $23.5 million building this year.

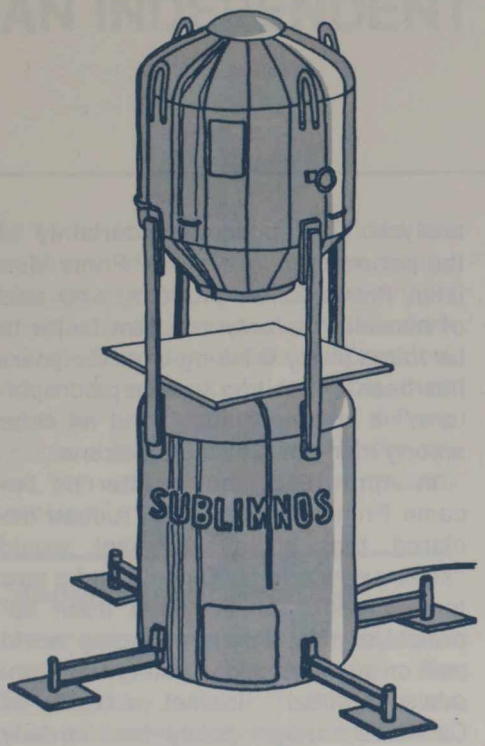
The CCIW is supported by three Federal Government Departments—Energy, Mines and Resources; National Health and Welfare and the Fisheries Research Board—but it is linked with universities, industry and other groups. It forms, in the opinion of some observers, the most promising bulwark against ecological pollution in Canada.

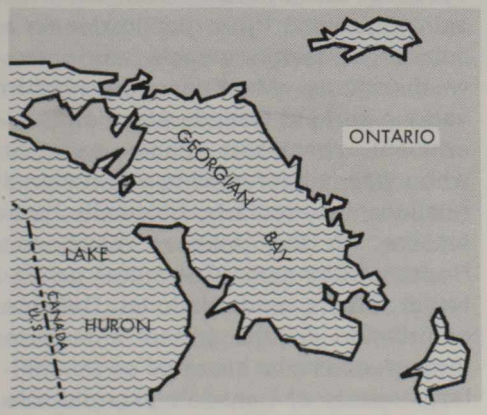
Scientists at the Center are currently probing the physical, biological and chemical properties and economic aspects of fresh water. The inquiry which receives the most attention, however, is the task of collecting raw data on how the Great Lakes work. The facility's ships regularly visit predetermined sampling spots, take water samples, specimens of the lake bottom, cores of the underlying lake bed, and organic materials floating in the water and make a variety of other probes into the properties of the lake.

This information could help to restitch the Great Lakes' ecosystem, which, though tattered and torn, is not yet completely unravelled. Otherwise, the industrial heartland of North America and its 40 million inhabitants will become immersed in its own refuse.

## Sublimnos:

# Life on the lakebed




■ *Sublimnos* is the name of the world's first fresh water habitat. Now in use by Canadian and U.S. scientists 34 feet below the surface of Georgian Bay (see map), *Sublimnos* is the brainchild of Joseph MacInnis, 32, a Toronto physician who built it for $8,000 from a personal bank loan and a grant from the National Geographic Society.

The tiny 5 x 5 x 9 chamber has had over 1,000 visitors in its first year of operation, including U.S. Navy researchers, American university researchers and others involved in marine studies. Some have donned wet suits and plunged into water crusted with ice two feet thick; others have swum down in the night, where the eery lights of the booth attract perch, pickerel, crawfish and other fish which decorate Sublimnos like tinsel on a Christmas tree.

*Sublimnos*—from the Greek meaning underlake—has been used for evaluating seabed communications systems and studying the effects of currents and wave action. Already the opportunity to make continuous observation has resulted in a major discovery: *Sublimnos* scientists have learned that some apparently harmless currents, which cause unusual shifts in water temperatures, can kill healthy fish.

Members of the University of Michigan's Great Lakes Research Division are conducting pollution studies from the habitat, and describe their projects as the most exciting research they have ever done.

Among the ongoing programs at *Sublimnos* is one that has always intrigued fishermen—artificial reefs have been erected nearby to determine the effectiveness of man-made lures in attracting fish.

Dr. MacInnis, who was part of the team that retrieved the U.S. hydrogen bomb that was lost off the Spanish coast in 1966, and who directed the longest, deepest dive ever (615 feet, 53½ hours), is turning more of his attention to Canada's frigid but ecologically fragile Arctic waters. "We can't afford a man in space program, but we can bloody well afford a man in sea program. In fact, we can't afford not to have one," he says.