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Regulation of Sewage Discharge by Water Craft*

*By: Note to Members
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THE ROCHESTER COMMITTEE FOR SCIENTIFIC INFORMATION
P. O. Box 5236, River Campus Station
Rochester, New York 14627

Water Pollution# 54

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Regulation of Sewage Discharge by Water Craft

Summary

On a national scale the sewage discharge from pleasure boats is enormous. At least 30 states regulate discharge from boats, or prohibit discharge. New York has postponed the enforcement of regulations passed in 1966, and a lack of awareness and willingness is strongly evident in the state. R.C.S.I. suggests a practical approach to the initial regulation in New York based on the quality of the sewage effluent entering the waters from shore sources. Construction of facilities to receive sewage at docks or marinas will be necessary.

The Rochester Committee for Scientific Information customarily bases its public statements on adequate and appropriate data obtained either from its own work or from reliable sources. We have not measured water pollution from water craft waste disposal. However, published data indicate the pollution loading take larger than expected. As of May 1967, approximately 8.5 million pleasure boats, used by 40 million people, plied the lakes and rivers of the United States. An estimated 90% of these boats have toilets¹ which discharge their waste into the lakes. The combined discharge from all watercraft is equivalent to that discharged by a city of 500,000 people such as Buffalo. 33% of this is from recreational water craft. These are the facts brought out in the report "Wastes and Watercraft" which was authorized under the Clean Water Restoration Act of 1966. In June 1966, the FWPCA reported "Boating is in effect, degrading the very water needed to maintain it."

New Hampshire enacted the first boat pollution law in 1957. Since, 29 other states have enacted vessel pollution laws of varying degrees of effectiveness. Twelve states prohibit the discharge of any sewage from recreational craft.

Ohio law says that shipboard sanitary systems shall be removed sealed. In 1966 New York adopted a boat pollution law, S2182, which was scheduled to go into effect on June 1, 1968. In 1968 the enforcement was delayed until a later date. At the present time, few New Yorkers have knowledge of the law that does exist or whether, in fact, it is enforced.

We recognize that much of the foregoing remarks on boat pollution may seem insignificant when compared to the wastes released each year by our cities. It does seem however reasonable to recognize, for purposes of regulating potential pollution from boats, two kinds of lakes: those that receive treated sewage effluents and those that receive no sewage effluents. (We do not consider lakes that might receive untreated sewage; so far as we are aware, there is no legal sanction for this situation existing in any New York State Lake.) We furthermore note that within a few years, most if not all sewage treatment plants discharging directly or indirectly into Lakes will be required to remove phosphate from their effluents before discharge, and that phosphate is one of the serious pollution problems in our lakes. (See

¹ Chemical and Engineering News, May 8, 1967. p. 35

earlier reports on the role of phosphate in the process of accelerated eutrophication.) Thus, the standard of cleanliness of lakes should be, and probably will be raised. A reasonable attitude toward boat sewage at this time may be considered insufficient in the future.

At this time major potential sewage pollution exists on the shore. However, in light of the manner in which this sewage will be treated, it seems reasonable to regulate the practice on boats. (A similar conclusion was reached in the U.S. Government report "Waste and Watercraft".)

Although several waste handling systems are available, including those having the ability to dispose of the nutrients by incineration or biological treatment, the proposed New York State law recognizes only two, the macerator-disinfector and the holding tank. A rational course of action is evident:

- (1) For lakes that receive effluent from sewage treatment plants, which do not remove phosphates and nitrates, the macerator-disinfector should be required. This will be of help in minimizing the nuisance and public health aspects of the pollution. It will not help with respect to phosphates and other plant nutrients.
- (2) For lakes that receive no sewage effluents or those which receive sewage from which the nutrients have been removed, boats could easily be or become the most significant source of plant nutrients entering the lake. On such lakes, we recommend that holding tanks be required, and furthermore, that marinas operating on such waters must operate facilities to handle sewage from boats in a manner similar to the way in which the local sewage is handled on shore, or have access to a means of disposing of the sewage in the same manner as a treatment plant ashore.

Discussion

1. It is our tentative conclusion that pollution from boats is already causing a significant nuisance in some areas of the Finger Lakes and Lake Ontario. At the rate at which watercraft usage is increasing, the past seventeen years have seen a 240% increase¹, it is our firm conclusion that pollution from this source will increase rapidly and damage the lakes unless controls are instituted to prevent the discharge of bacteria, settleable solids, organic matter (measured as BOD), and plant nutrients. The Finger Lakes, in particular, are especially vulnerable to damage from plant nutrients, and this problem is already serious in Lake Ontario.

2. The statutes requiring on-board facilities for proper sewage disposal does impose a discriminatory tax upon boat owners. This penalty should, however, be compared to that imposed on the normal land residential owner for pollution abatement efforts; the cost of pollution abatement by cottage owners who pay for septic tanks and tank service, or for sewer mains and sewage plants is a legitimate and well-recognized expense. The same principle should apply to watercraft.

3. Watercraft owners should be made aware of the cost of on-shore development, construction, treatment and enforcement activities which are designed to eliminate all types of pollution--municipal, industrial and agricultural--from the waters which they enjoy. This would put their on-board expenses in a proper perspective.