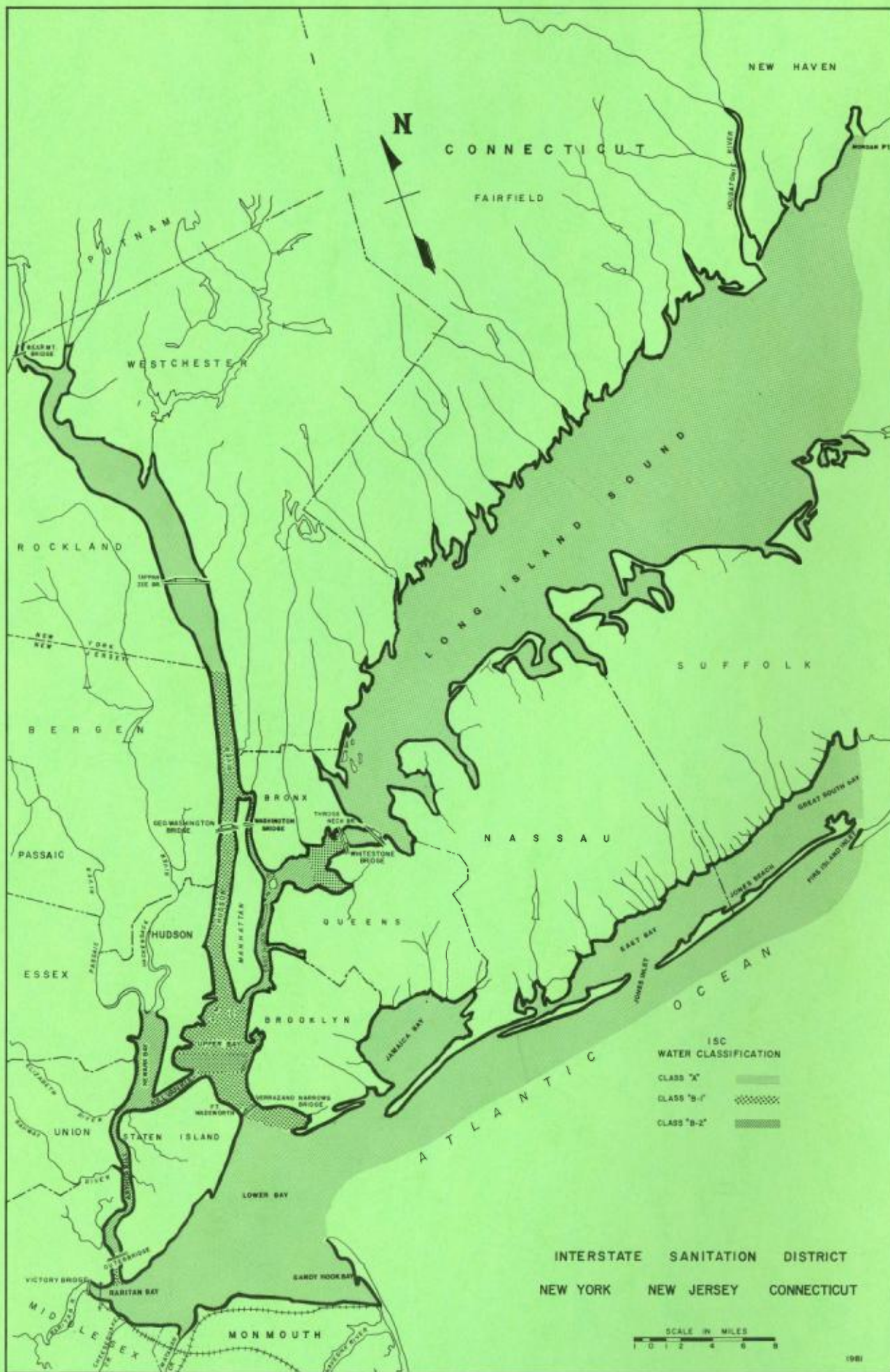


INTERSTATE SANITATION COMMISSION

A TRI-STATE ENVIRONMENTAL AGENCY

1981
IN BRIEF

NEW YORK NEW JERSEY CONNECTICUT



INTERSTATE SANITATION COMMISSION

A TRI-STATE ENVIRONMENTAL AGENCY

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1981

IN BRIEF

INTERSTATE SANITATION COMMISSION

1981 IN BRIEF

1981 was a year of great skepticism concerning the value and feasibility of public expenditures. With continuing financial stringencies and policy decisions for budget cutting, it became especially important to know whether the large expenditures for upgrading of sewage treatment plants in the Metropolitan Region were paying off and whether additional expenditures would be worthwhile. If affirmative answers could be given to these questions, it would be urgent to decide on the kinds of projects and programs which offer the best and most cost-effective means of maintaining the improvements achieved and bringing conditions in the New York-New Jersey Harbor Complex, the Lower Hudson River, Western Long Island Sound and the coastal ocean strip to the point where water quality would be good rather than marginal or nearly adequate for their intended uses.

The relationship of funding and program performance was also a dominant consideration in the Commission's air quality work. Choices had to be made which affected levels of service to the general public as well as to the state agencies which rely on the Commission's air pollution studies and investigations of specific instances of contaminant emissions.

For the year, the Commission's activities had two major thrusts: 1) to provide as much service to New York, New Jersey and Connecticut and their people as budgetary resources allowed, and 2) to analyze the effectiveness and value of environmental management measures in progress for the Region.

Water Quality

Continuing Activities

The Commission continued to monitor waste discharges from public and private treatment plants into the Interstate Sanitation District (see map on inside front cover) and to examine the waterbodies within the District. Sewage and industrial waste treatment facilities were inspected and their effluents sampled on a regular schedule. The purpose was to ascertain whether these plants were meeting the requirements of the Commission's Water Quality Regulations and of other applicable laws. Monitorings were also done to check on compliance with permits issued by the states and the federal government pursuant to the Clean Water Act.

Every several weeks, the Commission continued to make its boat runs covering most of the waters of the New York-North Jersey Port Complex, the Lower Hudson River, Western Long Island Sound and the Atlantic coastal waters fronting the Metropolitan Area. Water samples were taken on these runs. Together with data continuously telemetered to the Commission from its automatic electronic monitoring equipment, these samples made it possible to maintain a regular check on key quality factors contributing to the conditions prevailing in the waters of the Region. The Commission's environmental laboratory analyzed all of the treatment plant and boat run samples and provided the results from which effluent and receiving water quality were ascertained.

In addition, the Commission did a substantial number of analyses directly for the State of New York, prepared to assist New Jersey in a special coliform study, and assumed complete responsibility for inspections and sampling of treatment facilities in southwestern Connecticut previously done by the State Department of Environmental Protection. These New Jersey and Connecticut activities involve Commission field personnel as well as the laboratory. The savings to the states for these special services performed by the Commission were in excess of \$50,000.

Value of Construction and Improved Operations

A study done by the Commission during 1981, with funds obtained from the National Oceanic and Atmospheric Administration, made it possible to assess trends in the condition of area waters and to identify gaps in available information on water quality in the Region. The study showed that during the past seven years area waters improved greatly, particularly with respect to the presence of dissolved oxygen and the reduction of coliform organisms. These favorable developments were due to the upgrading of many treatment plants so that they now provide full secondary

treatment. To some extent, the improvement was also attributable to better operation of facilities.

Dissolved oxygen and coliform content are crucial indicators. The former is the most important determinant of the ability of water to sustain marine life. Coliforms are bacteria which signal the presence of disease-carrying organisms.

Unless there is a minimum of 3 parts per million (3 ppm) of dissolved oxygen, water is generally considered unable to sustain the most desirable species of fish life. Smaller marine organisms and vital kinds of vegetation on which the maintenance of the food chain is dependent also die or fail to reproduce. Five ppm of dissolved oxygen or more are needed to allow healthy fish propagation. Both commercial and recreational fishing are therefore dependent on this condition.

There has been enough upgraded treatment of sewage and industrial wastes in recent years so that many parts of the area in which the waters were inadequate for their intended uses now meet standards all or most of the time. In the most heavily industrialized places where dissolved oxygen content was well below 3 ppm during the four months from late spring through early fall, this worst season is now only two months long. Even so, it is not as bad as it was during the two worst months and the minimum dissolved oxygen standard is met most of the time.

If the level of effort sustained during recent years is made to continue, the waters throughout the area could be in reasonably satisfactory condition for the uses which the people of the Region wish and need to make of them. Moreover, this could be accomplished within the medium range future.

Only a limited amount of new treatment plant construction and upgrading remains to be done. Of course, facilities already in operation must be properly maintained and run if progress already made is not to be lost. However, emphasis in project construction should now shift to the combined sewer problem. The Commission's knowledge of the Region and its studies have made it possible to identify several specific approaches which should be employed:

1. Regulators which are generally poorly maintained in many parts of the area should be repaired and properly operated so that combined sewers would not overflow in dry weather and spill prematurely during storms.

2. Localized treatment plants should be built to keep combined sewer flows from increasing and to siphon off some of the present flows. This would materially reduce raw waste discharges.

3. The bottoms of some of the largest combined sewers should be trenched or recontoured so as to increase the velocity of dry weather flow and reduce deposits of sewage solids which periodically flush untreated into the waterways.

Toxic Contamination

Pollution from toxic substances (primarily heavy metals and synthetic organics) has come to be recognized as a serious danger to human health and the preservation of a satisfactory environment. The Commission's inventory and assessment of existing data confirm that for the Metropolitan Region, as for most places, there is inadequate information on the extent and character of toxic contamination in waterways. During 1981, the Commission improved its laboratory capacity to analyze environmental samples for toxic contaminants. Nevertheless, much is still lacking. In the equipment, the Commission is sorely in need of a Gas Chromatograph-Mass Spectrophotometer so that it can handle greater quantities and make more complete analyses of samples for toxic constituents for the Commission. This instrument would represent a major capital investment in excess of \$125,000 which cannot be managed from the Commission's regular funds. A larger number of boat runs and more sampling for toxics also should be undertaken. Comprehensive and accurate knowledge of what is actually in the waters is essential to reasonable and effective water quality management measures.

Air Quality

General

Since 1962, the Commission has conducted an interstate air quality program. Its emphases are on investigation and applied research. Complaints made by individuals and public agencies provide the usual point of departure for an investigation. The effort is to identify and trace the source of the offensive emission. If it is determined to be interstate in character, the Commission works with the appropriate authorities in the states to obtain relief through the discontinuance modification or non-repetition of contaminant emissions from the source.

From time-to-time, the Commission also conducts special studies of particular kinds of air contaminants or of regional conditions. Proper performance of these activities requires that staff members be physically present at the locations where the complaints are made, at the sources of the pollution and at other points in the area, as appropriate. Especially with respect to response to complaints, it is important to have qualified personnel available for field duty at all times, including nights, weekends and holidays, as well as during regular daytime work hours. Offending emissions may occur at any time and they usually occur without prior notice. While a particular source may repeat its violation at regular or irregular intervals, any one incident may not be prolonged. An investigator must be on the scene within a short time of the making of the complaint. Offensive emissions frequently happen at night, on Saturdays, Sundays, and on holidays.

In the past, the Commission responded promptly to complaints 7 days-a-week, 24 hours-a-day, every day of the year. Two or three complaints, outside of normal office hours, from the same geographic area were enough to bring an immediate investigation with Commission personnel on the scene.

During 1981, the Commission's air quality work did not come up to these standards. Severe reductions in appropriations made it impossible for the Commission to afford more than two employees regularly assigned to its air pollution program. At times when air quality conditions were extremely bad or when complaints were very numerous, the Commission temporarily diverted personnel from their other activities in order to cover the needs of air pollution investigations as well as could be done. Nevertheless, it was necessary to raise substantially the threshold number of complaints that would bring a response outside of normal office hours.

During this past year, the Commission has continued to pro-

vide air quality and weather data for the use of its three member states.

Air Pollution Complaints

In 1981, the Commission continued to respond to air pollution complaints within the limits of its resources. Since an especially large number of them have come from Staten Island, the Commission, in 1980, established a Staten Island number for its 24-hour answering service so that residents of that area could call without incurring toll charges (212-351-3600).

In almost all instances, complainants report on the basis of obnoxious odors. These are detectable by persons who do not have special knowledge or training. Odors are also the most obvious source of discomfort.

The reports from residents in an area are the most frequent sources of first information about poor air quality resulting from particular emission episodes. In receiving telephone complaints, Commission personnel generally ask a number of questions designed to obtain as much information about the condition being observed as possible. Such initial questioning can often assist Commission field personnel in determining where to look for the source in the particular instance.

According to the descriptions used by complainants, odors reported fell into six categories: "sulphur", "cat urine", "plastic", "garbage", "rotten egg", and "chemical". However, it should be noted that the classifications are not mutually exclusive. All of the descriptions, with the possible exception of "garbage" denote a chemical smell which, in the overwhelming number of instances, originates in an industrial establishment or industry-related process. In some cases what seems to some people like a garbage smell may also have an industrial origin or vice versa. However, there are landfills and dumps for garbage and other refuse from which garbage smells are known to emanate. Moreover, the garbage smell is more likely than any other to be properly identified and accurately related to its true source.

Odors are important in at least two ways. First, they are disagreeable. They reduce the comfort and sometimes affect the health of the people. Second, imprecise as the descriptions may be, they give experienced investigative personnel a reasonably good idea concerning the types of emissions that can cause the reported smell. This is an aid in tracking the offending emission to its source, thereby providing the identification necessary to begin remedial action.

Climatic and meteorological conditions are the basic factors in determining the transport of pollutants. Heavy rains tend to

TIME DISTRIBUTION OF COMPLAINTS

MONTH	TOTAL # OF COMPLAINTS RECEIVED	COMPLAINTS RECEIVED			
		During Normal Office Hours		On Nights, Weekends & Holidays	
		#	%	#	%
JAN.	46	14	30	32	70
FEB.	75	15	20	60	80
MARCH	69	14	20	55	80
APRIL	149	23	15	126	85
MAY	80	15	19	65	81
JUNE	104	32	31	72	69
JULY	133	27	20	106	80
AUG.	101	17	17	84	83
SEPT.	113	33	29	80	71
OCT.	63	26	41	37	59
NOV.	81	20	25	61	75

cleanse the air of particulate matter and vapors which are either themselves contaminants or carry them.

Wind direction in this area (as in the United States as a whole) is most often westerly. However, a variety of conditions which cause or contribute to weather patterns result in easterly, southerly or northerly winds, at times. Consequently, during the course of any year, pollution sources situated in any of the three states of the Region can, and with more or less frequency do, contaminate areas in one or both of the other two states.

Regional Air Pollution Warning System

The Interstate Sanitation Commission coordinates the New Jersey-New York-Connecticut Air Quality Control Regional Air Pollution Warning System. The Commission may activate this system on the basis of National Weather Service forecasts and/or existing pollutant levels. Activation of the Air Pollution Warning System results in notifying the participating federal, state, and New York City agencies that a watch is in effect and requesting hourly air quality data in a uniform format, via teleprinter, from each agency in the Region. Moving 4-, 6-, or 24-hour averages of all pollutants are computed hourly and transmitted to all participating agencies. Conditions during the past year did not warrant activation of the system. Due to higher sulfur content fuels, which are coming into prominence again, sulfur dioxide values may increase and lead to conditions which will activate the system in 1982.

There are 44 telemetry stations operated by various state and local agencies in the New York-New Jersey-Connecticut Air Quality Control Region.