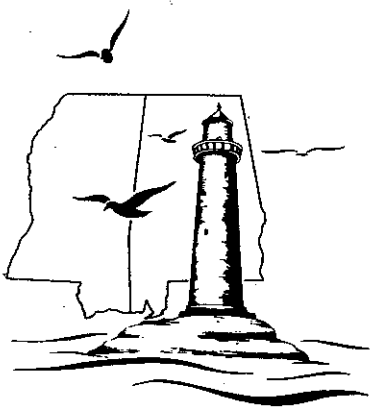
WATER LOG

A Legal Reporter of the Mississippi-Alabama Sea Grant Consortium



SPECIAL ISSUE: OCEAN DUMPING—WHAT'S AHEAD?

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WATER LOG

The WATER LOG is a quarterly publication reporting on legal issues affecting the Mississippi-Alabama coastal area. Its purpose is to increase public awareness and understanding of coastal problems and issues.

If you would like to receive future issues of the WATER LOG free of charge, please send your name and address to: Mississippi-Alabama Sea Grant Legal Program, University of Mississippi Law Center, University, MS 38677. We welcome suggestions for topics you would like to see covered in the WATER LOG.

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PREFACE

This edition of WATER LOG will be devoted to a discussion of an issue much in the news of late—ocean dumping. Articles by three prominent policy-makers representing different views and interests will be presented. U.S. Representative William J. Hughes and Marci L. Bortman describe the current federal regulatory regime governing ocean dumping and the changes brought about by the recently enacted Ocean Dumping Act of 1988. William J. Muszynski discusses the environmental health of our nation's ocean and coastal regions and the projected role of the Environmental Protection Agency in coming years. Finally, Harvey W. Schultz explains New York City's policy regarding ocean disposal of sewage sludge and argues that a total ban on such disposal is unwarranted. We hope you will find the selections contained in this edition interesting and informative.

OCEAN DUMPING: ESTABLISHING U.S. POLICY

by

U.S. Representative William J. Hughes and Marci L. Bortman

Background

In 1972, the United States Congress fashioned a national policy on the practice of dumping wastes into ocean waters. This Congressional action was in response to increasing public concern over ocean pollution and a report to the President by the Council on Environmental Quality (CEQ) entitled, "Ocean Dumping: A National Policy," which stressed the need for controls on ocean dumping[1]. The CEQ report concluded that federal supervision was necessary for the disposal of a variety of wastes, much of which was contaminated with materials having potential adverse effects on the environment. Additionally, the report recommended a strict limitation on the ocean disposal of materials and a phase-out of ocean dumped sewage sludge, polluted dredge spoils, chemical warfare agents, explosive munitions, and industrial waste.

Congress accepted most of the report's recommendations and on October 23, 1972, enacted the Marine Protection, Research, and Sanctuaries Act, commonly referred to as the Ocean Dumping Act[2]. The Ocean Dumping Act's section on findings, policy, and purpose declared:

> that it is the policy of the United States to regulate the dumping of all types of materials into ocean waters and to prevent or strictly limit the dumping into ocean waters of any material which would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities[3].

The purpose of the Act is to regulate the transportation and dumping of material into ocean waters. Title I of the Act contains provisions requiring the Environmental Protection Agency (EPA) to administer a permit program, penalties, and general enforcement of the Act. Title II of the Act contains a monitoring and research program administered by the Secretary of Commerce and the Secretary of the Department in which the Coast Guard is operating, and Title III establishes a marine sanctuary program[4].

Section 102(a) of the Ocean Dumping Act requires the Administrator of EPA to establish criteria for the issuance of ocean dumping permits. In developing such criteria, EPA must consider, among others, the following:

(A) The need for the proposed dumping.

(B) The effect of such dumping on human health and welfare, including economic, esthetic, and recreational values.

(C) The effect of such dumping on fisheries resources, plankton, fish, shellfish, wildlife, shorelines, and beaches.

(D) The effect of such dumping on marine ecosystems.

(E) The persistence and permanence of such dumping.

(F) The effect of dumping particular volumes and concentrations of such materials.

(G) Appropriate locations and methods of disposal or recycling, including land-based alternatives and the probable impact of requiring use of such

alternate locations or methods upon considerations affecting the public interest.

(H) The effect on alternate uses of oceans, such as scientific study, fishing, and other living resource exploitation, and nonliving resource exploitation.

(I) In designating recommended sites, the Administrator shall utilize wherever feasible locations beyond the edge of the Continental Shelf[5].

The Administrator must also determine whether such dumping will unreasonably degrade or endanger human health, welfare, amenities, or the marine environment[6]. Presumably, it was the intent of the Congress to require EPA to follow such criteria and make such determinations, placing the burden of proof on the permit applicant to show that there would be no threat to human health or degradation to the marine environment. This interpretation was subsequently confirmed by an EPA ruling involving the City of Philadelphia, which was later cited in another action by a federal court[7].

During the same period the United States was establishing its domestic program, it was also participating in the development of an international agreement on the regulation of ocean dumping[8]. The ensuing treaty, the International Convention on the Prevention of Marine Pollution by Dumping of Wastes (London Dumping Convention), is very similar to the Ocean Dumping Act. Annex I of the treaty identifies specific material prohibited from being ocean-dumped unless in trace amounts. Annex II and III list other substances that, under the auspices of a permit program, could be dumped. Congress later amended the Ocean Dumping Act in 1974 to conform with the London Dumping Convention[9].

The Environmental Protection Agency designed various sites for the ocean dumping of sewage sludge, dredge spoils, industrial effluent, and other waste principally within an area called the New York Bight. The New York Bight encompasses a region of the Atlantic Ocean equaling some 11,000 square nautical miles. It extends from Montauk Point in Long Island, New York, south to a point roughly parallel with Cape May, New Jersey and extends seaward some 100 nautical miles to the edge of the Continental Shelf[10].

From 1914 to 1987, sewage sludge was dumped at the 12 mile site at the Bight's apex, which is approximately 10 nautical miles east of Sandy Hook, New Jersey. EPA had determined that ecological impacts such as the closure of shellfish beds; elevated levels of heavy metals and PCBs in the sediments; reduced catches of bony fishes; reduced dissolved oxygen levels at the bottom; alterations in the benthic community; introduction of bacterial, viral, and other human pathogens; sublethal effects in organisms; elevated incidences of fin rot and black gill; and, mutations of fish larvae were attributed entirely or in part to the sludge dumping at the 12 mile site[11]. Consequently, the sludge dumping operations were phased-out by December 31, 1987, at this site to the 106-mile deepwater dumpsite, which is approximately 105 nautical miles from Atlantic City, New Jersey[12].

The 106-mile deepwater dumpsite had been used since 1961 for the ocean dumping of industrial wastes. In 1984, EPA redesignated the 106-mile deepwater dumpsite as two sites; one site for dumping industrial waste, and

the other site for sewage sludge dumping. The E.I. du Pont de Nemours & Co., Inc., (DuPont) held two permits for dumping waste at the 106-mile deepwater dumpsite; however, after December 31, 1986, one of its permits expired and it did not pursue a permit renewal. In July, 1988, DuPont's second permit expired. DuPont reapplied for a permit and later withdrew its second permit application,...leaving one remaining chemical industry, Allied Signal Inc., dumping in ocean waters.

In October, 1973, EPA promulgated ocean dumping regulations, that set-up four categories of permits: general, special, emergency, and interim. General permits were issued for the dumping of material that was considered harmless. Special permits were issued for ocean dumping of any material that was potentially harmful, but the concentrations of toxic constituents were required to be in trace amounts. Emergency permits were issued for instances in which there were no other possible solutions and there was an unacceptable threat relating to human health. Interim permits were issued upon the showing of a plan to eventually comply with the special permit criteria or to phase-out ocean dumping[13]. Thus, an interim permit could be issued for the dumping of material that was determined to degrade the marine environment. Subsequently, New York City and New Jersey municipalities were issued interim permits.

1977 Amendment To The Ocean Dumping Act

A growing concern among environmentalists, along with reports by the media from 1973 to 1976 that marine life and water quality were becoming threatened by ocean dumping, sparked public alarm and a call to end ocean dumping. Ocean pollution events during the summer of 1976, in particular, intensified public concern. These pollution incidents included the washing up of over 1 million gallons of sewage sludge in Long Island, New York, from an explosion of two sewage storage tanks, and other frequent occurrences of sewage sludge and trash wash-ups the sources of which were unknown. Another major incident during that summer involved a massive fish kill extending from Long Island to the state of Delaware caused by oxygen depletion of the water[14].

As public pressure mounted, EPA issued revised regulations in January 1977, and established December 31, 1981, as the deadline to end ocean dumping of sewage sludge considered environmentally unacceptable, i.e., that did not meet the environmental criteria. Municipal dumpers, however, were still eligible for interim permits if their sludge did not meet EPA's environmental criteria, and if

> The Regional Administrator determines that the permittee has exercised his best efforts to comply with all requirements of a special permit by April 23, 1978, and has an implementation schedule adequate to allow phasing out of ocean dumping or compliance with all requirements necessary to receive a special permit by December 31, 1981, at the latest[15].

The public focus on ocean pollution and on the practice of ocean dumping, combined with EPA's issuance of interim permits for the dumping of material that did not meet the environmental criteria instead of compelling

municipalities to develop environmentally sound land-based alternatives, persuaded Congress to closely examine the implementation of the ocean dumping program. A number of hearings were held and legislation, H.R. 4297, was considered in the first session of the 95th Congress to reauthorize the Ocean Dumping Act.

During the Merchant Marine and Fisheries Committee consideration of H.R. 4297, I offered an amendment adopted by the Subcommittee which required EPA to end the ocean dumping of sewage sludge by December 31, 1981. The amendment also required EPA to end any sewage sludge dumping before the deadline which would unreasonably degrade the marine environment, ecological systems, or economical potentialities[16].

During Full Committee consideration of H.R. 4297, Congressman Breaux offered an amendment to delete my amendment. After lengthy discussion, I proceeded to offer a substitute to the Breaux amendment. This amendment modified my original amendment by prohibiting the dumping, after December 31, 1981, of sewage sludge that may unreasonably degrade the marine environment. In others words, this language merely codified EPA's stated goal of terminating ocean dumping of sewage sludge which may be harmful to the marine environment or to human health, welfare, and amenities. By statutorily mandating an end to harmful ocean dumping, Congress would be assured that EPA would not continue to issue interim permits for the dumping of sewage which could not meet EPA's own ocean dumping criteria. H.R. 4297 passed the House and Senate and was signed into law on November 4, 1977.

New York City was issued an interim permit that required the development of an alternative method to manage its sewage sludge by December 31, 1981. The City developed a short-term solution that involved composting the sewage sludge and landspreading it at various sites within the City. The City was also developing proposals for a long-term plan that would have included a dewatering facility and three incinerators[17].

In 1979, the City requested a new interim permit extending the deadline to the late 1980's. EPA refused the City's request and in 1980 the city filed suit against EPA, contending that only ocean dumping that unreasonably degraded the marine environment is prohibited by December 31, 1981. The determination of unreasonable degradation could not be properly made, the city argued, unless the effect of such dumping at a particular site and the adverse impacts and costs of its proposed alternative were also considered along with the adverse effects of ocean dumping[18]. Two New York counties and six municipal authorities in New Jersey that were dumping sewage sludge into ocean waters also filed suit shortly after New York City.

The district court granted judgment in favor of New York City. The court did not make a determination on whether the city's dumping activities unreasonably degrade the marine environment. Instead, the court held that the factors listed in section 102(a) of the Ocean Dumping Act[19] require EPA to balance, on a case-by-case basis, all relevant statutory criteria, not only those factors contained in the environmental impact criteria set forth in Subpart B of 40 C.F.R. Part 227.[20] The court's interpretation of these statutory factors concluded that EPA's regulations must balance the economics of ocean

dumping against land-based alternatives. The Court ordered EPA to revise its ocean dumping regulations to comply with its decision. EPA did not appeal the decision and the 12 dumpers who filed suit were allowed to continue their dumping practices.

Legislation During The 100th Congress

Once again, the spring and summer of 1986 brought a rash of pollution incidents resulting in beach closures along the coast of New Jersey. EPA was able to discover specific sources of some of the pollution events, while other wash-ups containing medical waste, wood debris, sewage sludge, and trash had no known source. A total of 14 beach closures occurred along New Jersey's coast from May 1987 to August 1987[21]. New Jersey's coastal communities, which depend on a thriving tourism industry, suffered greatly.

During the same period that these pollution incidents were occurring, reports of dead and dying dolphins washing up along the Jersey Shore were beginning to surface. The first deaths were documented along the coast of New Jersey in July, and by September, an estimated 250 dead dolphins had washed up on the New Jersey coast. Initially, the public and some environmentalists speculated that the marine pollution problems and the dolphin deaths were related. The local communities, businesses, fishermen, environmental groups, and others within the State of New Jersey and in neighboring states whose residents normally vacation in New Jersey began to voice their concerns over these problems. With their attention turned towards the ocean, they also began to focus on one specific source of marine pollution—ocean dumping.

The public wanted an end to ocean dumping. Although sewage sludge was being dumped farther from the shore at the 106-mile deepwater dumpsite, there were still concerns by the public and the legislators over its potential impact on marine biota and water quality. Neither EPA nor NOAA were able to offer adequate assurances that these dumping activities did not degrade the marine environment. The burden of proof that ocean dumping was not harming the marine ecosystem was no longer placed on the dumpers, as originally intended under the Ocean Dumping Act. In the wake of the degradation that had occurred at the 12 mile site and the concerns over existing scientific uncertainties, I was, again, compelled to revise the ocean dumping program.

Accordingly, I joined with Congressman Saxton in introducing legislation, H.R. 4075, which mandated an end to ocean dumping of all sewage sludge by December 31, 1991. This legislation was later modified, encompassing provisions developed by Congresswoman Schneider of Rhode Island in another bill, H.R. 3938. The revised bill, H.R. 4338, was used as the legislative vehicle. As part of the compromise with Congresswoman Schneider, H.R. 4338 contained a 1992 deadline to end ocean dumping of all sewage sludge.

From February, 1988 to August, 1988, the Merchant Marine and Fisheries Committee held hearings on H.R. 4338 and on general ocean pollution issues. While this legislation was being considered in committee, a new series of waste wash-ups were occurring, with beach closures taking place on Long Island, New York City (Staten Island, Brooklyn, and Queens), New Jersey,

and Massachusetts[22]. Again, some of the pollution episodes had a known source, while other sources of wash-ups that contained medical debris were unknown. These latest incidents were beginning to receive national attention, and the Congress intensified its efforts in considering a number of bills that addressed ocean pollution, including H.R. 4338.

During committee coordination of H.R. 4338, a number of perfecting amendments were adopted. One such amendment required the dumping of industrial waste to end by December 31, 1992. Allied Signal Inc., the only remaining industry compared with over 300 industries dumping in 1973, has continued dumping chemical waste into the ocean, at a site approximately 15 nautical miles east of Long Branch, New Jersey.

H.R. 4338, as amended by the Merchant Marine Committee, was sequentially referred to the Committee on Public Works and Transportation. The Public Works Committee amended the legislation further, and favorably reported the bill. I, along with other members of Congress, had concerns over some of the amendments adopted by the Public Works Committee. A final agreement was hammered out (H.R. 5430), and passed by the House of Representatives on October 3, 1988, by a vote of 417-0. The Senate passed similar legislation and the two bodies developed a single version, S. 2030, the Ocean Dumping Ban Act of 1988, which passed October 21, 1988.

The House-Senate compromise maintained the framework of the House bill; however, the conference managers agreed to accept the Senate deadline provision of December 31, 1991, for ending ocean dumping. The conference agreement adopted the House strategy to impose an escalating per-dry-ton (or equivalent) dumping fee. This funding mechanism for the dumpers was considered necessary to assure that enough resources would be set aside for the research, development, and implementation of environmentally sound alternatives to ocean dumping. In addition, this fee will increase the overall cost of ocean dumping, thus, making it comparable economically to other forms of waste management.

Specifically, the legislation will impose escalating dumping fees beginning at $100 per-dry-ton (or equivalent) of sewage sludge and industrial waste dumped in calendar year 1989, increasing to $150 in calendar year 1990, and $200 in calendar year 1991. A $15 per dry ton (or equivalent) portion of these fees will be earmarked for agency activities associated with ocean dumping. Eighty-five percent of the total amount a dumper is required to pay in fees will be placed into a trust account for use by the dumpers in researching, developing, and implementing alternatives. Those dumpers that EPA has determined will absolutely end its ocean dumping practices by the deadline will be allowed to waive all but the $15 permit fee imposed for agency activities.

The conference managers also agreed that it was important to have the states of New Jersey and New York participate in the process to terminate ocean dumping, since the states will have the responsibility of issuing permits for alternatives that will be developed. New York and New Jersey will participate in the negotiation and monitoring of enforcement and compliance agreements that the dumpers must enter into, which contain plans to end ocean dumping. The states are also required to assist the dumpers by

allocating, for two years, ten percent of the capitalization grant payments given to them for revolving loan funds and ten percent of the associated state matching funds provided under the Federal Water Pollution Control Act[23]. Furthermore, the states are required to develop a Clean Oceans Fund for a portion of the remaining fees and penalties collected from the dumpers for aiding in the development of alternatives.

The conference agreement will also establish civil penalties for the dumpers who keep on dumping beyond December 31, 1991. The penalties will escalate each year, and a portion of these penalties will be placed into the trust accounts for use in developing alternatives. As the penalties increase each year, the amount deposited into the accounts will decrease.

In addition, the legislation contains provisions that will regulate garbage barge operations and will increase the penalties for the dumping of medical waste in marine waters. The agreement also will require EPA and NOAA to administer a monitoring program and will add four estuaries to the priority list for consideration in the National Estuary Program.

This latest enactment of ocean dumping legislation signifies Congress' reaffirmation that degradation of ocean waters should be prevented. The 101st Congress will likely see continued efforts to address all of the issues related to ocean pollution, including oversight of the ocean dumping program and the development of new legislation designed to protect our estuaries, coastal and ocean waters.

Representative William J. Hughes (D-NJ) has served in Congress for fourteen years. As a member of the House Merchant Marine and Fisheries Committee, he has been actively involved in ocean and coastal matters for over a decade. Marci L. Bortman is a former Sea Grant Fellow now serving on Representative Hughes' staff as a legislative assistant in charge of environmental and ocean related issues. The views expressed herein are those of the authors and do not necessarily represent the opinions of the editors or the Mississippi-Alabama Sea Grant Consortium.

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NAVIGATING TODAY'S OCEAN POLLUTION PROBLEMS

by
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Alfred North Whitehead once wrote that "The aim of science is to seek the simplest explanations of complex facts. We are [therefore] apt to fall into the error of thinking that the facts are simple." This adage can be easily applied to the environmental field as well, where in our desire for swift, strong action, we too often make the mistake of oversimplifying complex facts that can require exhaustive and complex solutions.

The past two summers' washups of garbage and medical wastes on New York and New Jersey beaches have brought the issue of ocean water quality to the forefront in the media, in the public eye, and in the Congress. The washups have been taken as indicators that our oceans are unattended, ever-degrading open sewers. The general consensus is that things have never been so bad.

Apart from being untrue, this is an over-simplification of the kind that can obstruct, rather than spur on, concerted, intelligent action on difficult, far-reaching problems. The very complexity and diversity of both the stresses on the ocean and the etiology of those stresses insists that we establish a careful, detailed understanding of where we are and where it is we have to go.

Ever since the disastrous state of our environment was brought to the public attention in the late '60s and early '70s, we have looked upon the pre-chemical, pre-industrial eras as if the people who lived in them wandered around their ancient cities in pristine, pollution-free nirvanas. The truth is that the industrial and chemical revolutions may have violently exacerbated, but they by no means created, public sanitation, health, and environmental problems.

In 1748, New York City wellwater was so fouled by raw sewage that people couldn't get their horses to drink it. In 1910, New York City alone was discharging over 600 million gallons of raw, untreated sewage into the harbor every day. All along the Atlantic coastline, New York and New Jersey communities discharged vast quantities of raw sewage, and frequently disposed of garbage, directly into the ocean.

In 1910, the Metropolitan Sewage Commission of New York issued a report on all the waters, inland and coastal in the greater New York/New Jersey Metropolitan Area, which stated that:

> Practically all the waters within 15 miles of Manhattan Island are decidedly polluted, as determined by inspections and chemical, bacterial and microscopical analysis. . . .The waters in many of the smaller rivers and inner tributaries of the harbor are now so heavily charged with sewage that the waters in many of these places is black, and effervesce with foul gasses. . . .Gowanus Canal and Newtown Creek and the Passaic Rivers are polluted beyond the limits of toleration. The Harlem River, particularly at its southern

> end, is, at times, little else than an open sewer. . . .All these sewers discharge into the tidal water. . . .No attempt is made to purify the sewage.

The same report discussed in great detail, beach by beach, the outrageous garbage washups—not of the summer of 1988, but of the summer of 1906.

> Inspections of the sea in all directions to a distance of about 35 miles from the narrows showed the presence of fields of many acres of garbage. . . .Of that portion of the garbage which was carried to shore, the most offensive elements were dead and decomposing animals, such as dogs, cats, rats, and fowls. . . .An immense quantity of garbage has come ashore. . . .

The report goes on to talk about the adverse impacts of water pollution on shellfish. It presents statistics on the spread of typhoid from eating contaminated oysters, and discusses gastroenteritis, cholera, and other water-borne diseases. But the point is clear enough: pollution is not new.

It was not until sixteen years ago that, with the passage of the Federal Water Pollution Control Act of 1972, this nation launched an ambitious effort to really clean up and restore the country's waters—waters that had been neglected and abused for over 200 years. Since 1972, EPA-Region 2, working in partnership with New York and New Jersey, has obligated more than $7.4 billion to assist local communities in these states in the construction of publicly owned treatment works (POTWs).

Today all New Jersey municipal wastewater treatment plants discharging directly into the Atlantic Ocean are at secondary treatment. We have essentially eliminated discharge of raw sewage into the Hudson River during dry weather periods. By 1990, we expect to have reduced the biological oxygen demand from municipal discharges into the waters of the New York harbor to less than 75 percent of that being discharged in 1981.

The result of this and similar gains is that water quality has, overall, undergone dramatic improvements since the passage of the 1972 Clean Water Act. We have, for the most part, controlled point sources of pollution.

At the same time, we have become more aware of the potential effects of toxics and other chemicals that threaten the aquatic biota, the fish, and our ability to use our ocean resources safely. Our science, both in the areas of health and the environment, has progressed to the point where we are now able to measure pollution in our waters and in fish to the parts per quadrillion level. We are also more sophisticated in what and when we measure; we are more aware now than ever before of potential health threats. As a result, we have a much better scientific foundation on which to stand when we make decisions about beach closings or restrictions on fishing.

So the question remains: If we have spent so many billions to control discharges, and we have built such a large number of facilities, where are the threats to our beaches and marine uses still coming from?

There are several obvious, yet unequal, stresses on our ocean. They are:

—Ocean dumping of municipal sludge and industrial wastes.

—Discharges from our municipal/industrial wastewater treatment plants.
—Floatables from land and marine sources.
—Combined sewer overflow and stormwater runoff.
—Growth

Let's look briefly at each of these:

Ocean dumping

Congress recently approved and the President has signed legislation to ban the ocean dumping of sludge after December 31, 1991, to impose special fees for ocean disposal of sludge during a three year phase-out period, and to establish a schedule of escalating fees and fines for municipal authorities that continue dumping after the deadline. This means that we will finally be able to eliminate the nine remaining publicly owned users of the 106-mile sludge dump site. The bill also bans the dumping of industrial waste into the ocean. Allied Signal of Morris County, N.J., the only company currently dumping industrial wastes into the ocean under the Marine Protection, Research and Sanctuaries Act, has agreed to stop the practice before the 1991 deadline. The bill will, therefore, eliminate some eight million wet tons of sewage sludge and tens of thousands of wet tons of industrial sludge per year.

The only questions that remain are: how quickly can the municipalities implement alternatives to eliminate ocean dumping and what barriers will they come up against as they try to locate these facilities. These are questions that will be answered as we negotiate permits and compliance/enforcement agreements with the dumpers over the 270 days provided by the Congress.

Discharges from our municipal/industrial wastewater treatment plants.

Despite the progress that has been made in controlling the discharges from municipal and industrial wastewater treatment plants into the ocean, there is more that needs to be done. Even with secondary treatment, the discharges from the municipal plants still account for hundreds of thousands of pounds per day of nutrient loading. This fact, coupled with malfunctions, breakdowns, and improper operation or maintenance of the plants, necessitates the inclusion of treated discharges on the list of ocean stresses. As we complete our studies, it seems clear that we will have to place additional restrictions on direct discharges into these waters. Direct industrial dischargers and indirect industrial dischargers to municipal plants will also face a continuing tightening of restrictions on their discharge of chemicals and metals as more rigid water quality standards are developed that are based on aquatic effects, chemical-by-chemical restrictions and bioassay limitations.

Floatables

The outrageous appearance of medical waste on our beaches this summer robbed citizens of their right to enjoy the ocean without fear; and it has also robbed those who depend on the oceans for their livelihood. However, frightening as the wastes are, exposure to infectious wastes resulting in the transmission of disease is far more likely to occur in the occupational settings that generate, transport, store, treat, or dispose of those wastes than it is from beach debris. Nevertheless, the fear and disgust that the medical waste

washups instill in the public are cause enough to make sure that strong regulatory controls are in place governing the handling and disposal of these materials.

To achieve this end, EPA-Region 2 has been facilitating meetings between New York and New Jersey and, as a result, on August 10, 1988, both states adopted emergency legislation to implement a tracking system. To ensure coordination within the EPA, a medical waste task force was established. Most recently, on November 2, 1988, federal legislation was adopted to establish medical waste tracking systems for New York, New Jersey, Connecticut and states contiguous to the Great Lakes.

Despite this, it is acknowledged that the umbrella provided by even the national medical waste management system will not by itself prevent the recent beach washup incidents from reoccurring. There is also a strong need for an extensive educational program focused on small quantity generators, such as medical practitioners and household users.

It must be emphasized that medical waste, distressing as it is, is really only one small symptom of the much larger general problem of water-borne solid waste, or floatables. Moreover, just as the floatables problem is only one of many diverse stresses placed on the ocean, the floatables problem itself arises from several practices: illegal dumping, improper waste handling by municipalities, discharges from maritime vessels, rotting piers and other waterside structures, beach litter, and, probably one of the more significant contributors to the floatables problem—The Combined Sewer Overflow, or CSO.

Combined Sewer Overflow and Stormwater Runoff

Because most older municipalities in this metropolitan area have combined storm and sanitary sewers, and there is less than adequate treatment capacity for both storm and sanitary wastes, when it rains, the street refuse which has found its way into the storm sewers gets discharged along with raw or inadequately treated sewage. Consequently, in addition to their contribution to the floatables problem, CSOs have a major short term bacterial, nutrient, and toxic impact on our marine environment.

EPA has recently developed a draft permitting strategy for CSOs, which is currently under review. The strategy calls for the region and states to identify the communities with combined sewer systems, to locate each particular CSO discharge point within these communities, and to establish individual state permitting strategies.

Growth

Although the treatment or control of CSOs alone would drastically improve the floatables problem, it would not resolve water quality problems in our bays and oceans. This is because the root cause of much of the stress on the marine environment is the growth of population along the coasts. A huge flux of pollutants drains into the shallow coastal waters and estuaries: debris from city streets, industrial pollutants, and pesticide and fertilizer runoff from farms.

The crush of unrestricted development resulting from population growth

is another major cause of our continuing water pollution problem, and no decisions can be made without taking this into account. If development goes unrestricted, we will be forever playing catch-up ball and these problems will simply never disappear. It cannot be repeated too often: environmental and development issues can never be separated; they are one and the same.

This leads us at last to the question of future action. Public opinion surveys indicate clearly that most Americans broadly support environmental protection, and are willing to pay for it. EPA estimates that more than $70 billion is spent each year in the United States to reduce pollution. But these costs are generally hidden from the public as increments in the overall prices of products and services.

However, as we impose greater restrictions in the future, these costs will become more visible and the public will feel them more directly. This is because, in addition to dollars, they will include the costs of inconvenience, lifestyle changes, siting facilities, and lost opportunity. As we move closer to the individual citizen in pollution control, our willingness to pay for environmental protection will truly be tested. We will have to choose, for example, between the convenience of new shopping malls and the luxury of waterfront homes on the one hand, versus wetland protection and the enhancement of coastal resources on the other.

As we choose new and stricter requirements for filtration and monitoring of our drinking water systems, and ever-more advanced treatment of wastewater from our homes, we must also be ready to accept substantially higher costs for local water and sewer services. As we choose to impose greater restrictions on the disposal of household and solid wastes, we must be willing to accept both higher costs for disposal and greater inconvenience in the form of mandatory recycling and source separation at the curbside.

Naturalist author Rachel Carson wrote, "Like the resource it seeks to protect. . .conservation must be dynamic, changing as conditions change, seeking always to become more effective." While the topic at hand is water pollution control, the sentiment is exactly the same.

As a society we must look at alternate ways to handle our wastes. New Jersey's Department of Environmental Protection is making a big push for recycling; and EPA has recently announced its five year goal of a twenty-five percent national recycling rate. We should also be looking at waste reduction techniques, such as a waste exchange program based on European models, to name just one example.

What specific direction should we take in terms of practicable, available measures that can be applied to protecting our waters? In the analyses of the impacts of various pollutants in any given media, we have historically focused on human health risks. We don't usually focus strictly on environmental risks. We try to measure pollutants by death or cancer rates of test animals; and we do it pollutant by pollutant. We are just beginning to conduct synergistic studies.

That is why at this very moment we are in the process of accumulating a solid body of information on the overall situation in our harbors, our estuaries, and our oceans. Under the authority and initiatives provided by

Congress, EPA is involved in several comprehensive management programs to restore the water quality and protect the living resources of the waters in and adjacent to the New York Bight. These include three "Management Conferences," designated by EPA's Administrator, Lee Thomas, under the National Estuary Program. Among the inter-related studies are the Long Island Sound Study, the New York/New Jersey Harbor Estuary Study, the Delaware Estuary Program, and the New York Bight Restoration Plan.

This does not mean that action must halt while the stresses on our waters are identified and catalogued. While we conduct our studies, we need to take the following steps:

—Design and implement an effective strategy for complying with the recently enacted laws to control medical waste and to ban ocean dumping by 1991.

—The need to impose greater protection in the form of additional treatment capacity/redundancy must be considered for sewage treatment plants affecting our beaches, if we are to avoid summertime beach closings.

—Institute CSO and stormwater controls.

—Implement waste reduction and alterations to current packaging practices.

Finally, we must address the issue of unrestricted growth, especially adjacent to our oceans and estuarine areas. We are at the point where we should decide whether or not development in these areas should stop until we've answered the questions relating to the environment. We have already seen the results of allowing growth to continue without addressing environmental stresses, simply hoping that technology will solve the problems it creates.

Whether or not we choose to do these things is not purely in the hands of the regulators. These kinds of decisions must be translated into actions by elected officials at all levels of government, the business community, our environmental organizations, and the public at large.

The last question is, of course: Can we reach these decisions quickly enough? As Neville Chamberlain discovered, failure to act is a decision in and of itself.

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