THE PROBLEM OF OCEAN POLLUTION— LEGAL REMEDIES AVAILABLE

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MASGP - 78-032

TABLE OF CONTENTS

I. INTRODUCTION

THE PROBLEM OF OCEAN POLLUTION

> Man has probably been on this planet for about one million years. Until the start of the industrial revolution--let's say five generations ago--man had at his disposal only a maximum power of one horse, and his number and absence of natural weapons made him an indentured servant of nature.
>
> So during all these million years man had to fight nature. He had no fangs, no protection, soft skin. He had to fight nature just to survive.
>
> Certainly, in five generations, because of the industrial development, we must completely change our thinking, reverse it 180 degrees, and understand that the only chance of survival is not to fight nature but to protect nature.[1]

Three-quarters of the earth's surface, about 145 million square miles, consists of ocean waters. Because of its enormous area, it has generally been believed that the ocean is so vast that mankind could not generate enough waste to have a serious adverse effect upon it. However, we now know that unless marine pollution, particularly industrial pollution, is controlled the ocean may soon be too polluted to produce edible fish and other marine organisms vital to its survival.[2] Contaminated materials may be toxic to marine organisms and non-toxic materials may be dumped in such great quantities that they physically kill or injure marine organisms.[3] When the pollutants enter the ocean ecosystem they ultimately reach all living organisms in one form or another.[4] At the very least they eventually destroy the natural beauty of the ocean.[5] More seriously is the potential unknown long-range dangerous effect of pollution caused by an imbalance

in the ecosystem.[6] Another serious problem arises from oxygen depletion caused by the decomposition of waste materials in the ocean. Since marine organisms die from lack of oxygen an oxygen deficient area will remain barren even after the pollution has ended.

It is now believed that 90% of ocean pollution comes from land-based sources.[7] Therefore, legislation to combat ocean pollution seems to be aimed at regulating the land-based pollution sources that ultimately reach the ocean. One tarket of legislation is our inland water courses. Any mechanism that helps to limit the pollutants entering navigable rivers which eventually flow into territorial waters and ultimately the ocean, will significantly contribute to the abatement of ocean pollution.

Another significant step at combating ocean pollution is the domestic and international legislation regulating the transportation of waste materials for the purpose of dumping them into the ocean. At this point in time, this type of legislation is directed towards the intentional dumping of wastes into the ocean. Unfortunately there is presently no enforceable mechanism dealing with the accidental dumping of wastes, most particularly oil, into the ocean.[8]

Recognizing that effective land disposal will ultimately result in cleaner water, a third related area of legislation aimed at the land-based disposal of solid waste has become another method of combating ocean pollution.

This paper discusses more specifically the major laws in the 3 above-mentioned areas. The purpose of the paper is to review and discuss present efforts by the federal government to deal with ocean pollution legislatively. This is not a discussion of case law, but of current mechanisms presently available through domestic and international legislation attempting to deal with the very serious problem of ocean pollution.

FOOTNOTES - PART I

1. S. REP. NO. 92-451, 92d Cong., 2d Sess. 9-11, reprinted in [1972] U.S. CODE CONG & AD. NEWS 4234, 4236-37 (quoting Jacques Cousteau's address to the first session of the International Conference on Ocean Pollution convened by the Committee on Commerce).

2. In Pursuit of Clean Waters: A review of the Marine Protection Act, 18 SANTA CLARA LAWYER 157 (1978).

3. Lumsdaine, Ocean Dumping Regulation: An Overview, 5 ECOLOGY L. Q. 753, 755-56 (1976).

4. For a lengthy discussion of the problem, see generally D. CARR, DEATH OF THE SWEET WATERS (1966); COUNCIL ON ENVIRONMENTAL QUALITY: REPORT TO THE PRESIDENT, OCEAN DUMPING: A NATIONAL POLICY (1970); and W. MARX, THE FRAIL OCEAN (1967).

5. Lumsdaine, supra note 3, at 756-57.

6. Waldichuk, Control of Marine Pollution: An Essay Review 4 OCEAN DEV. & INT'L L.J. 269, 270 (1977).

7. Lumsdaine, supra note 3, at 757.

8. See UNIVERSITY OF MISSISSIPPI LAW CENTER, OIL POLLUTION CONTROL MECHANISMS - STATUTES AND REGULATIONS (1977) for a general overview of ways to control oil pollution in the ocean after it occurs.

II. THE FEDERAL WATER POLLUTION CONTROL ACT

The goal of the Federal Water Pollution Control Act[9] (FWPCA) is the restoration and maintenance of the "chemical, physical, and biological integrity of the Nation's waters."[10] Through effluent limitations,[11] water quality standards,[12] national standards of performance[13] and a national permit discharge elimination system (NPDES) [14] a graduated reduction in the discharge[15] of pollutants[16] into navigable waters (all waters of the United States, including that portion of the ocean within three miles from the coastline, i.e. the territorial seas[17]) is planned. This reduction is aimed toward a national zero-discharge state by 1985.[18] No delay is allowed where toxic pollutants[19] are concerned--the FWPCA prohibits immediately the discharge of toxic pollutants in toxic amounts.[20] The FWPCA controls discharges from point sources, defined as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."[21] Since many of these point sources will either empty directly into the territorial waters or into navigable rivers which will ultimately take their pollutants into territorial waters, the FWPCA's planned reduction and ultimate elimination should help restore the ocean's natural purity.

A. WATER QUALITY STANDARDS

The first step in the FWPCA's gradual elimination of

pollutant discharge into navigable waters, that is important in providing a solution to the problem of ocean pollution, is the establishment of water quality standards.[22] Ample provision is made for the individual states to establish such standards for the waters within their jurisdiction,[23] but if the state fails to establish acceptable standards, the Administrator of the Environmental Protection Agency (EPA) [hereinafter referred to as the Administrator] will promulgate the required standards.[24]

B. EFFLUENT LIMITATIONS

In order to maintain these water quality standards, effluent limitations establish restrictions on "quantities, rates, and concentrations of chemical, physical, biological, and other constituents" discharged from point sources.[25] These restrictions, which may be established by the Administrator or by individual states,[26] become gradually stricter as 1985 approaches.[27] However, an absolute prohibition is placed on the discharge of "radiological, chemical, or biological warfare agents or high-level radioactive waste."[28] Water quality standards override less stringent effluent limitations and if an inconsistency appears, the Administrator must promulgate effluent limitations which will maintain the water quality standards.[29] Basically, these effluent limitations set up classes and categories of point sources. For each class and category, the limitation will identify the degree of discharge reduction which can be attained by using various control methods, thus setting a limitation on the amount of effluent discharged by that source at a certain point in time.[30] The Administrator is also given authority to establish separate

effluent limitations or prohibitions for toxic pollutants[31] and he may establish pretreatment standards for pollutants which will pass through treatment works untreated or which will interfere with the operation of the treatment works.[32]

C. NATIONAL STANDARDS OF PERFORMANCE

The third group of regulations important to the ocean pollution problem are the national standards of performance which are applicable on an industry wide basis to new point sources. They control pollutant discharge through the greatest degree of effluent reduction which can be achieved by "application of the best available control technology, processes, operating methods, or other alternatives, including where practicable, a standard permittting no discharge of pollutants."[33]

The importance of such provisions is not only that they reduce and will ultimately eliminate pollutant discharge but also that discharge in violation of effluent limitations, national standards of performance, toxic pollutant standards, and pretreatment effluent standards is unlawful.[34] Discharge is also unlawful without a NPDES permit.[35]

D. NPDES PERMIT

To get a NPDES permit, the proposed discharge must be in accordance with existing effluent limitations (including those for toxic pollutants and pretreatment standards) and national standards of performance.[36] If the discharge will be into the territorial sea, contiguous zone waters, or the ocean the discharge controlled by the FWPCA[37] must also satisfy ocean discharge criteria.[38] The NPDES is a binary system: the permit is issued either by the Administrator[39] or by an in-

dividual state with an approved permit program.[40]

The NPDES does not cover the discharge of dredged or fill material into navigable waters and the territorial seas;[41] such discharges are controlled by an analogous permit program under the authority of the Secretary of the Army acting through the Chief of Engineers.[42] Although the permit program is analogous,[43] this dredged material permit program seems to allow a substantial amount of virtually uncontrolled dumping. These permits allow dumping of dredged or fill material into specified disposal sites.[44] The sites are selected according to criteria comparable to the ocean discharge criteria[45] plus consideration of the "economic impact of the site on navigation and anchorage" if the ocean discharge criteria alone would prohibit disposal.[46] Apparently, a policy decision has been made that the dredged material will have a less harmful effect on the ocean; therefore, economic reasons may allow discharge where the pollution standards would prohibit it. In addition, the Secretary may issue general permits on a state, regional, or national basis for categories of discharges which he has determined "will cause only minimal adverse environmental effects when performed separately, and ... only minimal cumulative adverse effect on the environment."[47]

In addition to these permit programs, applicants for any federal permit or license to conduct any activity resulting in a discharge into navigable waters must certify that such discharge will be in compliance with all applicable effluent limitations and prohibitions, water quality standards, and

national standards of performance.[48] This procedure seemingly provides assurance that such activity will also qualify for a permit, thus removing a gap between initial operation and compliance with permit requirements.

E. EMERGENCY POWERS OF ADMINISTRATOR

An additional control[49] on unregulated pollutant discharge may be found in the emergency powers of the Administrator to bring suit immediately to restrain any polluter where the discharge "is presenting an imminent and substantial endangerment to the health of persons or to the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish."[50] The Administrator may also provide emergency assistance (abating and remedying the emergency, researching effects of the emergency, and providing personnel at the emergency site) if such assistance is required to prevent or mitigate an emergency posing a significant risk to public health or welfare and the environment.[51] Also, a citizen (one having an interest which is or may be adversely affected)[52] may under certain conditions[53] bring suit against a polluter or the Administrator if he fails to perform a non-discretionary duty.[54]

F. SANITATION DEVICES

Sewage from vessels was excluded from the definition of pollutants subject to the NPDES.[55] Such pollutants are handled through federal controls on marine sanitation devices (MSD).[56] These federal standards of performance for MSD are designed to "prevent the discharge of untreated or inadequately treated sewage" into navigable waters.[57] MSD offered for sale must be certified by the Coast Guard to meet such regulations, and

sale of uncertified devices is prohibited.[58] Sale of vessels with uncertified devices or with inoperative certified devices is also unlawful.[59] Therefore, in effect, this method of control is substantially the same as the permit system; it does not prevent all discharge, but it allows discharge only after the matter has been rendered virtually harmless.

G. OIL AND HAZARDOUS SUBSTANCES

The FWPCA also includes a special provision to control the discharge[60] of oil[61] and hazardous substances.[62] As stated, the congressional policy is "that there should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States, adjoining shorelines, or into or upon the waters of the contiguous zone ..."[63] Accordingly, the discharge of oil or hazardous substances in "harmful quantities" is prohibited.[64] In addition, the FWPCA develops a national contingency plan for removal of oil or hazardous substances which have been discharged.[65] Separate penalty provisions have also been provided for violators of this prohibition against the discharge of oil and hazardous substances in harmful quantities.[66] Once again, the same plan is followed; not all discharge is prohibited, but only harmful discharge.

In essence, the FWPCA is not aimed at a complete stoppage of water pollution immediately. Instead, it aims toward the end of all pollutant discharge by 1985, establishes a scheme of ever-tightening effluent limitations and prohibitions, and natural standards of performance designed to use available

technology to either remove the pollutants before disposal or to reduce the amount of pollutant discharged as much as possible. The permit programs, in addition, are designed to keep discharge at a workable level until that zero-discharge state is reached.

However, there are drawbacks. Carrying out the complex statutory and regulatory scheme found in the FWPCA presents administrative problems. The Act has also been accused of creating a bureaucratic nightmare.[67]

The FWPCA also fails to control discharge from non-point sources (including, inter alia, run-off from fields, forest lands, mining, and construction activity that produce pollutants such as sediments, minerals (including acid mine drainage and heavy metals), nutrients, pesticides, organic wastes such as livestock waste and crop debris, waste oils, and thermal pollution.[68] Even though most of these pollutants will not be discharged directly into the ocean, the discharge of such pollutants into navigable rivers will ultimately reach the territorial waters and finally the ocean. According to Professor Rodgers: "Pollutant loads of suspended solids, nutrients and coliform bacteria from non-point sources far exceed those from point sources."[69] Therefore, discharge from non-point sources must be controlled, if at all, by other federal or state laws, thus depriving the FWPCA of the advantage of being a comprehensive legislative program designed to deal with all water pollution. Taken in its entirety, however, the FWPCA seems to be suited to combating the ocean

pollution problem since it does recognize the massiveness of the problem and that an absolute prohibition would result only in large-scale violations. When dealing with a problem of this size, a controlled, gradual reduction leading to total elimination may be the only solution.

FOOTNOTES - PART II

9. Pub. L. No. 92-500, § 2, 86 Stat. 816 codified in 33 U.S.C. §§ 1251 - 1376 (1976), as amended by Federal Water Pollution Control Act Amendments of 1977, Pub. L. No. 95-217, §§ 5(a), 26(b), 91 Stat. 1567, 1575 (also referred to as The Clean Water Act of 1977). The FWPCA was originally enacted in 1948 and substantially amended throughout the years with the last major revision taking place in 1972. See S. REP. NO. 92-414, 92d Cong., 2d Sess. reprinted in [1972] U.S. CODE CONG. & AD. NEWS 3668, 3669-70. All citations here will be to the FWPCA as it appears in the 1977 edition of the United States Code.

10. 33 U.S.C. § 1251(a) (1977).

11. See notes 25-27, 30-32 and accompanying text, infra.

12. See notes 22-24 and accompanying text, infra.

13. See note 33 and accompanying text, infra.

14. See notes 35-40 and accompanying text, infra.

15. "Discharge" is defined as "(a) any addition of any pollutant to navigable waters from any point source, (b) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft." 33 U.S.C. § 1362(12) (1977).

16. "Pollutant" is defined as "dredged spoil, solid waste, incinerator residue, sewage, garbage,

sewage sludge, munitions, chemical waste, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water." 33 U.S.C. § 1362 (6) (1977). Materials not included in this definition are sewage from vessels which is handled by 33 U.S.C. § 1322 (1977), discussed in notes 55-59 and accompanying text, infra. 33 U.S.C. § 1362(6)(1977).

17. 33 U.S.C. § 1362(7), (8) (1977).

18. Id. § 1251(a). An interim goal of life-supporting waters suitable for recreation, "wherever attainable," has a target date of July 1, 1983. Id. (a)(2).

19. "Toxic pollutants" are those pollutants, or combinations of pollutants, which the Administrator of the Environmental Protection Agency has determined will cause "death, disease, behavioral abnormalities, cancers, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations" when exposed, ingested, inhaled, or assimilated into any organism, either directly from the environment or indirectly through the food chain. 33 U.S.C. § 1362(13) (1977).

20. 33 U.S.C. § 1251(a)(3)(1977). Apparently, the discharge of the toxic pollutants in non-toxic amounts is not immediately prohibited; however, toxic pollutants

would seem to fall within the definition of pollutant also, see note 19, supra, and would thus be subject to the 1985 elimination. See note 31 and accompanying text, infra for a discussion of how this prohibition works in practical terms.

21. 33 U.S.C. § 1362(14) (1977).

22. Id. § 1313(a).

23. Id. (a),(c).

24. Id. (b).

25. Id. § 1362(11). See also Id. § 1311(b).

26. 33 U.S.C. § 1362(11)(1977).

27. See Id. § 1311(b).

28. Id.(f). In this one area at least, legislation and permit programs have been highly successful. The Atomic Energy Commission (AEC) and its successor, the Nuclear Regulatory Commission (NRC), 42 U.S.C. § 5814(a), (f)(1976); Exec. Order No. 11,834, 3 C.F.R. 943 (1971-1975) compilation reprinted in 42 U.S.C. § 5814 app., at 400 (1976) issued no new permits for the ocean disposal of radioactive wastes after 1960, and only a few agencies still had permits in 1970. See Lumsdaine, supra note 3 at 759, nn. 44-47. Although the NRC still operates a permit program, see 10 C.F.R. § 20. 305(1979); both the FWPCA and the Ocean Dumping Act prohibit the disposal of radioactive materials in waters within their control. See 33 U.S.C. §§ 1311(f) & 1412(a)(1976). In addition, the NRC

will not approve a permit for sea disposal unless it is shown that "sea disposal offers less harm to man or the environment than other practical alternative methods of disposal." 10 C.F.R. § 20.302(c) (1978).

29. 33 U.S.C. § 1312(a).

30. Id. § 1314(b). See also, id. § 1311(b).

31. Id. § 1317(b). The list of toxic pollutants is found at 40 C.F.R. Part 403, App. B (1978). Toxic pollutant effluent standards are found at 40 C.F.R. §§ 129.1-129.105(1978).

32. 33 U.S.C. § 1317(b)(1977).

33. Id. § 1316(a). Pretreatment standards and standards of performance are found at 40 C.F.R., §§ 405.10-460.12(1978).

34. 33 U.S.C. § 1311(a)(1977). Thus, the polluter may be subject to civil and criminal sanctions. See note 49, infra.

35. 33 U.S.C. § 1311(a)(1977). Permits are no longer issued under 33 U.S.C. § 407 (1977) which prohibited the discharge or deposit of "refuse matter of any kind or description" into navigable waters.

36. 33 U.S.C. § 1342(a)(1977).

37. See notes 15,16 and 21 and accompanying text, supra.

38. 33 U.S.C. § 1343(a)(1977). The ocean discharge criteria is discussed in id. (c). Apparently, these guidelines have yet to be promulgated. Until then, a permit may be issued under 33 U.S.C. § 1342 (1977)

"if the Administrator determines it to be in the public interest." 33 U.S.C. § 1343(a)(1977). Of course, all other standards will still have to be met, see note 36 and accompanying text, supra. It is possible that the ocean dumping criteria found in 40 C.F.R. §§ 227.1-227.32(1978) will be applicable here.

39. 33 U.S.C. § 1342(a)(1977).

40. Id. (b),(c). To obtain approval, a state program must be essentially equivalent to the federal permit program. Id. (b)(1-9).

41. See id. § 1344(a).

42. Id. (a),(d).

43. The permit is issued either by the Secretary or by a state with an approved permit program. Id. (a), (g), (h).

44. Id.(b).

45. No specific regulations have been found promulgated pursuant to this specific section. Apparently, the criteria developed in 40 C.F.R.§§ 227.1-227.32 (1978) will be used.

46. 33 U.S.C. § 1344(b)(1976). A list of approved sites can be found in 40 C.F.R. § 228.12 (1978).

47. 33 U.S.C. § 1344(e)(1); 33 C.F.R. § 323.3(c)(1978).

48. 33 U.S.C. § 1314(a)(1977).

49. The normal enforcement procedures of compliance orders and civil and criminal penalties are found in 33 U.S.C. §§ 1319, 1344(1977).

50. 33 U.S.C. § 1364(a) (1977).

51. Id. (b)(5).

52. Id. § 1365(g).

53. Id. (b).

54. Id. (a).

55. Id. § 1362(6)(a).

56. Id. § 1322. A MSD is defined as "any equipment for installation on board a vessel which is designed to receive, retain, treat, or discharge sewage, and any process to treat such sewage." Id. (a)(s). Sewage includes "human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes ...." Id. (a)(6). For ocean-going vessels, the term "sewage" does not include graywater (galley, bath, and shower water). Id. (a)(5),(11).

57. 33 U.S.C. § 1322(b)(1) (1977). Regulations promulgated to these standards are found in 33 C.F.R. §§ 159.1-159.205(1978) and 40 C.F.R. §§ 140.1-140.5(1978).

58. 33 U.S.C.§ 1322(g) (1977).

59. Id. (h). The standards and regulations went into effect for new vessels on January 30, 1977 and will go into effect for existing vessels on January 30, 1980. 40 C.F.R. § 140.3(h)(1978).

60. "Discharge," in this context, includes, but is not limited to, "spilling, leaking, pumping, pouring, emitting, emptying or dumping." 33 U.S.C. § 1321(a)(2) (1977). According to this definition, both the intentional

and unintentional discharge of oil is included. A lengthy discussion of this provision may be found in UNIVERSITY OF MISSISSIPPI LAW CENTER, MISSISSIPPI - ALABAMA SEA GRANT CONSORTIUM, OIL POLLUTION CONTROL MECHANISMS--STATUTES AND REGULATIONS 3-53 (1977). Two other acts dealing with oil pollution and the oil industry, the Oil Pollution Act of 1961, Pub. L. No. 87-167, § 2, 75 Stat. 402 (codified in 33 U.S.C. §§ 1001-1016, as amended (1970)),and the Deepwater Port Act of 1974, Pub. L. No. 93-627, § 2, 88 Stat. 2126 (codified in 33 U.S.C. §§ 1501-1524 (1976)), are covered in this publication also, see OIL POLLUTION CONTROL MECHANISMS, supra, at 64-67. To avoid duplication, those acts are not discussed here.

61. "Oil" is defined as "oil of any kind or in any form, including, but not limited to petroleum, fuel, oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil." 33 U.S.C. § 1321(a) (1) (1977).

62. These are substances other than oil which, "when discharged in any quantity ... present an imminent and substantial danger to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, shorelines, and beaches." Id. (b)(2)(A). Since OIL POLLUTION CONTROL MECHANISMS, supra note 60, was published, certain substances have been designated as hazardous by the

Administrator. This list of hazardous substances is found at 40 C.F.R. §§ 116.1-116.4 (1978). Harmful quantities of such substances are listed in 40 C.F.R. §§ 118.1-118.8(1978). The designations became effective on June 12, 1978, except for vessels, and on September 11, 1978 for vessels. Thus, the inclusion of harmful substances in the oil spill provision of the FWPCA represents a "quantum leap in environmental law." W. RODGERS, ENVIRONMENTAL LAW 506 (1977).

63. 33 U.S.C. § 1321(b)(1)(1977).

64. Id.(b)(3). The President was given the power to determine what quantities were and were not harmful. Id. He delegated these powers to the Administrator of the Environmental Protection Agency. Exec. Order No. 11,735, 3 C.F.R. 793 (1971-1975), compilation, reprinted in 33 U.S.C. § 1321 app., at 183 (1977). Regulations promulgated by the Administrator are found at 40 C.F.R. §§ 118.1-118.8(1978).

65. 33 U.S.C. § 1321(c)(1977). The President also delegated his authority to develop this plan to the Administrator. The plan is found at 40 C.F.R. §§1510.1-1510.54(1978).

66. See 33 U.S.C. § 1321(b)(2)(iii), (5,6)(f) (1977).

67. RODGERS, supra note 62, at 361.

68. Id. at 375.

69. Id.

III. MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT

The Marine Protection, Research, and Sanctuaries Act[70] (the Ocean Dumping Act) recognizes that unregulated ocean dumping[71] endangers both human health and welfare and the marine environment[72] and that such dumping must be prohibited or strictly limited.[73] This Act provides protection not provided by the FWPCA. The Ocean Dumping Act prohibits the transportation[74] without a permit of any material for the purpose of ocean[75] dumping from the United States or from any location if the vessel or aircraft is registered in the United States or flies a United States flag or a United States department, agency, or instrumentality is involved.[76] If the material is transported from outside the United States, dumping without a permit within twelve nautical miles of the United States is prohibited.[77] The prohibitions and limitations will apply to "matter of any kind or description"[78] that is discharged in the defined manner.[79] Therefore, the Ocean Dumping Act and the FWPCA control different areas and different pollution problems. The Ocean Dumping Act controls the transportation of materials from the United States or in ships associated with the United States to be dumped into the ocean and dumping within twelve nautical miles from the coastline from a vessel or aircraft.[80] The FWPCA controls discharges which are basically continuous in nature and fall mainly into waters within three nautical miles of the coastline.[81]

A. PERMITS

1. Dredged Material

Permits for the dumping of dredged material are obtained

from the Secretary of the Army (the Secretary) where he determines that the dumping will not "unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities."[82] This dumping must be in compliance with the EPA criteria regulating ocean dumping.[83] However, the Administrator must waive such requirements if the Secretary determines there is no other economically feasible method of disposal unless the Administrator finds that the dumping will have an "unacceptably adverse impact" on water supplies, fish and wildlife, and recreational areas.[84] Once again, it seems that a policy decision has been made that dredged material does not represent a grave threat since economic considerations may, under certain conditions, outweigh the potential danger.

2. Harmful Materials

No permit may be issued for the dumping of radiological, chemical, and biological warfare agents or high-level radioactive waste.[85]

The Administrator is urged by Congress to end the dumping of sewage sludge[86] as soon as possible after November 4, 1977, and an absolute prohibition is placed on the ocean dumping of sewage sludge after December 31, 1981.[87]

For any other material, permits for the transportation of material for the purpose of ocean dumping and for dumping within twelve nautical miles of the coastline may be issued so long as the Administrator determines such dumping will not unreasonably degrade or endanger human health and welfare or the marine environment.[88] For both dredged material and

materials other than warfare agents, radioactive waste, and sewage sludge after 1981, general permits may be issued where it is determined that the material will have a "minimal adverse environmental impact."[89]

Unlike the FWPCA, the Ocean Dumping Act, to the extent that ocean dumping is regulated here,[90] preempts the area.[91] No provision is made for individual states to operate their own permit programs, although the states may propose criteria relating to ocean dumping affecting waters within their jurisdiction which the Administrator may adopt, if consistent.[92]

The Ocean Dumping Act, unlike the FWPCA, makes no attempt to reach a zero-discharge state. Rather, the goal here is regulated dumping. If this goal is achieved, then perhaps the ocean's natural capacity to cleanse and purify itself will return, enabling the ocean once again to take care of itself, but with man's help this time. However, there is one serious problem with the Act's basic premise for liability. The Act's prohibitions and permit program come into play, for material transported from the United States or carried by a United States vessel, only if the material is taken on board for the purpose of ocean dumping while apparently the dumping of material transported from outside the United States (but not on United States vessels) into the U.S. territorial sea is prohibited. Therefore, according to a literal interpretation of the statutory language, if the material was not taken on board for the purpose of dumping and is then dumped, the Ocean Dumping Act simply does not apply.

However, one commentator has suggested that the Act should be interpreted in light of its purpose and be applied where any material is dumped, whether taken on board for the purpose of dumping or not.[93]

FOOTNOTES - PART III

70. Pub. L. No. 92-532, § 2, 86 Stat. 1052 (codified in 33 U.S.C. §§ 1401-1444(1976)), amending Marine Protection Research and Sanctuaries Act of 1974, Pub. L. No. 93-254, § 1(1), 88 Stat. 50.

71. "Dumping" is defined as a "disposition of material." 33 U.S.C. § 1402(f) (1976). Activities not regulated here include the discharge of effluent from any outfall structure to the extent that it is controlled by the FWPCA, see notes 15 & 21 and accompanying text, supra, or by the Atomic Energy Act, see note 28, supra. Dumping also does not mean the routine discharge of effluent incidental to the operation of motor-driven vessels. 33 U.S.C. § 1402(f)(1976).

72. Id. § 1401(a).

73. Id (b).

74. This refers to the carriage and related handling of any material by a vessel, or by any other vehicle, including aircraft." Id. § 1402(k).

75. "Ocean waters" refers to "those waters of the open seas lying seaward of the base line from which the territorial sea is measured ..." Id.(b).

76. Id. § 1411(a).

77. Id. (b).

78. Id. (c). Such material to which the Act applies include "dredged material, solid waste, incinerator residue, garbage, sewage, sewage sludge, munitions,

radiological, chemical, and biological warfare agents, radioactive materials, chemicals, biological and laboratory waste, wreck or discarded equipment, rock, sand, excavation debris, and industrial, municipal, agricultural, and other waste ...." Id. Sewage from vessels is not included since it is controlled through marine sanitation devices, see notes 55-59 and accompanying text, supra, and oil within the meaning of 33 U.S.C. § 1321 (1976), see notes 60-65 and accompanying text, supra, is likewise excluded unless it is taken on board for the purpose of dumping. 33 U.S.C. § 1402(c)(1976).

79. See note 71 and accompanying text, supra.

80. See notes 74-77 and accompanying text, supra.

81. See notes 15, 17, 21, and 38 and accompanying text, supra.

82. 33 U.S.C. § 1413(a). Guidelines for evaluating dredged material permits are found in 40 C.F.R. §§ 225.1-225.4(1978).

83. See 40 C.F.R. §§ 227.1-227.32(1978).

84. 33 U.S.C. § 1413(d)(1976).

85. Id. § 1412(a).

86. "Sewage sludge" is defined as "any solid, semisolid, or liquid waste generated by a municipal waste-water treatment plant" which, if dumped into the ocean, may endanger human health or welfare or the marine environment. Id. § 1412(b).

87. Id. (a).

88. Id. Criteria established to guide consideration of permit applications is found in 40 C.F.R. §§ 226.1-227.32 (1978). In case of an emergency, materials may be dumped at sea, with or without a permit. 33 U.S.C. § 1415(h) (1976).

89. 33 U.S.C. § 1414(c) (1976).

90. See notes 71 and 78 and accompanying text, supra.

91. 33 U.S.C. § 1416 (1976).

92. Id. (d).

93. Lumsdaine, supra note 3, at 761-62.

IV. RESOURCE CONSERVATION AND RECOVERY ACT

The Resource Conservation and Recovery Act (RCRA)[94] is primarily aimed at the control of land-based disposal of solid waste.[95] However, the RCRA also recognizes that

> disposal of solid waste and hazardous waste in or on the land without careful planning and management can present a danger to human health and the environment [and that] inadequate and environmentally unsound practices for the disposal or use of solid waste have created greater amounts of air and water pollution and other problems for the environment and for health.[96]

Therefore, since steps taken in one environmental sector will naturally affect other sectors, an effective program of land-based solid waste disposal will help restore and maintain both clean land and clean water.

Although disposal is defined so that it apparently includes any solid waste water pollution,[97] this broad coverage is limited by the definition of solid waste since "solid or dissolved material in domestic sewage or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under [the FWPCA], or source, special nuclear, or by product material as defined by the Atomic Energy Act of 1954, as amended [42 U.S.C. § 2011 et. seq. (1976)] ..."[98] are all excluded from the definition of solid waste.[99] Thus, the RCRA's definition of solid waste as "any garbage, refuse, sludge from a waste treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from

community activities..."[100] should be read with those limitations in mind.[101] Although the RCRA only covers discharge or dumping into the territorial waters and the ocean that the FWPCA and the Ocean Dumping Act do not cover, the effluent limitations[102] of the FWPCA are used to provide a standard of protection for surface waters to be achieved by solid waste management.[103] The RCRA approaches the solid waste problem in a two level manner depending on the type of solid waste involved.

A. HAZARDOUS WASTE

Hazardous waste[104] is treated differently from all other solid waste with federal control predominating in the former[105] and state control predominating where the latter is concerned.[106] Initially, a particular waste must be identified as hazardous by the Administrator.[107] Once identified, the hazardous waste becomes subject to a cradle-to-grave permit system.[108] This system emphasizes proper record keeping at all steps, informative labeling, protective containers, and use of a manifest designating the permitted disposition of the hazardous waste.[109] Owners and operators of treatment, storage, and disposal facilities must have a permit issued by the Administrator[110] and must heat, store, or dispose of all hazardous waste "pursuant to such operating methods, techniques, and practices as may be satisfactory to the Administrator...."[111] A state may also gain approval from the Administrator to operate its own hazardous waste program if the state program is "equivalent" to the federal program, is "consistent" with the federal programs or programs

approved in other states, and provides adequate enforcement of compliance with the RCRA's requirements.[112]

B. NON-HAZARDOUS WASTES

Non-hazardous wastes are handled through the development of state and regional plans for disposal of solid waste, maximization of resource use, and resource conservation.[113] A state is not required to participate, but federal technical and financial assistance is available only for states which develop plans meeting certain minimum requirements.[114] The basic program seems to be that minimal compliance will assure receipt of federal funds initially with more detailed plans required for continued federal approval.[115] The program for federal approval strongly emphasizes elimination of open dumps[116] and utilization of sanitary land fills[117] instead.[118]

Although the RCRA does not specifically address the problem of uncontrolled disposal of pollutants into the nation's territorial waters and the ocean, it nonetheless has important implications for a solution to that problem. Uncontrolled solid waste disposal in or near these waters could only add to the pollution problem and, in the case of hazardous wastes, add a deadly element to the pollution. Working to control the problem at its source the RCRA follows the method of both the FWPCA and the Ocean Dumping Act. Termination of uncontrolled solid waste disposal will aid in achieving the goal of clean water for the United States.

FOOTNOTES - PART IV

94. Pub. L. No. 94-580, § 2, 90 Stat. 2796 (codified in 42 U.S.C. §§ 6901-6987 (1976).

95. See 42 U.S.C. § 6901 (1976).

96. Id. (b)(2,3). The RCRA also notes that laws such as the FWPCA, in preventing the discharge of pollution into water, have caused the generation of greater amounts of solid waste in the form of sewage sludge and other residues. Id. (b)(3).

97. "Disposal" is defined as "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that ... waste or any constituent thereof may enter the environment or be emmitted into the air or discharged into any waters, including ground waters." Id. § 6903(3)(1976).

98. Id. (27). It must be remembered that both the FWPCA and the Ocean Dumping Act prohibit the dumping or discharge of radioactive materials into waters and by other means within their jurisdiction. See notes 28 and 85 and accompanying text, supra.

99. 42 U.S.C. § 6903(27)(1976). Both the FWPCA and the Ocean Dumping Act include solid waste in their definitions of "pollutant" and "dumping." See notes 16 and 78 and accompanying text, supra.

100. 42 U.S.C. § 6903(27)(1976).

101. However, it could be possible for the RCRA to be applied in areas covered by other legislation since §6905 provides that the RCRA shall not apply to activities or substances covered by the FWPCA, the Ocean Dumping Act, or the Atomic Energy Act unless such application is not inconsistent with those acts. Id. § 6905(a).

102. See notes 25-27 and accompanying text, supra.

103. 42 U.S.C. § 6907(a)(2)(1977). Solid waste management guidelines are found in 40 C.F.R. §§ 240.100--240.211-3 (thermal processing of solid wastes), 241.212-3 (land disposal of solid wastes), 243.100--243.204-2 (residential, commercial, and institutional solid waste), 244.100--244.203 (beverage containers) (1978).

104. The RCRA defines "hazardous waste" as:

> [A] solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may -
> (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
> (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed. 42 U.S.C. § 6903 (5)(1976).

105. See Id. §§ 6921-6931.

106. See Id. §§ 6941-6949.

107. Id. § 6921. Regulations pertaining to the criteria for identifying and listing a substance as hazardous are found at 4 Fed. Reg. 58,954, 58,954-58,955 (1978) (to be codified in 40 C.F.R.§§ 250.10-250.12). Regulations identifying hazardous waste characteristics and designating particular wastes as hazardous are found at 43 Fed. Reg. 58,954, 58,-955-58,959 (1978) (to be codified in 40 C.F.R. §§250.13-250.14).

108. See 42 U.S.C. §§ 6922-6925 (1976).

109. See generally id. for the statutory outlines of this permit system and Andersen, The Resource Conservation and Recovery Act of 1976: Closing the Gap, WISCONSIN LAW REVIEW 633 (1978) for a thorough discussion of the RCRA and the permit program.

110. 42 U.S.C. § 6925(a)(1976).

111. Id. § 6924.

112. Id. § 6926(b).

113. Id. § 6941.

114. Id. §§ 6941, 6943, 6947.

115. See id. §§ 6943-6947 and Andersen, supra note 109, at 665.

116. An "open dump" is defined as "a site for the disposal of solid waste which is not a sanitary landfill ...." 42 U.S.C. § 6903(14) (1976).

117. A sanitary landfill, at a minimum, is so classified "if there is no reasonable probability of adverse effects on health or the environment from solid waste at such facility...." 42 U.S.C. §6944(a)(1976).

118. Id.(b).

V. CONVENTION ON THE PREVENTION OF MARINE POLLUTION BY DUMPING OF WASTES AND OTHER MATTER.

The United Nations' Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter[119] became effective for the United States on August 30, 1975.[120] Recognizing that ocean pollution has become a problem of international importance and that, because of the free-flowing nature of the ocean, no nation can isolate itself from the problem, the nations which ratified the convention agreed to

> individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.[121]

The convention defines dumping somewhat narrowly as "any deliberate disposal at sea of wastes or other matter[122] from vessels, aircraft, platforms or other man-made structures at sea [or] any deliberate disposal at sea of vessels, aircraft, platforms or other man-made structures at sea."[123] The convention provisions apply only to "marine waters other than the internal waters of the states."[124]

A. PERMIT PROGRAM

Under the convention scheme, dumping of waste is prohibited unless a permit is issued by the member nation to dump matter that is loaded within its territory or is loaded on board a vessel registered in its territory when loading occurs in a non-member nation.[125] Under the permit program, the dumping of some material is absolutely prohibited;[126]

for other materials, a special permit is required;[127] and for all other material, a general permit is required.[128] Apparently, the only difference between a special permit and a general permit is that for a special permit permission must be granted "specifically on application in advance,"[129] while a general permit requires only that permission must be "granted in advance."[130] In addition, the list of pollutants requiring a special permit[131] recognizes that wastes containing these materials require "special care."[132]

A permit is not required when the dumping is necessary to save life or property in cases of "force majeure caused by stress of weather, or in any case which constitutes a danger to human life or a real threat to vessels, aircraft, platforms or other man-made structures at sea ..."[133] and if dumping is the only way to avoid the emergency, and also if the danger caused by the dumping is less than if the dumping did not take place.[134] Also, the prohibited materials of Annex I[135] may be dumped under a special permit in "emergency posing unacceptable risk relating to human health and admitting no other feasible solution."[136] Any nation issuing such a permit must notify all other countries likely to be affected by the dumping.[137]

Since the Ocean Dumping Act was modeled after the convention, it follows that the convention suffers from the same defects as the Act. The convention seems to apply only when the material has been taken on board for the purpose of dumping it into the ocean. It also seemingly applies only to intentional dumping. For example, under the convention, nothing could be done about accidental oil tanker spills unless the

oil was taken on board to be dumped which more than likely in the case of oil tankers, it is not. Furthermore, standing alone, the convention can do nothing. It is totally dependent upon the signing nations to enact legislation embodying the principles of the convention and to appropriately enforce such legislation.

FOOTNOTES - PART V

119. Opened for signature, December 29, 1972, 26 U.S.T. 2403, T.I.A.S. No. 8165.

120. 26 U.S.T. at 2405.

121. Id. at 2406, Art. I.

122. "Wastes or other matter" is defined as "material and substance of any kind, form or description." Id. at 2407, Art. III(4).

123. Id. at 2407, Art. III(1)(a).

124. Id. at 2407, Art. III(3).

125. Id. at 2409, Art VI(2).

126. These materials are listed in 26 U.S.T. at 2465, Annex I. They include, among other things, mercury, oil or any mixture of oil or oil derivatives when taken on board for the purpose of dumping high-level radioactive wastes, and biological or chemical warfare materials. 26 U.S.T. at 2465, Annex I.

127. These materials are listed in 26 U.S.T. at 2466, Annex II.

128. 26 U.S.T. at 2408, Art. IV (1)(c).

129. Id. at 2407, Art. III (5).

130. Id., Art. III (6).

131. See note 127, supra.

132. 26 U.S.T. at 2466, Annex II.

133. Id. at 2408, Art. V (1).

134. Id.

135. See note 126, supra.

136. 26 U.S.T. at 2408, Art. V(2).

137. Id.