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This article traces the traditional role of criminal sanctions in environmental protection, concentrating on the use of criminal penalties under state and federal statutory law. The author concludes that criminal sanctions are playing a decreasing role in the enforcement of environmental values. He contends that this is the wave of the future and that criminal penalties will hereafter only be used as additional leverage in particular cases.

ENVIRONMENTAL PROBLEMS AND THE USE OF CRIMINAL SANCTIONS†

*Joe Scott Morris**

RECENT news stories have illustrated the dichotomy of approaches taken to control pollution in this country.[1] The Federal Water Pollution Control Act[2] and the Federal Clean Air Act[3] are enforced by specific powers of abatement once the normal channels of administrative confrontation, negotiation, and review have proven ineffective in a given case.[4] Many state pollution control acts follow similar procedures.[5]

†Many of the criminal sanctions analyzed in this article are imposed by state statutes. This area is undergoing constant change and the reader should be warned that some of the statutes cited and referred to herein may be revised, repealed, or renumbered by the time of publication.

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1. *Compare* Wall Street J., June 11, 1971, at 4, col. 5, *with* Wall Street J., July 29, 1971, at 20, col. 4. The former as an article on agreements reached between the Environmental Protection Agency and the cities of Atlanta, Cleveland, and Detroit; the latter is an article on the criminal indictment of a chemical company in the Chicago area for air pollution.
2. 33 U.S.C. §§ 1151-75 (1970).
3. 42 U.S.C. § 1857(a)-(l) (1970).
4. 33 U.S.C. § 1160(f)-(h) (1970); 42 U.S.C. § 1857(d), (f)-(h) (1970).
5. For examples of state water pollution statutes see CONN. GEN. STAT. ANN. §§ 25-54i to -54q (Supp. 1971); IND. ANN. STAT. §§ 68-522 to -530 (1962); IOWA CODE ANN. §§ 455B-15 to -24 (1971); MONT. REV. CODES ANN. §§ 69-

In contrast, the Rivers and Harbors Act of 1899[6] makes the depositing of refuse in a navigable water body a misdemeanor and provides for criminal fines and imprisonment.[7] Some state statutes also make acts of pollution misdemeanors.[8] These different types of statutes are enforced, or not enforced, sometimes not so much according to the type of pollution involved but instead according to the type of polluter involved. These differentiations are not called for in the statutes themselves; they occur in a natural process of differentiation whereby the application of a civil or a criminal penalty is determined largely according to basic and ill-defined concepts of who is or is not capable of criminal activity and according to the efficacy of the penalty.

The public's confidence in the usual processes of pollution control—administrative regulation, abatement, and civil penalties—seems to be waning. A large part of this trend is no doubt due to the increasing coverage given environmental problems by the news media. Whether or not enviromental degradation is increasing, the growing coverage given to instances of pollution leaves the impression that things are getting worse instead of better. Persons working in environmentally-related professions are being asked more and more by laymen whether the imposition of criminal sanctions might not be a quicker and more effective solution to these problems than are the solutions now more commonly used. This type of questioning is not limited to laymen—many people working in environmentally-related professions are asking this same question.[9]

4820 to -4825 (Supp. 1971); ORE. REV. STAT. §§ 449.097, .100 (Repl. 1971). For examples of state air pollution statutes see CONN. GEN. STAT. ANN. §§ 19-513a (Supp. 1971), 19-514 to -518 (1958); LA. REV. STAT. §§ 40:2208, 2210-2213 (1965), 40:2209, 2214 (Supp. 1972); MINN. STAT. ANN. §§ 116.07, .08 (Supp. 1971); ORE. REV. STAT. §§ 449.815, .820, .825 (Repl. 1971).

6. 33 U.S.C. §§ 401-13 (1970).

7. *Id.* §§ 407, 411.

8. For examples of such statutes in the area of water pollution see ARK. STAT. ANN. § 82-1909 (Supp. 1971); MISS. CODE ANN. § 7106-127 (Supp. 1971); MO. ANN. STAT. § 204.170 (Supp. 1971); S.C. CODE ANN. § 63-195.35 (Supp. 1971). For examples of such statutes in the area of air pollution see ARK. STAT. ANN. § 82-1938 (Supp. 1971); GA. CODE ANN. § 88-916 (1971); NEV. REV. STAT. § 445.010 (1967); OKLA. STAT. ANN. tit. 82, § 910 (1970).

9. PRACTICING LAW INSTITUTE SYMPOSIUM, LEGAL CONTROL OF THE ENVIRONMENT (Miami Beach, Fla., June 24-25, 1971).

A consideration of possible future uses of criminal sanctions should first review the criminal sanctions that have been in use, via common law or statutory law, for a considerable period of time and the criminal sanctions included in some of the more recent statutes. The frequency of use, the degree of successful use, and the problems and failures that have occurred all must be considered.

The earliest use of criminal sanctions in pollution control was the application of the common law doctrine of public nuisance. At common law a public nuisance has always been punishable as a crime;[10] the criminal sanction has been retained in the many state statutes covering public nuisances.[11] The public nuisance, which pertains to interferences with the interests, comfort, or convenience of the general public,[12] must be distinguished from the private nuisance, which pertains to interference with the use or enjoyment of land.[13] The sanctions for a private nuisance are damages and abatement rather than criminal penalties,[14] although a nuisance that is both public and private is subject to criminal sanctions.[15] Likewise, abatement may accompany the imposition of a criminal penalty in the case of a public nuisance.[16]

In contrast to the nuisance statutes with their often broad and vague definitions, a significant number of specific statutes, both federal and state, apply criminal penalties to various types of polluting activities. The better known of the federal statutes will be considered individually, followed by an overview of the various approaches taken and sanctions imposed by state pollution control laws.

The Rivers and Harbors Act of 1899,[17] although of origins both ancient and not totally related to pollution,[18] is the *cause*

10. PROSSER, TORTS § 88, at 586 (4th ed. 1971).
11. *See, e.g.*, TEX. PENAL CODE ANN., art. 695, 698a §§ 2-4, 698c §§ 2-4, 698d § 2-4 (Supp. 1971).
12. PROSSER, *supra* note 10, at 583.
13. *Id.* at 591.
14. *Id.* at 602-04.
15. *Id.* at 604.
16. Laws v. State, 218 Tenn. 536, 404 S.W.2d 510 (1966); State v. Karsten, 208 Ark. 703, 187 S.W.2d 327 (1945).
17. 33 U.S.C. §§ 401-13 (1970).
18. The 1899 Act was in part a response to Rio Grande Dam & Irrigation Co. v. United States, 174 U.S. 690 (1899). In that case, the Supreme Court held that the legality of obstructions to the rivers' flow depended upon whether

celebre of the federal arsenal of anti-pollution laws. Although enacted principally for the control of obstructions in navigable waterways,[19] the Act is valued today for its two-pronged approach to the pollution of navigable waters and their tributaries: the imposition of a fine or imprisonment or both for dumping refuse of any kind into these waters[20] and the authorization of a permit system.[21] Even though the fines imposed under the Act are not very impressive by today's monetary standards[22] and even though imprisonment is limited to individuals,[23] the statute is serving as a deterrent to water pollution. Undoubtedly, it would be more of a deterrent if the monetary fines were larger and if the sanction of imprisonment was applicable to the officers of guilty corporations. A greater effect could be had from the Act if it were applied against all water polluters and not just against the "occasional or recalcitrant"[24] polluter. However, Department of Justice guidelines restrict its use to discharges which are "accidental or infrequent but which are not of a continuing nature."[25] The guidelines state that continuing pollution is to be abated by application of the Federal Water Pollution Control Act.[26]

there would be a substantial diminution in the river's navigable capacity. *Id.* at 710. The Court had difficulty with the language of section 10 of the 1890 Act. *Id.* at 707-08. The 1899 Act incorporated some of the provisions of the earlier acts and replaced others. Sections 407, 408, 411 and 412 of the 1899 Act superseded the Act of Aug. 18, 1894, ch. 299, §§ 6, 7, 8, 28 Stat. 363, which prohibited depositing refuse in navigable waters for the improvement of which money had been appropriated. Section 407 eliminated the need for money to have been appropriated and prohibited deposits of refuse in or on the banks of tributaries of navigable waters as well as in or on the banks of navigable waters themselves. Section 407 also superseded the Act of Sept. 19, 1890, ch. 907, § 6, 26 Stat. 453, which prohibited obstructing navigation by depositing refuse in navigable waters. Section 10 of the 1890 Act had been passed to reverse the rule of *Willamette Iron Bridge Co. v. Hatch*, 125 U.S. 1 (1888), wherein it was held that the then existing federal laws did not prohibit the creation of obstructions to navigable waters within a single state. It suffices here to observe that the 1899 Act, with its sometimes overlapping sections and its dependence upon earlier and equally incongruously drafted acts, is hardly a model of clarity of legislative purpose.

19. *Id.*
20. 33 U.S.C. § 411 (1970).
21. 33 U.S.C. § 407 (1970).
22. A fine of from $500 to $2500, or imprisonment of from thirty days to one year, or both is provided. 33 U.S.C. § 411 (1970).
23. *Id.*
24. *Justice Department Guidelines for Litigation Under the Refuse Act*, Current Developments Vol., 1 ENV. REP. 288 (1970). A portion of these guidelines is quoted in a letter to Attorney General Mitchell from the House Conservation and Natural Resources Subcommittee. 116 CONG. REC. 24530 (1970).
25. *Id.*
26. *Id.*

In view of the very weak sanctions of the latter act[27] and the built-in delays in its implementation,[28] skeptics might doubt if the restrictions on the 1899 Act were placed there to prevent interference with the more comprehensive Federal Water Pollution Control Act[29] or simply to facilitate the use of the 1899 Act to attain limited victories, the significance of which lies more in good public relations than in comprehensive pollution control. A good string of convictions of polluters under the 1899 Act has, after all, drawn widespread and favorable press coverage during the same time that relatively little progress has been made under the nation's chief weapon, the Federal Water Pollution Control Act.

An increasing number of conservation societies and individuals have attempted to force a more aggressive application of the 1899 Act by means of *qui tam* actions. The statute provides that the person or persons supplying information leading to a conviction may, in the court's discretion, be awarded one-half of the fine levied.[30] Because of the Justice Department's limitations on the situations in which it will bring actions, citizens have sought under the ancient *qui tam* doctrine to institute prosecutions themselves pursuant to the 1899 Act instead of supplying the information and waiting for their United States Attorney to file suit.

Although there are several cases, most of them dating back into the 1800's, allowing *qui tam* actions[31] under other statutes, the federal courts have so far consistently refused to

27. *See* 33 U.S.C. § 1160(g)(1), (2) (1970).
28. *See* 33 U.S.C. § 1160(c)(1)-(4), (d)(1)-(4), (e), (f)(1), (1970).
29. Such was the claim made by Assistant Attorney General Shiro Kashiwa in a letter to Congressman Henry Reuss, Chairman of the House Conservation and Natural Resources Subcommittee. 116 CONG. REC. 24530 (1970). A court has held that the 1899 Act *does* apply to pollution of a continuing nature and *is not* superseded by the Federal Water Pollution Control Act. United States v. Maplewood Poultry Co., 327 F.Supp. 687 (D. Me. 1971). Another court has held that compliance with the standards of the Federal Water Pollution Control Act is *not* a defense to criminal charges under the 1899 Act. United States v. Pennsylvania Industrial Chemical Co., 329 F. Supp. 1118 (W.D. Pa. 1971).
30. 33 U.S.C. § 411 (1970). *Miller v. United States*, ... F.2d ..... (4th Cir. 1971) held that one-half of the fine must be awarded the informant; that the award is mandatory, not discretionary.
31. Adams, *qui tam* v. Woods, 1 U.S. 492 (1804); United States *ex rel* Pressprich Son Co. v. James W. Elwell & Co., 250 F. 939 (2d Cir. 1918) (dicta); United States v. Stocking, 87 F. 857 (D. Mont. 1898); United States v. Laescki, 29 F. 699 (N.D. Ill. 1887); Chicago and Alton R.R. Co. v. Howard, 38 Ill. 414 (1865).

allow *qui tam* suits under the 1899 Act.[32] None of the older cases allowing *qui tam* actions concerned statutes containing language like the following: "The Department of Justice *shall* conduct the legal proceedings necessary to enforce the provisions of [section] . . . 407 . . . of this title."[33] A bill has been introduced to amend the 1899 Act so as to allow *qui tam* actions.[34] Only one of the cases in which the *qui tam* was disallowed has been reviewed by a court of appeals.[35] The future of this unusual procedure may be determined by any one of three bodies: the courts of appeal, Congress, or by the Department of Justice. If the Department of Justice changed its enforcement policy under the Act, *qui tam* suits would be unnecessary.

Two features of the 1899 Act increase its facility as a preventative device and should be included in other pollution control statutes. First, the Act does not require proof of criminal intent or knowledge.[36] Second, imposition of the criminal penalty does not bar the civil remedies of injunctive relief[37] and damages.

Aside from the Rivers and Harbors Act, the use of criminal sanctions in federal control of water pollution is

32. Bass Anglers v. Scholze Tannery Inc., 329 F. Supp. 339 (E.D. Tenn. 1971); Bass Anglers v. U.S. Plywood—Champion Papers, Inc., 324 F. Supp. 302 (S.D. Tex. 1971); Bass Anglers v. U.S. Steel Corp., 324 F. Supp. 412 (D. Ala. 1971) *aff'd per curiam*, Bass Anglers v. Koppers, 447 F.2d 1304 (5th Cir. 1971); Connecticut Action Now, Inc. v. Roberts Plating Co., 330 F. Supp. 695 (D. Conn. 1971); Enquist v. Quaker Oats Co., 327 F. Supp. 347 (D. Neb. 1971); Gerbing v. I.T.T. Rayonier Inc., 332 F. Supp. 309 (M.D. Fla. 1971); Matthews v. Florida-Vanderbilt Co., ____F. Supp. ____ (S.D. Fla. 1971); United States *ex rel* Mattson v. Northwest Paper Co., 327 F. Supp. 87 (D. Minn. 1971); Reuss v. Moss-American Inc., 323 F. Supp. 848 (E.D. Wis. 1971); Durning v. I.T.T. Rayonier Inc., 325 F. Supp. 446 (W.D. Wash. 1970).

33. 33 U.S.C. § 413 (1970) (emphasis added).

34. H.R. 9355, 92d Cong., 1st Sess. (1971). This bill would allow the United States Attorney 60 days from the date of notification of a violation to institute and maintain either a criminal or civil action against the violator; otherwise the complainant would have standing in a *qui tam* action. It should be noted that a strong case for allowing *qui tam* actions under the 1899 Act, *unamended*, is made in STAFF OF CONSERVATION AND NATURAL RESOURCES SUBCOMMITTEE, 91ST CONG., 2D SESS., QUI TAM ACTIONS AND THE 1899 REFUSE ACT: CITIZEN LAWSUITS AGAINST POLLUTERS OF THE NATION'S WATERWAYS (Comm. Print 1970).

35. Bass Anglers v. Koppers, 447 F.2d 1304 (5th Cir. 1971), *aff'g sub nom.* Bass Anglers v. U.S. Steel Corp., 324 F. Supp. 412 (D. Ala. 1971).

36. United States v. U.S. Steel Corp., 328 F. Supp. 354 (N.D. Ind. 1970); United States v. Interlake Steel Corp., 297 F. Supp. 912, 915 (N.D. Ill. 1969).

37. Wyandotte Trans. Co. v. United States, 389 U.S. 191, 202 (1967); United States v. Perma Paving Co., 332 F.2d 754, 758 (2d Cir. 1964).

limited to pollution by oil. The Federal Water Pollution Control Act provides a $10,000 civil penalty for the person in charge of a facility or a vessel making an illegal discharge of oil into navigable waters or their adjoining shorelines.[38] It provides, however, a criminal penalty for failure to immediately notify the appropriate federal agency as soon as knowledge is acquired of such a discharge of oil.[39] The penalty is a fine of not over $10,000, or imprisonment for not over one year, or both.[40] Although there are no reported cases under the statute, as amended in 1970,[41] the predecessor statute shared some common characteristics with the Rivers and Harbors Act: there was no necessity of proving an intention to pollute[42] and, once the physical facts of pollution were established, the burden of proof was upon the defendant.[43] An escape of oil into navigable waters because of an unavoidable accident did not violate the old statute, but where the escape could have been foreseen and prevented there was a violation.[44]

A comparison of state pollution control statutes produces some very interesting statistics: thirty-five states make water pollution a misdemeanor,[45] while only seventeen states make air pollution a misdemeanor;[46] thirty-three states provide civil fines for air pollution,[47] while only eighteen states pro-

38. 33 U.S.C. § 1161(b)(5) (1970).

39. 33 U.S.C. § 1161(b)(4) (1970).

40. *Id.*

41. Water Quality Improvement Act of 1970, 33 U.S.C. § 1161 (1970), *formerly* § 211, 80 Stat. 1246 (1966), *formerly* ch. 316, § 3, 43 Stat. 605 (1924).

42. United States v. The Catherine, 212 F.2d 89 (4th Cir. 1954); The Pam-Am, 148 F.2d 925 (3d Cir. 1945).

43. United States v. The Catherine, 212 F.2d 89, 92 (4th Cir. 1954).

44. Hegglund v. United States, 100 F.2d 68 (5th Cir. 1938).

45. Alabama, Alaska, Arizona, Arkansas, California, Georgia, Idaho, Illinois, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, West Virginia, and Wyoming.

46. Alaska, Arizona, Arkansas, California, Georgia, Kentucky, Massachusetts, Minnesota, Mississippi, Nebraska, Nevada, North Carolina, North Dakota, Oklahoma, Rhode Island, South Carolina, and Washington.

47. Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Missouri, Montana, New Hampshire, New Jersey, New Mexico, New York, Ohio, Pennsylvania, South Dakota, Tennessee, Texas, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

vide civil fines for water pollution;[48] sixteen states provide *specific* statutory authority for the abatement of water pollution,[49] while sixteen provide the same authority for abatement of air pollution.[50] Eighteen states provide specific criminal sanctions against water pollution but not against air pollution: Alabama, Idaho, Illinois, Kansas, Louisiana, Maryland, Michigan, Missouri, New Jersey, New York, Ohio, South Dakota, Tennessee, Texas, Utah, Vermont, West Virginia and Wyoming. At least six of these are heavily industrialized states with severe air pollution problems. Only one state, Washington,[51] provides criminal sanctions against air pollution while not providing them against water pollution. One state, Massachusetts, has criminal sanctions for both types of pollution but has considerably more severe penalties for water pollution than for air pollution.[52] One state, Nebraska, has had criminal sanctions against both types of pollution, while providing more severe penalties for air pollution than for water pollution.[53] Now, however, Nebraska provides the same penalty for both.[54] The effectiveness of any penalty is, of course, as much dependent upon the vigor with which it is applied by the enforcing agency as upon the severity of its terms. No data is available on the degree of enforcement of

48. California, Delaware, Florida, Georgia, Idaho, Indiana, Maine, Nevada, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Texas, Vermont, Virginia, Washington, and Wisconsin.

49. Arizona, California, Connecticut, Idaho, Indiana, Iowa, Kentucky, Minnesota, Nebraska, New Mexico, New York, Oregon, Rhode Island, Tennessee, Texas, and Virginia.

50. Alabama, California, Colorado, Connecticut, Maryland, Minnesota, Missouri, New Hampshire, New Mexico, New York, Oregon, Rhode Island, Texas, Utah, Wisconsin, and Wyoming.

51. *Compare* Wash. Rev. Code Ann. § 70.94.430 (Supp. 1971) (air pollution), *with* § 90.48.144 (Supp. 1971) (water pollution).

52. *Compare* MASS GEN. LAWS ch. 21, § 42 (Supp. 1971) (civil fine of not over $1000 for water pollution; each day a separate offense) *and* ch. 21 § 58 (Supp. 1971) (criminal fine of not over $5,000 and imprisonment of not over six months, or both; applicable to disposal of hazardous materials in State's waters), *with* MASS. GEN. LAWS ch. 111, § 142A (1967) (fine of $10-$50 for first air pollution offense; fine of $20-$100 for each succeeding offense). Alaska had the greatest disparity in penalties for water and air pollution until July 1, 1971. The penalty for air pollution was only a fine of $10-$50, or from five to twenty-five days in jail, or both. ALASKA STAT. § 18.30.230 (1969). The penalty for water pollution was a fine of not over $25,000, or imprisonment for not over one year, or both. ALASKA STAT. § 46.05.210 (1962). The penalties formerly reserved only for water pollution now are used for both air and water pollution. ALASKA STAT. § 46.03.760 (1971).

53. Ch. 425, § 1(7), [1965] Neb. Laws 1360 (repealed 1971) (water pollution); ch. 554, § 18(1), [1969] Neb. Laws 2259-60 (repealed 1971) (air pollution).

54. NEB. REV. STAT. § 81-1508 (Supp. 1971).

these state statutes. Although a majority of the states have criminal penalties for water pollution and not for air pollution, this author has no way of knowing how rigorously the penalties are applied.

Several states have created extra requirements for the application of their criminal statutes, thereby reducing the likelihood of their successful application. For water pollution New York requires proof of willfulness;[55] North Carolina requires willfulness in order for each day of continued pollution to be charged as a separate violation;[56] Pennsylvania requires a continued violation.[57] For air pollution Kentucky requires proof of willfulness,[58] and Massachusetts applies criminal penalties only in the case of a second offense.[59] All of these limiting restrictions have less overall importance than the basic problem: the criminal sanctions are not well-suited to corporations and other forms of business organizations. Corporations have little to fear from their application.[60] The underlying ineffectiveness of the remedy naturally influences the enforcement agency's choice regarding which of the various sanctions at its disposal it will use in a given case. The repeated passing over of the criminal sanctions in favor of other remedial devices further lessens the efficacy of that penalty over a period of time.[61]

Perhaps it is just as well that criminal sanctions play a decreasing role in environmental protection. The ever-increasing demands of a burgeoning population[62] upon our natural resources will require, for economic reasons as well as for

55. N.Y. PUB. HEALTH § 1252 (McKinney 1971).
56. N.C. GEN. STAT. § 143-215.6(b) (1964).
57. PA. STAT. ANN. tit. 35, § 691.602(b) (Supp. 1971).
58. KY. REV. STAT. § 224.990(3) (Supp. 1968).
59. MASS. GEN. LAWS, ch. 111, § 142A (1967).
60. PACKER, THE LIMITS OF THE CRIMINAL SANCTION 361 (1968). New Jersey even goes so far as to specifically exempt corporations from the criminal sanction, while applying it to individuals. N.J. STAT. ANN. § 58:10-16 (1966).
61. Even the Model Penal Code has very weak provisions for applying criminal penalties to corporations. MODEL PENAL CODE §§ 2.07(1)(c), 2.07(5) (Proposed Official Draft, 1962). Reasonably strong penalties may be found in sections 6.04(1), (2)(a), but the likelihood that they could be applied is not great in light of the weak provisions for application found in section 2.07.
62. EHRLICH & EHRLICH, POPULATION AND RESOURCES ENVIRONMENT 332 (1970).

environmental protection, that the entire process of resource utilization, from production of raw material to delivery of the product or service, be subjected to comprehensive planning and controls. An example is the energy shortage that may well emerge in the next twenty to thirty years.[63] Consumer demands for electricity, coupled with technological advances, will probably result in the building of fewer but larger electricity generation plants.[64] Although these plants will be more efficient and their lower-cost electricity will make possible lower-cost steel, rubber, and other basic goods, their very size will present new problems. Such a plant's total discharge of heat and other wastes concentrated at one place will be very large and thus harder to neutralize than would the discharges of several smaller plants, having the same generating capacity as the larger, more centralized plant, but scattered about the countryside.[65] Additionally, environmental damage will result from the necessity of transporting fuels (whether oil, coal, or natural gas) longer distances from the source to the generating plant and from the necessity of transferring the electric power longer distances from plant to consumer.[66]

Inasmuch as the production of energy and basic goods inevitably will become subject to increasingly comprehensive planning and regulation with government licensing or other controls present at every stage of the process, the traditional role of *remedies* will diminish. Whether civil or criminal in nature, remedies, as we know them in their traditional function of redressing violations of *rights,* will be reserved for the more peripheral areas of our economy—for those areas of production and distribution that are so localized as to escape the full impact of government licensing and control. In whatever limited role remedies may play, it is most probable that civil rather than criminal penalties will prevail; pollution

63. STAFF OF ENVIRONMENTAL POLICY DIVISION, LEGISLATIVE REFERENCE SERVICE, 91ST CONG., 2D SESS., THE ECONOMY, ENERGY, AND THE ENVIRONMENT 9 (electricity), 55 (oil), 61 (natural gas) (Joint Comm. Print 1970).

64. *Id.* at 88-90.

65. *Id.* at 90.

66. *Id.* at 116. Likewise, pipelines for the transportation of oil or natural gas to the electricity generating plant or railroads and pipelines for the transportation of coal will be longer and will cause increased damage to the environment.

will be looked upon more as a violation of economic necessities and values than as a violation of moral values.

For the immediate future too, patterns for pollution controls are being resolved in favor of civil remedies.[67] The weighing and comparison of the many environmental, economic, and social values involved in choosing proper remedies has been resolved largely in favor of the processes of negotiation and reconciliation. The most likely use of criminal sanctions in both the near and distant future is as additional leverage in particular cases,[68] rather than as a widely used and integral part of comprehensive schemes for economic regulation and administrative controls.

67. *See* Federal Water Pollution Control Act, 33 U.S.C. § 1160 (f)-(h) (1970); Federal Clean Air Act, 42 U.S.C. § 1857(d), (f)-(h) (1970). *See also* Texas Water Quality Act, TEX. WATER CODE § 21.252 to .254 (1972); Texas Clean Air Act, TEX. REV. CIV. STAT. art. 4477-5 (Supp. 1972). These two statutes are typical of what may be expected in the future as the federal government increasingly takes over, directly or indirectly, environmentally-related functions. The various state statutes will inevitably tend to conform to the patterns set by the federal acts. It is perhaps significant that the Texas Water Quality Act does provide criminal sanctions. These criminal provisions, however, are indistinguishable from the civil fine, i.e., they provide only for a fine and do not impose any incarceration for offenders or their officers or agents. Texas Water Quality Act, TEX. WATER CODE § 21.553 (1972). Moreover, the Texas Act itself seems to treat the criminal sanctions as being either identical to the civil fine or at least cumulative to the civil remedies. Texas Water Quality Act, TEX. WATER CODE § 21.562 (1972).

68. *See* notes 17-29 *supra* and accompanying text.