Justice Blackmun, speaking for the majority of the Supreme Court, dismissed the appeal because the lower court's decision was not final, but he warned that "we are frank to say that the federal constitutional aspects of that [the taking] issue are not to be cast aside lightly. . ."[176] Justice Brennan, in his dissent, argued that the decision by the California Court of Appeals holding that a state regulation could not be a taking under federal law was a final judgment on this matter, subject to Supreme Court review. He argued further that the Court of Appeals had applied a misinterpretation of federal law and that "once a court finds a police power regulation has effected a 'taking' the government entity must pay just compensation for the period commencing on the date the regulation first effected the 'taking', and ending on the date the government entity chooses to rescind or otherwise amend the regulation."[177]

Tests for a taking. Federal and state court decisions during the decade emphasized similar factors in deciding whether a taking had occurred. Several tests were often simultaneously applied. The taking issue was not usually addressed in isolation but in combination with questions about the validity of the regulatory objectives, the reasonableness, basic fairness (due process) and nondiscriminatory nature of the regulations.[178] Regulations that were deficient in other aspects were in several instances held to be a taking.[179] The usual final test was, Did the regulations prevent all economic or reasonable use of the land? The entire parcel was generally examined, not just the area subject to flooding.[180] Regulations which confined property to open space uses were sustained in a number of important decisions.[181]

Preventing nuisances--Without exception, courts held that prevention of nuisances on private lands was not a taking. Regulations controlling uses that would be "nuisance like" in causing damage to

adjacent lands or threatening public safety do not take any property right because landowners have no right to make nuisances of themselves. During the 1970s many cases upheld floodway and other regulations designed to prevent offsite nuisance-like effects even when those regulations prohibited all or essentially all economic use of lands.[182]

Physical interference with private lands--In contrast with the decisions on nuisance prevention, courts have almost always held that public activities which physically interfere with private lands constitute a taking. For example, public construction of a dune on private land which had been damaged by a severe storm in March 1962, was held to be a taking.[183] But several courts held that because regulations do not physically interfere with private lands, they do not constitute takings.[184]

"Public use" of private land--Courts have usually held that natural conveyance of flood flows, flood storage, erosion control, and other passive flood hazard reduction functions are not public uses of private land that require compensation.[185] As one court in a floodplain case noted, "[T]he State has not placed appellant's land in the path of floods, nature has."[186] Floodplain regulations do not enhance any government enterprise.[187]

Balancing private and public interests--Courts generally have balanced society's need for regulations against the impact of regulations on private landowners: severe impact on individual property owners can be justified when the public need is great. In recent years courts have come to rely increasingly on the legislative process to balance the needs and impacts and have minimized judicial oversight.[188]

Equity in the distribution of benefits and burdens--Courts noted that government actions which "unfairly" burden a few for the good of the many may be held a taking, although during the decade no floodplain regulations were held invalid on equitable grounds alone. Two Supreme

Court decisions cited above and many lower court decisions on takings have stressed the need for equity in regulations.[189] However, a Massachusetts decision[190] upheld regulations for a wetland flood storage area to prevent increased downstream flood losses despite arguments that regulations benefited downstream property owners without reciprocal benefits to upstream owners. The court held that "as long as the restrictions are reasonably related to the implementation of a policy. . . expected to produce a widespread public benefit and applicable to all similarly situated property," they need not produce a reciprocal benefit.[191]

Regulations adopted to serve regional, statewide, or national needs and which apply uniformly to flood-prone properties are less likely to be held a taking. In finding that no taking had occurred, several courts emphasized the role of regulations as part of a broader plan or program.[192]

Diminution in value--Courts held that regulations may diminish property values, but that at some point such diminution will constitute a taking. This test has been cited in many cases during the last decade, but rarely has it been more than one of several factors considered.[193] Instead, courts have paid more attention to whether the regulations deny all reasonable use of the land.

Denial of all reasonable or economic use of land--The most common "final" test for taking during the decade was whether regulations denied all "reasonable" or "economic" use of land. A detailed economic analysis was rarely undertaken. In a number of cases, courts have found that agriculture, forestry, and other open space uses were "reasonable" in certain contexts.[194] Courts also held that the regulation's impact on an individual's entire property, not just the floodplain portion, must be considered in deciding whether reasonable uses remain.[195] Although

courts emphasized, as a matter of principle, that regulations must not prohibit all reasonable use, in several cases they held that proposed uses that would increase flood heights or would be subject to severe flood damages were not reasonable, despite few remaining economic uses for the land.[196]

No right to destroy the natural suitability of the land--Several courts held that landowners had no right to destroy the natural suitability or capability of lands. Hence, prohibition of uses threatening such suitability was not considered a taking. In one wetland case,[197] the court sustained the constitutionality of state-supervised shoreland regulations. The decision was based in part on the public trust in waters and also on the theory that a landowner has no right to destroy the natural suitability of the land when such uses will injure the public: no right was "taken" by the regulations. In effect, paramount public interests were recognized in private wetlands.

Wetland and other resource protection regulations. Restrictive wetland regulations have been widely litigated over the last decade, primarily on the taking issue. Most courts have sustained restrictive regulations, particularly in the last five years.[198] Before 1970, most decisions were adverse to highly restrictive wetland regulations, giving rise to the caveats in Volumes 1 and 2[199] that careful distinctions be drawn between floodplain regulations related to hazard reduction and wetland controls designed to protect wildlife and environmental resources. Continued distinction between hazard reduction and environmental regulations may be desirable in some instances to provide independent but interrelated bases for permit evaluation and support for regulations. However, regulations combined to reduce flood losses and protect wetlands may be mutually supportive in a legal context.

Decisions favorable to wetland protection include federal court cases sustaining Corps denials of Section 10 and Section 404 permits for dredging and filling in wetlands because the material could adversely affect wildlife, water quality, and other environmental values. For example, in Deltona Corp. v. United States,[200] the U.S. Court of Claims held that the denial of a permit by the Corps of Engineers to dredge and fill a mangrove wetland in Florida did not take private property. The court noted that denial of the permit would affect the usefulness of only a portion of the property.

State court decisions have been increasingly favorable as well. In Just,[201] the most famous of these, the Wisconsin Supreme Court flatly rejected earlier precedents from other jurisdictions that invalidated wetland controls and it upheld state-supervised county shoreland zoning restrictions as nonconfiscatory. Tight restrictions were not a taking, the court argued, because the landowner had no absolute right to improve the land:

> Is the ownership of a parcel of land so absolute that man can change its nature to suit any of his purposes? The great forests of our state were stripped on the theory man's ownership was unlimited. But in forestry, the land at least was used naturally, only the natural fruit of the land (the trees) were taken. The despoilage was in failure to look to the future and provide for the restoration of the land. An owner of land has no absolute and unlimited right to change the essential character of his land so as to use it for a purpose for which it was unsuited in its natural state and which injures the rights of others.[202]

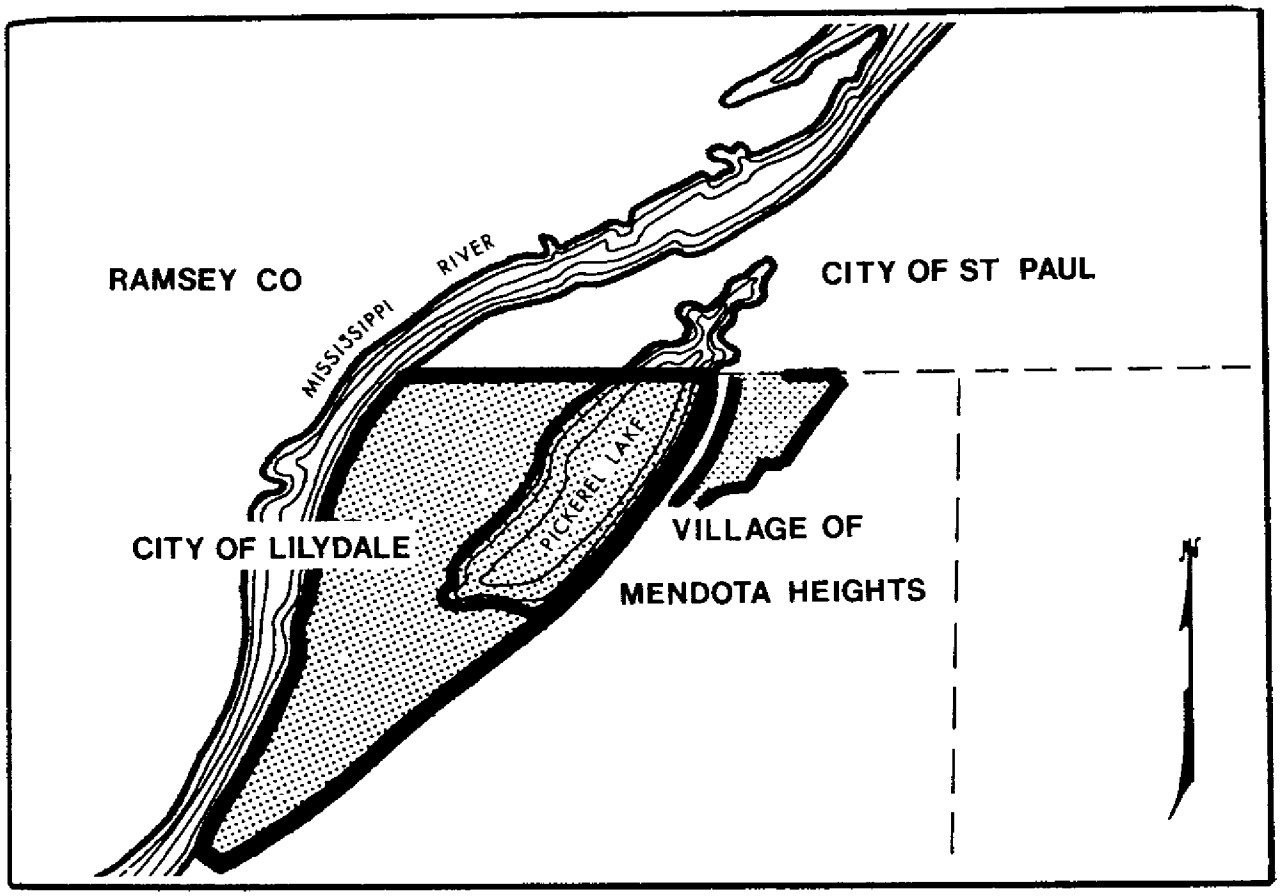
In Potomac Sand and Gravel Co.,[203] the Maryland Court of Appeals upheld a statute prohibiting dredging of coastal wetlands in Charles County. In Sands Point Harbor, Inc. v. Sullivan,[204] the New Jersey Supreme Court held that the New Jersey Coastal Wetland Act and an administrative order adopted pursuant to it served valid objectives, did not discriminate between similarly situated landowners, and did not take private property.

Courts have broadly endorsed a wide range of other resource protection and management regulations that apply, to a greater or lesser extent, to floodplains. Courts in Minnesota[205] and Oregon[206] have sustained special state or state-supervised regulations for recreational wild and scenic rivers or river corridors. Courts in California,[207] New Jersey,[208] and North Carolina[209] have sustained coastal zone management programs. Courts in many states have sustained agricultural zoning.[210] The courts of Wisconsin[211] and Washington State[212] have sustained shoreland regulations for lake and stream shores.

Relationship of regulations to acquisition. In several decisions, courts have considered the validity of floodplain regulations where public purchase of land was contemplated in the future. In County of Ramsey,[213] the Minnesota Supreme Court sustained floodplain regulations for severely flooded land intended for future park acquisition. The court held that minimization of flood damages and purchase of flood insurance were valid independent objectives, but warned that regulations designed solely to reduce property values would be a taking. Courts from other jurisdictions have endorsed a similar rule.[214] Zoning or other regulations (except official mapping of streets) solely to reduce future condemnation costs are a taking, but not regulations based on valid independent objectives that reduce land values only incidentally.

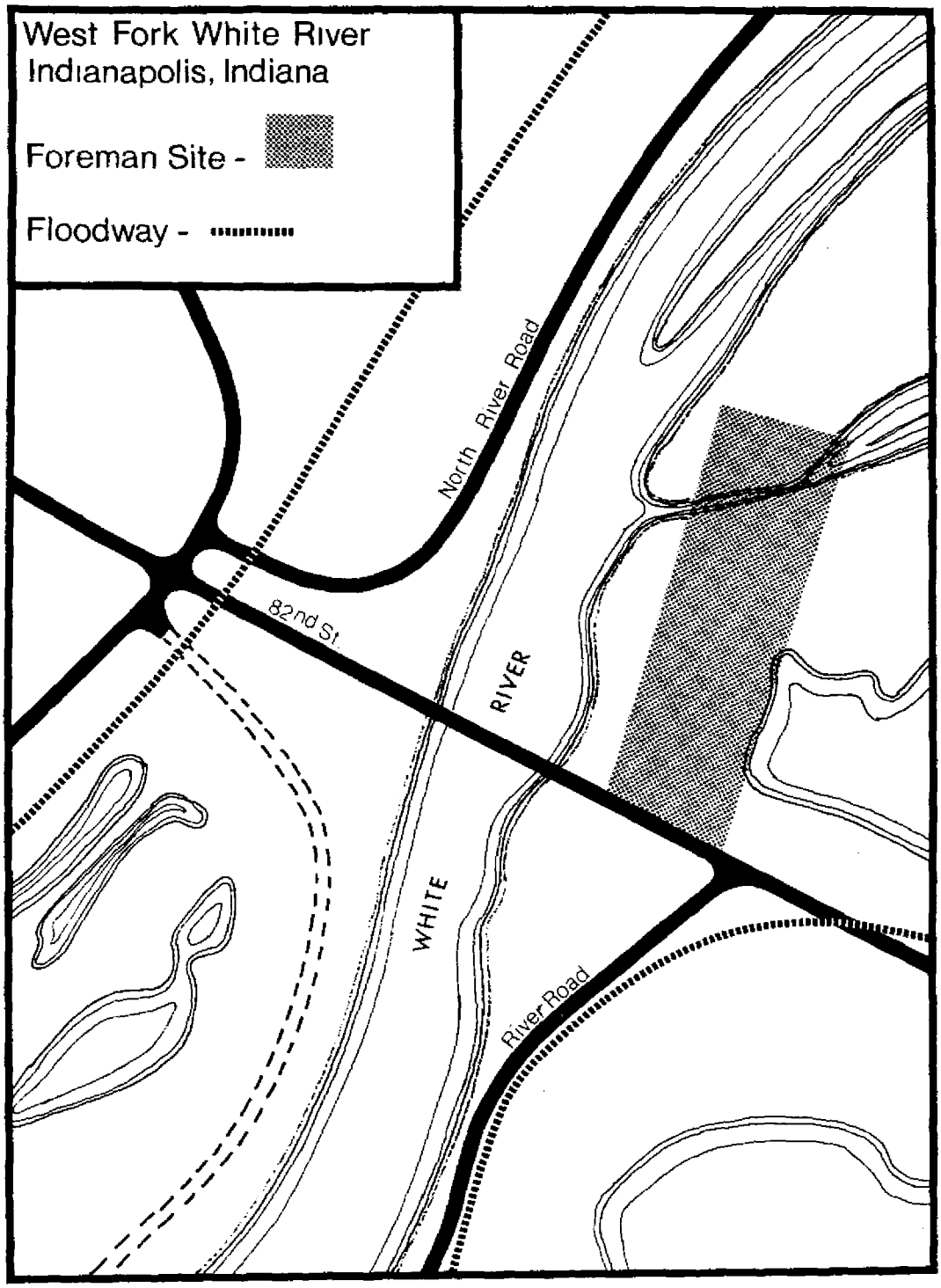
In Turner,[215] a California court sustained highly restrictive regulations in an area for which the Corps of Engineers had recommended acquisition of flowage easements. The court rejected arguments that payment should be provided for the restrictions and noted that it was the option of the government body to regulate rather than to acquire the lands.

In Foreman[216] a floodplain landowner questioned the validity of state encroachment regulations based in part on an argument that flood



Lilydale Relocation Project

The Minnesota Supreme Court in County of Ramsey v. Stevens upheld floodplain zoning as applied to this relocation area.



In Foreman v. State Department of Natural Resources, an Indiana court upheld the state's encroachment regulations.

easements should have been acquired instead because the state encroachment statute authorized both regulations and easements. The court rejected the landowner's contention and held that the state had the option either to regulate or to acquire the lands.

In both the Turner and Foreman cases, the landowners argued either that the regulations were invalid as a taking or that payments should be awarded for reduction in land values if the regulations were found valid (i.e., inverse condemnation). These arguments were rejected there and also in Zisk v. City of Roseville,[217] in which a California court held that a landowner could not claim compensation for floodplain restrictions while at the same time contesting the restrictions. Rather, he should have initiated a suit in eminent domain. A Pennsylvania case took a similar position.[218] Although no court awarded damages for floodplain restrictions, a Minnesota court warned that damages might be awarded in a case where the impact of regulations was too great.[219]

A New York court held that floodplain regulations with the ulterior motive of maintaining private land as a park were a taking where the owner offered to comply with applicable floodplain regulations.[220] The floodplain regulations were not, in themselves, an issue.

Cases invalidating regulations as a taking. Only two cases in the decade held that floodplain regulations were a taking. Both occurred in the early 1970s and were lower state court decisions. In both instances, the regulations were subject to other defects.

In Sturdy Homes, Inc. v. Township of Redford,[221] a Michigan court held that regulations were confiscatory when they were applied to an area with "no evidence of flooding." In American National Bank and Trust Co. of Chicago v. Village of Winfield,[222] an Illinois court generally supported the concept of regulation to protect aquifer recharge, flood storage, and open space, but it stated that restriction of a 32-acre

parcel (70% within the floodplain) to single-family residences was unreasonable. Fill for such residences would have cost $4,192 to $12,577 an acre. The land was only worth $6,000 an acre for single-family use.

A lower court case from New York also held that denial of a permit under a dune protection ordinance (not a floodplain ordinance per se) was invalid, although the regulations were not, per se, a taking.[223] The irregular procedures followed by the town may have had much to do with the holding, however. The town board had first issued a permit for a dwelling on a dune and then denied it pursuant to a dune protection ordinance. Construction had already commenced after revocation of the permit.

Governmental Liability for Flood Damages

Courts traditionally have not held federal, state, or local governments liable for flood damage except where land has been permanently flooded because of dam construction or other government projects. However, this position has changed as Congress and state legislatures have made units of government responsible for some types of flood damages. For example, in adopting the NFIP, Congress has made the federal government responsible for payment of flood insurance claims. Based on common law theories of liability, courts have also been willing to hold governments liable for certain types of flood damages that result from construction of drainage facilities.

Liability for flood control and drainage measures. Courts have held that governments have no affirmative duty to construct flood control works and are not responsible for flood damages if dams, levees, or other protection works fail to provide flood protection.[224] This is generally true even if the works were operated negligently.[225] However, courts have found liability in certain circumstances. For example, a

court held a government body liable for construction of a dam that caused flooding which was "natural and probable," even though not intended, because the dam increased groundwater levels.[226]

In some jurisdictions, courts have held governments liable for construction of storm sewers that increased flooding on downstream land. For example, in Masley v. City of Lorain,[227] the Ohio Supreme Court held that the development of a portion of a creek as a stormwater system that increased flooding was a taking of property. Courts have also held municipalities liable for flood damages resulting from improperly designed storm sewer systems constructed by landowners and dedicated to the city.[228]

Liability for adoption of regulations. No court has held a government responsible for increased flood damages caused by adoption of regulations or failure to adopt regulations. Whether such a holding will occur at some time in the future in light of courts' liberalized positions on government responsibility remains to be seen. The court in Turner[229] hinted that a government unit might be liable for increased flood damages if regulations sustantially increased damages beyond those naturally occurring. In addition, the Minnesota Supreme Court in County of Ramsey[230] held that a community must adopt floodplain regulations pursuant to a state statute specifically requiring such adoption. Moreover, the court specifically ordered a noncomplying community to adopt regulations within 72 hours, although it stopped short of holding that financial liability would accrue from failure to do so. Even if a government unit was responsible, individual government officials would not be. In Gaebel v. Thornbury,[231] a Pennsylvania court held that individual council members were not personally responsible for the decrease in value caused by regulations.

Flood insurance payments. At least 25 cases have addressed some aspect of the National Flood Insurance Program. Although none has focused specifically on NFIP standards for floodplain regulations, the cases will be discussed briefly because the program is pertinent to state and local regulations.

In the best known of these cases, Texas Landowners Rights Association v. Harris,[232] a group of landowners and municipalities attacked the basic validity of the statutory framework of the NFIP pursuant to which FEMA establishes land use control standards as a condition to purchase of federally subsidized flood insurance. The District Court for the District of Columbia upheld the program and its regulations and issued a declaratory judgment, reasoning that subsidized flood insurance was a benefit and not a property right. A community could not claim a taking of property if insurance (benefits) or disaster relief (benefits) were denied for failure to comply with standards. The court also rejected arguments that the program violated the 10th Amendment by legislating matters exclusively within the prerogative of the states.

Although this was a lower federal court decision and, as such, does not act as a bar to later cases contesting particular aspects of the NFIP, it gives considerable support to the program's basic validity.

In another important decision, Commonwealth of Pennsylvania v. National Association of Flood Insurers,[233] a federal district court in Pennsylvania rejected a billion dollar claim against FIA by the Commonwealth of Pennsylvania after Hurricane Agnes. Pennsylvania argued that FIA had not publicized the National Flood Insurance Program, as required by statute. The court held that FIA had distributed brochures and carried out other public information activities.

Two federal court decisions sustained FIA suspension of communities from the NFIP because they failed to adopt "regular" program regulations.

In both cases the community contested the accuracy of the flood maps prepared by FIA. In one, Roberts v. Secretary, Department of Housing and Urban Development,[234] the district court held that maps taking into account existing conditions were sufficient. In the second, City of Falmouth,[235] the district court noted that the normal map appeal procedure had been followed and that if a community wanted further review, it could adopt the necessary ordinances required for the regular program while additional analysis was taking place.

Other decisions have addressed the payment of flood insurance claims. One court denied a claim for damage to construction materials placed on the ground without cover and damaged by flooding from Lake Erie.[236] Another court held that under the terms of the statute and insurance policies, a rug damaged when a patio was flooded was not "flood damage" compensable under the flood insurance act.[237] Similarly, another court held that damage to a house from gradual beach erosion not associated with severe storms was not compensable.[238] In contrast, one court held that damage to a slab foundation and patio for a beachfront cottage undermined by a hurricane was compensable because it was due primarily to a single severe event.[239]

Another court decided that damage to houses built on filled wetlands in Louisiana,[240] which was caused by flood-related soil compaction, was not compensable even though flooding in the area did increase groundwater levels.

Courts in several cases denied claims where insurance was purchased while a flood was in progress or on the day of the flood.[241] One court held that a private insurance company had to pay an insurance claim for damage to a property in a community not in the NFIP.[242] An insurance agent erroneously accepted a check for a flood insurance policy, submitted

an application form, and cashed the check before learning that flood insurance was not available.

One court upheld total loss payments for a partially damaged structure because repair would have been impractical. In this case, Gibson v. Secretary of U.S. Dept. of Housing and Urban Development,[243] a district court held that landowners were entitled to recover costs for constructing a residence at a new location, despite the physical possibility of repairing the structure at the existing location at a much lower price. Flooding had created a permanent channel around the west side of a house, separating it from the stream bank and increasing the flood risk to the point that repair was impractical.

Courts in other flood insurance cases have dealt with procedural issues such as running of the statute of limitations for filing insurance claims;[244] payment of interest and attorney's fees;[245] whether federal courts have exclusive jurisdiction over the flood insurance program (they do not, but federal law must be applied);[246] and whether the federal government could assume issuance of policies from the National Flood Insurers Association (it could).[247]

Avoiding Legal Problems

During the 1980s state and local governments will be able to regulate floodplain areas with greater confidence because of the last decade's favorable court decisions on the taking issue, the sufficiency of floodplain enabling statutes, regulatory objectives, and maps. They can also adopt broader resource management programs with flood-hazard reduction components due to the widespread support for wetland, coastal zone, and other environmental regulations during the decade. Despite greater confidence, communities and states should carefully prepare and implement regulations to avoid legal problems. Where there are questions concerning

the validity of adoption procedures (e.g., for resolutions) regulations should be readopted.

States and local governments should design programs to avoid inverse condemnation ("taking") problems. One way of doing this is to focus regulatory goals and standards upon the "nuisance" impacts of floodplain activities such as cumulative increases in flooding, pollution, or other damages to adjacent, upstream, or downstream lands. Courts have been sympathetic to regulations designed to prevent any increased damage to other lands, including not only traditional floodways but also zero-rise floodway restrictions, dune protection regulations, flood storage and stormwater detention regulations, strict control of chemical and gasoline storage and other hazardous and nuisance uses in the floodplain. The difficulties posed by the taking issue can also be diminished by applying regulations consistently to similarly situated properties and by distinguishing between the application of regulations (controlling private use) and eminent domain powers (some measure of public use).

For less seriously flooded areas, regulations can permit low-density, flood-protected structural development or open spaces with economic return such as golf courses, agriculture, forestry, and recreation. The impacts of regulation can be reduced through cluster subdivision provisions, density bonus provisions, and real estate tax incentives. Special permit procedures can provide room for negotiation between landowners and the community or the state.

Comprehensive community planning and regulations and even-handed administration of regulations will also help to meet taking challenges because courts carefully examine the overall rationality and fairness of regulations in deciding whether a taking has occurred.

Governments should provide a sound factual base (maps and other data) for regulations and for the issuance and denial of permits since courts now examine the data base with increasing care. Floodplain maps should be upgraded as watershed conditions change, new flood data becomes available, or development pressures occur. Nevertheless, relatively small-scale and inaccurate maps may suffice where administrative procedures are available to upgrade data on a case-by-case basis as development permits are submitted.

It is also important that the raw data used to prepare maps be preserved for future support of regulations in court. Communities and states should retrieve such information from flood insurance study contractors before the data are lost. Contractors are required to keep it no longer than five years. It is also important that states and communities use experts in hydrology, water resources engineering, and other water-related subjects in fact finding to form the basis for issuance or denial of permits.

Governments should, to the extent possible, provide similar degrees of regulation for similarly situated flood-prone properties since courts are increasingly concerned with the fairness and equity of regulations. In general, regulatory agencies should define floodway lines to provide conveyance on both sides of a stream. However, mathematical precision is not necessary for setting boundaries. Uniform flood protection elevations should be applied to similarly flooded properties. Only when there are sound reasons should distinctions be made between similarly situated properties.

Regulations should be consistent with broader community and regional planning goals and guidelines. Courts more easily justify the rationale and equity of regulations that are based on soundly conceived short-term and long-term comprehensive data-gathering, planning, and regulatory

programs. Comprehensive data-gathering may include community-wide or regional resource inventories. Comprehensive planning may include that done for floodplain management, disaster mitigation, drainage, and land use management.

Governments should review floodplain permits and subdivision plans with care to avoid potential claims of liability which may arise if development increases flood heights. To avoid such liability, agencies may require that landowners whose activities increase flood heights on other lands purchase easements from other affected landowners. Governments should also define floodway boundaries to avoid substantial flood height increases. They should describe flood maps as approximate and warn that larger flood events may occur. Governments should also construct and operate drainage works, dikes, dams, and other flood control measures with increasing care in light of the emerging doctrines of municipal liability. In short, governments should avoid any action which may increase private flood damages.

Footnotes

1. See discussion at p. 203.

2. 272 U.S. 365 (1926).

3. 277 U.S. 183 (1928).

4. See Water Resources Council *et al.* (1970), Appendix A, p. 467 and (1971).

5. *Id.* at 24. See also J. A. Kusler Associates (1975).

6. See Water Resources Council *et al.* (1970) at 59.

7. See J. A. Kusler Associates (1975) at 18.

8. See Water Resources Council *et al.* (1970) at 42.

9. *Id.* at 297.

10. *Id.* at 301, 314.

11. *Id.* at 392.

12. *Id.* at 326, 330, 338.

13. *Id.* at 326, 335.

14. *Id.* at 326.

15. *Id.* at 356, 364.

16. *Id.* at 340.

17. *Id.* at 340, 354.

18. *Id.* at 389.

19. *Id.* at 305, 392.

20. *Id.* at 302.

21. 283 N.W.2d 538 (Minn. 1979).

22. 276 N.W.2d 377 (Iowa 1979).

23. 395 N.E.2d 880 (Mass. App. Ct. 1979).

24. 387 N.E.2d 455 (Ind. App. 1979).

25. 88 Wash.2d 726, 565 P.2d 1162 (1977).

26. 173 N.J. Super. 311, 414 A.2d 280 (1980).

27. 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973).

28. 57 A.D.2d 51, 394 N.Y.S.2d 913 (1977).

29. Mass. App. Ct. Adv. Sh. (1980) 637.

30. 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972).

31. 116 N.J. Super. 148, 281 A.2d 377 (1971).

32. 90 Misc.2d 360, 394 N.Y.S.2d 517 (1977).

33. 126 N.J. Super. 200, 313 A.2d 624 (1973).

34. 247 N.W.2d 684 (S.D. 1976).

35. 430 F.2d 199 (5th Cir. 1970).

36. E.g., P.F.Z. Properties, Inc. v. Train, 393 F.Supp. 1370 (D.D.C. 1975).

37. Avoyelles Sportsmen's League v. Alexander, 473 F.Supp. 525 (W.D. La. 1979).

38. United States v. Byrd, 609 F.2d 1204 (7th Cir. 1979); Minnehaha Creek Watershed District v. Hoffman, 597 F.2d 617 (8th Cir. 1979).

39. 266 Md. 358, 293 A.2d 241 (1972), *cert. denied*, 409 U.S. 1040 (1972).

40. 116 R.I. 54, 352 A.2d 661 (1976).

41. 56 Wis.2d 7, 201 N.W.2d 761 (1972).

42. 115 N.H. 124, 336 A.2d 239 (1975).

43. 399 So.2d 1374 (Fla. 1981).

44. 57 A.D.2d 51, 394 N.Y.S.2d 913 (1977).

45. 243 Ga. 577, 255 S.E.2d 63 (1979), *cert. denied*, 440 U.S. 936 (1979).

46. E.g., Cinelli v. Whitfield Transportation, Inc., 83 N.M. 205, 490 P.2d 463 (1971); Hamlin v Matarazzo, 120 N.J. Super. 164, 293 A.2d 450 (1972).

47. 108 Ill.App.2d 230, 247 N.E.2d 47 (1969).

48. *Id.*, 247 N.E.2d at 51.

49. 120 N.J. Super. 164, 293 A.2d 450 (1972).

50. 495 S.W.2d 643 (Mo. 1973).

51. 40 A.D.2d 1005, 338 N.Y.S.2d 778 (1972).

52. See cases cited in notes 213-220 *infra.*

53. 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied,* 409 U.S. 1108 (1973).

54. *Id.,* 284 N.E.2d at 876.

55. *Id.,* 284 N.E.2d at 876.

56. Moreland Development Co., Inc. v. City of Tulsa, 596 P.2d 1255 (Okla. 1979).

57. Famularo v. Board of County Commissioners of Adams County, 505 P.2d 958 (Colo. 1973).

58. Maple Leaf Investors Inc. v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

59. Lindquist v. Omaha Realty, Inc., 247 N.W.2d 684 (S.D. 1976).

60. 495 S.W.2d 643 (Mo. 1973).

61. 283 N.W.2d 538 (Minn. 1979).

62. 283 N.W.2d 918 (Minn. 1979).

63. 120 N.J. Super. 164, 293 A.2d 450 (1972).

64. Jefferson County v. Johnson, 333 So.2d 143 (Ala. 1976).

65. 596 P.2d 1255 (Okla. 1979).

66. 270 Md. 652, 313 A.2d 820 (1974).

67. 283 N.W.2d 918 (Minn. 1979).

68. 126 N.J. Super. 200, 313 A.2d 624 (1973).

69. 247 N.W.2d 684 (S.D. 1976).

70. *Id.,* 247 N.W.2d at 686.

71. 563 S.W.2d 239 (Tex. 1978).

72. Frisco Land and Mining Co. v. State, 74 Cal. App.3d 736, 141 Cal. Rptr. 820 (1977).

73. Adams v. North Carolina Dept. of Natural and Economic Resources, 295 N.C. 683, 249 S.E.2d 402 (1978).

74. New York City Housing Authority v. Commissioner of Environmental Conservation Department, 82 Misc.2d 89, 372 N.Y.S.2d 146 (1975).

75. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

76. Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

77. Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

78. Usdin v. State Department of Environmental Protection, 173 N.J. Super. 311, 414 A.2d 280 (1980).

79. 270 Md. 652, 313 A.2d 820 (1974).

80. 92 Wash.2d 894, 602 P.2d 1172 (1979).

81. 240 Ga. 177, 240 S.E.2d 241 (1977).

82. Scott v. State ex. rel. State Highway Comm., 23 Ore. App. 99, 541 P.2d 516 (1975).

83. County of Pine v. State Department of Natural Resources, 280 N.W.2d 625 (Minn. 1979).

84. Frisco Land and Mining Co. v. State, 74 Cal. App.3d 736, 141 Cal. Rptr. 820 (1977); Brown v. Frement, 75 Cal. App.3d 141, 142 Cal. Rptr. 46 (1977).

85. Toms River Affiliates v. Department of Environmental Protection, 140 N.J. Super. 135, 355 A.2d 679 (1976).

86. Adams v. North Carolina Department of Natural and Economic Resources, 295 N.C. 683, 249 S.E.2d 402 (1978).

87. Horizon Adirondack Corp. v. State, 88 Misc.2d 619, 388 N.Y.S.2d 235 (1976).

88. Town of Monroe v. Carey, 96 Misc.2d 238, 412 N.Y.S.2d 939 (1977).

89. Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972).

90. Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

91. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

92. Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

93. Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979).

94. Subaru of New England, Inc. v. Board of Appeals of Canton, 395 N.E.2d 880 (Mass. App. Ct., 1979).

95. American National Bank and Trust Company of Chicago v. Village of Winfield, 1 Ill. App.3d 376, 274 N.E.2d 144 (1971).

96. Brown v. City of Joliet, 108 Ill. App.2d 230, 247 N.E.2d 47 (1969).

97. Metropolitan St. Louis Sewer District v. Zykan, 495 S.W.2d 643 (Mo. 1973).

98. Hamlin v. Matazzaro, 120 N.J. Super. 164, 293 A.2d 450 (1972).

99. *Id.*

100. 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973).

101. *Id.*, 284 N.E.2d at 896.

102. Dur-Bar Realty Co. v. City of Utica, 57 A.D.2d 51, 394 N.Y.S.2d 913, 918 (1977).

103. Turnpike Realty Co. v. Town of Dedham, 362 Mass. 221, 284 N.E.2d 891, 896 (1972), *cert. denied*, 409 U.S. 1108 (1973).

104. Dur-Bar Realty Co. v. City of Utica, 57 A.D.2d 51, 394 N.Y.S.2d 913, 918 (1977).

105. Beckendorff v. Harris-Galveston Coastal Subsidence District, 558 S.W.2d 75 (Tex. 1977).

106. *Id.*, 558 S.W.2d at 81.

107. Sands Point Harbor, Inc. v. Sullivan, 136 N.J.Super. 436, 346 A.2d 612 (1975); Potomac Sand and Gravel Co. v. Governor of Maryland, 266 Md. 358, 293 A.2d 241 (1972), *cert. denied*, 409 U.S. 1090; J. M. Mills, Inc. v. Murphy, 116 R.I. 54, 352 A.2d 661 (1976).

108. In Re Sports Complex in Hackensack Meadowlands, 62 N.J. 248, 300 A.2d 337 (1973).

109. Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

110. Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

111. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

112. A.H. Smith Sand and Gravel Co. v. Department of Natural Resources, 270 Md. 652, 313 A.2d 820 (1974).

113. State v. A. Capuano Bros., Inc., 384 A.2d 610 (R.I. 1978).

114. 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972).

115. 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973).

116. 55 A.D.2d 700, 388 N.Y.S.2d 952, 953 (1976).

117. *Id.*, 388 N.Y.S.2d at 954.

118. Sturdy Homes, Inc. v. Tp. of Redford, 30 Mich. App. 53, 186 N.W.2d 43 (1971).

119. Iowa Natural Resources Council v. Van Zee, 261 Iowa 1287, 158 N.W.2d 111 (1968).

120. 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973).

121. *Id.*, 284 N.E.2d at 901.

122. Just v. Marinette County, 56 Wis.2d 7, 201 N.W.2d 761 (1972).

123. 473 F.Supp. 52 (N.D. Miss. 1979).

124. 427 F.Supp. 26 (D. Mass. 1976).

125. 276 N.W.2d 377 (Iowa 1979).

126. 283 N.W.2d 538 (Minn. 1979).

127. 395 N.E.2d 880 (Mass. App. Ct. 1979).

128. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

129. 243 Ga. 577, 255 S.E.2d 63 (1979), *cert. denied*, 440 U.S. 936 (1979).

130. Subaru of New England, Inc. v. Board of Appeals, 395 N.E.2d 880 (Mass. App. Ct. 1979).

131. 563 S.W.2d 239 (Tex. 1978).

132. *Id.*, 558 S.W.2d 75, at 76 (Tex. Civ. App. 1977).

133. MacGibbon v. Board of Appeals of Duxbury, 340 N.E.2d 487 (Mass. 1976).

134. Pope v. City of Atlanta, 243 Ga. 577, 255 S.E.2d 63 (1979), *cert. denied*, 440 U.S. 936 (1979).

135. Oakwood at Madison, Inc. v. Township of Madison, 117 N.J. Super. 11, 283 A.2d 353 (1971).

136. 270 Md. 652, 313 A.2d 820 (1974).

137. Roberts v. Secretary, Department of Housing and Urban Development, 473 F.Supp. 52 (N.D. Miss. 1979).

138. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

139. *Id.*, 276 N.W.2d at 389.

140. 242 Ga. 331, 249 S.E.2d 16 (1978).

141. See, e.g., Brown v. City of Joliet, 108 Ill. App.2d 230, 247 N.E.2d 47 (1969); Turnpike Realty Co. v. Town of Dedham, 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973); A. H. Smith Sand and Gravel Co. v. Dept. of Water Resources, 270 Md. 652, 313 A.2d 820 (Md. App. 1974); Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

142. Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

143. *Id.*, 276 N.W.2d at 383.

144. *Id.*, 276 N.W.2d at 388.

145. *Id.*, 276 N.W.2d at 384.

146. See cases cited in notes 151-166 *infra*.

147. E.g., Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972); Zisk v. City of Roseville, 127 Cal. Rptr. 896, 56 Cal. App.3d 41 (1976).

148. E.g., Turnpike Realty Co., Inc. v. Town of Dedham, 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973); Subaru of New England, Inc. v. Board of Appeals of Canton, 395 N.E.2d 880 (Mass. App. Ct. 1979).

149. E.g., MacGibbon v. Board of Appeals, 340 N.E.2d 487 (Mass. 1976).

150. A. H. Smith Sand and Gravel Co. v. Dept. of Water Resources, 270 Md. 652, 313 A.2d 820, 828 (1974).

151. See, e.g., cases cited in notes 21-28 *supra*.

152. Pope v. City of Atlanta, 242 Ga. 331, 249 S.E.2d 16 (1978).

153. *Id.*, 249 S.E.2d at 18.

154. Just v. Marinette County, 56 Wis.2d 7, 201 N.W.2d 761 (1972).

155. Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

156. Turnpike Realty Co. v. Town of Dedham, 362 Mass. 221, 284 N.E.2d 891 (1972), *cert. denied*, 409 U.S. 1108 (1973).

157. 57 A.D.2d 51, 394 N.Y.S.2d 913 (1977).

158. Wolfram v. Abbey, 55 A.D.2d 700, 388 N.Y.S.2d 952 (1976).

159. *Id.*, 388 N.Y.S.2d at 953.

160. 340 N.E.2d 487, (Mass. 1976).

161. Pope v. City of Atlanta, 243 Ga. 577, 255 S.E.2d 63 (1979), *cert. denied*, 440 U.S. 936, (1979). The court also held that cumulative impact was one of several considerations in evaluating a permit.

162. 406 A.2d 577 (Pa. Commw. 1979).

163. *Id.*, 406 A.2d at 578.

164. *Id.*, 406 A.2d at 578.

165. 41 N.Y.2d 438, 361 N.E.2d 1028, 393 N.Y.S.2d 379 (1977).

166. *Id.*, 361 N.E.2d at 1033.

167. Scheff v. Tp. of Maple Shade, 149 N.J. Super. 448, 374 A.2d 43, (A.D. 1977).

168. 553 S.W.2d 721 (Mo. 1977).

169. See discussion accompanying notes 221, 222.

170. 98 S.Ct. 2646 (1978).

171. *Id.*, 98 S.Ct. at 2659.

172. 100 S.Ct. 2138 (1980), aff'g 24 Cal.3d 266, 598 P.2d 25 (1979).

173. *Id.*, see 100 S.Ct. at 2142 where this language is cited.

174. *Id.*

175. 101 S.Ct. 1287 (1981).

176. 101 S.Ct. at 1294.

177. 101 S.Ct. at 1307.

178. See discussion in Kusler (1972).

179. *Id.*, see also note 221 *infra.*

180. E.g., Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979); Moskow v. Commissioner of the Dept. of Environmental Management, 427 N.E.2d 750 (Mass. 1981).

181. E.g., Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977); Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979); Kraiser v. Zoning Hearing Bd. of Horsham Tp., 406 A.2d 577 (Pa. Commw. 1979); Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979); Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972).

182. E.g., Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972); Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979); Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

183. Lorio v. City of Sea Isle, 88 N.J. Super. 506, 212 A.2d 802 (1965). Construction of a sand dune on private property is a taking.

184. E.g., Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979); Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

185. E.g., Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977); Pope v. City of Atlanta, 240 Ga. 177, 240 S.E.2d 241 (1977).

186. Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977).

187. *Id.*; see also Foreman v. State Department of Natural Resources, 387 N.E.2d 455 (Ind. App. 1979).

188. E.g., Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538, (Minn. 1979); Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972); Subaru of New England, Inc. v. Board of Appeals of Canton, 395 N.E.2d 880 (Mass. App. Ct. 1979).

189. See notes 132, 134, *supra;* Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979).

190. Moskow v. Commissioner of the Department of Environmental Management, 427 N.E.2d 750 (Mass. 1981).

191. *Id.*, 427 N.E.2d at 754.

192. E.g., Maple Leaf Investors v. State Department of Ecology, 88 Wash.2d 726, 565 P.2d 1162 (1977); Young Plumbing and Heating Co. v. Iowa Natural Resources Council, 276 N.W.2d 377 (Iowa 1979).

193. E.g., Spiegle v. Borough of Beach Haven, 116 N.J. Super. 148, 281 A.2d 377 (1971); County of Ramsey v. Stevens, 283 N.W.2d 918 (Minn. 1979).

194. E.g., Turnpike Realty Co. v. Town of Dedham, 362 Mass. 221, 284 N.E.2d 891 (1972), *cert denied*, 409 U.S. 1108 (1973); Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972). See also cases cited in notes 21-31 *supra*.

195. See cases cited in note 180 *supra*.

196. E.g., Spiegle v. Borough of Beach Haven, 116 N.J. Super. 148, 281 A.2d 377 (1971); Turner v. County of Del Norte, 24 C.A.3d 311, 101 Cal. Rptr. 93 (1972); Foreman v. State Department of Natural Resources 387 N.E.2d 455 (Ind. App. 1979).

197. Just v. Marinette County, 56 Wis.2d 7, 201 N.W.2d 761 (1972).

198. See cases cited in notes 156, 157, *supra*.

199. See Water Resources Council *et al.* (1972).

200. 657 F.2d 1184 (Ct. Cl. 1981).

201. 56 Wis.2d 7, 201 N.W.2d 761 (1972).

202. *Id.*, 201 N.W.2d at 768.

203. 266 Md. 358, 293 A.2d 241 (1972), *cert. denied*, 409 U.S. 1040 (1972).

204. 136 N.J. Super. 436, 346 A.2d 612 (Super. Ct. App. Div. 1975).

205. County of Pine v. State, Department of Natural Resources, 280 N.W.2d 625 (Minn. 1979).

206. Scott v. State ex. rel. State Highway Comm., 23 Ore. App. 99, 541 P.2d 516 (1975).

207. State v. Superior Court of Orange County, 12 Cal.3d 237, 524 P.2d 1281, 115 Cal. Rptr. 497 (1974).

208. Toms River Affiliates v. Dept. of Environmental Protection, 140 N.J. Super., 355 A.2d 679 (1976).

209. Adams v. North Carolina Dept. of Natural and Economic Resources, 295 N.C. 683, 249 S.E.2d 402 (1978).

210. E.g., Gisler v. County of Madera, 38 Cal. App.3d 303, 112 Cal. Rptr. 919 (1974).

211. Just v. Marinette County, 56 Wis.2d 7, 201 N.W.2d 761 (1972).

212. E.g., State Dept. of Ecology v. Pacesetter Const. Co., 89 Wash.2d 203, 571 P.2d 196 (1977).

213. 283 N.W.2d 918 (Minn. 1979).

214. E.g., Long v. City of Highland Park, 329 Mich. 146, 45 N.W.2d 10 (1950); Kissinger v. City of Los Angeles, 161 Cal. App.2d 454, 327 P.2d 10 (1958).

215. 24 Cal. App.3d 311, 101 Cal. Rptr. 93 (1972)

216. 387 N.E.2d 455 (Ind. App. 1979).

217. 127 Cal. Rptr. 896, 56 Cal. App.3d 41 (1976).

218. Gaebel v. Thornbury Township, Delaware County, 8 Pa. Commw. Ct. 379, 303 A.2d 57 (1973).

219. Krahl v. Nine Mile Creek Watershed District, 283 N.W.2d 538 (Minn. 1979).

220. Kessler v. Town of Shelter Island Planning Board, 40 A.D.2d 1005, 338 N.Y.S.2d 778 (1972).

221. 30 Mich. App. 53, 186 N.W.2d 43 (1971).

222. 1 Ill. App.3d 376, 274 N.E.2d 144 (1971).

223. Lemp v. Town Board of Town of Islip, 90 Misc.2d 360, 394 N.Y.S.2d 517 (1977).

224. United States v. Sponenbarger, 308 U.S. 256, (1939). B Amusement Company v. United States, 180 F.Supp. 386, (Ct.Cl. 1960).

225. See generally Oahe Conservancy Sub-District v. Alexander, 493 F.Supp. 1294 (D. South Dakota 1980).

226. Barnes v. United States, 538 F.2d 865 (Ct.Cl. 1976).

227. 48 Ohio St.2d 334, 358 N.E.2d 598 (1976). See also: Myotte v. Village of Mayfield, 54 Ohio App.2d 97, 375 N.E.2d 816 (1977). Court held that a municipality which issued a building permit for an industrial complex and partially improved a drainage system, but not an appellant's land, was liable for increased run-off.

228. E.g., Myotte v. Village of Mayfield, 54 Ohio App.2d 97, 375 N.E.2d 816 (1977); Sheffet v. County of Los Angeles, 3 Cal. App.3d 720, 84 Cal. Rptr. 11 (1970).

229. 24 Cal. App.3d 311, 101 Cal. Rptr. 93 (1972).

230. 283 N.W.2d 918 (Minn. 1979).

231. 8 Pa. Commw. Ct. 379, 303 A.2d 57 (1973).

232. 453 F.Supp. 1025 (D.D.C. 1978), aff'd 598 F.2d 311 (D.C. Cir. 1979), *cert. denied*, 100 S.Ct. 267 (1979).

233. 520 F.2d 11 (1975) on remand, 420 F.Supp. 221 (M.D. Pa. 1976).

234. 473 F.Supp. 52 (N.D. Miss. 1979).

235. 427 F.Supp. 26 (D. Mass. 1976).

236. Jeremy & Sons, Inc. v. Commercial Union Assurance Companies, 398 F.Supp. 374 (N.D. Ohio 1975).

237. Segal v. Great American Insurance Co., 390 F.Supp. 1074 (E.D.N.Y. 1974).

238. Mason v. National Flood Insurers Association, 361 F.Supp. 939 (D. Hawaii 1973).

239. Jackson v. National Flood Insurers Association, 398 F.Supp. 1383 (S.D. Texas 1974).

240. West v. Harris, 573 F.2d 873 (5th Cir. 1978), *cert. denied*, 440 U.S. 946 (1979); Zabel v. Tabb, 430 F.2d 199 (5th Cir. 1970), *cert. denied*, 401 U.S. 910 (1971).

241. Presley v. National Flood Insurers Association, 399 F.Supp. 1242 (E.D. Mo. 1975); Summers v. Harris, 573 F.2d 869 (5th Cir. 1978).

242. Horeftis v. National Flood Insurers Association, 437 F.Supp. 794 (E.D. Mich. 1977).

243. 479 F.Supp. 3 (M.D. Penn. 1978).

244. Nunnery v. Insurance Companies, Members of National Flood Insurers Association, 414 F.Supp. 973 (N.D. Miss. 1976); Horeftis v. National Flood Insurers Association, 437 F.Supp. 794 (E.D. Mich. 1977).

245. Davis v. Aetna Casualty and Surety Co., 329 So.2d 868, (Ct. App. La. 1976); Bains v. Hartford Fire Insurance Co., 440 F.Supp. 15 (N.D. Ga. 1977).

246. Davis v. Aetna Casualty and Surety Company, 329 So.2d 868, (Ct. App. La. 1976); Bains v. Hartford Fire Insurance Co., 440 F.Supp. 15 (N.D. Ga. 1977); Mason v. National Flood Insurers Association, 431 F.Supp. 1021 (N.D. Okla. 1977); Burrell v. Turner Corp., 431 F.Supp. 1018 (N.D. Okla. 1977); Drewett v. Aetna Casualty and Surety Co., 539 F.2d 496 (5th Cir. 1976).

247. National Flood Insurers Association v. Harris, 444 F.Supp. 969 (D.D.C. 1977).