

September 1984

## Environmentally Based Land Use Planning and Regulation

Arthur E. Palmer

Follow this and additional works at: <https://digitalcommons.pace.edu/pelr>

---

### Recommended Citation

Arthur E. Palmer, *Environmentally Based Land Use Planning and Regulation*, 2 Pace Envtl. L. Rev. 25 (1984)

DOI: <https://doi.org/10.58948/0738-6206.1125>

Available at: <https://digitalcommons.pace.edu/pelr/vol2/iss1/2>

This Article is brought to you for free and open access by the School of Law at DigitalCommons@Pace. It has been accepted for inclusion in Pace Environmental Law Review by an authorized administrator of DigitalCommons@Pace. For more information, please contact [dheller2@law.pace.edu](mailto:dheller2@law.pace.edu).

# Environmentally Based Land Use Planning and Regulation

Arthur E. Palmer\*

## I. Introduction

It is an open secret today that the basic zoning laws of the country do not provide adequate protection for the health, safety, or welfare of American communities. As one land use planner has concluded:

Although the history of zoning in America spans more than six decades, its promise as an effective land use measure *for the implementation of plans* has not been fulfilled. Zoning has failed to protect the environment: forests have been felled, floodplains and marshes have been filled (often with serious flooding consequences) and agricultural land has been destroyed. While public opinion often casts developers in the villain's role, the fact is that zoning has failed to prohibit such activities and often encourages them.<sup>1</sup>

Zoning laws in the sense of land use restrictions intended to protect the public's health, safety, morals, or welfare were first adapted for widespread use by American cities, towns, and villages by Herbert Hoover during his tenure as Secretary

---

\* Environmental Law Practitioner; Adjunct Professor, Pace University School of Law. B.A. Yale; LL.B. Yale Law School. The author also studied at the University of Pennsylvania, Department of Landscape Architecture and Regional Planning, participated as a legal consultant in the Medford, N.J. land use study, and drafted Medford's environmentally based subdivision ordinance. Portions of this article have been adapted from A. Palmer, *Toward Eden* (Winterville, N.C.: Creative Resource Systems, Inc. 1981) and Palmer, *Environmental Planning: Minimizing Land Use Confrontations*, *Small Town Magazine*, July-Aug. 1984.

1. L. Kendig, *Performance Zoning* 3 (1980) (emphasis added).

of Commerce.<sup>2</sup> Mr. Hoover studied the zoning laws of sixteen cities as a basis for his five page Standard State Zoning Enabling Act, which provided guidelines by which a state legislature could define zoning and delegate the state's land use powers to local municipalities.<sup>3</sup> Such local regulation of land use through zoning laws was challenged in the federal courts in *Village of Euclid v. Ambler Realty Co.*<sup>4</sup> as an unlawful deprivation of liberty and property. The United States Supreme Court upheld the zoning law at issue in *Village of Euclid* as a valid exercise of the state's sovereign police power and as a reasonable restriction made for the protection of the health, safety, morals, or welfare of the community. As a result of the Court's affirmation of state and local government zoning powers, Mr. Hoover prepared a Standard State Planning Enabling Act, which further defined state and local governmental powers with respect to the planning process.<sup>5</sup> This Act was also widely adopted by the states, and during the next fifty years the mechanics of handling land use regulations were adjusted and used.

It has been evident for some time that there are fatal flaws in the basic premises upon which state and local land use authority over zoning and planning has been based. The premises were the creation and protection of economic and so-

---

2. Herbert Hoover served as U.S. Secretary of Commerce from 1921-1929. See generally 5 Encyclopedia Britannica (Micropedia) at 123-24 (15th ed. 1974).

3. The Standard State Zoning Enabling Act, under which municipalities may adopt zoning regulations, was first issued in mimeographed form in August, 1922. A revised mimeographed edition was issued in January, 1923 and a printed edition was issued in May, 1924 and reissued with slight modifications in 1926. By 1926, 55,000 copies of the first printed edition had been sold, and by 1928 some version of the Act had been enacted by twenty-nine states. See Model Land Dev. Code at 211-13 (Tent. Draft No. 1, 1968); see also C. Haar, Land Use Planning (1971).

4. 272 U.S. 365 (1926). The case also spawned the term "Euclidean zoning," see generally 1 R. Anderson, American Law of Zoning § 6.02 (2d ed. 1968 & Supp. 1984). Note that *Village of Euclid* involved an attack upon the zoning ordinance on its face, not as applied to any individual property. In subsequent litigation where plaintiffs have attacked particular zoning schemes as applied to individual properties, they have occasionally prevailed on substantive due process grounds. See, e.g., *Nectow v. City of Cambridge*, 277 U.S. 183 (1928).

5. Specifically, the Act defined local governmental powers regarding local plans and planning commissions, building and subdivision controls, and regional plans and planning commissions. See Model Land Dev. Code, *supra* note 3, at 222, 225.

cial values, with no provisions for consideration of environmental effects caused by development activities. The results include a domination of economic concerns at the expense of the daily quality of life.

The United States is now in the early stages of a revolution with respect to the philosophy and practice of land use planning and regulation. This revolution is centered on land use planning which incorporates environmentally based land use regulations. This article seeks to demonstrate that some of the important statutory schemes which are being developed to reconcile essential development needs with environmental protection are inadequate to achieve these important goals. However, there are indications that such goals may be attained by the implementation and use of environmentally sensitive land use regulations based upon objective scientific data which demonstrate their validity, and therefore are legally defensible. Such regulations can, and in many instances have, replaced the current confrontational approach to land use regulation with a participatory process encompassing government, developers, and citizens in a common purpose.

## II. NEPA and the Little NEPAs

### A. *The NEPA Process*

In response to the perception of the failure of a broad range of federal statutes to produce environmentally sensitive decisionmaking by federal agencies,<sup>6</sup> Congress enacted the

---

6. As one commentator has noted:

Federal legislation was necessary because the creation of program, mission-oriented agencies had insured that these environmental considerations have been systematically underrepresented in most short- and long-range decision making. Existing agencies were established to supervise the development of our natural resources consistent with the ethic which has prevailed throughout this country's history and, thus, they tended to overstress the benefits of development and to explore insufficiently the less environmentally damaging alternatives to current methods of meeting their programmed objectives.

Tarlock, *Balancing Environmental Considerations and Energy Demands: A Comment on Calvert Cliffs' Coordinating Comm., Inc. v. AEC*, 47 Ind. L.J. 645, 658 (1972).

National Environmental Policy Act of 1969 (NEPA),<sup>7</sup> after four years of consideration. NEPA represents "a carefully worded statement of national environmental policy, with a statutory plan of action to implement that policy throughout [f]ederal [g]overnment."<sup>8</sup> NEPA's policy is that action taken by the United States which would have a material effect on the environment should only be undertaken with due respect for preservation or enhancement of the environment.<sup>9</sup> To that end, NEPA requires that proponents of such action prepare an Environmental Impact Statement (EIS) for public and peer review.<sup>10</sup> The EIS is intended to influence the planning process so that the proposed action will minimize adverse impacts on, or improve the condition of the environment.<sup>11</sup>

From its inception the NEPA process has had some distinct advantages for those concerned with environmental quality. By definition, federal projects which require an EIS are "major [f]ederal actions"<sup>12</sup> and thus are matters of such large size and general importance that they are often given keen public scrutiny. When citizen opposition to a proposed federal project exists, it is often so widespread that the opposition can obtain funding from the public or from private foundations to aid their cause. In addition, the federal courts have become the watchdogs of the NEPA process. The courts quickly realized that NEPA made an important and far reaching difference in the manner in which the environment was to be legally considered, and "have . . . found that NEPA creates protected interests capable of judicial enforcement."<sup>13</sup>

Despite NEPA's ambitious goals, the EIS preparation process has been severely criticized as inherently suspect:

---

7. Pub L. No. 91-190, 83 Stat. 852 (1970) (current version at 42 U.S.C. §§ 4321-4370 (1982)). NEPA was signed into law on Jan. 1, 1970.

8. Anderson, *The National Environmental Policy Act*, in Federal Environmental Law 238, 239 (E. Dolgin & T. Guilbert, eds. 1974).

9. 42 U.S.C. § 4331 (1982).

10. *Id.* at § 4332(2)(C).

11. *Id.* at § 4332(2)(F)-(H).

12. *Id.* at § 4332(2)(C).

13. F. Anderson, D. Mandelker & A. Tarlock, *Environmental Protection: Law and Policy* 686 (1984).

[T]he most fundamental and intractable problem with NEPA is that by law the agency promoting the project is responsible for preparing the impact statement assessment. This dilemma has borne rich litigious fruit, since federal agencies have frequently proven incapable of reporting on their own projects candidly and thoroughly. This problem is exacerbated when there is a disagreement within the scientific community as to the probable environmental effects of a proposed program . . . .<sup>14</sup>

Other aspects of the NEPA process have been criticized as well. The structure of the federal government is such that there is no supervising agency that can approve or disapprove an EIS.<sup>15</sup> Although some safeguards are available via the federal courts, which do accept complaints relating to the interpretation and application of NEPA, judicial review of NEPA is inherently weak, due in part to its necessarily random use.<sup>16</sup> Finally, it must be observed that NEPA does not establish standards for protecting the environment. Instead, NEPA provides a process for weighing the value of a project against potential damage to the environment, and requires only that a balance be struck.<sup>17</sup>

---

14. Speth, *The Federal Role in Technology Assessment and Control*, in *Federal Environmental Law*, *supra* note 8, 420, 452-53 (footnote omitted). It has also been observed that many federal agencies have been less than candid in assessing impacts. *Id.* at 452-53. One remedy suggested for this inherent weakness in NEPA's structure is that "impact assessments should be routinely prepared at an earlier point in the agency decisionmaking process, before the agency has made up its mind or developed strong commitments to the proposal." *Id.* at 453 n.116.

15. Some efforts were made subsequent to the enactment of NEPA to provide for a National Environmental Data Bank. The Data Bank legislation proposed the establishment of a commission to: (1) Assemble from other federal departments data in their possession that would be helpful in analyzing EIS documents. (2) Assemble additional data on its own initiative. (3) Analyze and report on each federal EIS before it could be published. However, federal agencies asked for comments were uniformly opposed to the bills, and the Data Bank proposal was subsequently found to be infeasible. See generally *National Environmental Data Bank: Hearings on H.R. 17436, 17779 & 18141 Before the Subcomm. on Fisheries and Wildlife Conservation of the House Comm. on Merchant Marine and Fisheries*, 91st Cong., 2d sess. (1970).

16. Speth, *supra* note 14, at 455.

17. See *Calvert Cliffs' Coordinating Comm., Inc. v. AEC*, 449 F.2d 1109, 1112 n.5 (D.C. Cir. 1971).

## B. *The Little NEPA Process*

NEPA's statutory program to implement its policy is limited in its effect to actions by federal agencies.<sup>18</sup> However, the great preponderance of activities which affect the national environment are local developments subject only to the control of state or local governments (principally local municipalities). Recognizing this, many states have used the federal NEPA statute as a model for state programs designed to protect the environment from the effects of development activities for which the state or local municipality is responsible. The result has been that twenty-nine states have adopted so-called "little NEPAs," that is, state and local legislation or executive action similar to the federal NEPA statute.<sup>19</sup> The little NEPAs generally rely upon the key requirement that a project that would affect the environment must be the subject of an EIS in applying for state or local approval of the action. However, the statutes vary as to the scope of actions which are covered by an EIS requirement.<sup>20</sup>

Various little NEPAs place the initial responsibility of providing an environmental analysis of the proposed project with different parties. Some little NEPAs mandate that the EIS be prepared by the state or local agency responsible for

---

18. Federal "actions" include not only direct agency action, but agency decision-making which permits action by other parties affecting the quality of the environment. Federal agency licensing, permitting, and funding activities have all been held to be federal "actions" under NEPA. *See* Scientists' Institute for Public Information, Inc. v. AEC, 481 F.2d 1079, 1088-89 (D.C. Cir. 1973).

19. *See generally* 2 F. Grad, *Treatise on Environmental Law* § 9.07 (1980 & Supp. 1983). The state counterparts of NEPA often have similar titles and acronyms, for example: the Massachusetts Environmental Protection Act (MEPA), Mass. Gen. Laws Ann. ch. 30, §§ 61-62H (West 1979 & Supp. 1984-1985); the California Environmental Quality Act (CEQA), Cal. Pub. Res. Code §§ 21000-21176 (West 1977 & Supp. 1984); the New York State Environmental Quality Review Act (SEQRA), N.Y. Env'tl. Conserv. Law §§ 8-0101 to 8-0117 (McKinney 1984 & Supp. 1984-1985).

20. For example: CEQA mandates the EIS process for actions which require either state or local permits, *see* Cal. Pub. Res. Code § 21160 (West 1977 & Supp. 1984); MEPA mandates an EIS only for actions taken or funded by state agencies, *see* Mass. Gen. Laws Ann. ch. 30, §§ 61, 62B (West 1979 & Supp. 1984-1985); SEQRA mandates an EIS for actions likely to affect the environment which require a state or local permit, *see* N.Y. Env'tl. Conserv. Law § 8-0109 (McKinney 1984 & Supp. 1984-1985).

permitting the project.<sup>21</sup> However, other states allow the project developer the option of preparing the EIS for the proposed project.<sup>22</sup> Thus, one basis of protecting the environment from degradation, while still accepting the development needed by our growing population, is often bound up in a process that depends upon an environmental analysis provided by the agency or developer who is also the applicant for the essential government permit.<sup>23</sup> Although the developer may have the initial responsibility of providing an EIS, the local government with responsibility for providing a permit or a zoning change to authorize the action must publicly accept responsibility for the quality and soundness of the EIS. Hence, the local government ultimately assumes an obligation to the public for the adequacy of the analysis and for the effectiveness of any mitigating action that is proposed by the developer or required by the permitting agency.<sup>24</sup>

Little NEPA processes which allow the sponsor (either governmental or private) of a project to prepare the EIS in support of that project are inherently unsound for several reasons. They often produce a pattern of development authorization which is confrontational, cumbersome, expensive, and divisive. Local governments are rarely equipped to analyze and assess documents of the size and nature of an EIS within the time frame usually practicable, and local citizens are even less equipped for such a task. In addition, local governments are

---

21. See, e.g., Cal. Pub. Res. Code §§ 21100, 21151 (West 1977 & Supp. 1984).

22. See, e.g., N.Y. Envtl. Conserv. Law § 8-0109(4) (McKinney 1984).

23. Reliance upon a developer or government agency for preparation of the EIS ignores the caveat that:

[T]he value of an EIS is dependent on its being done independently and not by the proposing agency or individual. Either the planning department staff or a consulting firm responsible only to the planning commission should be used. The costs for this can be appropriately assessed to the proposer, and many communities do so.

H. Smith, *The Citizen's Guide to Planning* 122 (1979).

24. This is usually required by a state or local statute. See, e.g., N.Y. Envtl. Conserv. Law § 8-0109(8) (McKinney 1984), which defines the effect of an "acceptance." Many towns take this action without realizing that they are not equipped to exercise such judgment, and may not be able to assess the recommendations they accept from "experts" if they retain them. Few communities realize the implications of such action.



not expert fact-finders, and their public hearings concerning the EIS are not appropriate fact-finding devices; EIS public hearings are political, not judicial in nature. Controversies concerning even minor errors or questionable conclusions in a developer-prepared EIS tend to make the proponent look sly, put the local government in a quandary, and raise citizen suspicions.

A more practical problem also exists with respect to the little NEPA process. Generally, little NEPAs give little statutory guidance as to either the substantive requirements of an EIS, or the competence of its preparer.<sup>25</sup> Frequently, the result is litigation before courts which are expert fact-finders, but are not adequately equipped to understand, in necessary detail, the environmental problems of developers, citizens, and local governments involved in the land use development process. Courts are thus reluctant to delve into the substantive merits or flaws of an EIS. The consequence is that, as a practical matter, those seeking environmental protection are often denied an appropriate forum.<sup>26</sup>

Ultimately, it must be recognized that the choice of envi-

---

25. The EIS "scoping" process is designed to prevent oversights and to limit or prevent irrelevancies in the EIS. See, e.g., N.Y. State Dep't of Envtl. Conserv., *The SEQR[A] Handbook B-29 to B-31* (1982). However, the fact is that unless the appropriate local governmental unit has access to an environmental inventory and the appropriate scientific regulations that should supplement each resource shown in the inventory, the scoping process is likely to be flawed.

26. Note that in the ten years of SEQRA's existence in New York, no court has ever rejected an EIS for failure to comply with the substance of SEQRA, although such cases have been brought and the substantial insufficiency of the EIS in question has been noted. See, e.g., *Webster Assocs. v. Town of Webster*, 85 A.D.2d 882, 446 N.Y.S.2d 955 (App. Div. 1981), *rev'd on other grounds*, 59 N.Y.2d 220, 451 N.E.2d 189, 464 N.Y.S.2d 431 (1983) (court's only role in reviewing EIS is to insure that agency has taken a hard look at environmental consequences; it cannot interject itself within the area of discretion of the executive as to the choice of action to be taken); *Town of Henrietta v. Dep't of Envtl. Conserv.*, 76 A.D.2d 215, 430 N.Y.S.2d 440 (App. Div. 1980) (SEQRA authorizes approving agency to implement measures designed to mitigate adverse environmental impacts identified, as long as these measures are reasonable in scope and are reasonably related to adverse impacts identified in EIS); *Webster Assocs. v. Town of Webster*, 112 Misc.2d 396, 447 N.Y.S.2d 401 (Sup. Ct. 1982) (draft EIS and final EIS before town board in case involving rezoning of large parcel of land to permit construction of regional shopping mall complied with objective good faith standard and were more than sufficient to allow town board to fully consider and balance environmental factors, and thus were adequate).

ronmental factors to be considered in an EIS depends upon both the type of project proposed and the types of natural resources affected. The purpose of the EIS process is to allow for informed governmental regulation of the use of natural resources based on current scientific analysis. Governmental regulatory power relates only to a misuse of a natural resource which may reasonably be believed to threaten the health, safety, or welfare of the public. Any other type of proposed regulation of land use is simply not legally enforceable.

### *C. Supplementing the Environmental Planning and EIS Processes*

The EIS process is intended to superimpose environmental considerations upon the overall planning and development processes. The essence of little NEPA regulation is to assist developers in selecting for development properties whose environmental considerations will not be too burdensome. The selection should be preceded by an environmental analysis of the property in question to determine its development potential as defined by its environmental opportunities and constraints. The analysis then provides the material necessary for an evaluation of the utility of the property, and for the preparation of a proper EIS. Unfortunately, under the present procedures this is not what happens. It is hardly practical for a developer to prepare a preliminary EIS of a potential site. Instead, the pressure of decision as to the value of a site for a particular use or alternative uses results in a purchase, followed by the necessity of preparing an EIS to demonstrate that the site's proposed use is beneficial to the environmental welfare of the community. The facts, however, often do not fit that hope.

It is evident that the environmental planning and EIS processes would be greatly facilitated by the following approach: (a) The area in question (presumably a town) should be examined by professionals having the proper scientific skills to assess which environmental resources require what type of regulation, if any, to ensure that the health, safety, or welfare of the community are not adversely affected by devel-

opment. (b) The natural resources of the area should be mapped in a manner providing for the scientific identification of such resources. (c) Environmentally relevant regulations necessary to prevent or mitigate the impacts of development activities on community health, safety, or welfare should be prepared and promulgated through the joint efforts of administrative, scientific, and legal professionals.

The above-described information and regulations should then be set forth in master plans and zoning laws. Decisions by municipalities as to what regulations are appropriate could be made on a community-wide or regional basis. Under these circumstances, a developer could assess a site prior to purchase at a nominal cost. A new set of confrontations for each development would be avoided. Government, citizens, and developers could all participate in the planning and zoning process with appropriate scientific guidance. Political and practical adjustments could be made as in any other legislative activity,<sup>27</sup> and problems of hardship or error could be sorted out in the normal zoning adjustment procedures which currently exist.

The remainder of this article sets forth the example of Medford, New Jersey: a town which saved itself from environmental degradation by following the above-described procedure. Other examples are also given to demonstrate that the demands of development and the protection of the environment can be reconciled through the use of environmentally based land use planning and regulation for the benefit of all concerned.

### III. Medford, New Jersey: A Case Study of Environmental Zoning

#### A. *Background*<sup>28</sup>

Medford is a small township located in central New

---

27. For example, these adjustments could be made via variances and exception procedures in environmental zoning laws.

28. The author was personally involved (as a legal consultant) in the evolutionary process which culminated in Medford's environmentally based land use ordinance. A detailed account of Medford's experience is set forth in A. Palmer, *Toward*

Jersey with a total area of about forty square miles and a population of approximately 20,000 people. The southern half of Medford lies in the New Jersey Pinelands,<sup>29</sup> and the northern half is hilly and wooded with many farms and a number of streams, lakes, swamps, and wetlands. In the early 1970's Medford was approximately ten percent developed, with a population of nearly 10,000 people. It had a governing body consisting of a five member town committee, a legislature which included the town mayor, a planning board, a zoning officer, a town engineer, and a town attorney. Medford's land use laws, consisting of zoning and subdivision ordinances, were patterned after the Euclidean zoning concepts of the 1920's.<sup>30</sup>

Medford lay in the path of a developing land boom emanating from Philadelphia, Pennsylvania and Trenton, New Jersey. Building activities conducted under Euclidean zoning laws in towns neighboring Medford had already resulted in random land development and a pattern of urban sprawl. Then a town neighboring Medford, with similar zoning regulations, approved the building of a large subdivision on swampy ground; the developer removed the trees, filled the swampy areas, and built houses without basements. The result was a site barren of vegetation, with natural drainage patterns destroyed, and roads and houses built over high water tables and thus subject to winter frost heave.<sup>31</sup>

Medford's government soon recognized that an application for a similar subdivision in Medford would have to be approved under Medford's then existing Euclidean zoning laws. As a result, it committed Medford to making a basic change in the character of its land use regulations. The

---

Eden (1981) [hereinafter cited as Toward Eden]. A shorter discussion of many of the topics discussed in this article may be found in Palmer, *Environmental Planning: Minimizing Land Use Confrontations*, Small Town, July-Aug. 1984, at 13-23.

29. See *infra* notes 63-71 and accompanying text.

30. See Medford Township, N.J., Zoning Ordinance (Jan. 1, 1952) (amended and revised 1956). The ordinance was adopted following a post World War II scare of low cost housing construction in Medford. See Toward Eden, *supra* note 28, at 15-17.

31. Frost action and soil shrinkage or swelling often cause damage to roads, streets, and utilities unless adequate protection against such forces is provided. See Toward Eden, *supra* note 28, at 242 (Appendix 3).

change was to incorporate objective scientific data relating to the environmental and ecological features of Medford as a basis for new, environmentally sound land use regulations.

### B. *Legal Considerations*

The legal recognition of scientifically based land use regulation as a means of protecting valuable public interests (including environmental interests) was an evolutionary process in New Jersey. Inherent tensions existed between the New Jersey Constitution's takings clause<sup>32</sup> and attempts by local governments (usually via zoning regulations) to control the use of private property. Traditionally, New Jersey courts viewed the takings clause as paramount, and invalidated a number of zoning ordinances as either direct<sup>33</sup> or indirect<sup>34</sup> takings of private property without just compensation.

During the 1960's and 1970's, New Jersey courts began to change their attitude concerning local zoning ordinances which were designed to protect legitimate public interests. For example, in 1963 the New Jersey Supreme Court invalidated a town ordinance designed to prevent wetlands from being filled and developed, after finding that the regulations at issue were "so all-encompassing as practically to prevent the exercise by a private owner of any worthwhile rights or benefits in the land."<sup>35</sup> However, in 1974 the same court noted that:

The approach to the taking problem, and the result, may be different when *vital ecological and environmental con-*

---

32. "Private property shall not be taken for public use without just compensation." N.J. Const. art. I, para. 20.

33. See, e.g., *Grosso v. Board of Adjustment*, 137 N.J.L. 630, 61 A.2d 167 (Sup. Ct. 1948) (placing of plaintiff's lot in bed of proposed street on official map which precluded plaintiff's use of property is an unconstitutional taking of property for public use without just compensation).

34. See, e.g., *Yara Eng'g Corp. v. City of Newark*, 132 N.J.L. 370, 40 A.2d 559 (Sup. Ct. 1945) (airport zoning ordinance restricting height of structures within designated distances of airport and otherwise regulated use of such property so as not to interfere with aircraft taking off or landing is an unconstitutional appropriation of plaintiff's rights in private property).

35. *Morris County Land Improvement Co. v. Parsippany-Troy Hills Twp.*, 40 N.J. 539, 555-56, 193 A.2d 232, 241-42 (1963).

siderations of recent cognizance have brought about rather drastic land use restriction in furtherance of a policy designed to protect important public interests wide in scope and territory. . . . Cases arising in such a context may properly call for a reexamination of some of the statements 10 years ago in the largely locally limited *Morris County Land* case.<sup>36</sup>

Thus, between 1963 and 1974 the New Jersey Supreme Court came to recognize environmentally based land use planning and regulation as legally defensible against a takings clause challenge.

In 1970, Medford decided to make the fundamental change from Euclidean zoning to environmental land use regulation based upon objective scientific data. One of Medford's town board members was a lawyer familiar with the state of flux that existed with respect to New Jersey land use law. He was also aware that Ian McHarg, head of the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania, had developed a method of using scientific data as a basis for his courses in land use planning and as a basis for guidelines in local and regional land use plans. McHarg's intent was to "design with nature," that is, to define an area's natural constraints and opportunities based upon objective scientific data and to respect these factors when considering local and regional land use developments.<sup>37</sup> The lawyer realized that McHarg's approach was likely to provide the scientific information required by the court to uphold Medford's zoning laws against a potential takings clause challenge:

---

36. *AMG Assocs. v. Township of Springfield*, 65 N.J. 101, 112 n.4, 319 A.2d 705, 711 n.4 (1974) (emphasis added). It should also be noted that both the *Morris County* and *AMG Assocs.* decisions were opined by Justice Hall of the New Jersey Supreme Court.

37. See I. McHarg, *Design With Nature* (1969). It should also be noted that the author of this article had personal experience with institutional land use planning (based upon subjective political criteria rather than objective scientific criteria) during his tenure as New York City Administrator of Transportation (1965-1968). As Administrator, the author was involved in preventing the construction of the proposed Richmond Parkway in Staten Island, N.Y. See *Toward Eden*, *supra* note 28, at 85-88.

I was familiar with McHarg's work; its ready transferability to the police power [of the town] was apparent. We were amazed to find that few members of the planning community even understood what we were talking about when we began to look for help. With McHarg we found an immediate understanding of our conclusion that an environmental or planning study whose results are not expressed in reliable *regulatory* form in a *legal* structure is a fraud.<sup>38</sup>

Medford's mayor and town board held a town meeting in early 1971 to explain the need for a new kind of zoning. They also interviewed McHarg and held a subsequent town meeting at which McHarg explained his method of environmental planning and how it could be used to support zoning regulations. Medford thereafter contracted with McHarg for the preparation of an environmental planning study.<sup>39</sup> A key contract provision was the preparation, as part of the study, of regulations for zoning and subdivision controls.<sup>40</sup>

### C. *The Medford Report*

The study results and regulations deemed necessary to protect the health, safety, or welfare of the Medford community were presented in early 1973. The report included three volumes of scientific information and a fourth volume entitled *Data Interpretation and Recommended Regulations*.<sup>41</sup>

The McHarg study group originally prepared seventy-two resource or criteria maps, each showing an aspect of a natural

---

38. See Toward Eden, *supra* note 28, at 207-12 (Appendix 1) (emphasis added).

39. The cost of the study was \$150,000. A competing bid of \$75,000 by a reputable professional planning firm was considered but rejected for three reasons: (a) reputable scientists were essential to do the quality of work required, and McHarg's department had nine such scientists on its faculty; (b) mature graduate students were available for field work; and (c) it was desired that the town and the public be assured of the value of the project.

40. This was to be accomplished in consultation with attorneys representing McHarg, his faculty, and experts from other scientific disciplines, including geology, meteorology, hydrology, soils, plant ecology, animal ecology, history and limnology. In addition, about fifteen of McHarg's senior graduate students served as a support team. See Toward Eden, *supra* note 28, at 215-19 (Appendix 2).

41. See *id.* at 220-53 (Appendix 3).

resource that could be of interest for some design or use purpose. Of these, only nineteen maps covering aspects of sixteen natural resources were deemed to justify regulation under Medford's police powers. The other maps were relevant to various individual interests and choices, but not to the development of environmentally based zoning regulations. The regulation of these sixteen resources, based on scientific ecological information, was described in the report by seventy regulations in a text of some twenty pages.<sup>42</sup> The McHarg planning group also provided Medford with a two page operations manual, thus enabling the town to obtain for the site of any proposed development a statement as to which mapped resources and regulations were applicable.<sup>43</sup> In effect, this provided a rough first draft, at a modest cost, of an EIS for any proposed use.<sup>44</sup>

#### D. *Application of the Environmental Data and Regulations*

In retrospect, it appears obvious that the resource maps and regulations generated by the McHarg study readily and effectively shaped the future of land use development in Med-

---

42. See *id.* at 227-53. As to each aspect of a natural resource included on one of the nineteen maps, the report described the resource, its natural attributes, its importance, recommended regulations as to its use, and notations as to whether any additional special regulations would be necessary if the resource was used in one of twelve special use categories. The twelve special use categories are: extraction, forestry, agriculture, rural, suburban, urban, clustered, intensive recreation, general recreation, natural recreation, cultural recreation, and water recreation. *Id.* at 222. The resource was also classified as: inherently dangerous, hazardous if improperly used, irreplaceable, unique or scarce, or a public risk if not regulated. *Id.* at 221-22. One example of a mapped natural resource would be in flood prone areas. The regulations consist of limitations on uses and construction on the flood plains, and may be summarized as follows: the resource is a mapped flood plain area; it is a land area subject to inundation, which represents a hazard to human life and property; it may be useful for mining, forestry, agriculture, or recreation under appropriate regulations; it may not be used for housing; structures for other purposes may be permitted if it is shown that no damage to the town or others could occur, and no impairment by flooding other areas could result. *Id.* at 227.

43. See *id.* at 257-59 (Appendix 5).

44. The charges for the preparation of such a statement were: (a) under \$500 for a site up to 25 acres; (b) under \$1000 for a site up to 100 acres; and (c) \$300 for each additional 25 acres. At least one site visit was included in the preparation of such a statement.



ford by creating a participatory relationship between the town and local developers. However, initially neither party was aware of how to employ the materials at hand. The members of Medford's planning board were not professional planners. They were unpaid volunteers who had reasonable exposure to zoning laws, but no experience in environmental protection. The developers were accustomed to planning their proposed subdivisions to comply with zoning and subdivision ordinances based on Euclidean zoning concepts, which required no consideration of environmental impacts.<sup>45</sup> Two examples are illustrative of the initial problems faced by Medford's planning board and local developers: namely, the Tall Pines and Cardinal Ridge projects.

The Tall Pines project was a housing subdivision proposed to the Medford planning board by a developer shortly before Medford received the McHarg report.<sup>46</sup> After receiving the McHarg report, the planning board also obtained an initial set of comments from McHarg's planning center on the potential environmental impacts of the project. Although the comments identified conflicts between the proposed development plan and the environmental regulations, it made no suggestions as to how these conflicts could be resolved. Both the planning board and developer were confused as to how to circumvent this impasse. A planning professor from McHarg's department joined the discussions between the planning board and developer, and attempted to illustrate how the proposed project and Medford's environmental regulations could be reconciled via implementation of a few changes in the project to circumvent the points of conflict. Although the developer initially rejected the professor's modifications as prohibitively expensive, further exploration indicated that economically viable changes could be made. The Tall Pines development plan was subsequently modified and approved,

---

45. To deal with this and other deficiencies in standard zoning laws, a series of less than satisfactory adaptations have been devised. These adaptations include both procedural and substantive improvements to standard zoning techniques. See, e.g., H. Smith, *supra* note 23, at 179-206.

46. See generally Toward Eden, *supra* note 28, at 77-88.

and the environment remained protected.

The Cardinal Ridge project was a plan proposed by another developer for a housing development of some seventy-seven homes on 110 acres of wooded, rolling land.<sup>47</sup> The proposed site was considered one of the choice locations in the township. The initial development plans proposed the removal of vegetation and a grid design of housing, which was exactly the type of subdivision that Medford's local government had sought to avoid. Since the developer's previous two proposals concerning the Cardinal Ridge project had been found unacceptable, it was suggested that the developer prepare an EIS employing the environmental information and regulations obtained from the McHarg study.

The developer was uncertain at first as to how to produce an EIS from the study's information and regulations. However, an enterprising architect retained by the developer assembled a design team which included himself as well as two students who had worked on the McHarg study and therefore were familiar with both the material and the purposes for which it had been prepared.<sup>48</sup> The design team prepared an EIS for the Cardinal Ridge project, utilizing the study's data bank and environmental regulations.<sup>49</sup> The EIS included eighteen simple maps of the site, each of which showed the extent to which one aspect of each affected natural resource impinged on the site. Information was included on the affected resource, its environmental importance, and the applicable regulations. Where a map indicated an adverse impact, it also provided a sketch of a design adaptation that would eliminate the adverse effect. A composite overlay of the selected maps showed a design picture of the basic opportunities and constraints of the site. This "design map" visibly ranked the composite information in terms of area suitability for development, using five gradations ranging from "excellent" to "not suitable" for development. The emerging pattern graphically demonstrated how consideration of the regulated and nonreg-

---

47. See generally *id.* at 97-120.

48. See *id.* at 335-38 (Appendix 11).

49. See *id.* at 307-33 (Appendix 10).

ulated natural resources allowed the site to virtually design itself into a satisfactory pattern of development. The eighteen resource maps, the composite map, and six pages of text constituted the entire Cardinal Ridge EIS.<sup>50</sup>

The resulting subdivision design provided for fourteen clusters of between two and eight houses, which left over half the site as open space for the use of all residents.<sup>51</sup> Few trees were removed, thus leaving the site with a beautiful forest cover. The yards retained their indigenous vegetation, and the use of fertilizers (which can be serious water pollutants) was avoided.

From Medford's perspective, the Cardinal Ridge experience was an unqualified success. It prevented a type of development damaging to the quality of life of Medford's citizens. It did so in a manner likely to be upheld by the courts. It demonstrated that regulations produced by the McHarg study

---

50. See *id.* The EIS contained maps of eighteen aspects of seven natural resources. The seven natural resources were geology, hydrology, soils, vegetation, wildlife, historic value, and microclimate. The sixteen aspects of these resources were listed as: geologic cross section, aquifers, hydrology (surface), hydrology (sub-surface), runoff, soils (by type), soils (potential loss), soils (nutrient absorption), vegetation (by type), vegetation (forest fire history), vegetation (management), vegetation (recreational habitats), scenic units, wildlife (hazardous and nuisance species), historic value, and microclimate. All but three of these aspects were subject to some degree of regulation.

Protective measures for the site were necessary to: prevent use of unsuitable building sites, safeguard an underlying aquifer from diminution of the quality and quantity of recharge water, avoid soil erosion, relate septic systems to appropriate soils and water tables, use specified indigenous vegetation in place of lawns to avoid the use of fertilizer, create fire control measures, ensure tight clustering of homes to minimize tree removal, ensure adequate forest management and vegetation density, protect scenic views, wildlife corridors and feeding areas, and protect the site's microclimate.

51. The "design map" ranked areas of the site in five gradations: excellent, good, fair, poor, and not suitable for development. The opportunities and constraints of each site were also noted, as well as the design adaptations possible for each gradation. The fourteen clusters of houses were, with few exceptions, located on areas graded as excellent or good. *Id.* at 331. Both the developer and the town were satisfied with the outcome of the Cardinal Ridge project. The developer paid \$5000 for the EIS, compared with costs of up to \$25,000 in some areas for draft EIS documents. The EIS enabled the developer to discard the previous plan prepared by a planning engineer at a cost of \$20,000. Due to the use of a clustered road system and utility lines incorporated into the new design, the developer saved \$25,000 in costs, and the value of the land exceeded his original estimates. *Id.*

could successfully be employed to yield an inexpensive EIS which was both intelligible to laymen and based on independent scientific data in which Medford's government and citizens had confidence. Finally, it proved that it was possible to accept growth in a way that was profitable to a developer, yet not environmentally or economically injurious to Medford.

#### E. *An Environmentally Based Subdivision Ordinance*

Following the Cardinal Ridge experience, Medford incorporated into its subdivision ordinance the regulations, maps, and data produced by the McHarg study.<sup>52</sup> A provision was included in the ordinance that any application for subdivision approval must be accompanied by an EIS identifying each of the environmental regulations applicable to the site and stating the action necessary to avoid or minimize any adverse effects, or to benefit the environment.<sup>53</sup> By giving the data and regulations ordinance status, Medford transformed them into valid and binding legislation. This meant that: (1) The data and regulations were entitled to a legislative presumption that they were reasonable restraints on land use, and the data incorporated into the legislative record supported this presumption. (2) The regulations were binding on land owners and builders, therefore no question existed concerning which areas were regulated and the nature of the regulations. (3) A statement of the reasons for the regulations was provided so they

---

52. See generally Medford, N.J., Land Subdivision Ordinance (Aug. 1974). Portions of the ordinance together with the revisions necessary to change the previously existing subdivision ordinance to an environmental subdivision ordinance are given in Toward Eden, *supra* note 28, at 261-78 (Appendix 6).

53. The EIS must "describe and explain the effects of the proposed subdivision on the health, safety, morals and general welfare of the municipality and those who live in it or use its facilities," and must also give consideration to fourteen enumerated natural processes, if applicable. See Medford, N.J. Land Subdivision Ordinance, art. VI, § 2(l) (Aug. 1974). The EIS must furnish "a description . . . of the action proposed to be taken or avoided to minimize any adverse effect on environment or ecology, or to benefit the environment or ecology." *Id.* at § 2(m). See also Medford Township, N.J., Land Development Ordinance 1982-22 (as amended by 1983-7), art. III (1982).

could be defended as reasonable in the event of judicial review.

The effect on Medford has been satisfying. Developers who must abide by the environmental regulations find them helpful rather than harmful. The data bank and regulations are readily available, thus EIS preparation is a routine and inexpensive matter. The rules are clear, open, and the same for all developers, rather than negotiated subdivision by subdivision. In addition, the data available to the developers and their engineers, architects, landscape architects, and planners simplify the problems of attempting to design around natural restrictions. Among other matters, methods can be devised to deal with: water runoff, erosion problems, preservation of vegetation, and stream, lake, and ground water pollution. While there are many potential problems, there are also many solutions if the appropriate skills are brought to bear.

Further benefits also ensued from Medford's adoption of the environmental data and regulations. Regulating land use with a view toward protection of the environment has become a low cost, routine affair for Medford's government.<sup>54</sup> In addition, the inclusion of the environmental data and regulations into Medford's ordinances (and subsequently into Medford's master plan and zoning laws) eliminated factual disputes regarding scientific data and various environmental effects on land, and limited the potential number and nature of environmental issues that could be raised.

#### *F. Medford's Master Plan: An Extended Education*

Medford found that the quality of its subdivisions was greatly improved by its environmental ordinances, but it was also noted that the locations of new subdivisions depended

---

54. At a dinner where Medford's mayor, town administrator, and town planning officer were present, the question arose as to how much of their time was spent on land use problems. The mayor and manager answered: "Very, very little. The administrative process takes pretty good care of it." The planning officer added that it no longer took all his time and he was now free to manage a consulting firm that had already helped six other townships prepare new master plans. Personal conversation between Mayor of Medford, N.J. and A. Palmer (Mar. 31, 1983).

upon the random experience of where a developer could find a site for sale. Such locations bore no relationship to location of schools, town services, shopping facilities, or transportation, and highlighted Medford's need for a master plan.

An effort to formulate Medford's master plan began in early 1975. A draft master plan incorporated the results of the McHarg study to determine the degree of permissible development in various areas. Additional data with respect to transportation, community and commercial facilities, population, and housing were also prepared. Although it was initially thought that the draft master plan would be quickly adopted, this proved not to be the case.

The first public hearing on the proposed master plan was held in late 1975, and was the largest ever held in Medford. Only one person from the audience spoke in favor of the plan and many persons objected to the potential effect of the plan on their property. At the hearing's conclusion, nine subcommittees were formed to consider particular categories of complaints. The people were assured that hearings would continue to be held until everyone had been heard. The subcommittees finally increased to sixteen, and three years after the first public hearing the revised master plan was finally approved.<sup>55</sup> Although myriads of individual complaints were settled via the educational process of the hearings, the master plan experience underscored a basic conflict between commercial interests (favoring strip development along the highways) and public interests (desiring a development scheme which included aesthetic and environmental considerations).<sup>56</sup>

### G. *New Concepts in Zoning*

In 1975, New Jersey's legislature revised its laws to require that municipalities adopt a master plan (subject to five-

---

55. See *Toward Eden*, *supra* note 28, at 131-38. See also Medford Township, N.J., Master Plan: Land Use Element (1982).

56. The conflict related to a proposed change in location of a strip development commercial area. The point was left in abeyance for later consideration, and eventually the merchants and town joined in a design study which was successful, with the strip development modified and improved.

year updates) and conform their zoning and subdivision laws to their master plans by February 1, 1979.<sup>57</sup> The revision also required that both the master plan and zoning laws reflect a natural resource inventory of the town,<sup>58</sup> and that environmental regulations be included in the zoning laws.<sup>59</sup>

The revision of Medford's land use regulations and zoning laws to conform with its master plan was not considered a problem by Medford's government. Both the government and local developers had gained familiarity with environmental regulations, and the extensive hearings concerning the master plan proved to be a rich educational experience for all concerned. However, Medford's planning board had a vision of the opportunity presented by the statutory requirement of conforming the master plan and zoning laws which looked beyond the limited concept of zoning laws per se. In lieu of merely conforming the master plan with existing zoning laws, a new land development code was created which combined a conformed version of the old zoning laws together with subdivision, site plan, and environmental regulations. In addition, standards were introduced to guide decisionmaking with respect to frequently arising but relatively minor questions. This streamlined and focused the entire planning process.

---

57. See generally N.J. Municipal Land Use Law, ch. 291, 1975 N.J. Laws 1107 (current version at N.J. Stat. Ann. §§ 40:55D-1 to 40:55D-106 (West Supp. 1968-1983)).

58. See *id.* at § 40:55D-28. Medford's environmental land use inventory consists of: (1) the nineteen maps of those aspects of sixteen natural resources whose regulation is reasonably necessary, based upon scientific information, to protect community health, safety, and welfare; and (2) the scientific regulations necessary to protect community health, safety, and welfare.

59. See *id.* at §§ 40:55D-62, :55D-65. "If the municipality wishes to incorporate the NRI [natural resource inventory] into the master plan and subsequently make zoning revisions, professional planners and legal consultants are necessary. The value of the NRI is greatly enhanced by having it incorporated into the master plan upon which the zoning ordinance is based." N.J. Dep't of Community Affairs (Div. of Gov't Services), *A Guide to the Environmental Aspects of the Local Planning Process* (1975). The cost of the NRI varies from \$2000 (if volunteer help is used) to \$50,000; however, many NRIs often include irrelevant material which adds to the cost with little benefit in terms of information received. See *id.*

### H. *The Medford Experience: Some Conclusions*

The Medford experience dramatically illustrates that land use planning which incorporates environmental considerations can be compatible with economic growth and development in a given community. Medford's government took the initiative and provided the leadership for its community and developers to protect the town's environment and quality of life. Because Medford's citizens recognized that its planning board was in a position to provide knowledgeable and constructive criticism in its review of development plans, they reacted positively to the changes made. As a result, Medford's quality of life was not merely protected, but improved.

In the final analysis, the Medford experience also benefited the developers by protecting them from expensive and nonproductive confrontations with the town and its citizens. Under the old development process, a citizen could raise many varieties of complaints under the rubric or guise of an environmental question. The Medford approach limited the number of environmental questions for consideration by limiting environmental zoning laws to matters of substance (i.e. those affecting community health, safety, or welfare). By keeping the agenda of possible complaints within reasonable bounds, predictability and cohesiveness were added to the entire development process.<sup>60</sup>

## IV. Parallels to the Medford Experience

Medford's positive experience resulted from an early and concerted effort to employ local authority to solve the problem of protecting the local community from the dangers of adverse environmental impacts caused by developmental activities. However, the Medford experience should not be viewed as an isolated event, but rather as one example of successful local land use planning and control. A survey of other efforts similar to Medford's illustrates that such initiatives can be ex-

---

60. In addition, a developer could check the effect of the town's environmental regulations on any prospective site, at a nominal cost, prior to committing to a project.



tremely effective, and may, in many instances, be vital to the preservation of the community.

#### A. *Other New Jersey Towns*

In 1973, the Governor of New Jersey issued an executive order which required state agencies engaged in building or funding construction projects to adopt an EIS procedure similar to the one required by the federal government pursuant to NEPA.<sup>61</sup> During 1974 and 1975, the New Jersey Department of Environmental Protection prepared and circulated 5,000 copies of a 200 page guide which advised that New Jersey's zoning enabling statutes mandated that each municipality: (1) Prepare a natural resource inventory pertaining to land, air, water, plant and animal life in the municipality, with adequate maps and scientific data to serve as a guide to rational land use planning. (2) Amend their mandatory master plans to reflect such scientific information. (3) Amend their zoning laws to require EIS preparation by developers of important projects using such information.<sup>62</sup> Thus, New Jersey mandated the policy of having municipality master plans and zoning laws include environmental regulations as an effective method of protecting the environment.

#### B. *The New Jersey Pinelands*

The New Jersey Pinelands consist of approximately 1,000,000 acres of land in south central New Jersey, encompassing fifty-six towns and villages with a scattered population of some 300,000 people. The area is comprised largely of flat, rolling, sandy soil, extensive forests of pitch pine and pine oak, and ground water resources such as streams, cranberry bogs, and large aquifers.

In the early 1970's the Pinelands were threatened with extreme pressures for development, partially due to an increasingly mobile population and the fast growth of the Atlan-

---

61. N.J. Exec. Order No. 53 (Oct. 15, 1973).

62. See N.J. Dep't of Community Affairs (Div. of Gov't Services), *A Guide to the Environmental Aspects of the Local Planning Process* (1975).

tic City, New Jersey entertainment business. As part of the National Parks and Recreation Act of 1978,<sup>63</sup> Congress declared the Pinelands area to be the Pinelands National Reserve<sup>64</sup> and asked New Jersey to establish a comprehensive management plan to protect, preserve and enhance its land and water resources as a "primary responsibility of the State of New Jersey and various local units of government."<sup>65</sup> Congress also provided \$26,000,000 to assist the project, including \$3,000,000 for planning.<sup>66</sup>

New Jersey promptly adopted legislation establishing a Pinelands Commission (Commission) with authority to prepare a natural resource inventory of the area, to prepare a comprehensive development plan, and to create environmental zoning regulations for the area.<sup>67</sup> In addition, the legislation transferred all local zoning powers to the Commission, with the proviso that local municipalities could regain their zoning powers as soon as they adopted an environmental master plan and environmental zoning regulations consistent with those established by the Commission.<sup>68</sup>

Within eighteen months, the Pinelands Comprehensive Management Plan (Plan) was in place, together with resource maps and environmental zoning regulations.<sup>69</sup> Under the Plan, building permits for the entire Pinelands area were made subject to the approval of the Commission. To date, legal actions brought to challenge the powers of the Commission have generally been unsuccessful.<sup>70</sup> The Pinelands have been saved by orderly, planned environmental zoning regulations. Thirty of

---

63. Pub. L. No. 95-625, 92 Stat. 3467 (codified as amended at scattered sections of 16 U.S.C.).

64. 16 U.S.C. § 471i(c) (1982).

65. *Id.* at § 471i(a)(3).

66. *Id.* at § 471i(k).

67. *See* Pinelands Protection Act, N.J. Stat. Ann. §§ 13:18A-4, :18A-8, :18A-9 (West Supp. 1984-1985).

68. *Id.* at § 13:18A-16.

69. *See* N.J. Admin. Code tit. 7, § 7:50 (1981).

70. *See, e.g.,* Orleans Builders & Developers v. Byrne, 186 N.J. Super. 432, 453 A.2d 200 (App. Div. 1982) (legislative standards enunciated in Pinelands Protection Act which empower Pinelands Commission to protect legislatively identified resource of Pinelands are sufficiently definite to withstand constitutional attack).

the fifty-six towns in the Pinelands area have taken back the authority to zone and issue building permits, and the remaining towns have indicated that they intend to do so.<sup>71</sup>

### C. *Hawaii*

In 1961 the then new State of Hawaii faced a serious conflict between land requirements for housing and tourism resulting from the tourist boom created by jet service to the islands, and the preservation of land for agricultural purposes. In response to this crisis Hawaii adopted a land use law designed to preserve its agricultural land.<sup>72</sup> The concern of Hawaiian citizens over usurpation of agricultural land has continued. For example, in 1984 a sponsor of a large housing development in Hawaii funded a referendum in an effort to change the zoning in an area from agricultural to housing use. The voters upheld agricultural use of the land.<sup>73</sup>

### D. *San Francisco Bay Area*

In the early 1960's, the State of California reacted to the conflict between preserving the San Francisco Bay area and the practice of many Bay area towns to permit developers to fill parts of the Bay for housing development. Eventually, California imposed statutory restrictions on the use of Bay area property,<sup>74</sup> although many initially felt that such regulation was beyond the state's powers. However, the land use restrictions, which were based upon scientific information and reasonably designed to protect the health, safety, or welfare of the affected communities, were upheld as valid.<sup>75</sup>

---

71. See generally N.J. Pinelands Commission, *New Jersey Pinelands Comprehensive Management Plan: A Progress Report on the First Three Years of Implementation* (1983).

72. See Hawaii Rev. Stat. § 205-4.5 (1976 & Supp. 1983). See also D. Callies, *Regulating Paradise: Land Use Controls in Hawaii* (1984).

73. See N.Y. Times, Jan. 12, 1984, § 1, at 22, col. 1.

74. See Cal. Gov't Code §§ 66600-66661 (West 1983).

75. See *Candlestick Properties, Inc. v. San Francisco Bay Conserv. & Develop. Comm'n*, 11 Cal. App. 3d 557, 89 Cal. Rptr. 897 (1970).

### E. *Valleys of the Baltimore Area*

In 1961 a large new road system was completed outside of Baltimore, Maryland that opened for development an attractive rural area including the Green Spring and Worthington Valleys. This area was comprised of 45,000 acres of rolling farmlands, and was approximately fifteen percent developed for residential use.

With the encouragement of the local county office of planning and zoning, the Green Spring and Worthington Valley Planning Council, Inc. was organized by a large number of residents. Planners were subsequently engaged to assist in the preparation of a plan designed to ensure preservation of the highest level of amenity with optimum development. By 1963, an environmental inventory of the valleys was prepared together with a plan and accompanying regulations which would permit the acceptance of the population demand for growth without environmental degradation by guiding the growth to the wooded crests and plateaus above the open fields of the valleys, leaving the valleys to be sparsely developed. A private land syndicate was formed to facilitate the buying and selling of land between the present owners, so that the proposed development could be guided by the plan, and the \$7,000,000 of added value could be equitably shared.<sup>76</sup>

Although the county government approved the plan, no legislation was obtained to enforce the plan's environmental regulations, and no public budgetary action was taken to ensure that public expenditures were consistent with the plan. The result was that many private transactions subsequently occurred which contravened the plan, and public sewer districts sewered areas that should have remained undeveloped under the plan.<sup>77</sup> The experience graphically illustrated that unless environmental regulations are made legally enforceable, such a project has too many potential problems to succeed.

---

76. See generally *Toward Eden*, *supra* note 28, at 33-36.

77. See *id.*

## F. *Sanibel, Florida*

Sanibel is a barrier island located in the Gulf of Mexico approximately one quarter mile from Ft. Myers, Florida. It is twenty-one miles long, two miles wide, and has a terrain of part swampland and part sandy hills. For many years Sanibel had been a fishing and summer resort, accessible from the mainland only by ferry boat. In 1963 a causeway and bridge were built to connect Sanibel to the mainland, spurring a building and tourist boom. In response to this boom, Sanibel was zoned for 30,000 houses and a population of 90,000 people, as compared with a preexisting housing stock of 4,000 houses and a peak population of 12,000 people.<sup>78</sup>

Prior to 1974 Sanibel was governed as part of Lee County, Florida. In 1974 Sanibel residents voted to incorporate as a city qualified to enact zoning laws.<sup>79</sup> A moratorium was declared on further building. Scientific and planning experts were engaged to make a detailed scientific study of the natural resources of the island and its ecology, and to create a development plan that would quantify the island's capacity for additional growth.

In 1976, Sanibel proposed a development plan that authorized a total of 7,800 dwelling units in lieu of the 30,000 units previously authorized by the county.<sup>80</sup> The proposed plan, with some modifications, was subsequently approved and enacted into law.<sup>81</sup> The vital factors of Sanibel's capacity for growth were thus reflected in the town's master plan and zoning laws, and today Sanibel is confident of its future and committed to making its environmental plan work.

---

78. See generally J. Clark, *The Sanibel Report: Formulation of a Comprehensive Plan Based on Natural Systems* 1-15 (1976).

79. See *id.* at 14-15.

80. See Sanibel, Fla. Planning Commission, *Comprehensive Land Use Plan* (1976).

81. See Sanibel, Fla. Ordinance 76-21 (July 19, 1976); It should be noted that the Sanibel Planning Commission's originally proposed development plan authorized a total of 6000 dwelling units, which was a 50% increase over the 4000 units then existing. After four months of hearings, the proposed plan (with an additional 1800 dwelling units added) was approved and enacted into law. See J. Clark, *supra* note 78, at 88-90.

### G. *The Woodlands, Texas*

In the late 1960's a Texas developer assembled a 20,000 acre tract of land located thirty miles northwest of Houston, Texas. The area was covered by a forest with a flat topography, and experienced heavy rains and extensive surface flooding. The attractions of the development site included its location on a major interstate highway leading north from Houston, and its being a part of the only extensive natural forest in the region.

The developer believed that the site presented a possibility of a more satisfactory living environment than that afforded by most of the prevailing developments on the flat, treeless plains of the region. But there existed a fundamental problem of how to ensure the drainage necessary to accommodate housing while preserving the existing, healthy forest which required saturated conditions to survive. One method proposed to obtain both objectives was the use of large pipes to deal with the frequent flooding of the site. Unfortunately, an engineering study of this method disclosed that the cost would be approximately \$18,500,000. This cost was considered excessive by the developer, and no examples existed to show that this type of solution had been successful elsewhere.

The builder thereafter retained a consulting firm whose experience included design adaptations of difficult sites which required careful ecological environmental planning that respected the land and its natural amenities. The firm made a careful examination of the site, and a plan was developed which gave priority to tree preservation, careful siting of buildings to minimize tree clearing, and skillful site design to improve and utilize natural drainage systems. To protect the area, landscaping was limited to native woodland species of plants. No lawns were allowed, thus eliminating the need for lawn fertilizers. The net result was a plan that provided, with appropriate modifications to the site, a natural drainage system at an expense of approximately \$4,000,000, a material savings over the previous proposal.<sup>82</sup>

---

82. The consulting firm involved was Wallace, McHarg, Roberts & Todd (Phila-

The Woodlands development today is both environmentally acceptable and popular. The value of environmental planning for the Woodlands was graphically illustrated on April 18, 1979. A record nine inches of rain fell in five hours, yet no house within the Woodlands development was flooded, while all adjacent subdivisions were awash.<sup>83</sup>

#### H. Cape Cod, Massachusetts

The Cape Cod area is comprised of the Cape Cod peninsula (Barnstable County) as well as the islands of Martha's Vineyard (Dukes County) and Nantucket (Nantucket County). The area is well known as a summer resort, as evidenced by the fact that in the summer the Cape's population more than doubles to almost 500,000 people.<sup>84</sup> In addition, the Cape Cod National Sea Shore<sup>85</sup> attracts more than 5,000,000 visitors between spring and fall.<sup>86</sup>

The Cape Cod peninsula consists of fifteen separate towns, and is vulnerable to heavy development because of its easy accessibility via automobile. Barnstable County is not only the fastest growing county in Massachusetts, but the fastest growing county in the six New England states.<sup>87</sup> Each of the fifteen towns is autonomous as far as land use regulation is concerned, as each has its own zoning and subdivision authority.<sup>88</sup> There is also a central county agency for advisory planning for the entire county: the Cape Cod Planning and

---

delphia, Pa.). This is the same firm that produced the Medford, N.J. study. See *supra* notes 28-60 and accompanying text. Note that since the Woodlands was the creation of a single owner, neither the preparation of the resource inventory and master plan, nor the adoption of environmental land use regulations caused any political problems.

83. N. Juneja & J. Veltman, *Natural Drainage in the Woodlands*, Environmental Comment, Nov. 1979, reprinted in part in Toward Eden, *supra* note 28, at 408-10.

84. N.Y. Times, July 29, 1984, § 1, at 22, col. 4.

85. Created by federal statute in 1961. See 16 U.S.C. § 459b (1982).

86. N.Y. Times, *supra* note 84, at 22, col. 4.

87. Between 1970 and 1984, the year round population of Barnstable County has soared from 96,363 to 148,000 persons. It is expected to reach a level of 230,000 persons by the year 2000. *Id.*

88. See Mass. Gen. Laws Ann. ch. 40A, § 5 (West 1979 & Supp. 1984-1985).

Economic Development Commission (Commission).<sup>89</sup> Several other state agencies have some degree of authority regarding matters related to health or engineering decisions, and Massachusetts itself has plenary authority over the area, although such authority is not exercised beyond creating the existing regulatory structure.<sup>90</sup>

An important natural feature of the Cape Cod peninsula is that all fifteen towns share a single aquifer which is the sole source of fresh water for the peninsula, and which is fully dependent upon precipitation on the Cape. The threat to the quantity and quality of the water supply caused by the huge influx in population and increased development is both imminent and severe. As recently noted, "Cape Cod . . . is confronted with leaching landfills, industrial waste and nitrates from cesspools and septic tanks that have invaded some public and private wells. Overpumping of wells has caused salt water intrusion in some areas, with sodium levels exceeding limits regarded as safe."<sup>91</sup>

Several years ago the critical nature of the Cape's fragile ecosystem and the potential dangers resulting from the lack of unified planning were graphically illustrated when a serious leak in a large underground gasoline storage tank polluted the water wells in the town of Truro.<sup>92</sup> The resulting analysis disclosed that one-third of the gasoline tanks on the Cape were

---

89. The Commission was created by legislative act in 1965, *see* 1965 Mass. Acts ch. 453. A separate commission for Martha's Vineyard (Dukes County) was later created to protect natural resources on the island, *see* 1974 Mass. Acts ch. 637, *superseceded by* 1977 Mass. Acts ch. 831. The Martha's Vineyard Commission had considerable initial regulatory authority; however, the exercise of that authority impelled two of the eight towns on Martha's Vineyard to seek and obtain legislation removing them from the jurisdiction of that Commission, *see* 1977 Mass. Acts ch. 836.

90. The power in question is the sovereign power of the state to create or abolish municipalities, or to take measures similar to those taken by New Jersey in the Pine-lands, *see supra* notes 63-71 and accompanying text, or by New York in the Adirondack Region, *see infra* notes 100-103 and accompanying text. These powers are rarely employed. Massachusetts has enacted environmental laws such as MEPA, but powers concomitant with such laws usually relate to state action or to projects using state financing. *See supra* note 20.

91. N.Y. Times, *supra* note 84, at 22, col. 5.

92. *See Cape Cod Planning and Economic Development Commission, Beyond Zoning: Municipal Ordinances to Protect Groundwater* (1982).



leaking, and that numerous garages and cleaners were routinely dumping toxic poisons into the ground water. A water study undertaken by the Commission pinpointed the dangers to the sole source aquifer,<sup>93</sup> and model ordinances to protect the aquifer were prepared and distributed to all fifteen towns on the Cape.<sup>94</sup> Although some towns adopted all or part of the ordinances, others did not. In any event, very little effective enforcement has followed.<sup>95</sup>

Other initiatives have been undertaken as well. For example, the Commission has recommended a one acre minimum for residential lots to minimize the effects of nitrate buildups. However, many towns continue to have smaller requirements, sometimes as small as one quarter acre.<sup>96</sup> Other protective measures to temper the effects of overdevelopment have included moratoriums on motel and multi-family unit construction, restrictions on commercial zoning, and tighter enforcement of existing zoning regulations.<sup>97</sup> Nevertheless, whether Cape Cod's natural treasures can be protected is still an open question.

---

93. See Cape Cod Planning and Economic Development Commission, *Regional Groundwater Management Needs: Cape Cod, Massachusetts* (1983). This study was funded by federal funds pursuant to section 208 of the federal Clean Water Act. See 33 U.S.C. § 1288 (1982).

94. See Cape Cod Planning and Economic Development Commission, *Model Water Resource District Bylaw* (June 1981); Cape Cod Planning and Economic Development Commission, *Model General Bylaw/Health Regulation to Control Toxic and Hazardous Materials* (Dec. 1981); Cape Cod Planning and Economic Development Commission, *Model Health Regulation to Prevent Leaking of Underground Fuel and Chemical Storage Systems* (rev. Feb. 1982).

95. The New Alchemy Institute, a seasoned environmental group located on Cape Cod, retained the University of Massachusetts, Department of Landscape Architecture and Regional Planning to map a Cape-wide environmental analysis and prepare environmental regulations to be made available to the fifteen towns in an effort to bring unified environmentally based land use planning to the Cape. See Univ. of Mass.-New Alchemy Institute Memorandum of Understanding (Sept. 16, 1983). However, continued funding for the project has not been forthcoming, and the situation continues to drift. In any event, some questions exist as to whether a university is, by its very nature, equipped to undertake such a project. It may well be that one or more of the new planning firms who do environmental studies using computer and landscape imaging techniques in conjunction with existing resource maps and data is better suited to such an extensive project.

96. N.Y. Times, *supra* note 84, at 22, col. 5.

97. *Id.* at 22, col. 6.

### I. *The Monadnock Region of New Hampshire*

The Monadnock region comprises basically the southern half of New Hampshire (much of which is dominated by Mt. Monadnock). The attractiveness of the rural New Hampshire lifestyle and its scenic beauty have created pressures in housing and commercial development that threaten the character of the region and its natural resources. In turn, this threatens the region's potential for economic strength derived from a well managed tourist and recreation industry.

Because of its high visual quality and the fact that it faces significant landscape changes over the next twenty years, the Monadnock region was selected for study by the Department of Landscape Architecture and Regional Planning of the Harvard Graduate School of Design. A scientific environmental resource inventory of the region was assembled and mapped with the aid of computer mapping and satellite imagery techniques. Twenty-four natural resource and land use factors were inventoried and mapped for a land area of 150,000 acres. Additional analyses were made of the probable impact of the continuance of the present unguided trend of development on land use, visual amenity, water quality and forest resources. The study observed that continued unchecked housing and commercial development in the region without regard for environmental considerations was likely to transform the region into a further extension of the northeast megalopolis sprawl.<sup>98</sup>

The overall conclusion of the study was that a concerted planning effort was required to avoid environmental degradation of the region, which was viewed as likely to occur if chaotic development due solely to economic interests continued. The opportunity for creating a truly regional environmentally oriented development plan is dazzling. The natural resource inventory compiled for the study exists, in depth, in a flexible computer data base. The impacts of various alternative development policies have been examined. However, it remains an

---

98. The story of the Monadnock region study and its results are set forth in *Monadnock Perspectives*, Winter 1981-1982 and Winter 1982-1983.

open question whether a regional development plan based upon environmental regulations will come to fruition. The Harvard study has been completed, and as yet no political entity or citizens group has come forward to take part in a continuation of the planning process.<sup>99</sup> Preparation of environmental regulations would make it possible to consider legislative alternatives designed to preserve the area as it develops.

### *J. The Adirondacks of New York*

The Adirondacks are a secluded mountain area of some 6,000,000 acres in northern New York State. The area contains 110 towns and villages, most of which have their own zoning powers, although few exercise them. Forty percent of the property in the area is owned by the state, the remainder by private interests. The population of the area ranges from approximately 150,000 people during the winter to a maximum of approximately 250,000 people during the summer months.

In 1968 an interstate highway from Albany, New York to the Canadian border was completed. The highway bisected the Adirondack area, and provided easy public access via automobile. Upon investigation, the state concluded that "[l]ocal governments in the Adirondack Park find it increasingly difficult to cope with the unrelenting pressures for development being brought to bear . . . and to exercise their discretionary powers to create an effective land use and development control framework."<sup>100</sup>

Four years of study by the state resulted in legislation based upon resource maps and environmental data which established an environmental master plan and land use regula-

---

99. Telephone conversation between Professor Carl Steinetz, Chairman of Harvard University Department of Landscape Architecture and Regional Planning, and A. Palmer (Oct. 1983). To the best of the author's knowledge, Harvard has taken no further action with respect to the study.

100. Adirondack Park Agency Act, N.Y. Exec. Law § 801 (McKinney 1982 & Supp. 1984-1985).

tions.<sup>101</sup> The regulations and master plan have been enacted into land use statutes which are administered by the Adirondack Park Agency, with reasonable provisions for local input regarding land use decisions.<sup>102</sup> Although the process is litigious (largely because of the large areas involved and the initial scarcity of scientific environmental data),<sup>103</sup> the program has proved workable and generally successful in preserving the area.

#### K. *Cazenovia, New York*

Cazenovia is a beautiful, historic town with a population of approximately 3,000 people located on the shores of a small lake about thirty miles southeast of Syracuse, New York. The town was founded in 1793 by a Dutch banking group that bought 120,000 acres to found a small town as a speculative investment. Modestly successful as a small manufacturing and business center based on water power, Cazenovia became a popular summer family resort in the late 1800's. However, pressures for increased development became evident during the 1970's due to increased accessibility, and the fact that a number of large estates appeared for sale on the real estate market.<sup>104</sup>

In response to the heightened demand for development, a small local task force of environmental experts and scientists

---

101. See *id.* at §§ 805-807.

102. See *id.* §§ 808-809.

103. See, e.g., *McCormick v. Lawrence*, 83 Misc.2d 64, 372 N.Y.S.2d 156 (Sup. Ct. 1975), *aff'd*, 54 A.D.2d 123, 387 N.Y.S.2d 919 (App. Div. 1976) (prime concern of Adirondack Park legislation was to preserve scenic and aesthetic value of park); *Helms v. Diamond*, 76 Misc.2d 253, 349 N.Y.S.2d 917 (Sup. Ct. 1973) (basic function and concern of Adirondack Park Agency is with use and development of private lands within Adirondack Park). The legislation has also withstood constitutional challenges. See, e.g., *Adirondack Park Agency v. Ton-Da-Lay Assocs.*, 61 A.D.2d 107, 401 N.Y.S.2d 903 (App. Div.), *appeal dismissed*, 45 N.Y.2d 834, 381 N.E.2d 612, 409 N.Y.S.2d 214 (1978) (comprehensive plan contained in Adirondack Park legislation was enacted for benefit of all citizens and is not an unconstitutional taking of property); *Horizon Adirondack Corp. v. State*, 88 Misc.2d 619, 388 N.Y.S.2d 235 (Sup. Ct. 1976) (comprehensive system of land use controls applicable to privately owned land within Adirondack Park is not a compensable taking of property by the state).

104. See Cazenovia Preservation Foundation, Inc., *Cazenovia: The Story of an Upland Community* (1977).

embarked upon a planning effort for the town. The task force prepared an ordinance which established a study commission authorized to conduct a study program and prepare recommendations regarding environmental land use problems to the town government, and the town subsequently passed the ordinance.<sup>105</sup> The study commission then developed a series of resource maps covering the town. These maps were accompanied by environmental data, which provided the basis for the preparation of environmental regulations.<sup>106</sup> Cazenovia now provides criteria and standards for environmental protection and land use planning.<sup>107</sup> The commission has remained as a consultant to the town's planning board regarding development programs, and has established a relationship of participatory planning with the town and developers.<sup>108</sup>

#### L. *Westchester County, New York*

Westchester County extends northward approximately thirty miles from the northern border of New York City, and is bordered to the west by the Hudson River and to the east by the State of Connecticut. It has a population of approximately 900,000 people and an area of 288,000 acres (450 square miles). Forty-three separate municipalities are contained within Westchester, each having the power of land use regulation. Westchester County also has an active planning organization comprised of a Commissioner of Planning with a substantial planning and administrative staff, and a county planning board with broad advisory powers.

Over the years, Westchester has established an atmosphere of awareness and cooperation with the general public concerning environmentally based land use planning. In 1974,

---

105. See Cazenovia, N.Y., Local Law No. 1 (May 13, 1974).

106. The task force was assisted by the School of Landscape Architecture and Regional Planning, State University of N.Y. College of Environmental Science & Forestry, Syracuse, N.Y. It also consulted at various times with Medford, N.J. planning board staff members. Later stages of the task force's work were aided by the National Trust for Historic Preservation, Washington, D.C., which has provided financial assistance of \$25,000 for each of the last three years.

107. See Cazenovia Community Resources Project, Land Use Guide (1984).

108. See *id.*

preliminary work toward compiling natural resource maps for the county was begun by the preparation of instructions to guide volunteers in a citizens' effort to map Westchester's natural resources.<sup>109</sup> A major reason for this program was to identify open spaces and consider them for preservation in the public interest.<sup>110</sup> The information derived from this effort was later supplemented by natural resource data obtained from other sources. In 1983 a set of thirty-one natural and man-made resource maps covering twenty-two subjects (designated as an Environmental Planning Atlas) was made available to the public.<sup>111</sup> However, it is not yet known what steps are to be taken to formulate scientific environmental planning regulations or standards, which could be helpful in the local preparation of master plans and environmental zoning laws.<sup>112</sup>

Also in 1983, a planning project entitled "Westchester 2000" was organized. Westchester's business leaders and local

---

109. See Westchester County Environmental Council, *Natural Resources Inventory Field Guide for Westchester County* (pamphlet) (Dec. 1974).

110. Keynote address by Peter O. Eschweiler, Commissioner of Planning of Westchester County, New York Land Institute, White Plains, N.Y. (Jan. 11, 1982).

111. See Westchester County Environmental Council, *Environmental Planning Atlas* (Nov. 4, 1983).

112. Local municipal legislation to include environmental regulations in zoning laws and master plans is clearly appropriate. New York State's Town Laws provide that one of the purposes of zoning laws may be "encouraging the most appropriate use of land." See N.Y. Town Law § 263 (McKinney 1965 & Supp. 1984-1985). In addition, modern subdivision laws adopted pursuant to the Town Laws contain provisions such that land to be subdivided shall be of such character that it can be developed "without resulting in significant damage to the ecology of the area in which it is located." See, e.g., New Castle, N.Y., Town Code ch. 113, art. I, § 113-4 (1983). Looking at protective measures that have been approved in N.Y. over the past ten years, it becomes clear that zoning and subdivision enabling laws constitute a broad delegation of powers to municipalities to act reasonably to protect the health, safety, or welfare of the public. The basic restrictions are that the provisions must be reasonably necessary to protect health, safety, or welfare; that they are prepared and adopted in accordance with a comprehensive plan; and that they are uniform in the case of each zoning district. The nature of the process under consideration meets all of these criteria. In fact, the SEQRA process mandates that environmental protection be made a part of the regulatory process, see N.Y. State Env'tl. Conserv. Law §§ 8-0101, -0103 (McKinney 1984), and provides a broad power for municipalities to determine the appropriate measures required to protect the environment in those instances where an EIS procedure is required. There is no inconsistency between the two procedures.

government were involved in the organization of the project.<sup>113</sup> The planning effort was stimulated by a burst of development that boosted employment in Westchester by 53,000 people between 1970 and 1980.<sup>114</sup> This activity has exacerbated traffic congestion, an extremely tight housing market, and local resistance to economic development projects.

Westchester 2000 comprises eight task forces<sup>115</sup> concerned with the areas of: (1) ecology, economy, and geography; (2) county-municipal relations; (3) housing; (4) transportation and other infrastructure; (5) education and the arts; (6) human services; (7) urban center design; and (8) open space and recreation.

Clearly, one of the basic needs for this effort is to bring about a fruitful relationship between economic development needs and the health, safety, and welfare of Westchester's communities. Westchester 2000 represents a noteworthy planning effort: the combination of full industrial and business support, and the talents of skilled and capable government and private land use planners. Although the issues being grappled with are complex, the work is progressing with diligence and enthusiasm.

### M. *Other Examples*

The previously discussed examples of areas where environmental land use planning has been implemented should not be viewed as exhaustive. As one land use planner has noted:

[S]everal hundred examples [exist] of communities that have prepared ecological studies or inventories and, later, developed regulations based on these studies and inventories. There is, as one would expect, a great range evident in application. Some communities place great weight on

---

113. See Regional Plan Association, *The Region's Agenda* (Dec. 1983) (discussing Westchester 2000 preliminary leadership meeting).

114. Regional Plan Association, *Selected Highlights of the 1980 Census: Westchester County, Westchester 2000 Project* (Sept. 18, 1984).

115. Over 500 volunteer workers served on these task forces, which met through 1984 and early 1985 with the objective of producing a report by mid-1985.

ecological findings, others less so. Nevertheless, regulatory actions are based on ecological studies.<sup>116</sup>

As many examples illustrate, the threat of either overdevelopment or development adversely affecting the quality of life is often necessary to bring about a beneficial change in local land use practices. The existence of a group of concerned and informed citizens and a fair degree of local governmental and corporate leadership also appear to be prerequisites to successful implementation of environmentally sound and legally enforceable land use regulations. Without these prerequisites, it is unlikely that sufficient political clout will be mustered to overcome traditional Euclidean zoning schemes or to improve the effect of little NEPA procedures where leadership is exercised by developers with no advance guidance from municipalities. Areas such as New Jersey's Pinelands<sup>117</sup> and New York's Adirondacks<sup>118</sup> may be large enough and so unique as to attract federal and state interest to exercise unusual powers. However, areas such as these are probably more correctly viewed as exceptions rather than the rule.

## V. Conclusion

The United States is in the early stages of a revolution in the philosophy and practice of land use planning and regulation. This revolution stems from: (1) The inability of traditional Euclidean zoning concepts to provide a viable means of accomodating necessary development while protecting the health, safety, and welfare of a community. (2) The inherent inadequacies of the NEPA and little NEPA EIS processes, which often lead to a confrontation between those favoring a given project or development (including the developers), and members of the community who often feel the local government is not exercising the required leadership. (3) The failure of many state and local governments to promulgate legally en-

---

116. Letter from William Toner, Professor of Land Use Planning, Governor's State University, to A. Palmer (May 15, 1983).

117. See *supra* notes 63-71 and accompanying text.

118. See *supra* notes 100-103 and accompanying text.



forcible land use regulations based upon objective scientific data.

This article expresses the belief that it is possible for communities to employ objective scientific ecological and environmental data as a basis for the creation of environmentally sound and legally enforceable land use regulations which will help rather than hinder development as well as protect vital resources. It is evident that municipalities should be encouraged to develop such regulations. However, as one land use planner has observed:

The real question is, why does . . . [environmentally based land use planning] have so little bearing on the way land is actually used. The answer to this lies partially in the fact that in much of the country public planning, as performed by planning departments, doesn't have much to do with the spatial ordering of land uses across the metropolitan landscape. At least not much compared to what is done by state highway departments, regional water and waste water authorities, the larger commercial and residential property developers, and recently those bond houses specializing in the tax exempt financing of private ventures. In addition, despite all the talk about the need for planning, and all the plans, the public regulation of private land still lacks widespread political support, and where it lacks political support it cannot succeed. While that statement is practically axiomatic, it does place the Medford experience in a proper perspective. The success in Medford wasn't based just on the rational nature of the ecological planning method, but stemmed from a commitment on the part of the local political leadership to environmental protection. Of course, the ecological planning method does provide scientific criteria upon which to base land use regulations and clearly demonstrates the relationship between those regulations and public health and safety considerations.<sup>119</sup>

---

119. Letter from Professor Ben Luckens, Research Associate, Southwest Texas State University, to A. Palmer (Mar. 29, 1984). The letter also included the following caveat:

It should be noted that despite its inclusion in the planning curriculum,

It would be extremely helpful to have encouragement for municipal action emanate from state and local governments. It is not beyond the bounds of imagination to envision a state agency mapping environmental data for an entire state, to be employed by individual communities in developing environmentally sound land use regulations. This could possibly be achieved by utilizing existing satellite imagery and computer analysis techniques, combined with essential scientific data in appropriate form.

If the confrontational aspects could be removed from the development process, attention could also be devoted at the state and local levels to identification of regional aspects of environmental problems. Similarly, an analysis could be made of the roles of state and local governments concerning how to fairly distribute both the tax benefits and the impacts of developments, including those which have regional importance. Far from interfering with the traditional NEPA and little NEPA EIS processes, this would both simplify and encourage them.

---

many practicing planners still lack the scientific and technical skills necessary to either prepare a plan based on the ecological planning method or to interpret development plans to insure compliance with regulations based on the method. All too often when land use issues come before decision making boards the development interests bring their legions of highly paid consultants who proceed to bury the planning staff with technical data they are ill prepared to interpret or defend against. This might well pose a problem to smaller rural communities attempting to use an environmental impact process similar to the one used in Medford.

Nonetheless, Professor Luckens concludes that "[d]espite all these problems, the fact remains that the ecological planning method should be a key element in land use planning efforts." *Id.*