Institutional change and environmental protection: public trusts and other reforms

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INSTITUTIONAL CHANGE AND ENVIRONMENTAL PROTECTION:  
PUBLIC TRUSTS AND OTHER REFORMS

By

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ABSTRACT

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This study outlines the key weaknesses in the American pursuit of environmental quality, including the failure to consider systematically the claims of future generations, the excessive reliance on agency discretion, the inadequate programs for citizen involvement in resource decisions, and the fragmentary enforcement of property owner obligations. It is concluded that these weaknesses are signs of institutional failure.

A proposed remedy—the public trust approach—is explored and recommended. The central feature of the public trust approach is the creation of legal duties to manage critical resources as trustees of the environment for future generations, not simply as current-day proprietors. The trust approach includes legal mechanisms to insure that important resources are neither degraded nor wasted. Related institutional reforms—including a re-examination of the National Environmental Policy Act—are analyzed.
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APPENDIX A

APPENDIX B

FOOTNOTES

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Ecology has become the Thing. There are ecological politics, ecological jokes, ecological bookstores, advertisements, seminars, teach-ins, buttons. The automobile, symbol of ecological abuse, has been tried, sentenced to death, and formally executed in at least two universities (complete with burial of one victim). Publishing companies are fattening on books on the sonic boom, poisons in the things we eat, perils loose in the garden, the dangers of breathing. The Saturday Review has appended a regular monthly Ecological Supplement.\(^1\)

As noted by Robert Heilbroner in his essay, "Ecological Armageddon," environmental quality has received an enormous amount of attention since the late 1960's. In addition to the obvious signs he mentions, there has been a virtual landslide of environmental legislation and litigation. On a crisis by crisis basis, federal, state, and local governments — prodded by citizens and groups — have stumbled into the structuring of environmental decision-making institutions and have been called upon to analyze these decisions and to interpret and apply a plethora of statutes and administrative regulations. The field of environmental law has been characterized accurately as "the law ablaze." A vast body of complex and not-always-consistent case law has resulted.

Despite this surge of promising activity, all is not well, environmentally speaking. As Heilbroner warned, ecological issues have "assumed the dimensions of a vast popular fad, for which one can predict with reasonable assurance the trajectory of all such fads -- a period of intense
popular involvement, followed by growing boredom and gradual extinction, save for a diehard remnant of the faithful." However, he does not end on this note of pessimism. Instead, he expresses the hope that the new ecological awareness and concern provide "the possibility for a new political rallying ground" — and a new social direction. Lately, however, it has become clear that this new movement and new direction have not materialized. Several reasons can be offered.

For example, the environmental movement, like a number of other public efforts, does not represent a clearly defined constituency. This poses the fundamental, knee-weakening question: Whom do you represent? Too, environmental groups have not often formed close ties with other groups working on social and political issues, especially, in general, with respect to the movement for economic justice, although some promising new initiatives are under way. While each drive could benefit from the insights and influence of the other, few serious, long-term alliances have been formed. This has resulted in some inter-group fighting and reduced effectiveness.

Another reason is that the environmental movement itself is split into at least three groups: full- or part-time activists, low energy lifestyle communitarians, and apathetics. Even within the activist sector there are divergent, and sometimes undefined, strategies. In addition, the standard environmentalist posture is generally reactive rather than anticipatory. This is not necessarily a chosen stance, but one crisis after another preempts time that could be used to form alliances, define strategies, and conceive new general directions for the long-run.

Finally, and perhaps decisively, citizen environmental groups are very low-budget operations. The lack of adequate financial resources is one of the greatest obstacles to concerted environmental action.
What, then, is the status of the environmental law landslide that the environmental movement has helped promote? Over six years after the first Earth Day, the major effects of the environmental effort are still in doubt.

On the one hand, airsheds and watersheds in some areas are cleaner and, ecologically speaking, more viable; the SST was sidetracked, although it now lands here; and numerous environmental statutes have been enacted. On the other hand, the overall policy framework for environmental decisions is not functioning well.

For example, whether a non-degradation policy for air quality will be adopted is still being debated in the courts, Congress, and the Environmental Protection Agency. The Federal Water Pollution Control Act—a new approach to water quality—is languishing. (Very little has been accomplished with respect to groundwater pollution and non-point sources of water pollution, such as agriculture and silviculture; the close relationship between water pollution and water appropriation—diversion of water from streams—is not covered; there is an interagency dispute hampering control of radioactive discharges into water; and the efforts to encourage effective citizen participation in water quality decisions have been largely unproductive.) While wildlife habitat and prime agricultural land are chewed up at alarming rates, there is no national land use policy— even for public lands. The same is true for national energy policy and strip mining legislation. (A number of states are proceeding on a trial and error basis with strip mine reclamation and various approaches to land use planning.) The Occupational Safety and Health Act is under fire and is nowhere near full implementation. Only recently were steps taken to establish comprehensive toxic substances legislation. The Council on Environmental Quality, created in 1970, is a fine agency on paper and has produced some useful studies; its impact on resource decisions, however, is dubious.
The list could go on — and could, of course, reflect more of the specific accomplishments of the environmental movement. Even so, the list would remain mostly one of dubious and partial accomplishments.

The overriding reason for this stalemate is not the failure of movement politics, not the lack of a more visible constituency, not the infighting mentioned previously, not even administrations hostile to environmental concerns. While these remain significant stumbling blocks, the chief difficulty is the substantive failure to re-orient political and economic institutions so they conform to ecological realities and involve clearly enforceable duties consonant with those realities. It is this political/legal failure — a correctable one — to which this report is addressed.

This study does not explore the obvious questions, which deserve careful consideration at an early date, that are raised by the inherent growth-for-growth's-sake tendency of modern corporations. Suffice it to say that the corporate growth tendency is often environmentally destructive and must be scrutinized. Prominent possibilities for change include the development of small-scale economic institutions — such as cooperatives, non-growth oriented corporations, and public service enterprises. In short, it is crucial to develop economic institutions that meet genuine human needs, not simply expand gross production.

Another question not addressed in this study is the adverse economic impact that environmental regulations can have. These adverse effects — primarily job and income displacement — can be mitigated by careful anticipation. For example, where regulations terminate jobs, workers must be enabled to make an orderly transition to new jobs through training programs and injections of capital or technical assistance to provide new, more environmentally consonant employment opportunities, and so on. This is
in simple recognition of the fact that when environmental quality is enhanced, many benefit; a few should not have to pay with their economic security for such widespread social gains.
PART I

OBSTACLES TO

THE PURSUIT OF ENVIRONMENTAL QUALITY

A. Introduction

The failure to re-orient political and economic institutions manifests itself as six related problems.

(1) The environment is a complex, not-entirely-understood set of events and processes. We have developed no systematically applied methods for evaluating the risks of ecosystem modification or tampering.

(2) Existing property ownership is a convenient but overly simplistic grid imposed on ecological systems. It does not reflect the multi-faceted ecological character of the land and obstructs ecologically based land management.

(3) Human activities and institutional patterns tend to follow convenience or historical/technological imperatives rather than ecological realities and limitations.

(4) The basic needs and values of future generations are not represented in present-day decisions (nor are the "rights" of eco-systems). This being the case, we risk foreclosing future options without explicitly considering them (and, in the case of ecosystem rights, we may pass up some important lessons that can be learned only from a more respectful attitude toward nature).

(5) The requisites for more effective citizen participation in environmental decisions have not been completely identified or implemented.
(6) The current system for environmental decision-making is decisively flawed. It reacts to problems rather than anticipating them; it does not routinely incorporate socio-economic concerns; it dubiously relies upon agency self-policing; and it commits too many decisions to the abyss of bureaucratic discretion.

B. Ecological Complexity

John Muir once wrote that "when we try to pick out anything by itself, we find it hitched to everything else in the universe." Others have stated this position. In dealing with the environment, it has been said, "you can't just do one thing."

What does this mean when it comes time to make a decision that affects the environment? Surely the point is not that you must consider everything before doing anything. But since the Industrial Revolution, human ability to manipulate the environment has increased enormously. There is a corresponding tendency to try everything we appear technologically able to do. Our technological power, vast industrial organization and overwhelming population increase require that we take far greater heed of ecological realities than we did a century ago.

As noted by ecologist Eugene Odum,

...man's power and willingness to alter environments has increased at a greater rate than man's understanding of said environments. Society now asks questions that cannot be adequately answered because of lack of data, and especially because theoretical models are not sufficiently firm to allow predictions that have a reasonable probability of being right....

...We must be on solid theoretical ground before we leap. We cannot afford trial and error procedures in many cases, because many alterations of the environment are not immediately reversible should we discover that the alteration was a mistake. (Emphasis added)
How do we respond to this problem? Consider DDT, thalidomide, aldrin, dieldrin, vinyl chloride, red dye #2, kepone, and the proliferation of other potentially toxic and carcinogenic substances that may go a long way toward explaining why the U.S. is number one in the incidence of a wide variety of cancers. The Teton Dam disaster and strip mining in semi-arid environments are only two of a host of other examples of our persistently optimistic trial and error approach.

Our understanding of environmental complexity and risk does not very frequently guide actual decisions by government or private parties. While numerous actions have been modified to reduce their impacts, agencies and corporations have not attempted to solve the more fundamental problem of identifying anticipatory risk limits beyond which they will not go. These limits, or at least a solid procedure for examining them in advance, must be developed or decisions will continue to run contrary to the fundamental maxim that one should err on the safe side.

There is a crucial way to assure that the fragility and complexity of ecological systems will be fully assessed and reflected in final decisions. It is to structure an adversary institutional framework -- one that brings a potent segment of the citizenry representing public, longer-term interests into the decision making arena, whether it be the management offices of major corporations, the barren halls of administrative agencies, or courts of law and equity. It is the public trust approach.

C. Conventional Property Ownership Boundaries

The primary and conventional method for bounding property west of the original colonies was developed in 18th century Congressional debates on the disposal of public lands. These debates generally reflected a desire to dispose of the vast public domain to produce revenue and promote settlement. For disposal purposes, the size of a township (six

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miles square) was established in part to avoid the sale of large blocks of public domain land to speculators. A grid of mile-square sections was soon imposed throughout the public domain; coupled with the various public land disposals, this grid resulted in the current patchwork and ecologically senseless mix of ownership (See Figure 1). Generally, ecological constraints and conditions were not understood or considered in drawing these ownership lines.

The square mile grid may have appeared reasonable at the time. However, when land is classified for purposes of environmental management, the weakness of this method of bounding ownership is sharply demonstrated (See Figure 2). Matters of environmental importance—surface and groundwater flows, wildlife habitat, soil productivity, and so on—do not follow section line grids. They depend on ecological factors such as topography, vegetative cover, and slope—not fence lines. Thus, with conventional boundaries, the environment's important and related components are fragmented. Regulation of activities and protection of ecological values are hindered by the resulting ownership diversity.

This is not to say that we must undertake a massive—if not impossible—redrawing of property boundaries. Not only would this be politically improbable; it would also be ecologically ridiculous. Important ecological processes overlap, rendering any certain division of ownership unrealistic.

Rather than compound the initial error, the concept of ownership itself needs reassessment with the clear recognition that ownership patterns do not correspond to ecological limits. The "bundle of rights" and responsibilities associated with property need to be shaped to respect, rather than ignore, ecological processes and impacts.
DIFFERENT CLASSES OF PUBLIC LANDS AND MANY ORGANIZATIONS MEAN COMPLEX PLANNING ARRANGEMENTS

- Forest Service
- Atomic Energy
- BLM
- Park Service
- State
- Private

HOW PUBLIC LANDS MIGHT BE CLASSIFIED FOR ENVIRONMENTAL MANAGEMENT

- Water
- Biosystem Maintenance
- Quality of Experience
- Air Quality

D. Conventional Human Activities

The conduct of human activities generally follows short-term convenience imperatives. Americans have demonstrated almost no success with self-limitation, particularly in nonrenewable resource consumption—except in those rare instances, such as war, where limitation was socially demanded. With a seemingly inexhaustible American land frontier, this waste posed no apparent difficulty. One could simply move on—over the next hill or across the river. Minerals, for example, seemed unceasingly available; and not until the Paley Commission of the 1950s was there serious public questioning of the nonrenewable resource future.

With the publication of Limits to Growth, the allegedly contrived energy crisis of the winter of 1973, and the increased likelihood of serious shortages in the near future, a heightened public debate on resource supplies began. The basic argument of the growth skeptics is that the dizzying acceleration of exponential growth can exhaust sizeable supplies of vital materials and imperil the viability of the earth environment. Those more sanguine about the prospects and benefits of further growth argue that the growth of knowledge and technological advance—finding new ways to extract resources and finding new uses for presently unused materials, for example—will outrun the rapidly depleting reserves of critical materials.

While a crucial discourse on the limits to growth pits the speed of technological innovation against exponential or near-exponential growth in material consumption and its side effects, there are still few serious efforts underway to identify and slow the consumption and waste of critical materials. For example, in the United States we have no mandatory energy conservation program—in fact, almost no voluntary program. With the disappearance of lines at service stations, people have hit the road again—
as if the line were the key indicator. The shift to small cars is also endangered. We have no minerals conservation policies or programs. Packaging and construction techniques still render important materials utterly irretrievable by mixing them with inseparables. Land use practices are not guided from the point of view of long-term economic or environmental efficacy (e.g., the continuing sprawl subdivision of prime agricultural land and wildlife habitat).

The list could go on to include the horrifying reality that carcinogens—cancer-causing agents—are a routine part of meat packaging, dyes, and other goods we use daily. In sum, human activities are not conformed to a host of ecological constraints. Rather, they follow a convenient, business-as-usual strain, with very little long-term vision, even in the face of impending crisis.

We need to institutionalize an ecological perspective by requiring certain parties to evaluate environmental needs against the more short-sighted, day-to-day concerns.

E. Institutions to Consider Future Generations

It may seem a commonplace observation to assert that future generations are not represented in present-day decisions. Of course they are not represented, one may say; they are not even here yet. One of the cornerstones of American political theory, however, is the principle that persons affected by a decision ought to be represented in the making of that decision. That is a relatively straightforward generalization of the old slogan: "Taxation without representation is tyranny." However, in reality, the principle becomes a confusing, intractable proposition.
How is it possible to represent future generations? Who can say with certainty what will count with the unborn? What will their values and goals be? What will be acceptable and what intolerable?

On the other hand, who can deny that the environmental decisions we make today—whether it is preserving a wilderness, building a highway, opening a mine, carving a road, harvesting timber, or constructing a nuclear power plant—will help define the conditions of their lives?

It is odd—and on reflection, a damning indictment—that we assume an unlimited right to bring children into the world and, at the same time, we have not developed a single legal obligation to assure that those children have a viable future. At present, there simply are no institutions or representatives systematically evaluating the claims of coming generations. We need to develop them.

F. Inadequate Citizen Participation

Although "citizen participation" is a frequently heard slogan, it is in danger of becoming little more than that.

Consider the standard public hearing. Assume that due notice of the hearing is properly given. The citizens who can afford the time to prepare testimony and travel to the hearing will probably be heard. However, what is their leverage? What is to keep their views from vanishing into the thin, smoky air of the hearing room? When they go home, what do the agencies do in response to their efforts? How is the public input weighed and evaluated? How is the final decision actually made?

There has been a great deal written on the contemporary absence of effective citizen participation. Writers have noted the complexity, expense, irregularity, and indefinite results of participation. In response, a number of attempts have been made to regularize administrative
procedures, to open governmental meetings and documents to public review, and to require agencies to encourage citizens to participate. In fact, the National Environmental Policy Act aims to compel a public account of major agency decisions. To this end, it requires the familiar environmental impact statement (EIS). However, shipping someone a four-pound EIS every month or so does not necessarily increase citizen participation. Indeed, the practice can actually discourage citizen interest. Too often, these documents are written—or hearings are held—simply to justify a decision already made, not, as the law requires, to encourage citizens to take part in the shaping of a final decision. In EISs, agencies do not routinely highlight known controversies surrounding environmental data or the limitations of data collected and used. So, the public does not receive independent and balanced information. There is no funding available for citizens to gather their own data and present them for consideration. It is unclear how the citizen's views are evaluated in the decision-making process. And, it is not even clear whether we have genuine participation or mere input.

All these limitations reduce the chance that citizen action will be a potent force in environmental decisions. On virtually no other subject matter could this situation be more aggravating since citizen participation provides critical balance against the claims of groups seeking to influence resource decisions to suit their short-term profit/loss accounts.

G. Flawed Environmental Decision-Making

A key barrier to effective environmental decision-making is the amount of discretion lodged within government agencies. Essentially private judgments and biases are all too easily substituted for public justifications in making decisions, and these discretionary judgments are not easily or...
inexpensively reviewable. For example, halting ill-advised governmental actions often requires the use of an extraordinary judicial remedy, such as the "preliminary injunction." Obtaining this remedy is quite difficult. There is a four-fold test that must be met by plaintiffs if a questionable activity is to be halted by a court:

1. There must be a legally defensible interest to be protected by the injunction.

2. The party seeking the injunction must demonstrate that the proposed activity would irreparably harm the party's legally protected interest.

3. The injunction must confer public benefits.

4. The damage to the private interests enjoined must be balanced against the interests protected by the injunction.\(^35\)

The second test—proving irreparable damage—is often difficult to pass, particularly in public health cases. Environmental effects may be cumulative over a period of years; they may not be recognized at the immediate site of the proposed activity; or they may otherwise be difficult to quantify.\(^36\) So, as in so many other aspects of law and conventional practice, old remedies are ill-suited to the resolution of environmental disputes.

In addition, governmental decision-making on matters of environmental importance is conducted from an essentially reactive posture. Typically, a symptom such as foul water, or a major development proposal such as a nuclear plant, triggers governmental investigation and action. Positive planning in the two most critical environmental problem areas—land use and energy— is either non-existent, inconclusive, or compromised.

For example, the U.S. Forest Service multiple-use planning process, which is an admirable attempt to plan for the future, glosses over more than it resolves on basic environmental issues surrounding forest practices. The plans very often do not deal clearly and directly with such principles.
and guides for acceptable forest management as sustained yield, allowable cut, or long-term economic analysis. The Bureau of Land Management—controlling some 450 million acres of the public domain—does not consider the interrelationship of adjacent private land activities in its public land planning. BLM planning is done from a property-boundary, rather than an ecological, perspective. Property boundaries also severely limit the activities of the U.S. Forest Service.

Several other difficulties in current environmental decision-making will be discussed below. However, the primary problem was identified by Joseph Sax:

A fundamental misconception dominates [environmental] reform efforts. We hold stubbornly to the faith that the administrative agency must continue to be our central institution for environmental decision-making; as a result we continue to assume that some sort of patching up of procedures, of the way the agencies do business, will bring significant change. (Emphasis added)

Environmental decision-making relies too much on agency discretion. Decisions made in this context are neither consistent nor easily reviewable. Responsibility, whether for agency error or failures to meet reasonable expectations, is difficult to focus.

H. Conclusion

Taken together, the above problems pose decisive obstacles to the pursuit of environmental quality. We have not integrated our knowledge of ecological complexity into our decision-making procedures. Continuing a narrow, ecologically blind understanding of property rights will insure that more comprehensive, ecologically based solutions will be unlikely. Failing to conform human activities to ecological limitations—floodplains, excessive slopes, fault hazard areas, resource quantities, and so on—has
resulted, and will continue to result, in enormous social and private costs. Our neglect to consider, and be obligated by, the claims of future generations demonstrates an unwillingness to guide the creation of a viable future, a willingness to gamble away the best interests of our children and of theirs. The discouraging ineffectiveness of citizen participation threatens an "eclipse of citizenship" and helps insure that most people will "flee to the reassurance of day-to-day life with its unchanging, pressing demands," an unfortunate and unnecessary loss of public talent and needed perspective. Last, a decision-making arena with excessive discretion and a crisis-by-crisis approach will produce inconsistent decisions that are unmindful of duties to future generations and the imperative of ecological viability.

In a recent book on environmental administration, Lynton Keith Caldwell argued that humans must reappraise conventional behavior and "must revise institutional arrangements to enable human society to guide [its] behavior, collectively and individually, in ways conducive to the protection and restoration of...planetary life-support systems." (Emphasis added) But he admits the difficulty of prescribing specific reforms:

Clearly the wisest among us presently seem unable to set down in detail the things that must be done to attain a self-renewing world providing for humanity's material and aesthetic needs....

Despite this ominous warning, it will not suffice to ignore the prospects for essential changes in our political/legal approach to environmental quality.
PART II

THE PUBLIC TRUST APPROACH:
AN UMBRELLA FRAMEWORK

Introduction

As presently administered, but with significant exceptions and tendencies discussed below, the law does not allow the pursuit of environmental protection as a long-range goal of high public priority. The old civil remedies of nuisance, negligence, and trespass, although expandable to be used in some environmental controversies, are not well-suited for consistent environmental protection and as a means of developing positive environmental policy. Nuisance, negligence, and trespass are essentially after-the-fact, private remedies for specific, case-by-case legal wrongs committed against present parties. They do not and cannot provide anticipatory and comprehensive protection for the environment or for future generations.

What is needed is the clear legal recognition that environmental quality is a matter of paramount legal importance and that we must have enforceable legal duties to protect it. Then, a set of institutions can be built by using and expanding upon the ample legal precedents available.
Chapter 1

General Outline of Trust Law

Consider the existing body of law established for the legal protection of important items. The item is placed in a special legal status; it is guarded by a discrete, clearly identified party; and it is managed for the benefit of another party, whose rights are enforceable at law. This body of law is trust law.

In the legal sense, a trust has several basic features:

1. A legally protected item—the "corpus" of the TRUST;
2. A party charged with strenuous obligations to protect the trust—the TRUSTEE; and
3. A party (or parties) for whose benefit the trust is managed and who can enforce proper management of the trust—the BENEFICIARY.

Trust law has grown enormously in the past century. Although there are a number of types of trust, the basic concept is quite simple. Any identifiable real or personal property—or future interests therein—can be placed in trust. Basically, placing property in trust amounts to reposing in someone an enforceable confidence. A trust is distinguishable from numerous other legal relationships, such as agencies, annuities, bailments, contracts, or mortgages. The main difference is
that a trust nearly always involves a distinction between legal ownership (vested with the trustee) and equitable interest (vested with the beneficiary). The basic structure of a trust is quite flexible and the parties "...may, by their express or implied agreement, give it such meaning or place such a limitation on its meaning as they desire." 50

The trust, then, is a special status of legally enforceable confidence. This confidence is reposed in a party—the trustee who handles day-to-day management of the trust.

The trustee usually has a possessory interest and has the right and duty to control and manage the trust. 51 The basic duty of a typical trustee is "...to protect, conserve, and safeguard the assets of the trust for the benefit of all the [beneficiaries], and he is liable for a loss thereof resulting from his failure to exercise reasonable care, prudence, and diligence." 52 The trustee must act wholly and at all times for the benefit of the trust and the beneficiary. He is both empowered and bound to perform all actions necessary, expedient, or incidental to protect the trust. 53 "He must take such action with respect to the trust property as will be most conducive to its welfare..." 54 It is expressly prohibited for a trustee to misappropriate or waste the trust, and he is liable for misappropriation of trust property, whether such misappropriation inures to his own benefit or someone else's. 55 Restrictions are also placed on the trustee's ability to sell or otherwise convey the trust property. 56

Creating a trust requires that there be an identified beneficiary who can enforce the trustee's obligations. 57 The beneficiary need not be an individual—it can be a clearly defined class. 58 Nor is it mandatory that the beneficiary be immediately present. The unborn can be beneficiary,
in which case a trust operating to the benefit of one not yet born, cannot be terminated until it is established that the likelihood of that person being born is negligible.\textsuperscript{59} The beneficiary is represented by an individual or group.

The legal interest of the beneficiary (or representative) is a property right.\textsuperscript{60} Typically, the beneficiary does not have legal title to the trust, but possesses an enforceable equitable interest in the protection of the trust.\textsuperscript{61}

The trust framework briefly outlined above is particularly well-suited to environmental problems. Many aspects of environmental quality, including clear air, pure water, and unsullied land, are clearly appropriate for trust status. Persons who control these aspects, or make decisions with respect to them, should be trustees—forced to consider and act hard upon the need for environmental quality and the claims of future generations. And, the public—or various segments of the public, including representatives of future generations—ought to be in a legal position to compel trust-like management of important resources.
History of the Public Trust

The very flexibility of trust law has led jurists to call it "the most amazing part of Anglo-American law." Courts have noted its expansive character: "...[the] trust device has been used for many different business purposes in recent years, and we are certain that astute attorneys will discover new uses for the trust in the future...." This generally acknowledged flexibility in trust law is not the only argument for the application of trust principles to environmental matters. There is a branch of trust law—the roots of which are older than trust law itself—that has been used for centuries in various resource disputes. This is the public trust. As will be seen, it could be expanded to provide an umbrella framework for the pursuit of environmental quality.

A. Roots of the Public Trust

In Roman and early English law, much attention was focused on public access rights to certain common properties—seashores, highways, and flowing waters. Roman jurisprudence held it to be basic natural law that "air, running water, the sea, and the seashore" were common to all:

No one therefore is forbidden access to the seashore, provided he abstains from injury to [improvements].... [A]ll rivers and harbours are public, so that all persons have a right to fish therein...everyone is entitled to bring his vessel to the bank [of a river], and fasten cables to the trees growing there and use it as a resting place for the cargo, as freely as he may navigate the river itself.
With the ascendancy of the English kings, these public rights were nearly extinguished. Access to what was previously considered common property became virtually a matter of royal prerogative.

In general, the subjects later treated in Magna Charta—a reaction to various royal abuses—herald the reascendancy of public concerns over private (or royal) practices. For example, in the early 13th century, navigation was being hampered by large fishing structures permanently fixed to the bottom of rivers. A chapter of Magna Charta expressly outlawed the practice.

In the late 19th century, the public trust was explicitly incorporated into American law. One of the earliest examples is cited in an 1889 New Hampshire case where it was stated that although the king previously held title to all land, he did so "as trustee in his official and representative capacity, with no private interest." The seashore, arms of the sea, and large ponds "...could not be converted into private estates or subject to a private easement by the trustee's [king's] grant, or by any act of the executive branch of the government."

Of course, by 1889, the United States government had acquired all the king's holdings and was undertaking numerous schemes to produce revenue by disposing of the lands. But the principle of the public trust remained alive in American law.

In 1889, the federal government sued to void deeds that had fraudulently granted public lands. Although the deeds were upheld on equitable grounds, the court stated:

The public domain is held by the government as part of its trust. The Government is charged with the power to protect it from trespass and unlawful appropriation.... (Emphasis added)
In a later case, when the Department of the Interior failed to recover property incorrectly surveyed, the court held that the Secretary of the Interior was "guardian of the people of the United States over the public land" and that, considering this, public land should not be wasted or granted illegally.\textsuperscript{74}

In 1897, the court endorsed a governmental effort to force removal of fences placed on the open range,\textsuperscript{75} holding that the fences would violate the government's "...duties as a trustee for the people of the United States to permit any individual or private corporation to monopolize [public lands] for private gain...."\textsuperscript{76} When governmental limitations on public domain mining claims were challenged, the Supreme Court ruled the limitations a valid regulation of the land held in trust for the people.\textsuperscript{77}

The leading public trust decision in American law occurred in a case in which property had passed from governmental to private ownership. In 1869, the Illinois state legislature gave one mile of Chicago waterfront and one square mile of Lake Michigan's bed to the Illinois Central Railroad. Four years later, official sentiment had changed and the state sued to void the grant.\textsuperscript{78}

The U.S. Supreme Court invalidated the grant using a public trust rationale: "There can be no irrepealable contract in a conveyance of property by a grantor in disregard of a public trust..." Strong language indeed. The court ruled thus because the property in question was held by the state "for purposes in which the whole people are interested."\textsuperscript{79} The court went on to announce some fundamental principles of public trust law:
It is only by observing the distinction between a grant of...parcels for the improvement of the public interest, or which when occupied do not substantially impair the public interest in the lands and waters remaining, and a grant of the whole property in which the public is interested, that the language of the adjudged cases can be reconciled.... The State can no more abdicate its trust over property in which the whole people are interested...than it can abdicate its police powers in the administration of government and the preservation of the peace.80 (Emphasis added)

B. Erosion of the Public Trust

In 1905, the federal government sought to enjoin illegal grazing on reserved national forest lands.81 The court, no longer speaking of solemn public duties, showed a reluctance to curb Congressional discretion in administering the trust. To be sure, the court held that "All the public lands of the nation are held in trust for the people of the whole country...."82 Unfortunately for the development of public trust law, the Supreme Court then equated public trust powers and duties with the largely discretionary rights of proprietorship.83 From that point on, the Supreme Court was to treat governmental powers as nearly identical to the rights of a proprietor.

This simplified theory—a discretionary understanding of property rights rooted in the writings of theorists such as John Locke and in the practices of frontier settlement—has dominated the development of American property law and stifled the potential of the public trust.84 The trust concept has remained primarily an undercurrent.

Generally, it is established that fee simple ownership of property gives a proprietor the rights of possession, use, enjoyment, dominion, and disposition and that these rights are protected by law.85 Popularly, it is assumed that the proprietor is free to do whatever he wishes with his property, provided an immediate neighbor is not directly injured.
Legally, property rights are not absolute, particularly where the rights of others—even distant others—are infringed. However, the rights of future generations, the right to be free from social costs (externalities) and option attrition caused by private or corporate development practices, and rights that are damaged through the impairment of complex ecological processes over long periods of time are not vigorously or consistently protected.

C. Inadequacies of Property Rights Concept

Our simplistic understanding of property rights has produced substantial confusions and difficulties. A more refined appreciation of ecological processes—and the ways in which they are influenced by actions beyond the property fenceline—renders our system of property rights obsolete.

To be sure, property is an important and complex notion. A persistent theme throughout political and legal philosophy has been that property ownership is important for the security and base of operation it provides. Also, it is thought that the protection of some kinds of property, by due process and the takings clause, is an important check on governmental power.

True, the popularly assumed "absoluteness" of property rights is under attack. The "takeover" of those rights by an increasingly proprietary government, has been noted and decried: "If property has eroded as an alternative to governmental power and we are all dependent upon the government's largesse, then freedom itself is in jeopardy."

In important part, however, this erosion is due to an ecologically ignorant notion of property rights. It appears likely that the erosion will continue unless a new structure of property rights, based on clearly
defined environmental rights and responsibilities, is developed. Only such a structure will restore property to its earlier status—a set of legitimate possessions that provide security, a base of operations, and a hedge against governmental abuses.

Establishing an environmentally consonant notion of property could create friction with those committed to the "free good" character of property. However, for all its import and current peril, property should not be an impenetrable facade behind which environmental quality and the viability of the future are routinely degraded or destroyed. Nor should the public be forced to track down environmental abuses after the fact and then seek to have them remedied. We have developed a reasonable and promising understanding of the natural and social environments—enough to require that ecological and social impacts be considered in a comprehensive, systematic way before major decisions are made. To do so, we must expand the public trust so that it applies to all important aspects of a quality environment.

D. Need for an Expanded Public Trust

Joseph Sax noted in his ground-breaking treatment of the public trust that although

...the historical scope of public trust law is quite narrow...it is clear that the judicial techniques developed in public trust cases need not be limited either to these few conventional interests or to questions of disposition of public properties. Public trust problems are found wherever governmental regulation comes into question.... Certainly the principle of the public trust is broader than its traditional application indicates....

But how can an old doctrine whose primary coverage extended to seashores, tidelands, submerged lands, and highways be called upon as a comprehensive spur for environmental quality? The answer can be outlined as follows:

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1. The public interest protected during the historical development of the trust doctrine (primarily commercial access to certain properties) has been joined by a number of other competing and equally legitimate public interests, primary among which is environmental quality. The natural features previously protected—seashores, arms of the sea, ponds—were obviously discernible to the eye and were valued for their economic uses, not their more subtle ecological functions. Now, however, a wide range of ecological processes and qualities is equally essential and distinguishable. These could be placed in trust status.  

2. Conventional property ownership ignores the numerous ecological processes and events that occur irrespective of property boundaries. The trust doctrine offers the opportunity to separate property into ecological constituents as opposed to the present approach of simply dividing property at the fence line. This would allow development of a clear, enforceable, ecologically based set of responsibilities.

3. The trust doctrine was formed in part as an effort to restrain royal prerogative (e.g., the king's denying access to the land or randomly appropriating animals or other property). We currently face a similar problem in the exercise of administrative discretion by public and private authorities. Establishing the trust would empower a beneficiary to guard the trust, no matter who owns or controls it, and compel its protection.

To recapitulate before proceeding with a more detailed examination of the expanded public trust: The concept, as rooted in Roman, English, and American law, generally protects important public values by restricting private and/or governmental discretion. It places items of importance in trust. It imposes a clear and unavoidable duty on the
trustee to manage the trust to the advantage of a specific beneficiary. Expansion of the trust concept could help resolve difficulties emanating from our overly simplistic notion of property rights and could provide the framework for a more legitimate, defensible notion of property and a more effective pursuit of environmental quality. Expansion of the concept could also redirect the attention of citizens, judges, and legislators toward shaping the law to the environment instead of—as under the present system—the reverse.
Expanding the Public Trust Approach

Generally speaking, expanding the public trust approach would involve recognition of a trust to be protected, a trustee to handle day-to-day management, and a beneficiary to receive the benefits (or see that they accrue) and enforce the trustee's duties.

A. Structuring Public Trusts

Most of the literature on the public trust doctrine focuses on the rights it creates for beneficiaries, or on the new powers it would create for the judicial branch of government. The actual structure and components of the trust have received scant attention.

The trusts should include the entire body of resources and interests worthy of protection. A wide variety of ecological attributes could be included in public trusts. Of course, air, water, and public lands are the most obvious choices for trust protection, since they have been treated in a trust-like fashion by the law for some time in numerous jurisdictions. Other resources and ecological processes (and the options of future generations) should also be included — not without some difficulty, to be sure.

For example, fish and wildlife are legally considered to be beyond private ownership. Neither respects the conventional property boundaries between private landowners, counties, states, or nations.
They are an important part of the ecological web, depending for their continued existence on ecological processes that likewise ignore conventional property lines.

Some other trustable resources and attributes include:

- minerals (both claimable and leaseable) such as coal, oil, gas;
- soil quantity (particularly in highly erosive areas);
- basic productivity of soil on important agricultural and silvicultural lands;
- important nutrient cycles; and,
- natural energy flows.

The list is bounded only by the limits of growing ecological insight and is conditioned by the practical needs of humanity in its efforts to make a home on earth.

Once a resource or area is placed in trust, its primary constraints and values, which could well vary widely from place to place, must be identified. The purpose and value of the trust corpus must be clarified as an enforceable guide to the trustee. Nondiscretionary duties must be identified and imposed upon the trustee.

Creating a trust would not require placing an expanse of land or the particular environmental attribute in governmental ownership. Title, if it exists, would not necessarily change. As detailed in the Private Agreements section below, an easement approach could serve quite well. For example, "conservation" or "scenic" easements are a common practice. Certain development options are foregone by property owners: (generally in exchange for money and reduced property or inheritance taxes). The easement recognizes the "bundle-of-rights" nature of landed property and allows the transfer of specified parts of the bundle.
Actions to place ecological attributes in trust status would not necessarily require compensation under the "taking" clause of the Fifth and Fourteenth Amendments. (See Chapter 6, "Is the Public Trust Approach Constitutional?") Protecting lands and waters from pesticide application, prohibiting practices that erode soils, and even guarding the aesthetic environment have been held to be valid exercises of the police power. A valid exercise of the police power does not require compensation in most cases.

B. Selection and Duties of the Trustee

After a resource (e.g., mineral) or ecosystem attribute (e.g., groundwater quality) is placed in trust, the question arises: "Who will manage the trust as trustee?" The answer to this question will depend on the resource to be placed in trust. The trustee could range from a private landowner to an agency of the federal government; and, in some cases, an international trustee will be most appropriate.

For example, private landowners make numerous land use decisions with only minimal governmental involvement: fencing, roading, building construction (except for the requirement for building permits), irrigation ditches, technological and equipment choices, and so on. Local governments typically handle zoning changes and master plans. State governments regulate water appropriations, mining reclamation, major energy facilities, sewage disposal utility rates, and so on.

Regional governments are virtually nonexistent, except for advisory purposes and an uncertain amount of policy formation.

The federal government sets national policies and requires state implementation plans for air and water quality, sets radiation standards, and performs numerous other functions.
All this makes for a hodge-podge of private and governmental efforts, with private parties struggling to make a living while meeting or circumventing existing environmental requirements.

Selecting trustees -- or co-trustees to share clearly specified duties -- will at least help clarify the entity who has the primary obligation to manage a given resource.

1. Authority Levels

Choosing the appropriate trustee for each of a variety of resources, eco-system attributes, or individual areas will not be easy. Some critical theoretical antinomies must be resolved. For example, there is a continual and heated debate over the appropriate place for the making of environmental decisions. Simply heaping more duties on the federal government will not solve the problem; nor will it do in all cases simply to give authority to the local level. There is a justified suspicion that advocates of "local control" in land use decisions often really mean "no control." In addition, trustees could often find themselves in conflict -- e.g., when clearing noxious weeds from rights of way, does one burn the vegetation (air pollution) or spray it with herbicides (wildlife or water quality impairment)?

The selection of a trustee amounts to the choice of a decision-maker and raises hard questions about the necessary exercise of decision-making power and the essential restraints on that power.

No doubt, numerous decisions will have to be made at the local level for practical reasons or because they have important community impacts.

Recent debates on national land use policy have focused attention on the need for other land use decision-making levels in specific
cases. Some land use decisions have far-reaching effects beyond the local community. The siting of "key developments" such as major commercial centers, energy conversion plants, and others have impacts on county, state and even regional services, economic patterns, and environmental processes.

Furthermore, there are areas (and ecological processes) of greater than local concern. In the federal legislation, these are termed "areas of critical state concern" or "critical areas" to indicate their extra-local importance: prime agricultural land, areas of significant natural hazard, key wildlife habitat, critical wetlands, lakeshores, fragile and erodable soil patterns, important historical or archaeological sites, and others.

The above suggests a difficult and controversial period of mixing centralization and decentralization. A blind commitment to one or the other will not serve.

An overly centralized environmental decision-making structure can pose a number of problems, as western states are fast discovering in the face of the federal government's efforts to "move western coal." Beyond that, it can stifle the vigor of genuine local communities and can destroy the political capabilities of local citizens, who are then left to their compelling but incomplete private lives -- lives managed by distant and invisible bureaucracies.

Avoiding an overly localized decision-making structure will be just as difficult, however. Strong local development interests have often been attacked for pushing short-term developments irrespective of their longer-term public consequences.
2. The Analogy of Civil Liberties

In selecting the appropriate levels for environmental trusteeship, the analogy between protecting environmental quality and protecting civil liberties should be explored.

The exercise or protection of civil liberties often appears troublesome and contentious to localities. Free speech, assembly, or petition; the proper use of warrants in searches and seizures; the painstaking guarantees of due process and fair trial; the presumption of innocence -- all these, at one time or another, have strained the political capabilities of local communities and states.

Environmental quality decisions share many of the more controversial aspects of civil liberties protection. They often appear to be made for complex and distant reasons. They are sometimes contrary to immediate or apparent local economic goals and commercial practices. They may not seem to yield tangible benefits to local residents. Even if they might yield such benefits, local residents' suspicions are often not allayed--witness, for example, the refusal of mothers in El Paso to permit testing of their children for unsafe concentrations of lead from the local smelter.

Localities have other problems. Corruption is always a possibility in local environmental decision-making; but corruption can occur at all levels of government and corporate management.

Beyond corruption, there is a social closeness at the local level that can preclude effective regulation where such regulation is called for. For example, it is difficult for a community leader to nix a variance request from an acquaintance or "old friend." This is not necessarily a matter of interest conflict, since the two may have no overlapping business pursuits.
In a word, local communities may be too near the warmth (not the heat) to make effective environmental decisions in certain cases. A flexibly federated environmental decision-making system must take this into consideration.

3. Some Guidelines on Defining Trust Duties

It must not be forgotten that the duties assigned to a trustee will be at least as important as choosing the trustee. These duties are discussed in more detail below. Generally speaking, trusteeship is not a new notion in Anglo-American law. Private trusts are ancient and, as mentioned previously, public trusts also have deep historical roots. In the course of developing trust and resource law, judges and legal scholars have explored trusteeship and similar notions in some detail.

The notion of trusteeship compares favorably with Aldo Leopold's idea of stewardship, recognizing that ecosystems are extremely complex and that the present landowner is a transient visitor on earth. And trusteeship has been written into a number of federal and state statutes and state constitutions, even though implementation has not been accomplished. In part, this is because the trustee notion is typically drafted as policy language, very seldom embellished with specific duties or operative provisions.

A couple of strains in early water law approximate the approach that could be applied, with appropriate modification, to the trusting of land as well. First, the rights acquired when one appropriates water are use rights only. They are not fee simple ownership rights.

Second, in riparian water law there was an old, if generally ignored, maxim that an upstream user could not diminish the quality or quantity of a downstream riparian's water.
These and other aspects of trusteeship are discussed in Chapter 4.

C. Selection and Rights of the Beneficiary

One important ambiguity in the public trust theory in the United States revolves around the question of "Trust for Whom?" Is it for the general public, would-be users of the land, state citizens, or all nationals? A national beneficiary was presumed to exist. The U.S. Supreme Court, in the Illinois Central case, held that the lakeshore lands were to be held in trust for the people of the state. In short, in selecting a beneficiary, no pat answer can be given. Each resource must be considered separately. Expansion of the trust doctrine could require a variety of beneficiaries: special, local, state, regional, national, and international interests, as well as representatives of environmental and future interests.

For example, in the case of mining on or near prime agricultural lands, local landowners (farmers and ranchers) could be among the beneficiaries and could receive protection for their agricultural operations from the adverse impacts of surface or underground mining. This is a particularly acute problem in the West where mineral, and specifically coal, ownership has been severed from surface ownership. The rancher may not own the coal, gas, oil, or other minerals underlying the ranch — even though his predecessors homesteaded the land with a strictly agricultural intent. Alternatively, he may depend upon sub-surface ecological
processes on adjacent mineralized lands for groundwater. Mining in or near an aquifer (water bearing stratum) could affect the pattern, quantity, or quality of necessary groundwater flows. If designated beneficiary, the landowner would be able directly to protect the groundwater flows necessary for agricultural productivity. The landowner probably could not be expected to monitor concerns that go beyond his interests. For instance, a broader beneficiary would be necessary to represent the public concerns with respect to surface mining on or adjacent to prime agricultural lands.

With recognition of their widespread ecological importance, critical groundwater patterns could be mapped comprehensively and placed in trust. An appropriate level of government, probably state or federal, could act in cooperation with private landowners as trustee -- monitoring the groundwater situation and protecting the interests of involved landowners, environmental groups, and future generations as beneficiaries.

Generally, the beneficiary should be selected with a view to the practical problems of enforcement as well as the range of interests to be protected. A beneficiary with an insufficiently broad concern will not be adequate to the task. Also, a beneficiary who lacks basic knowledge of environmental impacts may not be effective. The beneficiaries' rights in enforcing the trust must be carefully spelled out so there is no doubt when and how enforcement proceedings may be undertaken. These powers must include ready access to administrative proceedings and judicial remedies, including injunctions (to stop ill-advised action) and mandamus (to compel beneficial action).
The powers of the beneficiary—and the fact that the beneficiary may be a fairly diffuse class of individuals—could well necessitate a new set of administrative procedures and a new role for the courts.

D. Conclusion

Environmentalists over the past few years have generally attempted to expand the regulatory authority of governmental agencies to increase public control over private and corporate activities. Although this approach has had its benefits, the history of the regulatory agencies has generally not shown much promise. It has become clear that the supposed regulator comes to share the interests of the regulated. A massive, uncontrollable, and not entirely relevant bureaucracy results in widespread disenchantment with reliance on public authorities for anything, let alone the pursuit of environmental quality. On the other hand, it has been established that the third branch of government—the courts—could have an important role in environmental decisions.

The public trust approach promises a more effective, less bureaucratic expansion of the public's role in resource decisions for two reasons: (1) a clearly defined beneficiary would be granted legal rights to enforce proper handling of the trust; and (2) the trust could encompass various aspects of the environment in a way that follows ecological processes—not conventional practices. At the same time, the trust approach promises to provide more ecologically appropriate rights, responsibilities, and decision-making.

The following sections describe in greater detail how a public trust approach would operate for a variety of resources and outlines methods for implementing the trust concept.
Chapter 4

Application of Expanded Public Trust Law

Throughout this discussion of specific resources, it is important to keep in mind that the point of the public trust approach is to structure an adversary, obligatory relationship which will enable the public to act decisively to protect the environment: (1) Key elements of environmental systems must be considered the corpus of public trusts and must be given a protected legal status; (2) The party responsible for management of the trust corpus must have his obligations clearly identified to prevent serious or irreparable loss of the trust; and (3) Those obligations must be enforceable by identified beneficiaries or appropriate representatives. The trust doctrine, as with any legal means to protect the environment, will not spring full-blow from the dust of a law library. It will need patient development and careful implementation.

Many resources, from public lands to the soil productivity of private lands, must be considered for trust status. In each case, this paper sketches the rationale for placing the resource in trust; the parties who might best manage the trust; and the parties who should be able to enforce the trust as beneficiaries—proceeding from the easier to the more difficult.

A. Public Lands

It has been judicially determined that federal lands are currently held in trust for all the people. Under the U.S. Constitution,
Congress exercises supreme control over these lands: "The Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or property belonging to the United States..."\footnote{111} This constitutional provision has been construed to mean that the power of Congress with respect to federal lands is virtually unlimited.\footnote{112}

Merely having authority is not enough, however. The question remains: What are the duties of Congress with respect to the public lands? The courts have not been very clear on this point. They have chosen to denominate Congress as trustee of the public lands. "All the public lands of the nation are held in trust for the people of the whole country..."\footnote{113} That is a statement which implies that public lands are a public trust, that Congress is the trustee, and that the public is beneficiary. However, in the same case, in the same paragraph, the court backed away from the trust framework and argued that "it is not for the courts to say how that trust shall be administered."\footnote{114} In fact, the court went on to confuse the obligatory trust relationship with the discretionary powers of an ordinary proprietor.

According to one commentator, this decision "...represented for all practical purposes the end of the federal court's use of the public trust doctrine in conjunction with restraining unauthorized private use of public lands."\footnote{115} (Emphasis added) The court virtually extinguished the rights of the public as beneficiary to enforce the protection of the trust. The beneficiary was left primarily with the inadequate recourse of lobbying in Congress or challenging agency action under discretionary statutes.
The cases on this point read as if the courts chose the intellectually appealing trust notion without quite understanding it. Consequently, the main duties involved in the management of the public lands are those imposed by Congress on the executive agencies; and, in the case of public lands, Congress more often gives discretion rather than duties. The court's role in construing these duties is unduly limited to recognition of the whims of Congress.

With the long history of fraud, error, and persistent abuse of the federal lands, this largely discretionary management situation has become intolerable. It is not beneficial to the public at large, to future generations, or to the numerous parties who depend on the federal lands for private economic gain—e.g., farmers and ranchers who lease blocks of federal acreage as an essential part of their operations.

Federal lands should be placed in a genuine trust status.

Either through case law, statute, or constitutional amendment it must be made clear that the federal government is not only empowered but is affirmatively required to manage the public lands as a public trust. The federal government in all its branches should be clearly identified as trustee of the lands. Specific duties to manage public lands with respect for their environmental limitations and the options of future generations should be imposed. The trustee should be required to avoid reasonably expected environmental risks save on proof of national socio-economic necessity and the absence of a feasible and prudent alternative.

In general, the public at large should be designated the beneficiary of public lands. At minimum, the growing list of groups and individuals concerned and knowledgeable about the proper management of public lands, those concerned and knowledgeable about the viability of future generations--
not simply those who depend on the federal land base for their livelihood—should be constituted beneficiaries of the trust. Those who can show an "unflagging dedication" to the proper management of public lands and the claims of future generations should have no artificial limits placed on their ability to proceed into court to defend the public trust.\textsuperscript{118}

This approach would have numerous salutary effects. For example, agency personnel would be clearly put on notice that the management of public lands is not simply a discretionary career with a pension waiting at the end. Congress would be prodded to review management failures on the public lands, particularly since the courts would no longer simply defer to Congressional fiat as if it were gospel.

B. Surface Water

Presently, there are two primary systems of law on water usage: the riparian doctrine and the appropriation doctrine.

The riparian doctrine is commonly used in the eastern United States. Under the doctrine, a person who owns land adjacent to a watercourse is entitled, subject to a variety of standards, to a qualified, reasonable use of the water.\textsuperscript{119} The doctrine is typically found associated with abundant water areas.\textsuperscript{120} Generally, the water has to be used on the land adjacent to the water and cannot be sold for use on other land.\textsuperscript{121}

As the western frontier was being opened, the pattern of social and economic development forced a new approach in the law of water use. Water was a good deal less abundant in the West and the settlers couldn't all crowd in adjacent to the water. Both agricultural and mineral development involved the physical removal of substantial quantities of water from the watercourse, thus creating the appropriation doctrine.
In 1866, and again in 1877, Congress recognized a need for water on non-riparian lands. Gradually, it became commonplace in the West to allow parties to appropriate or divert water for "beneficial" uses considerable distances from the stream. The term "beneficial use" was construed to include nearly any conventional use: municipal, domestic, commercial, or industrial. The guiding principle in the law was that the first in time was first in right; that is, the party that first appropriated water for a beneficial use obtained a priority right, enforceable against others who might want to use the water.

This "completely utilitarian" approach to water led to a host of abuses. Streams ran dry or filings were made several times in excess of historical flows. In low-flow years, a latecomer could legally be dried out. The idea that a minimum flow should be left for the viability of the stream or for recreational use was unheard of.

Over the years, both the riparian and appropriation doctrines have undergone substantial modification by the courts and legislatures; nevertheless the basic disregard for the environmental or long-term socio-economic effects of water use remains. In consequence, water-rights law at present is dangerously disorganized and many of the early abuses still obtain.

Water and its associated aquatic habitats are too important to be left to the narrowness of strictly commercial doctrines. Important surface water resources—especially those with significant recreational values, those whose current flow levels are marginal with respect to habitat values, those that are important for the support of marine-based enterprises, and those over which there is likely to be pitched competition for limited supplies—should be placed in trust.
Typically, there has been no managing authority to supervise the appropriation of water. In most states, a filing with the county or a state agency is all that is required. In fact, some states' common law provides that rights acquired only by use of the water are valid. And it is the state district court that is often called upon to resolve disputes. Thus, there is very little clear precedent to aid in selection of a trustee.

Choosing an overly localized trustee in such a controversial area as water rights is probably tantamount to selecting no trustee at all. It would be easier in the short run to ignore the complexities of overappropriated streams and the cross-claims of competing users; however, to do so would simply push some very serious water problems off to another day.

Realistically, the trustee for surface water would probably have to be a combination of state and regional officials. Compiling data on actual present uses of water is an expensive and complex process. Projecting future needs and uses is equally complicated. Both tasks could easily outrun the budgetary and staff limitations of local governments. However, when planning for future uses occurs, the local users--along with other interests--should be well-represented.

The beneficiary of surface water resources, given their elemental importance, should always be the public at large. From a pollution point of view, the 1972 Federal Water Pollution Control Act Amendments recognize this breadth of interest by establishing a broad set of participation procedures and by allowing all citizens to enforce the act.126
C. Groundwater

Groundwater is a largely unseen but critical resource. Legally speaking, it is typically divided into two classes: underground streams which flow in known channels, and seeping or percolating waters. The distinction is important since the law of underground streams is basically the same as that applicable to surface waters. Under this body of law, a surface owner cannot waste, destroy, or pollute the groundwater.

However, where the groundwater is of a seeping or percolating character—and its actual flow pattern can not be clearly described—it can be construed under present law as the personal property of the landowner. This permits a maverick approach to the use of groundwater, an approach only beginning to be modified.

Groundwater shares the fundamental public importance of surface water and should be treated in a similar fashion. Important groundwater sites—whether subterranean streams or seeps—should be placed in trust and handled as surface water.

D. Air

The earth's atmospheric envelope is now recognized as a fragile, intricate, and necessary part of the life-support system. Its use as a receptacle for contaminants is being regulated under federal and state laws.

Under the old common law, a landowner's ownership extended from the center of the earth to the infinity of space. But the demands of commerce—and the behavior of the air itself—did not respect these imaginary
boundaries. It became increasingly obvious that the air has no particular address. Accordingly, over the years, the old notion has been modified, until, in 1946, the U.S. Supreme Court held that absolute ownership of air space by private persons "has no place in the modern world."\textsuperscript{132}

Since the public importance of air and air quality has already been legally established, extending the trust doctrine to cover atmospheric resources is relatively straightforward. Since it is very difficult to categorize air because of its physical behavior, all air would have to be placed in trust. Given recent findings, this should include a special category for indoor air as well.

Selection of a trustee could correspond to the present institutional framework of the Clean Air Act.\textsuperscript{133} The federal government now sets minimum standards and the states are primarily responsible for implementation. Thus, state and federal levels could act as joint trustees. Stricter trustee obligations—such as non-degradation requirements—will need to be imposed for those areas which, for topographic or climatic reasons, are particularly susceptible to pollution build-up. The same is true for areas in which the air is quite clean.

Again, the importance of using a trust approach would be to replace a discretionary institutional arrangement with one that is more clearly duty-laden. The beneficiary obviously would be the general public.

E. Energy Resources

Sources of energy also present a good public trust opportunity. Most of the conventional energy sources—coal, oil, and natural gas—and such non-conventional sources as geothermal and uranium can be protected and developed under the public trust approach.
Traditionally, energy resources have been exploited on an ad hoc, individualized basis. Large corporations and their major stockholders have been the primary beneficiaries. No detailed thought has been given until recently to future shortages, or optimum development rates.

In 1974, the first clear signs of coming scarcities were apparent on a wide scale with the Arab embargo and the oil crisis. Even in the midst of that crisis, however, Congress did not have and could not obtain reliable data on the quantity or quality of available oil reserves. Neither was there adequate information on other energy sources.

Additionally, as documented in a recent study of western coal leasing, Congress and the federal agencies had abrogated control of a million acres of federal and Indian coal through a "badly flawed" leasing program.

Beyond the errors and omissions, energy has become the hole card—perhaps the end game—of foreign policy. This was indicated in terrifying starkness by the United States' polite refusal to rule out the use of nuclear weapons should foreign nations stop pumping crude our way. Energy could well turn the U.S. and the western world into blundering brinksmen.

Energy resources today are obviously not treated as the body of a public trust. We unearth and consume them as if they were the sole property of this generation and there were no tommorows. Governmental agencies are not sufficiently impressed with enforceable duties to protect and conserve energy resources. No one—aside from energy companies—has the information to establish needed national energy policies, let alone the clear non-discretionary duties to protect the future's certain
claims to these non-renewable resources. And no one seems willing to compel a more suitable approach.

In broad terms, the critical energy resources of this nation should be subject to the public trust—regardless of current ownership. It should be clearly stipulated that they are not the private profit preserve of the energy monopolies or the present generation.

The trustee(s) should be charged with clear and legally-enforceable duties including:

1. Assess the overall energy supply situation and maintain independent data on the reserves and useful life of various energy resources. Make realistic, publicly debatable projections on the likelihood of additional discoveries or technological advance.

2. Coordinate a strong effort to promote and, if necessary, mandate energy conservation and to reduce future difficulties in transitions from one resource to another. Waste should be prohibited. Mandatory implementation plans for industrial conservation should be required. Residential utility rates for energy consumption should be structured so as to provide the necessary amount of power for home use at a low rate; thereafter, energy should be expensively priced as an incentive to conserve. Non-essential commercial uses (lighting the sky) can and should be banned.

3. Reduce wherever possible the adverse environmental impacts of energy exploration, extraction, transmission, and usage.

These and other duties should be enforced on a reasonable timetable by the public as beneficiary. Then we can at least begin to consider energy resources from a public perspective and in a duty-laden context.

F. Minerals

Since the mid-1800s, public lands have been thrown open to routine mineral entry: prospecting, claiming, and development. The
anachronistic Mining Law of 1872 and subsequent amendments seem to guarantee that private parties can enter public lands to explore for, take possession of, and extract minerals—a non-renewable resource.

While some incentive for mineral exploration might have been needed in the 1800s, when a vast frontier seemed to promise unlimited resources and wealth, such an approach contains a decisive imbalance. The public has no corresponding rights for the protection of resources other than minerals found on public lands.

The practice of developing mineral resources simply in response to private or corporate marketing needs is another example of ignoring environmental—and as a result, economic—constraints, since these minerals cannot be replaced by man except by increasingly expensive substitution. Mining a given concentration of ore represents a one-time harvest of enormous public importance.

Again, like so many other resources, minerals have not been managed in a trust-like fashion. No formally designated trustee insures they are developed at a socially optimum rate, and no beneficiary is empowered to insure that public rights and the needs of the future count in decisions to develop mineral resources. Encouraging random prospecting and accepting the subsequent private ownership of minerals found on public lands is done today as if giant mining operations were ecologically harmless panhandlers; it removes any chance of accommodating proper mineral development and other national environmental or economic goals.¹⁴⁰

The best way to redress the current situation is to change all future mineral activity on the public lands to lease. In 1920, Congress woke up to the fact that oil and gas under federal lands were too valuable a resource to be exploited at random. The Mineral Leasing Act of 1920

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changed the system to make some minerals available only through competitive bid, perfected lease, and payment of royalties. Leasing shifted the final development decision to the federal government. Now, under the National Environmental Policy Act, mineral benefits can be weighed against environmental impacts and present and future economic needs.

Simply changing to a system of leasing for minerals is insufficient, however, without strict mineral conservation duties. And important deposits of minerals are also found underlying private lands—for example, the vast western holdings of the Union Pacific and Burlington Northern railroads. These resources constitute the nation's ticket to the future and should be placed in trust, thereby expressly prohibiting waste or diversion to uses inconsistent with the long-term public interest. Owners of important minerals should be constituted as joint trustees together with the federal government. Cooperative development planning should be required. Known and probable reserve data should be compiled so that informed judgments about optimum development rates and locations can be made. Confidentiality provisions that close out public scrutiny should be repealed. The public, as beneficiary of a wise minerals policy, should be empowered to enforce conservation of our dwindling mineral resources.

G. Forest Ecosystems

There are numerous resources involved in forest ecosystems. Placing emphasis on wildlife, watersheds, forage, recreation, timber, or mineral resources can lead to conflicts in management and development.

A vast amount (187,000,000 acres) of forest land is managed by the U.S. Forest Service under the Multiple Use and Sustained Yield Act of 1960.
Theoretically, this law protects the many uses and resources of federal forest lands and insures that those lands will produce continuous crops of timber and support other forest-based activities.

Under the U.S. Constitution, as discussed above, Congress is supposedly trustee of these lands. However, the term "trustee" has been used rather loosely in court cases and has come to mean that there are insufficiently enforceable sustained yield duties imposed on the government in managing forest lands.¹⁴⁵

The situation is much worse on the nation's privately held forest lands (about 70 percent of the nation's commercial forest lands). Some states have legislation (generally weak) regulating the use of these lands; and legislation has been attempted in the U.S. Congress.¹⁴⁶ However, there is no general notion of trusteeship or stewardship consistently applied in the case of valuable private forest lands.

Applying the public trust doctrine would place important forest lands—whether public or private—in trust. In the case of private lands, the private landowner, perhaps in conjunction with a state-level resource agency, could be denominated trustee. His interests would be balanced by a publicly assertable right to prohibit harmful forest practices—those which exceed sustained yield, produce siltation or soil damage, or preclude reforestation.

The trustee would be required to practice sound forest management. The actual dimensions of "sound management" could be determined by the landowner in conjunction with foresters at the state and federal level. (At present, the private landowner can consult with state and federal foresters, but the landowner is not required to respect their advice or to consider the effects of his activities on the environment or economy.)
Making management prescriptions for private lands routinely available to the public as beneficiary—together with progress reports on implementation—would be a long first step to providing the beneficiary with the data needed to assess whether the trust was being enforced.

Washington state's Supreme Court has set an important precedent for forest resources. The court has used a balancing approach to prohibit what it terms "cut and run" timber harvest. At issue was a state law requiring the reforestation of timbered lands. Private landowners challenged the act on constitutional grounds. The court noted that improper timber harvest could cause flood damage, soil erosion, aesthetic impacts, and could undermine the economy of the state. The court held that the state can employ "reasonable means to safeguard the economic structure upon which the good of all depends."

In essence, the court held that a private landowner has a duty to provide for the restocking of forest lands—a duty to exercise sound management on timber lands. "Private enterprise must use its private property in ways not inconsistent with public welfare."

Such duties are not extended or routinely enforced in many states or in the numerous other resource-related matters where the public good conflicts with private development proposals. Applying a public trust approach would clarify the rights and duties in this area.

H. Wildlife and Habitat

Species of wildlife are not known for their ability to read signs. They follow ecological patterns, not human conventions or conveniences. They forage routinely on public or private land without any apparent
awareness of the difference or any sense of guilt over "trespass."
Partly because of our profit-oriented approach to land development and
because of our ecologically insensitive ownership boundaries, substanc-
tial acreages of wildlife habitat are continually destroyed in the United
States.150
Elk winter range, for example, is found on public and private
property throughout the country. Winter range is often found at lower
elevations—in the ripely developable foothills or lower meadows. Suppose
a private developer buys a tract of land that is critical elk winter
range and proposes to subdivide it for residential or commercial develop-
ment. He proposes to develop the land used by the elk for private profit.
Is society precluded from regulating the developer's use of that habitat?
Does that private landowner have a right to subdivide the land and reap
the maximum profits? If a governmental authority intervenes and prohibits
the subdivision, must the state compensate the landowner for his lost
profits?
Complicated questions indeed. Under present law, the matters would
have to be litigated and the outcome would be difficult to predict. If
critical wildlife habitat were placed in trust, and if the habitat areas
proposed for subdivision were in the critical category, the answer to
the three questions would probably be:

1. Society can properly act to protect the critical
   habitat of important wildlife species—whether
   located on public or private land.

2. There is no absolute right to maximize profits
   from a piece of land, especially if securing
   these profits would adversely affect important
   public values.
3. A governmental authority or private entity should not have to buy all the important habitat in the country. Private landowners ought to have a sense of their own transience and a strong enough obligation to curtail publicly abusive activities without being paid to do so. Since there are uses of private property which are compatible with the protection of wildlife habitat, the property would not have to be "taken" and hence compensation would not necessarily be required.\textsuperscript{151}

Wildlife provides a good case for the discussion of these complexities. Building upon principles of Roman law, U.S. courts have held that wildlife species are not subject to private ownership and are "...owned by the state in its sovereign capacity for the common benefit of all of its people."\textsuperscript{152}

Since this common resource can be seriously impacted by individual activities, there should be a legal remedy where damage is about to occur. Currently, there is none. This is odd because we routinely regulate the hunting or taking of wildlife species. Poaching a moose, elk, or other big game animal is viewed as a serious and reprehensible offense. Substantial penalties are imposed. However, under current law, virtually anyone can develop land and pull essential habitat right out from under an entire elk herd. And no remedy exists.

The trustee of wildlife species has traditionally been the state wildlife agencies.\textsuperscript{153} However, these agencies typically do not have the necessary control over the habitat that is essential to the survival of those species. This leads to numerous conflicts that no one is empowered to resolve.

Placing key wildlife species in trust would probably be futile unless habitat requirements, including wetlands, were also put in trust. Selecting an appropriate trustee to manage the resource would involve a decision as to which species should be managed at which levels of government.
Beyond the trustee problem, it is important to give clear powers to a beneficiary who can adequately compel trust-like management of the trusted wildlife resource. Administrative and judicial remedies would have to be available. The national public should be the beneficiary for endangered and migratory species, if not for all wildlife.

I. Prime Agricultural Lands

With continuing malnutrition and starvation in many parts of the world (including the U.S.), and the somewhat selfish concern about the United States balance of payments, increased attention is being paid to the productivity of agricultural lands in the United States. The incessant pressure for the subdivision or strip mining of agricultural land presents the opportunity for a coalition of interests between environmentalist and agriculturalist. Whether such a coalition can emerge or not, the prime agricultural lands of the United States, which constitute a priceless, irreplaceable asset, must be managed with careful attention to environmental constraints and the food requirements of future generations. The exorbitant acreage prices of rural subdivision and the newfound riches to be had in the sale of coal rights cannot be the primary guide for future agricultural policy. Instead, a careful inventory must be made of the food producing resources and capabilities of the United States. That inventory must be compared to the projected needs of the future—including a healthy risk increment to allow for adverse weather conditions, long-term climatic change, and so on. The productive land needed by present and future generations must then become a public trust.

Defining a trustee who can adequately protect this critical resource poses a problem. In some respects, the actual landowner could probably
serve. After all, in some sense, the small family farmer may have been the first conservationist.

However, this certainly was not always the case. The farmer has also been called the "quiet bricksman" and the "unseen foe in the war on pollution." Farmers have not been happy with erosion and sediment control programs, restrictions on the use of pesticides and herbicides, water pollution standards for non-point sources, scenic-river designations, and so on.

Perhaps a dual trustee would best solve the difficulty. The landowner would be responsible for the routine care of the agricultural resource of which he is the nominal, transient owner. However, to insure that a sound agricultural policy—not the vagaries of the rural land or coal markets—guides the development of agricultural resources, some level of government should have an oversight role.

Perhaps the general outlines of an agricultural protection policy could be developed from a federal perspective (to include programs encouraging smaller, energy-efficient operations and aiding young persons who do not have the financial means to enter agriculture). The state and local governments could then be required to adopt their own implementation plans to carry out the overall policy. (This is the approach utilized under both the federal Clean Air Act and the Federal Water Pollution Control Act.)

The overriding priority must be to establish with some certainty that our difficult-to-renew agricultural base will remain intact and productive in the future. Structuring duties to require affirmative development of an enforceable agricultural policy is an important step.
The beneficiaries in this case are the consumers of the various agricultural commodities and the public at large. They would need to be granted enforcement powers and consistent representation in disputes occasioned by the policy.

J. Conclusion

As our understanding of the environment continues to grow, any number of other aspects of the environment could become eligible for trust status. For example, continuing pressure for weather modification and the potentially serious weather effects of coal-fired electricity plants could necessitate a trust-like approach for weather patterns. Surface mining for coal and other land-disturbing activities could lead to placing the basic chemical structure and integrity of the soil in trust.157

The important point is that we must begin to assign clear environmental duties to clearly identified parties and we must provide sure enforcement mechanisms. The trust approach is a long step in this direction; for it permits property to be divided along lines that make ecological sense—to the benefit of both the public goal of environmental quality and the notion of property. It also provides the opportunity to use the legal system to compel human recognition that there are ecological limitations to certain activities. And, through the compelling notion of "beneficiary," is generated the opportunity for future generations to be represented in present-day decisions.

Aldo Leopold wrote in the famous Sand County Almanac that "obligations have no meaning without conscience, and the problem we face is the extension of the social conscience from people to land."158 This is one of the very few instances in which Leopold was wrong—or, at least, only partially right. Actually, the proposition should almost be reversed:
conscience without firm, clear obligation—for all its beauty and impressiveness—is an exceedingly tenuous affair, particularly in cases involving sizeable development profits. Too many people seem quite able to struggle with their consciences and win. Furthermore, extending the social conscience by educating internal changes in attitude is a never-ending effort. In the meantime, numerous policy and program decisions are being made daily—by private parties and by local, state, and federal governments. These decisions stem from no comprehensive understanding of duties and obligations to the public interest. Implementing the public trust doctrine would institutionalize these obligations.
Chapter 5

Methods of Establishing Public Trusts

As indicated before, several avenues must be used in expanding and entrenching the public trust approach to resource management. These include: case law development in the courts, constitutional amendments, a variety of legislative approaches, new institutions to represent future generations, and trust-like private agreements. These approaches will probably be most effective if used in concert.

A. The Judiciary: Expanding Case Law

In the past, the public trust doctrine owed its finest moments—and its eventual near-disappearance—to judicial decisions. One of the most direct means of vitalizing the trust doctrine is to plead its existence and application in the courts. A number of attorneys are moving in this direction. It requires a careful selection of appropriate cases and innovative briefing.

There are two main approaches that can be used. One seeks the trust doctrine in specific statutory language, such as the law creating the Redwood National Park, discussed below. The attorneys using this approach argue that the law creates a trust relationship which the courts should enforce.

The second major approach involves arguing that the public trust already exists, that it is an implied and expandable understanding that attends all property ownership. In essence, it is contended that the
passage of title from the crown or federal government to private parties created a resulting or presumptive trust. The recipient of the title is duty-bound to use his property only in ways that do not impair present and future public interests.

In either case, it will have to be argued that the public trust imposes important and reasonable duties on proprietors and other holders of interests in land.

B. Constitutional Amendment

Another place to experiment with the public trust doctrine is in constitutions.

In the past five years, there has been an enormous interest in providing constitutional protection for the environment. Numerous law review articles, state constitutional provisions, and environmental lawsuits have pushed the case for a constitutionally protected environment. The lawsuits have generally argued that the present U.S. Constitution does in fact contain rights and duties with respect to the environment. Most often, reliance is placed upon the Ninth Amendment to the U.S. Constitution:

The enumeration, in this constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Three U.S. Supreme Court justices have agreed that this amendment does in fact contemplate the assertion of important rights, even if they are not explicitly stated in the U.S. Constitution.

Another approach is to argue that rights expressed in the Constitution automatically imply other rights not expressed. This line of reasoning is supported in a recent U.S. Supreme Court ruling. Griswold
v. Connecticut announced that there were "penumbral rights," rights that are not found in the Constitution, but which are logically implied by the rights expressed there. These penumbral rights "give life and substance" to the basic rights guaranteed by the Constitution. For example, it is argued by legal scholars -- although courts have not agreed -- that the right to life expressed in the 5th and 14th Amendments to the U.S. Constitution necessarily implies that persons have a right to be free of health-impairing pollutants in the air or water. The right to life is thus seen as giving constitutional status to the right to a clean, healthful environment.

It is unclear whether either of these constitutional approaches -- or the variety of others in use -- will ever be successful. The attempts to date have nearly all failed.

Another, more protracted alternative is the direct amendment of the federal or state constitutions. On the federal level, this option appears remote. It appears virtually impossible -- if not dangerous -- to set in motion the cumbersome federal machinery that would be required to initiate a federal constitutional convention, although numerous proposals to do so have come and gone in recent years. Acting at the state level -- although it could result nationally in an inconsistent body of constitutional law -- appears to be best option. Numerous commentators have written that the states should use their constitutions as "little laboratories" for the testing of new rights and institutions.

Since the mid-1950s, there has been a rash of state constitutional revisions, and the experience with environmental quality provisions is not completely disheartening. For example, the states of Virginia,
North Carolina, Montana, New Mexico, Illinois, Massachusetts, and Pennsylvania have all recently adopted constitutional provisions on environmental quality. Each is discussed and briefly analyzed below, proceeding from the weaker provisions to the stronger.

1. Virginia and North Carolina

To the end that the people have clean air, pure water, and the use and enjoyment for recreation of adequate public lands, waters, and other natural resources, it shall be the policy of the Commonwealth to conserve, develop, and utilize its natural resources, its public lands and its historical sites and buildings. Further, it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth.

In the furtherance of such policy, the General Assembly may undertake the conservation, development, or utilization of lands or natural resources of the Commonwealth, the acquisition and protection of historical sites and buildings, and the protection of its atmosphere, lands, and waters from pollution, impairment, or destruction, by agencies of the Commonwealth or by the creation of public authorities, or by leases or other contracts with agencies of the United States, with other states, with units of government in the Commonwealth, or with private persons or corporations. (Virginia Constitution, Article XI, Sections 1 and 2) (Emphasis added)

It shall be the policy of this State to conserve and protect its lands and waters for the benefit of all its citizenry, and to this end it shall be a proper function of the State of North Carolina and its political subdivisions to acquire and preserve park, recreational, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this State its forests, wetlands, estuaries, beaches, historical sites, openlands, and places of beauty. (North Carolina Constitution, Article XIV, Section 5) (Emphasis added)

Virginia and North Carolina provisions are quite similar and quite weak. They announce state policy and authorize (but do not require) a wide variety of environmental actions which the state legislature might take.

Although they provide constitutional underpinnings for statutory efforts, they do not accomplish much without very innovative legislative action.
2. Montana

(1) The state and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations.

(2) The legislature shall provide for the administration and enforcement of this duty.

(3) The legislature shall provide adequate remedies for the protection of the environmental life support system from degradation and provide adequate remedies to prevent unreasonable depletion and degradation of natural resources.

(Article IX, Section 1) (Emphasis added)

The Montana provisions create a generalized duty "to maintain and improve a clean and healthful environment...for present and future generations." The duty admirably recognizes a commitment to future generations. The word "maintain" suggests a kind of non-degradation policy for the state's environment.

However, sub-section (2) removes the self-executive potential of the provision by basing its effect on legislative action. Unless the legislature acts, there appears to be no enforceable duty. Since courts are not often willing to prod legislative action, the provision is likely to be regarded as merely hortatory language.

Under sub-section (3), no citizen remedies have become law. After two sessions of defeated attempts, the legislature adopted a citizen suit bill only to have it vetoed by the Governor.

3. New Mexico

The protection of the state's beautiful and healthful environment is hereby declared to be of fundamental importance to the public interest, health, safety and the general welfare. The legislature shall provide for the control of pollution and control of despoilment of the air, water and other natural resources of this state, consistent with the use and development of these resources for the maximum benefit of the people.

(Article XX, Section 21) (Emphasis added)
New Mexico's provision is also composed of weak policy language with a mandate for legislative action. In addition, the legislature's power to protect the environment is balanced against the use and development of resources "for the maximum benefit" of people. It is not clearly specified that "people" includes future generations.

4. Illinois

The public policy of the State and the duty of each person is to provide and maintain a healthful environment for the benefit of this and future generations. The General Assembly shall provide by law for the implementation and enforcement of this public policy.

Each person has the right to a healthful environment. Each person may enforce this right against any party, governmental or private, through appropriate legal proceedings subject to reasonable limitation and regulation by law.

(Article XI, Sections 1 and 2) (Emphasis added)

Illinois' provisions create a citizen right to a "healthful environment" and allow citizen litigation to enforce the right. The right has been construed to be self-executing. The legislature can act to reduce multiple or harassment suits under the provisions.

Protecting a "healthful" environment, however, may not be enough. Somewhere short of the absolute minimum needed to protect human health there is a considerable range of environmental quality and amenities that could be lost. In other words, the provision may only speak to the possibility of existence, not its quality.

5. Massachusetts

The people shall have the right to clean air and water, freedom from excessive and unnecessary noise, and the natural, scenic, historic, and aesthetic qualities of their environment; and the protection of the people in their right to the conservation, development and utilization of the agricultural, mineral, forest, water, air and other natural resources is hereby declared to be a public purpose.

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The general court shall have the power to enact legislation necessary or expedient to protect such rights.

In the furtherance of the foregoing powers, the general court shall have the power to provide for the taking, upon payment of just compensation therefore, or for the acquisition by purchase or otherwise, of lands and easements or such other interests therein as may be deemed necessary to accomplish these purposes.

Lands and easements taken or acquired for such purposes shall not be used for other purposes or otherwise disposed of except by laws enacted by a two thirds vote, taken by yeas and nays, of each branch of the general court.

(Article 97 of the Amendments) (Emphasis added)

The Massachusetts provisions contain an explicit constitutional right. However, it is not clear that the right can be enforced without legislative action. It is stipulated that the acquisition of land or easements for environmental purposes, by condemnation, purchase, or agreement, is constitutionally permissible. And, once acquired, these interests in land are protected from legislative diversion by an extraordinary majority requirement. In a sense, acquired resources are placed in an environmental "trust."

6. Pennsylvania

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As a trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

(Article I, Section 27) (Emphasis added)

Pennsylvania's constitutional provision is the strongest in the country and admirably includes the notion of trusteeship; however, so far it has been applied forcefully only to publicly owned natural resources of the state. As discussed previously, the distinction

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between public and private ownership needs considerable ecologically-based refinement if an effective public trust and a realistic notion of property are to be established. Hopefully, it will be established that private property and activities with public import will be subjected to the Pennsylvania trust provisions.

7. Summary and Conclusions

The weaknesses of the above provisions lead to the following conclusions:

a. Provisions urging—or even mandating—legislative action to protect the environment or urging legislative action to grant citizen remedies to protect the environment are much too weak. They are unenforceable in the face of legislative inaction. Provisions must be self-executing—that is, they must create duties which operate independently of legislative action to insure that implementation will occur.

b. Provisions should be written with an eye to their heuristic (or prod) value. Drafting them to encourage innovative legal investigation and briefing would help assure that the complexities of environmental provisions would at least be explored. In other words, constitutional provisions should be used to open new political/legal vistas, not solely as an attempt to resolve a few old problems.

c. All of the constitutional conventions tended to handle environmental issues with kid gloves. Accordingly, major new concepts in environ-
mental law were not thoroughly studied, treated, or debated in depth and, with the exception of Massachusetts and Pennsylvania, were not adopted.

4. None of the provisions requires monitoring of its effectiveness. Consequently, very little has been done to see if the various provisions are operative at all.

Adopting strong state constitutional provisions will require a considerable amount of work. Serious political difficulties — including the myth that the federal Fifth Amendment takings clause creates a right to maximum profit from the land — will need to be overcome.

Additionally, the benefits of adopting strong provisions — such as a public trust provision — may not become noticeable immediately. But adopting a trust provision would clearly establish that the environment has constitutional status and that rights associated with environmental quality can be enforced.


Following are two possible public trust provisions for state constitutions. The first is brief and quite general:

Section 1: It is hereby declared that a high quality environment shall be maintained and enhanced as a public trust for the benefit of present and future generations.

Section 2: Agencies of the state and private parties have an enforceable right and responsibility to protect the fundamental qualities of this trust.
Although a number of constitution writers advise brevity in the drafting of constitutional provisions, that is not an end in itself. A wordier, more specific provision might read:

Section 1: To protect the public health, safety, and general welfare, the basic quality and necessary attributes of the environment—including but not limited to clean air, unsullied water, freedom from excessive noise, undefiled landscapes, soil productivity, nutrient cycles, critical minerals, important energy sources, important wildlife populations and habitats, and prime agricultural lands—are hereby constituted a public trust. They shall be managed, regardless of current or future ownership, in a steward-like fashion, respectful of the needs of present and future generations.

Section 2: Ownership or use rights involving these basic attributes are subject to the ultimate principles that present generations are transients on the earth and that there can be no ownership right eliminating or unduly limiting the options or prospects of present or future generations.

Section 3: The public trust shall not be violated without a clear showing that there exist no feasible and prudent alternatives and that the proposed violation promotes essential public purposes.

Section 4: Each person shall have the right to a clean and healthful environment. A corresponding obligation to protect and promote a clean and healthful environment is hereby recognized.

Section 5: No person shall be denied a speedy remedy to exercise the above rights and to enforce the above obligations.

C. State Legislatures or Congress: the Public Trust in Statutes

Joseph Sax, one of the leading exponents of public trust theory, believes that statutes, not constitutions, provide the best chance of implementing the trust doctrine. He has argued that it is important to beef up the role of the courts in environmental disputes but that the courts should not be the final arbiter. Preserving the legislature's supremacy in environmental matters necessitates that any environmental
rights be announced at this statutory, not constitutional levels. As
evidence, Sax cites the history of conservative courts striking down
needed regulatory legislation.

1. Michigan Environmental Protection Act

A number of arguments could be raised against Sax's position, but
he is in part vindicated in practice. A promising statute, Michigan's
1970 Environmental Protection Act (EPA), is the product of his rationale
and draftsmanship.174

The act is short and simple in form and far reaching in its effect.
It empowers governmental and private entities to sue other public or
private entities "...for the protection of the air, water and other
natural resources and the public trust therein from pollution, impairment,
or destruction."175

The role of the courts in environmental disputes is expanded somewhat
by the act. In suits brought under it, courts may analyze the reason‐
ableness of existing environmental protection standards and, if a
standard is found to be deficient, may order the adoption of an adequate
standard.

The act also provides a kind of burden of proof shift. In typical
court cases, the party making allegations must carry the burden of proof
throughout the litigation. The Michigan EPA provides that when plain‐
tiffs make a prima facie case that pollution, air or water quality
degradation, or other natural resource damage will occur, the burden of
proof shifts to the defendants.176 The defendants then have several
options for rebutting the case. They can submit evidence to the contrary
(as is the traditional procedure) or, as an affirmative defense, can
argue that there is "no feasible and prudent alternative" to their conduct and that such conduct is "...consistent with the promotion of the public health, safety, and welfare in light of the state's paramount concern for the protection of its natural resources from pollution, impairment, or destruction."177

What does all this language amount to? Since passage of the Michigan EPA, about ten dozen environmental suits have been filed.178 In general, these suits have shown that a swift and thoughtful resolution of environmental disputes can be had under the act; governmental agencies can be successfully pressured if the pressure is legally grounded and enforceable; lawsuits can release agencies from financially based political pressures; lawsuits can lead to successful negotiated settlements; and agencies will actually employ the act affirmatively to curb environmental excesses.179

To date, only one suit has gone to the Michigan State Supreme Court. In that case, the court was unable to rule on the merits of the suit since there were not sufficient findings of fact from the lower court.180 However, the general tone of the court appears very receptive to the act.

A number of other states have adopted statutes following Michigan's lead.181 Although there has not been as much litigation experience under those enactments, it appears that the statutory approach to the public trust doctrine is viable and should not be overlooked.

2. Nantucket Sound Islands Trust

Senator Edward Kennedy and Representative Gerry Stuuds have introduced legislation to establish the Nantucket Sound Islands Trust -- a proposal
to protect certain islands off the coast of Massachusetts. The trust is created to protect a wide variety of values found on the islands: scenic, ecological, scientific, historic, recreational and other values. Certain activities are expressly prohibited (the construction of a bridge or causeway from the mainland); certain other activities are restrained (random subdivision, beach development, etc.); and others are expressly allowed (the general exercise of private property rights).

Three trust commissions are established to protect the values of the islands. Their composition is admirably broad -- federal, state, local, landowner, taxpayer, environmental, and youth representatives are selected -- and they are directed to classify the islands into three categories: lands forever wild; scenic preservation lands; and town planned lands. Local land use planning is not supplanted by the commissions; however the commissions are empowered to review the local regulations to check their compliance with the purposes of the trust. The commissions can adopt necessary land use regulations no less restrictive than those imposed by the state or locality.

The Kennedy trust legislation is littered with duties -- non-discretionary duties -- which are imposed upon the trust commissions and the Secretary of the Interior as trustees. The word "shall" is common in the legislation and indicates the clearly mandatory construction of numerous provisions in the act.

One additional provision in the House version is quite novel. It directs the Secretary of Labor to examine the trust lands for opportunities to experiment with aquaculture, to examine other options for employment opportunities compatible with the act, and to investigate and establish appropriate re-training programs occasioned by the act.
Unfortunately, the act as drafted does not carry through the logic of a trust framework. No particular beneficiary is identified and it is not clear on the face of the measure who can enforce the policies and duties of the act.

3. Redwood National Park

The importance of imposing non-discretionary duties can be seen in the case of the Redwood National Park. In legislation establishing the Redwood National Park and the national park system, Congress required the Secretary of the Interior to protect the timber, soil, and streams of the Park from adverse impacts. Congress specifically demanded that the secretary "conserve the scenery and natural and historic objects and the wildlife" of the national parks so that they could be enjoyed un­impaired by future generations. In addition, Congress authorized the Secretary to acquire lands adjacent to the national parks -- or to enter into contracts or cooperative agreements with adjacent landowners -- so as "...to afford as full protection as is reasonably possible to the timber, soil, and streams within the boundaries" of the parks. (Emphasis added) Congress was especially worried that forest management, timber practices, land uses, and soil practices on adjacent private lands might adversely affect the resources of the parks.

Notwithstanding these rather clear legal requirements, the Secretary of the Interior made no effort to comply. Five studies commissioned by the Secretary showed clear damage to the Redwood National Park from erosion, mud slides, and siltation -- all caused by timber harvesting on adjacent lands. In a pending citizen group lawsuit, a federal court has held that the Secretary must "exercise and perform duties imposed" by the
Redwood National Park Act.\textsuperscript{186} The court went on to direct the Secretary to afford the fullest reasonable protection possible to the park resources from activities on adjacent lands. The court instructed the Secretary to consider acquiring title or interest to adjacent lands, to consider contracts or cooperative agreements with the owners of adjacent lands, and to consider possible modification of the park boundaries, including a full report to the Congress if additional funds were needed to protect the park.\textsuperscript{187}

In sum, since Congress took the time to define clear duties for the protection of park lands, it became much easier for private parties to insure that the Secretary of the Interior did in fact protect them. A generalized statute simply authorizing park management would not have been effective. It was important that Congress provided clear trust-like duties and that citizens acted as beneficiaries by monitoring agency compliance with those duties.

\textbf{4. Wisconsin Water Quality Act}

In Wisconsin, the public trust notion was incorporated in the state's water quality laws. The laws restrict land development in proximity to water courses in order to "...aid in the fulfillment of the state's role as \textit{trustee} of its navigable waters and to promote public health, safety, convenience and general welfare."\textsuperscript{188} (Emphasis added) The state's residents, accordingly, are the beneficiaries.

In 1972, a private landowner challenged an ordinance adopted pursuant to this statute. The Wisconsin Supreme Court upheld the ordinance. In doing so, the court said:
The active public trust duty of the state of Wisconsin in respect to navigable waters requires the state not only to promote navigation but also to protect and preserve those waters for fishing, recreation, and scenic beauty.\textsuperscript{189} (Emphasis added)

The court noted that the law did not prevent the landowner from using his land in "natural and indigenous" ways and that the proposed use (filling a wetland) was environmentally damaging. Therefore, the court held that the proposed use was "not a reasonable use of the land which is protected from police power regulation."\textsuperscript{190}

In short, the trust doctrine can buttress the police power of the state and at the same time, assure that there is an enforceable duty to exercise that power.

5. National Environmental Policy Act

The National Environmental Policy Act is discussed in detail in Chapter 8. The act does contain the notion of trusteeship. In outlining goals for all agencies, Section 2 of the act declares that:

\begin{quote}
...it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may --

(1) Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;...
\end{quote}

(Emphasis added)

The operation of this casual reference to the trust doctrine is still in limbo. However, it can be said that, in general, an operative trust provision should be more detailed to be effective.

D. Institutions to Consider Future Generations

As argued previously, there will be future generations of humans -- beginning with our children -- who will be needing the life-support
capabilities of the planet. Institutions exist which represent nearly
every conceivable present interest: consumer, environmentalist, agri-
cultural, labor, and so on. (Even the past is represented to a limited
extent with the weakly enforceable statutes and regulations for the
protection of antiquities.) However, there are no institutions
systematically assessing or representing the claims and options of the
future. Consideration of such institutions must be placed on the agenda.

1. Problems of Representing Future Generations

There are difficulties in implementing the trust doctrine with
respect to future generations, most noticeably perhaps in the case of
energy and mineral resources. At present, there are no optimal resource
exploitation rates being set by governments, energy/minerals corporations,
or anyone else. In order to act with genuine respect for the claims of
the future, just such a task must be undertaken. Rates of extraction,
consumption, and recycling must be set and attained. The difficulty is
HOW. How, for example, are we to decide the optimum rate for exploit-
ing a non-renewable resource which, once used in a commodity, is un-
available for future use?

Nicholas Georgescu-Roegen has explored these dilemmas briefly. He
notes quite accurately that "the economic activity of any generation has
some influence on that of future generations... One of the most impor-
tant ecological problems for mankind ... is the relationship of the
quality of life of one generation with another -- more specifically, the
distribution of mankind's dowry among all generations." (Emphasis
added)
However, he believes that there is a decisive inability of economists to deal with the problem: "Economics cannot even dream of handling this problem. The object of economics ... is the administration of scarce resources; but to be exact, we should add that this administration regards only one generation. It could not be otherwise .... The market mechanism cannot protect mankind from ecological crises in the future (let alone to allocate resources optimally among generations) even if we would try to set the prices 'right'."^93 (Emphasis added)

Whether this limitation is insurmountable in economics or not, it is clear that no other discipline will find the dilemmas any simpler. "These questions...are not susceptible of easy, convincing answers."^94 Some answers must be attempted however. Georgescu-Roegen offers a necessary but, by itself, insufficient suggestion: "The only way to protect the generations, at least from the excessive consumption of resources during the present bonanza, is by reeducating ourselves so as to feel some sympathy for our future fellow humans in the same way in which we have come to be interested in the well-being of our contemporary 'neighbors'."^95 There is some doubt whether the amount of interest and sympathy presently shown between contemporaries would accomplish much in the way of protecting present generations, not to mention future ones. In addition "reeducating ourselves" on its own may well be a luxury too leisurely to be afforded. More is certainly required. And sooner. For as Georgescu-Roegen admits: "Because pollution is a surface phenomenon which also strikes the generation which produces it, we may rest assured that it will receive much more official attention than its inseparable companion, resource deple-

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It is very likely that decisions made in the mid-1970s, particularly in the energy/minerals area, will determine most decisively the future of today's young and humans unborn. No magic formula for making these decisions can be offered.

2. Proposed Solutions

However, the closely related notions of trusteeship and guardianship present clear opportunities to establish a legally enforceable duty to consider and evaluate publicly the claims of future generations in reasonable fashion.

Guardians are commonly appointed by the courts to protect the person and property of one who is unable to manage his own affairs. A guardian is typically court-supervised, and is required to care for the person and property, representing him in legal proceedings, contractual obligations, and so on.

When the claims of future generations are at stake, a guardian could be appointed to examine and represent the claims of the future before appropriate legislative committees, administrative agencies, and the courts. The guardian could be empowered and funded to investigate and make formal findings of fact concerning disputes involving the future. In short, the guardian would assure that the claims of future generations were adequately presented to the decision-making body and reviewing courts.

Guardianship would be largely ineffective if it were not operated in conjunction with the public trust approach. The guardian could make necessary investigations and report to the trustee of the resource in controversy. Thereupon, the trustee could be required to make a clear
and convincing showing to demonstrate that the claims of the future were in fact evaluated and reflected in final decisions setting maximum extraction and consumption rates. In addition, the courts — if called upon by appropriate parties arguing for either higher or lower rates — could require the trustee to carry the burden in demonstrating that this type of inquiry was conducted. The court could then pass on the adequacy of the effort after a probing review. (See Chapter 10, Strengthening Judicial Review.)

Certainly, this procedure requires grappling with exceedingly complex issues. But the questions of intergenerational equity do not become any easier when they are ignored.

Another proposal for institutionalizing the claims of the future can be offered for consideration. A high level court for deliberation on the claims of future generations could be established. The court could be structured along the lines of the present U.S. Supreme Court, although it would need a sizeable staff and research capability to secure data relevant to disputes on the claims of the future. (The court would need more than the standard law library.) It could be situated between the Circuit Courts of Appeals and the U.S. Supreme Court. Its jurisdiction could be limited to disputes significantly affecting future interests — such as rates of resource depletion, use of persistent pesticides, and so on.

Cases with import for future generations could wind their way through the present court system. Beyond the Circuit Courts, however, appeal could be made to the "Court of the Future." If the case did in fact raise matters within the court's jurisdiction its merits could be heard. Final appeal could still be made to the U.S. Supreme Court.
Specialized courts are not popular. Even without a special court to adjudicate future claims, it remains clear that decision-makers must and will make decisions affecting the future. They can do it explicitly or by default. Trusteeship -- and its companion, guardianship -- are the major and perhaps the only legal concepts available for the task of explicit future-respecting decisions.

E. Private Agreements

The most prevalent form of private agreement resembling a trust doctrine approach is the "easement." In fact, one of the ancestors of the trust doctrine, the common law of dedication, was based on an easement approach. Typically, a landowner would dedicate a use right or other interest in his private lands. The public interest created thereby was protected from a landowner or successor wishing to change his mind. The landowner was in effect made a trustee of the land for the public benefit. In this way, roads, parks, and public markets were created and protected.

Property has often been described as a bundle of rights and opportunities. When a landowner sells an easement, he parts with some of that bundle.

Typically, in the case of "conservation easements," a private landowner sells certain development options. For example, a farmer could sell the option to subdivide his land to a governmental agency or a non-profit conservation organization. The buyer of such an easement typically receives benefits from having the land confined to agricultural or conservation purposes. The seller of the easement receives a cash payment plus property and inheritance tax benefits. Conservation
Easement legislation has been established in numerous states. Whether it is a comprehensive land use planning tool remains in doubt.

Easements of this type apparently do not run afoul of constitutional prohibitions against perpetuities, so they can be used to assure that certain lands always will be used for important purposes.

It should be noted that the practice of buying conservation easements sets a somewhat dangerous precedent. The public -- or a non-profit group -- pays for a landowner's promise to engage in good land practices. If the easement does not contain perpetual duties enforceable against the present and future landowners, the public payment could constitute an inappropriate subsidy. In addition, it is not clear that the public should have to pay to attain desirable land use practices, such as protecting the productivity of prime agricultural lands.

Another private avenue for a trust-like approach deserves mention. The community land trust is an increasingly popular form of self-limitation in land use planning. If the land trust included self-imposed duties and clear enforcement powers granted to parties likely to compel enforcement, it might prove a viable and creative tool in land use planning. (It would probably need legislative or constitutional embellishment to avoid the pitfalls of the rule against perpetuities.)

A final voluntary way to resolve environmental controversies and, at the same time, to overcome some of the stiff transitional difficulties in pursuing environmental quality, is to structure bargaining procedures and incentives.

A good example might be the present sheep predation problem. The sheep industry is in difficult straits. Numerous sheep ranchers contend that the coyote is the major cause of their difficulties. Environmentalists
rebut this contention, but pressure mounts for repeal of the federal executive order banning use by sheep ranchers of certain predator poisons on federal lands. The controversy weakens the chance that environmental groups and farm/ranching interests will get together on common concerns (e.g., massive industrial use of scarce western water).

Maybe there is a better solution. Wool is a good clothing material and costs less in energy to produce than rayon, nylon, dacron, etc.; lamb is good food. If the sheep industry -- despite its excesses -- is something of an essential industry, perhaps we should all pay the price to keep it healthy while at the same time assuring, as a condition of that support, that the excesses of overgrazing and poison usage are curbed.

Suppose the sheep industry's existing public subsidy could be supplemented to encourage a shift back to the predator-controlling, labor-intensive method of shepherding. A number of jobs would be created, the need for poisons could be reduced or eliminated, and, perhaps, the industry could rediscover its viability.

All very rosy perhaps. The point is that searching for this type of solution is a good first step. Structuring voluntary bargaining processes is promising if resulting agreements, once entered, operate in a trust-like fashion.
Chapter 6

Is the Public Trust Constitutional?

There are two primary sources of governmental power and one primary limitation that must be considered in evaluating the constitutionality of public trusts. The federal commerce power, the state's police power, and the federal and state limitations on takings of private property are explored below.

A. The Public Trust and the Commerce Clause

The primary source of federal authority in the environmental area is the so-called "commerce clause." The U.S. Constitution provides that Congress shall have the power "to regulate Commerce... among the several States." (Since the federal government has only those powers expressly granted or "necessary and proper" to carry out expressed power; a clear source of authority for proposed actions is essential.)

The commerce clause has been interpreted quite broadly by the court. Under the clause, the federal government can prevent misuse of channels of commerce, protect entities engaged in interstate commerce, and regulate a variety of activities which affect commerce. The primary boundary of the commerce clause is drawn when the federal government tries to regulate activities or entities "...which are completely within a particular State, which do not affect other States, and which it is not necessary to interfere, for the purpose of executing some of the general powers of the government." However, this limitation has not prevente
Congress from regulating even local activities which arguably affect interstate commerce. As applied in pollution matters, Congressional power under the commerce clause is "practically unbounded." In general, it is held that since air, water, and odor pollution have no particular address and can easily cross state lines, they can be regulated. Pollution's effects are recognized as being complex and, in many cases, quite injurious to interstate travel and commercial operations.

Beyond pollution, Congress' environmental powers are somewhat shakier, but they are developing. In both endangered species legislation and land use regulation, it seems that federal regulatory power will be upheld.

Given increased recognition of the importance and complexity of the environment, it does not seem at all unreasonable to expect that the federal government will be constitutionally able to participate in the trust framework outlined above.

B. The Public Trust and the Police Power

Unlike the federal government, the states have inherent authority to promote the public convenience or the general prosperity and to protect public safety, health, morals and general welfare. The police power is "the least limitable of the exercises of government" and "...is not confined to the suppression of what is offensive, disorderly, or unsanitary, but extends to what is for the greatest welfare of the state." The use of the police power to promote legitimate environmental quality objectives has been universally sustained. These objectives include all of the trustable subject matters discussed above and numerous
others as well. (For example, a considerable number of jurisdictions have upheld regulatory measures designed strictly to protect aesthetic values.)

There appears to be no special obstacle — other than standard constitutional safeguards of due process, equal protection, and the developing right to travel — to extension of the police power to allow implementation of the public trust doctrine. The primary reason for using a trust approach rather than the police power by itself is that the need is to structure more demanding duties, not mere authorizations.

C. The Public Trust and the Taking Problem

Of course, neither the federal government's commerce power nor the state's police power — or any other governmental power — can be exercised with reckless abandon. There are a number of constitutional limitations — such as due process and equal protection — which must be observed.

One of the most direct constitutional limitations on governmental authority in the environmental area is the "takings clause" of the Fifth Amendment. The clause is quite lean in appearance; however, like so many other legal commonplaces, it carries with it an exceedingly complex body of law. The Fifth Amendment is repeated in nearly all state constitutions.

It reads as follows:

...nor shall private property be taken for public use, without just compensation.

The current law on "takings" of private property is one of the thorniest legal problems at hand. In nearly every environment-
related controversy, the taking issue surfaces. Opponents of land use regulatory measures are frequently given to argue that a particular regulation amounts to an unconstitutional taking of private property.

This is a complicated charge to answer since, as noted by Sax, "...few legal problems have proved as resistant to analytic efforts as that posed by the Constitution's requirement that private property not be taken for public use without payment of just compensation."214

Although the compensation provision has much to say for itself, two legal myths are often found at the root of land use planning opponents' arguments. One is that property owners are free to do anything with the land they own. The other is that government must compensate landowners if regulations reduce or eliminate profit-making options on their land.

Although the courts have not consistently supported either of these two beliefs, they are widely held and have a substantial influence on the regulatory activities of local and state governments.

The current popular conception of the takings clause is something of an historical anomaly.215 Little clear intent can be found in the deliberations on early colonial constitutions and the federal constitution.216 It is clear, though, that the takings clause did not affect strictly regulatory powers until the late 19th Century.217

In early American cases, the takings clause was typically not used to strike down regulations. Compensation was not generally required unless property was actually taken from the landowner or entered upon for public use.

By the 1920s, however, the takings clause gained new importance when the U.S. Supreme Court applied it to a regulatory statute.218 Pennsylvania was experiencing problems with land subsidence caused by
underground coal mining. A statute was enacted prohibiting such mining under municipalities of a certain class. The court struck down the statute, uttering the now-controversial statement that "...if regulation goes too far it will be recognized as a taking." 219

Since that time, the U.S. Supreme Court has decided a number of unclear zoning cases, but, in general, has left the law of taking to state courts. As a result, "there are very few subjects on which one cannot find cases going both ways on very similar facts." 220

This confused status of the law begs for correction. Good faith efforts at local land use planning are being unduly stifled. Establishing the public trust doctrine could have the salutary effect of rolling the taking issue back to its earlier parameters -- particularly in the area of environmental protection. If adopted at the constitutional level, the public trust doctrine could be forcefully balanced against the takings clause, whose application should be limited to actual taking or entry upon the premises. (This is not to say that there are not important compensation questions raised in the regulation of land issues. However, these are most properly matters that should be handled at the statutory level -- not by straining a constitutional provision such as the takings clause.) Adopting this approach would re-establish the principle that, as a general rule, public bodies need not pay to obtain good land management or to maintain environmental quality.

The trust doctrine would clearly announce that private rights are subject to enforceable environmental restraints and that there are substantial public interests that can be impacted if ecological principles are ignored. Unless this is done, it is likely that the takings clause will maintain its unjustified legal and political status.
Chapter 7

Conclusion

A healthy environment, the sine qua non of all human activity, oddly enough does not have a solidly protected legal status. That may seem understandable since the strongest legal protections typically have been reserved to protect private, financial arrangements. (The standard trust, for example, is a way to leave a sizeable estate to the grandchildren without exposing it to profligacy.) However, as emphasized throughout this report, we need public as well as private trusts, because trusts are applicable to all those aspects of a high-quality environment have great public importance.

As can be seen from the above, establishing the public trust approach requires that it be assembled from a variety of legal sources. It is not, in the history of law, neatly presented on a platter. However, the precedents are clearly visible and it is imperative that they be pulled together.

The public trust approach is not as simple as are proposals for transferring the environment to public ownership. In fact, the importance of the doctrine is that it transcends the debate between public and private ownership and avoids many of its pitfalls. The adversary institutional arrangement created by the public trust approach is more important than the details of actual title. The establishment of clearly enforceable
duties — enforceable by and against clearly identifiable parties — is the crux of the matter.

One of the most highly-touted principles of equity is that for every wrong, there is a remedy. Unless the expanded public trust approach is adopted and applied on a broad front, that principle — in the environmental area — will continue to ring hollow. Under the present legal approach to environmental disputes, numerous wrongs committed against the public and against future generations are simply not remedied.

The public trust approach is not an exclusive approach and could be admirably supplemented by a wide variety of regulatory and incentive methods in pursuit of environmental protection. But it does provide an umbrella under which nearly all environmental controversies can be assessed in a more sensible, duty-laden context. If it were established, the beginnings of a proper institutional approach to environmental protection would be secured.

It is difficult with any assurance to propose a timetable or specific path for the development of legal concepts. However, as noted above, trust law has a lengthy history and, in certain respects, is already established in American law — in case law, in the Pennsylvania Constitution, in the Michigan Environmental Protection Act, in the Redwood National Park Act, and, weakly, in the National Environmental Policy Act. In addition, there is a strong argument that public trust obligations are implicit in all property ownership and that, therefore, the public trust approach needs only to be unearthed, not constructed.
PART III

OTHER NEEDED CHANGES

IN ENVIRONMENTAL INSTITUTIONS

Introduction

The public trust approach is a solid overall framework for making environmental decisions. However, other changes must be adopted along with the trust if it is to realize its potential. The most important of these can be grouped as follows:

1. National Environmental Policy Act
2. Citizen Participation
3. Strengthening Judicial Review and Other Changes

Each area is discussed in the subsequent chapters.
Chapter 8

The National Environmental Policy Act

The National Environmental Policy Act (NEPA) is the primary environmental statute in the United States. It requires a full assessment of proposed governmental actions and their impacts before the proposed actions are taken. NEPA procedures -- if altered in important respects outlined below -- could sustain and guide implementation of the public trust.

Environmental impact assessments were conducted on an ad hoc basis and in an inconsistent fashion before Congress enacted the National Environmental Policy Act of 1969. President Richard Nixon signed it into law on January 1, 1970, opening what he termed a new decade of environmental concern and action. (Nixon actually had opposed the measure, but its overwhelming approval by Congress convinced him that a fanfare signature session was in order.) The reaction of environmental groups can be seen in the Conservation Foundation's newsletter. "New Federal Law May Be Giant Step on Road to Environmental Quality" read the headline. With only a minimum of skepticism, the newsletter proclaimed:

There's a new kid on the environmental block. He's young and quiet, and feeling his way. The old-timers are looking him over, sizing him up. But whether they like him or not, they know they've got to deal with him. Because they suspect he packs a big wallop. And because he seems to have influence in high places.

This new kid is the Council on Environmental Quality. The wallop comes from the National Environmental Policy
Act of 1969 (Public Law 91-190) which empowers the Council, as well as all federal agencies, to deal strongly with environmental problems. The influence goes right to the White House and key places in Congress...

'The most important and far-reaching environmental measure ever enacted by Congress.' 'A milestone piece of legislation.' 'An exciting new experiment in government.' 'A landmark in the history of conservation legislation.'

As could be expected, the rhetoric outran the reality. Neither the President, the Congress, nor the public really understood how the act would affect agency decision-making.

A. Strengths of NEPA

A flood of writing has appeared on NEPA. The act has been called everything from "the most significant environmental legislation ever enacted" to a "sheep in wolf's clothing," "ineffective," and, in private, much worse. Conceptually, the requirements of NEPA are relatively simple. Congress has issued a mandate that the executive branch of the federal government begin weighing the environmental and socio-economic impacts of its policies, programs, actions, and legislative proposals and take steps to mitigate any adverse impacts on the environment. A number of states have followed suit.

According to Frederick Anderson, the leading source on the judicial enforcement of NEPA, Congress intended five major purposes for the act: (1) to enlarge federal agency mandates to include environmental policy goals; (2) to establish an action-forcing procedure for implementation of environmental policy; (3) to survey trends in environmental quality; (4) to create the Council on Environmental Quality (CEQ); and (5) to provide an annual report on the operation of the act and general environmental
quality matters. "In retrospect," says Anderson, "the first two goals were by far the most important."

Section 101 of NEPA recognizes the "...critical importance of restoring and maintaining environmental quality to the overall welfare and development of man." Special substantive requirements of the act are also outlined:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

2. Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;

5. Achieve a balance between population and resource use which will permit high standards of living and wide sharing of life's amenities; and

6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources. (Emphasis added)

The most operative section of the act in Section 102. It requires that all agencies of the federal Government "shall, to the fullest extent possible:

(1) employ a systematic, interdisciplinary approach to insure the integrated use of natural and social sciences in environmental decisions; (2) identify and develop methods, in consultation with the Council on Environmental Quality, to insure that presently unquantified environmental amenities and

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values will be given appropriate consideration in environmental decision-making along with economic and technical considerations; and:

Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on:

(i) The environmental impact of the proposed action,

(ii) Any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) Alternatives to the proposed action,

(iv) The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and,

(v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.229

Simply put, NEPA requires agencies to look — and explain publicly — before they leap; and whether they're "leaping" on a specific project or not, the act requires a continuing re-evaluation of agency policies.

Section 102 is the "reporting requirement" of NEPA. It has produced the familiar environmental impact statement (EIS) and has been construed in hundreds of court cases.230 By June 30, 1974, 3,344 environmental statements had been prepared. An additional 2,086 were in draft form.231 Of course, the bald figures on the number or weight of EISs don't tell much about their quality. A 1972 General Accounting Office study232 shows that at least the early NEPA statements had numerous inadequacies. The continuing success of environmental litigation and a recently completed private study of NEPA suggest that a number of key shortcomings still exist.233

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The basic characteristics of the environmental impact statements reveal the strengths of NEPA. The preparation and circulation of an EIS means that, for the first time, agencies are required systematically to explain and justify their proposals not simply to a Congressional subcommittee in the cumbersome and routinely boring appropriations process, but to the public in general.

These straightforward requirements probably have had a substantial effect on current environmental decision-making. Certainly, the public is receiving a good deal more information on projects that affect the environment. Since the EIS procedure is fairly well-defined, citizens can expect a period of time in which to organize, write letters, or contact an attorney. And, as with countless other environmental laws, it is difficult to measure the full benefits of the statute. Who knows how many environmentally ridiculous proposals have been dropped from a bureaucrat's mind because an environmental statement and public review would show just how ridiculous they are? Who can say how many important changes in project design have occurred under NEPA's shadow?

The first major NEPA case made it clear that the act's public reporting requirement was not hollow. The now-famous case involved the environmental rules of the Atomic Energy Commission (AEC). A group of citizens contended that the rules were not sufficient under NEPA. AEC responded that, among other things, NEPA was too vague. In ruling against AEC, the court laid down landmark NEPA law:

...NEPA mandates a rather finely tuned and "systematic" balancing analysis in each instance.... [and] requires that responsible officials of all agencies prepare a "detailed statement" covering the impact of particular actions on the environment, the environmental costs which might be avoided, and alternative measures which might alter the cost-benefit equation.
The court noted that only in that fashion is it likely that the "...most intelligent, optimally beneficial decision will ultimately be made."\textsuperscript{236} Referring to the reporting provisions of NEPA, the court stated:

...All of [the] Section 102 duties are qualified by the phrase "to the fullest extent possible." We must stress as forcefully as possible that this language does not provide an escape hatch for foot-dragging agencies; it does not make NEPA's procedural requirements somehow "discretionary." Congress did not intend the Act to be such a paper tiger.\textsuperscript{237}

The court also made it clear that:

NEPA establishes environmental protection as an integral part of the Atomic Energy Commission's basic mandate. The primary responsibility for fulfilling that mandate lies with the Commission. Its responsibility is not simply to sit back, like an umpire, and resolve adversary contentions at the hearing state. Rather, it must itself take the initiative of considering environmental values at every distinctive and comprehensive stage of the process....\textsuperscript{238}

The court further referred to AECs interpretations of its responsibilities under the act as "crabbed" and noted: "It seems an unfortunate affliction of large organizations to resist new procedures and to envision massive roadblocks to their adoption."\textsuperscript{239} In sum, the court held that "NEPA compels a case-by-case examination and balancing of discrete factors."\textsuperscript{240}

Since the Calvert Cliffs decision, courts have been quite strict in compelling agencies to follow NEPAs procedures. A ton of case law has explored these requirements and, in most instances, has bludgeoned agencies toward compliance.

So, it can be said that NEPA represents an admirable, if somewhat blind, attempt at environmental protection. It remains the most comprehensive statute guiding environmental decision-making, but the law has a
number of decisive weaknesses that seriously limit its effectiveness and promise.

B. Weaknesses of NEPA

1. All Procedure and No Substance?

The NEPA procedures outlined above have been the subject of several hundred environmental lawsuits. The timing and adequacy of environmental statements, the adequacy of public consultation, the completeness of the impact assessment, and so on, are the typical issues raised in such litigation. Basically, these cases focus on the nature of agency steps before the final decision is made.

But what about the actual decision itself? Assuming the procedures are followed, is that the end of the matter? Is an agency free to spell out a list of horridly adverse impacts and then proceed with the harmful action anyway?

As noted previously, NEPA does contain a list of environmental goals. Section 101 of NEPA declares government policy to "foster and promote the general welfare" and "to create and maintain conditions under which man and nature can exist in productive harmony." Section 101 also imposes on all federal agencies a continuing responsibility to help the nation accomplish the six substantive goals listed above (see p. 94).

But, once an agency has carried out all the specific procedural requirements ". . . do courts have the power . . . to enforce the substantive declarations of §2 and 101 by reviewing agency action and setting it aside if it violates [them]?. " This question is proving the most often asked in the "second generation" of NEPA lawsuits.242

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Although the language of section 101 is somewhat vague, the trend of NEPA cases seems to favor such review and enforcement.\textsuperscript{243}

But even though the courts are showing a tendency to conduct substantive review, the results to date have been disappointing: "...it appears that every review of the merits of agency action for compliance with NEPA...has permitted the action to proceed."\textsuperscript{244} Partly, this court support of the agencies is traceable to the conventional rules of judicial review of agency actions used by the courts. (See Strengthening Judicial Review below.)

Careful and continued briefing of the courts by attorneys on the substantive goals of NEPA is essential to establish that the Act is not simply a paper tiger. Although Congress can establish goals, only the agencies and, failing that, the courts are in an effective position to resolve disputes in specific cases and build precedent on substantive issues.\textsuperscript{245}

2. Coverage

Unfortunately, NEPA's general requirements are not applied as widely as they should be. Environmental statements are written only on major federal actions with significant effects -- and not even all of those. Some private projects are covered if they require federal agency approval or funding. And, as mentioned previously, a number of states have enacted "little NEPA's" -- virtual copies of the federal legislation. Under these, state agencies are required to prepare environmental impact statements before taking major state actions with significant environmental impacts. Most states do not apply these requirements to local governments, however -- and the state requirements and interpretations vary
Perhaps, given the less abundant financial resources of local governments, a less rigorous environmental impact assessment process would be more appropriate. In any case, the fundamental "look before you leap" approach of environmental policy acts should be required of all decision-making levels.

Certain major actions of private entities -- such as large commercial facilities (shopping centers, industrial parks, etc.), large subdivisions, and even rail spurs -- can escape NEPA's anticipatory review. Often, on these projects, the only public review is the printing of corporate press releases in the newspapers. A NEPA-like review is just as important for private projects as it is for public actions and should be instituted.

3. Self-Policing

One of the most pressing difficulties in current NEPA practice is the uncertainty that agency decision-makers can ever police themselves effectively. After all, agencies write the environmental statements and make the final decisions. They have a stake in the development of budget-justifying projects. They have a well-documented tendency to become captives of the very industries they are supposed to regulate. And even well-intentioned experts within the agencies find it difficult to assert and maintain independence in the face of pressure from above -- whatever the predictable impacts. How, then, are agencies to make good decisions?

Early in the history of NEPA a partial remedy to this difficulty was suggested. It was urged that CEQ be made an independent "ombudsman" with powers to enforce the act's provisions. At the federal level, nothing has come of that suggestion.
New York state has established a Commissioner of Environmental Conservation empowered to initiate legal proceedings against public or private parties whose actions pose an imminent danger to the general welfare or are likely to result in irreversible damage.250

There are two problems with the New York "ombudsman" approach:
(1) Many environmentally damaging activities present long-term or cumulative -- not imminent -- dangers. (2) Even the governmental ombudsman raises self-policing difficulties. Recognizing this, who can police the regulators? The Congressional oversight agency -- the General Accounting Office -- can raise hackles with its reports, but only the public can monitor compliance in a consistently independent fashion. Citizen enforcement is a necessary complement to any sound environmental decision-making scheme. Citizen enforcement will not be an effective force unless the concept of public trusts can be broadly applied and some important changes in citizen participation and judicial review can be made. (See below, Chapters 9 and 10.)

4. Reactive Posture

Although it is not legally contemplated under NEPA, agencies typically decide on the general outlines of an action and then write an impact statement to justify that action. In the course of the EIS writing, minor changes are made in the project; however, the basic decision was made in advance. The primary purpose of an EIS -- to serve as a decision-making guide -- is thwarted and the provisions of the law are subverted.

NEPA thus becomes a reactive, and watered-down impact assessment procedure. Its potential for anticipatory, positive planning is lost. Instead of using the general goals and procedures of the act to array and
To a certain extent, environmentalists have tried to compel a more positive direction by urging (and litigating for) comprehensive impact statements for entire programs. For example, instead of merely completing a statement on an individual coal lease, they demanded that the entire coal leasing program be reviewed. Or, even more broadly, they asked that the overall governmental and private effort to shift from eastern to western coal be assessed.

However, programmatic EISs released to date have been undertaken grudgingly and have been justifiably attacked. For example, the Department of Interior's Federal Coal Lease Programmatic EIS was criticized by nearly every agency of the federal government, numerous environmental groups, and the scientific community. The recommendation of nearly all reviewers -- including senior officials in Interior -- was that a new draft EIS be issued. But then-Secretary of Interior Hathaway was apparently prepared to reject this advice and issue a final statement, thus hastening the further leasing of federal coal reserves in a manner subversive of NEPA.

High-quality programmatic EISs will probably help, but even they are no substitute for positive, independent planning.

An additional requirement of NEPA suggests a step toward positive planning on a regular basis. Section 103 of the Act provides:

All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act. (Emphasis added)
It has been judicially determined that this language imposes a continuing duty on federal agencies — not one that expired on July 1, 1971. Accordingly, agencies must by this section constantly review continuously their regulations, policies, and procedures to assure full compliance with the purposes and goals of NEPA. However, no federal agency is rushing to comply. Unfortunately, pro forma statements remain the rule under this provision.

Agencies should be required — within the range of their programs and areas of jurisdiction — to prepare comprehensive planning documents. Full-scale citizen participation (as outlined below) and a detailed discussion of alternative approaches would place the agencies in a positive, anticipatory posture. In addition, it would permit a healthy debate on the overall policies of an agency — not simply a series of piecemeal squabbles on individual agency decisions.

C. NEPA and Economic Analysis

With today's languishing economy, it has become easier, more fashionable, and probably more legitimate to contrast environmental goals and economic objectives than it was during the "years of plenty." But, in doing so, it will not be sufficient to argue only that environmental protection is costly; for the pursuit of environmental quality yields very real economic benefits as well. The environment-economy controversy should consider these benefits and should focus on the options for proper economic analysis under NEPA. Unfortunately, this has not happened. Instead, there have been simplistic pleas for weakening of the Clean Air Act and the Federal Water Pollution Control Act; roll-back of federal pollution and occupational health standards; and devitalizing changes in NEPA, among others.

At the same time, a drive has been mounted for enactment of narrow, specialized impact assessment procedures. The U.S. Chamber of Commerce, for example, has been pushing for state and federal-level economic impact statement
requirements. Dr. Thomas Plaut recently suggested the preparation of people impact statements as a means to avoid "increased levels of political alienation and violence in rapidly developing rural areas." In 1975, President Ford called for inflation impact statements, a call that was not heeded by Congress. Nonetheless, the President's Office of Management and Budget is preparing such statements in an ad hoc fashion.

While some advocates of these excessively specialized impact statements are really attempting to overcome environmental considerations, the basic argument is sound — that more than just environmental impacts should be studied when evaluating a project and that a more comprehensive planning framework is needed. However, adopting a series of discrete, uncoordinated economic assessment procedures is not the answer. NEPA is the proper vehicle for an integrated examination of environmental and economic impacts — and a host of other variables.

Of course, some may wonder about the wisdom of including economic analysis in EISs. It can be argued that NEPA was designed to counterbalance the economic justification for projects with the ecological costs.

The thrust of the act gives additional weight to often-neglected environmental problems occasioned by federal agency decisions. However, recent literature in economics demonstrates that these decisions can also yield numerous social and economic problems — costs, distribution effects, job dislocations, etc. NEPA provisions evidence a general concern with these difficulties as well.

It could also be argued that economic variables, if used in a short-sighted or narrow manner, could seriously blunt the effect of NEPA. Superficial assertions of short-run dollar or employment benefits are always likely to carry the day unless the short- and long-range costs of disrupting
the environment are thoroughly evaluated and exposed. Given the history of economic analysis -- a persistent blindness to these long-term costs -- there is good reason to be circumspect.

However, notwithstanding the risks, there appears no way to clean up some of the shoddier practices in conventional economics other than requiring better economic analysis in the visible "action-forcing" context of NEPA. This, coupled with the developing work on the substantive requirements of NEPA (treated previously), is the only promising avenue at present.

Federal agencies have a poor record for economic analysis in NEPA statements. Perhaps this is partly due to the fact that NEPA, as noted previously, reads as a skeletal statute -- suggestive but very general. Matters of economic import receive little explicit attention.

Council on Environmental Quality (CEQ) guidelines, adding meat to the act, refer to economic matters, but only briefly. The guidelines urge, for example, that agencies write statements on major actions that "significantly affect the quality of the human environment either by directly affecting human beings or by indirectly affecting human beings through adverse effects on the environment." (Emphasis added) Nowhere do NEPA and the guidelines specify the type or depth of economic analysis required. But poor agency economic analysis cannot simply be blamed on NEPA vagueness. More likely, it is a failure of will -- for agencies have attempted to ignore or circumvent even the most explicit NEPA provisions.

Further CEQ and agency initiative is essential, since the federal agencies' efforts to refine their economic analysis have been the result of citizen litigation or administrative appeals -- not a continuous and conscientious agency reading of NEPA or the guidelines.
The Environmental Impact Assessment Project (a program of The Institute of Ecology) has reviewed impact statements on western coal development and criticized the responsible agencies for their failure adequately to assess the economic impacts of their proposals. Agency answers to the criticisms have typically been indirect and ambiguous.

A federal interagency study of western coal development -- by the Northern Great Plains Resource Program -- was an attempt to assess some of the economic effects of coal development in the West; however, the study was mission-oriented and did not weigh the possibility that the economic costs of coal development taken as a whole would outweigh the benefits. Further, this study was not conducted pursuant to NEPA and did not reflect the act's mandate to examine alternatives.

Agency unwillingness to conduct thorough economic analysis has been assisted by recent court interpretations of NEPA. The act -- as construed by the courts in early cases -- seemed to require a "finely-tuned balancing analysis," "a case-by-case balancing judgment," a consideration of all factors that would alter the cost-benefit ratio, and so forth. In short, it seemed to require very careful economic analysis. Since those cases, however, there have been additional challenges to agency cost-benefit analyses, and the courts -- particularly federal district courts -- have shown increasing reluctance to demand the use of cost-benefit analysis and to review EIS economic matters in detail. In-depth economic analysis has been called speculative and unnecessary. Also, legal scholars and economists do not universally agree that NEPA statements must contain full-scale economic analysis.

Federal agencies have grasped the opportunity. When citizen plaintiffs allege in court that an agency has conducted incomplete or erroneous
economic studies, the agency almost invariably replies that the inadequacy of economic analysis is not a legally fatal defect. In essence, then, agencies can have it both ways. They can prepare casual economic analyses to bolster their proposals and then, when their economic assertions are legally challenged, they can simply ask "so what?"

The upshot is that federal agencies have largely avoided the use of sound economics in NEPA statements. A recent news analysis perhaps best summed up the current situation when it announced that the economic impacts of coal development were being ignored in EISs. In that article (on the Westmoreland Coal EIS in southeastern Montana), a Ph.D. economist argued that the EIS had fulfilled NEPA requirements but he was not specific on the nature of those requirements. The head of the Bureau of Indian Affairs Planning Support Group, the agency that authored the NEPA statement, argued that the EIS dealt only with the kind of information that could be "nailed down" and that to treat intangible costs would be like "gazing into a crystal ball." (Strangely enough, many agencies that are now "unable" to analyze "intangible costs" were, only a few years ago, using "intangible benefits" to boost cost-benefit ratios for favored projects.)

The quality of economic analysis in EISs can be improved in a variety of ways. One approach is to use the CEQ guidelines or an executive order to require agencies to develop detailed methods and checklists for the assessment of economic costs and benefits. Since these methods could well vary substantially among the differing types of projects evaluated by a given agency, it would be best to allow different approaches for each major project type within an agency's jurisdiction. These methods could be subject to public review through the federal Administrative Procedures Act.269

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During their development of consistent methods, federal agencies should review some of the new recommendations for jointly assessing environmental and economic costs and benefits. Some of these -- such as Georgescu-Roegen's net energy analysis -- do not simply rely upon dollars as the unit for comparing costs and benefits.

Mandating the use of so-called dialectical cost-benefit analysis is another possible approach. Dialectical analysis involves the simultaneous preparation of analyses by different parties for ultimate comparison. The action-forcing thrust of NEPA and the chance for agency fairness in cost-benefit analyses could be supplemented by encouraging the use of independent, non-governmental reviewers. Or, independent analyses could be funded by the lead agency and could be conducted by non-governmental entities. (This would be a first step toward the government paying for the benefits of an informed citizenry's participation and would encourage public dialogue on alternative economic methods.) The independent analysis could then be submitted as an alternative to the lead agency calculations and circulated for public and other agencies' review. In the NEPA process, the lead agency would then be required to contrast the two and show explicitly why it chose a particular set of costs and benefits.

Of course, the integration and relative weighting of environmental and economic impacts identified in an EIS are crucial parts of NEPA decision-making. Some of the most important evaluation -- tilting the decision balance -- occurs at this time. If dialectical analysis were required, each analyst could recommend the relative weight assigned to environmental versus economic factors. In the absence of dialectical analysis, a brief final decision document, together with complete agency files on decisions made and comments received during the 30-day "cooling off" period would help.
Either of these could permit a good deal more citizen participation in the now largely invisible evaluation of economic impacts.

An important substantive guideline revision would require that agencies base their decisions on computed economic and environmental comparisons, rather than merely disclose and consider adverse impacts.

In addition to the above, there are important distributional questions in the adoption of environmental safeguards. Environmentalists have been roundly -- and rightly -- criticized for their general failure to consider the adverse distribution effects of their environmental recommendations. There is very little in the popular environmental literature or movement programs that concerns itself with distributive equity.

It must be added, however, that very few groups of any kind are working on the close relationship between equitable distribution of the society's wealth and income and exploitation of the environment. Consider, for example, the proposed shift, now underway, to western coal as an energy source. Not only will the shift cause massive environmental disruptions, it will be one of the greatest exercises in wealth redistribution undertaken in this country's history. Unmined coal is public wealth -- wealth that will be transferred to corporations and exploited at rates dictated by corporate profit-loss accounts. The development is unlikely to result in a more equitable distribution of wealth or income, since there is heavy institutional investment in coal/energy conglomerates. While coal and energy companies stand to pocket billions of dollars in coal-generated wealth, low and middle income individuals will not receive a fair share.

Mining, timber harvesting, and nearly every other major resource activity has wealth and income distribution effects, impacts of the kind for which NEPA was enacted. People must be told of distribution changes that will occur
if the government approves a hard-rock mine, multi-year timber sale contract, outer continental shelf oil lease, or other large development.

Who will benefit and who will be harmed by extraction of a particular public resource? Or by protection of air and water quality, establishment of a wilderness area, halting a subdivision on prime agricultural land? How much benefit or harm (in rough terms if necessary)? Are there alternatives that would minimize adverse distribution effects? These questions must be addressed if NEPA impact statements are really to discuss all the important impacts of major governmental actions.

Any kind of proper economic analysis in forward-looking EISs will be impossible unless agencies receive sufficient economic planning data from corporations. Agencies are too often compelled by insufficient information to engage in speculative economic reckoning. One way to correct this was suggested by the National Employment Priorities Act introduced in 1971 by then-Senator Walter Mondale. Any business intending to close down or to transfer a certain percentage of its workers or operations would have to announce the action publicly. In doing so, the corporation would have to announce its reasons for closing, the amount of unemployment to be created, the economic condition of the business, and any plans to alleviate the employees' economic loss. Affected employees could then secure a governmental investigation of the closure or transfer and a report on alternative courses of action. Just such transitional problems should be assessed in EISs.

Probably, to be effective, the requirements of NEPA should extend to other corporate plans, including decisions of multi-nationals to undertake operations overseas, especially since such corporate decisions are often followed by domestic closures. In general, the context of corporate decision-
making should become a matter of anticipatory public scrutiny on both environmental and economic grounds.

Ultimately, the use of economic analysis consistent with NEPAs thrust will depend on progress in the following areas: environmental litigation that prods courts to give serious consideration to the details of agencies' economic analyses; agency hiring of resource-conscious economists able to conduct longer-run and more comprehensive analyses; public understanding of the hazards of pursuing short-run monetary returns.

D. Conclusion

For all its weaknesses — and they are both crucial and correctable — NEPA still forces agencies at least to consider and acknowledge adverse environmental and economic impacts. Even the efforts to circumvent the act can force agencies to modify ill-conceived plans or projects. More important, the act forces environmental evaluations in public. Publicity subjects them to review and criticism.

Kant rightly observed that publicity was exceedingly important as a block to arbitrariness in governmental decisions. To a certain extent, NEPA provides this; but in each of the areas discussed above, the act could produce much more.

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Chapter 9

Citizen Participation

As the planet we live on becomes more and more crowded, more wrinkled by worries and complexities, more pressed by needs, the earth's valuables increasingly have to be shared. The work of government as manager of the public's resources becomes one of its major tasks.... But the people have lost effective control over these decisions to the professional management of bureaucracies. These structures, so largely independent of Congress, the President, and the courts, have a natural tendency to believe that they can decide for themselves. This attitude, that the experts 'know best,' is held by sincere and well-intentioned men... The great danger is that an entrenched professional bureaucracy will be shortsighted in its perception of the public good. It may see only the needs of the next decade when planning for a century is essential. It may see only local demands when national needs demand consideration. It may see where immediate economic gain lies but fail to see the values of 'non-economic' uses. It may prove unable to adapt to changes, to innovate, to create.

— Charles A. Reich²⁷⁷

Citizen participation in decisions affecting environmental quality has a long history. Examples from the American past include a 1691 town meeting in Lynn, Massachusetts, where concern was expressed about cutting "or carrying away any wood or any part of the town's Commons," and about the proper restraint of pigs.²⁷⁸

Especially since the 1960s, however, citizen participation in environmental decisions has become a point of major political concern. For many reasons, citizens are expressing redoubled insistence that they be included in the decisions that affect the quality of their environment and that of

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their children. Citizen participation, however, is not yet a fully effective force in environmental policies and decisions.\textsuperscript{279}

The generalized insistence on citizen participation has relegated some all-important principles of participation to near-oblivion; few stop to wonder what participation really accomplishes and whether our particular brand of citizen involvement is really participation. In essence, citizen participation is still too much a slogan without a corresponding substance.

Nowhere could this situation be more threatening than in the environmental quality area. Increased citizen concern and action on environmental decisions has been a critical factor in balancing the typically short-run claims of public and private development interests with the claims of the larger public. The healthy public debate occasioned by this frequent clash has heightened the quality of environmental decisions (and if there is pessimism on that point in some cases, it can at least be said that citizen participation ranks as one of the country's most important continuing education programs). Strengthening citizen involvement is crucial to strengthening environmental protection.

A. Obstacles to Citizen Participation

The first difficulty confronting citizen participation is that it risks becoming mere citizen output. Typically, a governmental agency will hold a public gathering. (The term "gathering" is chosen because the agencies are not often clear whether they are conducting a formal public hearing; an informational, "show me" meeting; or something even less defined.) If citizens are permitted to speak, their remarks tend to be catharsis-inducing speeches more for the benefit of the audience than the decision-maker. Citizens pour out their knowledge, inclinations, biases, and values to no certain avail.
Quite often, a written or taped record of the gathering is not kept. Thus, the citizen effort can become simply output without measurable effect.

The second danger is that citizen participation will become mere input. Even if the responsible agency is clear on the purpose and format of its efforts to include citizens, and even if a record is kept, there are additional questions. Do the citizens actually get a chance to participate, to deliberate on the important questions at hand? Or do they merely supply comments?

Consider the difference between the two terms, input and participation. Input implies a distance from the decision-making form and suggests standing outside the deliberative arena. Participation, however, connotes an actual place in deliberations leading to the final decision. The term suggests much more than such conventional approaches as letter writing, phone calls, informal visits, and testifying. Without some systematic exploration of this important difference, the promise of participation may well not materialize. In short, we need to decide whether we're going to establish genuine citizen participation or merely provide for citizen input.

A third problem with participation occurs after the citizen has gone home. Assuming the hearing is taken seriously by the agency, the decision-maker sits down with a tape, transcript, letters, notes, or just personal recollections of the public comments and then undertakes what will always be the crucial and subjective act in environmental decisions: evaluating the comments. How is it done? Are the other resource specialists involved in making the final decision? Are citizens able to participate in (or even observe) this phase of the agency action?
Currently, there exist no guidelines or standards — aside from some U.S. Forest Service research recommendations — for the evaluation of citizen participation.280

A fourth difficulty has been obvious for some time now, but few solutions have been offered. Individual citizens and groups are typically volunteer, low-budget operations.281 Citizens invest scarce time and money (while holding full-time jobs) with no expectation of direct personal returns. They travel to meetings, conferences, and hearings; write letters; make phone calls; obtain photocopies and documents — all at personal expense.

These citizens are faced with increasingly complex, demanding, and, therefore, expensive issues and decisions in which they desire to participate intelligently. Agencies call upon them to participate in informational meetings, hearings, tours, and skull sessions (often involving out-of-town travel); these sessions do indeed provide needed background for informed participation. However, the citizen is expected to pay all costs associated with his participation (time off, travel, room and board) out of his own pocket. This is odd, since agencies readily agree that citizen participation benefits the public and helps agencies make better decisions from a broader perspective. However, virtually no one is urging that the agencies pay for these benefits. Without some serious consideration of affirmative funding for citizen participation efforts, a decisive financial disincentive to participate will continue to exist. This disincentive will obstruct the depth to which citizen's can participate.

At first blush, it may sound ridiculous to propose the funding of citizen participation. Keep in mind, however, that businesses involved in such proceedings very often retain attorneys, lobby, testify, travel, etc., and charge them
as a business expense — for which a tax deduction is later claimed. Ultimately, the consumers of their product or service pay for these efforts. (When you "fill it up," you are buying the oil company's prime-time television ads.) Thus, we are already funding an extensive program of corporate participation. This is not to say that corporate lobbying is illegitimate. The important point is that there is a clear imbalance between the ability of businesses and general citizens to finance their attempts at participation.282 (See p. 131)

The major statute for citizen participation in resource decisions is the National Environmental Policy Act, outlined previously.283 As noted, participation in the environmental impact statement procedures of NEPA yields mixed results.

Numerous other federal statutes contain important procedures for citizen participation. Foremost among these is the Administrative Procedures Act, adopted in an effort to regularize the procedures of the vast federal bureaucracy.284 Citizen participation procedures are also found in the Federal Water Pollution Control Act, the Clean Air Act, the Technology Assessment Act, the Federal Environmental Pesticides Control Act, and/or the regulations adopted under them.

The literature on these statutes is substantial and need not be examined here.285 Although a number of important changes could be made in each, the overriding difficulties with citizen participation will not be corrected simply by tinkering with these laws. We must undertake a more fundamental approach to strengthening public life in America.286 Below, some likely initial approaches are reviewed.

B. New Avenues for Citizen Participation

Constituting the public as beneficiary under the public trust approach
would be a giant step toward more effective citizen participation — particularly in the judicial branch of government. There are a number of other directions that should be explored.

Advisory councils and citizen "ombudsmen"\textsuperscript{287} are frequently-mentioned alternatives for increased citizen participation. Both can be quite helpful\textsuperscript{288} and, unless arbitrarily structured or operated, should be employed. However, neither of these approaches significantly broadens direct citizen participation.\textsuperscript{289} We must look at other ways to promote effective citizen participation in federal and state environmental decision-making.

1. Open Information and Decision-making

It has been a long-standing cornerstone of democratic theory that governmental activities at all levels should be public. This openness in government is the prerequisite of informed scrutiny and criticism of governmental activity. Section 39 of the Massachusetts \textit{Body of Liberties} of 1641 provided:

\begin{quote}
Every Inhabitant of the Country shall have free libertie to search and seeve any Rooles, Records, or Regesters of any Court or office except the Councell, And to have a transcript or exemplification thereof written examined, and signed by the hand of the officer or the office on paying the appointed fees therefore. [sic]\textsuperscript{290}
\end{quote}

Commenting on this principle more than a hundred years later, Patrick Henry said that "...the liberties of a people never were, nor ever will be, secure when the transactions of their rulers may be concealed from them...."\textsuperscript{291}

James Madison spoke to the same point in an 1822 letter:

\begin{quote}
A popular Government without popular information, or the means of acquiring it, is but a\end{quote}
Prologue to a Farce or a tragedy; or, perhaps both. Knowledge will forever govern ignorance: And the people who mean to be their own Governors, must arm themselves with the power which knowledge gives.  

Thomas Jefferson also wrote on this principle, saying"...the basis of our governments being the opinion of the people, the very first object should be to keep that right.... The way to prevent [errors of] the people is to give them full information of their affairs. ..."  

Secrecy in government has become a burning national issue in the face of Watergate, executive privilege, illegal CIA activities, and a variety of foreign policy debates.  

In 1966, Congress enacted the federal Freedom of Information Act (FOI). Although the act was expressly designed to force governmental disclosure, its exemptions were soon used by agencies to withhold vast amounts of information.  

Recent amendments to the FOI Act have oriented the statute toward even greater disclosure. Congress recently enacted a federal sunshine statute and a number of states have followed suit. Although these vary considerably, they do not generally provide the following important features:  

a. A requirement that agencies develop consistent filing methods and make available their file indices to facilitate file searches.  

b. A requirement that all agencies file in a central depository their decisions denying access to any file and/or meeting, together with the reasons for denial.  

c. A central entity to oversee the implementation of the sunshine statute and to adopt regulations or issue binding opinions on the act.
d. A requirement that photocopies be made available at cost; or, in the case of non-profit, public interest groups, that copies be made free. 298

e. Affirmative requirements that agencies give timely notice of important decision-making sessions or, equally important, that agencies provide early notification that a particular decision-making process is about to begin. 299

f. A provision that awards attorney fees to groups incorrectly denied access to information or meetings. 300

A number of further embellishments could be recommended. However, it is important to note that the public's rights of openness and access are only the prerequisites, not the substance of genuine participation.

2. Participatory Decision-making Sessions

As was argued, citizen observation or input are not the same as citizen participation. If hearings are properly announced, citizens can provide input. If decision-making sessions are announced in a timely fashion, citizens will be able to observe the deliberations. Although these are important steps, neither assures that citizens can actually participate.

Consider the possibility of structuring genuinely participatory decision-making sessions. After public hearings, comments, and other procedural steps are taken, the divergent interests could actually join the agency decision-makers at the deliberation table. Each interest could recapitulate its case; a debate could be conducted; the agency could publicly assess the arguments; and a decision could be made.
No doubt, the ultimate decision-making responsibility — under present statutes — would have to remain with the agency officials. However, requiring that these decisions be made after participatory decision-making sessions and that they be reduced to reviewable, written findings of fact and judgments could change the political context of agency decision-making enormously. It would be less likely that inter-personnel pressures or superiors' biases would guide discussions or shape final decisions. The ultimate basis for an agency decision would be immediately and expressly available, and citizens would have a much clearer opportunity to judge the merits of a particular decision.

3. Direct Funding of Citizen Involvement

The above changes would improve the quality of citizen participation, but they do not address the problem of unequal financial backing of corporations and citizens.

As was argued above, it is routine for large business enterprises to hire lobbyists, retain attorneys, travel, attend meetings, etc. — in short, to make a continuing presence with regulatory agencies. Judging from the regulatory meekness of federal agencies, the businesses are moderately successful. As was also pointed out, these business expenses are ultimately paid for by the consumer and taxpayer.

The large, unorganized public does not have a corporate treasury to draw upon and, with a few notable exceptions, can not afford full-time representation.

A recent study of citizen volunteer groups — conducted by the National Center for Voluntary Action (NCVA) — makes the point very clear. Over half of the citizen environmental groups in the United States have annual budgets smaller than $2,000. Nearly half have no office space, clerical assistance or office equipment.

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The NCVA study recommended a number of steps to increase the financial resources of citizen groups. It noted the obvious disparity between businesses which can lobby and deduct their expenses, and citizen groups which cannot do so. NCVA recommended that "all reasonable expenses incurred by a private citizen to advise a legislative or administrative body (or its members or employees) of the citizen's views respecting any legislative proposals should be a deductible expense... provided that a maximum dollar amount is imposed on the total amount to be deductible." The study also recommended that contributions made to citizen lobby groups should be deductible.

Surprisingly, the NCVA did not make recommendations concerning direct funding of citizen groups -- beyond a general urging that philanthropists, corporations, and foundations should give greater financial support to citizen volunteers.

Hazel Henderson, a board member of the Council on Economic Priorities and the Public Interest Economics Center, has written briefly about some of the options for direct funding of participation. The practice is considerably more widespread than might be assumed. In Sweden, for example, the government frequently makes grants to citizen groups. These monies are used to insure that the citizen viewpoint is presented. In Canada, government provides "intervenor funding" to key participants. Recently, an inquiry was conducted on the Mackenzie Valley Pipeline in which $600,000 was provided to citizen intervenors: $400,000 to Native and Indian groups, and $200,000 to citizen environmental groups.

In the United States, the Environmental Protection Agency (EPA) has taken some halting steps toward citizen funding. Recently, for example, EPA secured an appropriation for water quality training sessions.
The money was used for educational institutes on citizen implementation of the Federal Water Pollution Control Act of 1972. The act is very complex and the educational program was a wise step. However, once having been deluged with information about the act and its potential, citizens were sent home to implement the act on their own. Little additional funding for citizen implementation or enforcement is available. In short, the EPA effort fell far short of its potential.

There are several other private efforts underway in this area. For example, the National Council for the Public Assessment of Technology has helped the Office of Technology Assessment to recruit paid citizen consultants who provide important social data in technology assessments. The Public Interest Economics Center, through a matching program, has provided expert assistance to citizen groups (a kind of advocacy science).305

One of the most encouraging signs of increased attention to funding citizen participation is Senator Kennedy's 1976 proposal authorizing administrative intervenor assistance.306 Compensation would be provided to intervenors who could represent important interests which contribute substantially to the particular proceeding. As it stands, the act does not seem to allow compensation for participation under NEPA.

Kennedy is also considering use of "citizen assessment bonds." Proceeds from the bonds could defray a variety of citizen participation expenses. Bonds are a favored method to raise money for important public projects. With the citizen assessment bond approach, citizen participation would be treated as an important public project. In addition, the legislation will deal with the possibility of reimbursing citizen groups which provide substantial input for legislative or administrative proceedings.
Nobel prize-winning economist Gunnar Myrdal pointed out some time ago that citizen groups could perform a variety of tasks now relegated to governmental bureaucracies — and could perform them more effectively and less expensively. We need to take his compelling point seriously and undertake the direct funding of citizen action.

4. Attorney Fees and Costs Awards

Citizen groups have difficulty keeping up with the continuing rush and financial demands of legislative sessions and administrative proceedings. When it comes to the judicial branch of government however, the problem is especially severe. Obtaining good legal research on a particular legal issue can easily cost several hundred dollars. Employing an attorney for representation or assistance in a complex administrative proceeding can cost thousands. Engaging in full-scale litigation in federal courts can quickly run to six figures. It is difficult if not impossible for citizen groups to raise the money necessary for persistent legal action.

The courts are often the last resort for enforcing statutes or agency regulations and they are an important part of the environmental arsenal. As a result, citizen groups today are often reduced to the choice of seeking free legal help (akin to looking for free food) or abdicating important remedies.

Until recently, however, federal courts frequently awarded attorney fees and costs to citizen litigants. In Hall v. Cole, the United States Supreme Court held that federal courts, in the exercise of their equitable powers, "may award attorney fees when the interests of justice so require." Following this lead, numerous courts have awarded
attorney fees (1) when a suit resulted in substantial public benefits or benefits to a class of individuals; (2) when the suit enforced a strong and clear Congressional policy; or (3) when the court felt it necessary to lift a financial burden that impeded private enforcement of the laws.\textsuperscript{110} In essence, the courts tended to award attorney fees where citizen groups filed suit to ensure the proper functioning of government and enforcement of the laws.

What is surprising is that a recent United States Supreme Court case wipes out this persuasive logic. The court has now ruled that Congress, not federal courts, has the authority to provide for the awarding of attorney fees to public interest litigants. In a well-reasoned dissent,\textsuperscript{311} Justice Marshall argued that the courts should be able to award attorney fees when citizen litigants sue to enforce Congressional policy or to protect important public interests.

According to the Council for Public Interest Law, the Supreme Court's decision severely injured some public interest cases and firms: "Millions of dollars of anticipated fee awards have been lost. Major cases have had to be curtailed. New cases have had to be turned down. One public interest law firm was even forced to sharply cut back its operations...."\textsuperscript{312}

Following the present Supreme Court ruling, it appears that attorney fees and court costs will be awarded only under those environmental statutes where Congress has specifically authorized such awards. For example, the Federal Water Pollution Control Act specifically authorizes courts to award costs of litigation.\textsuperscript{313} The Clean Air Act and others do the same.\textsuperscript{314}
Either through judicial reconsideration or Congressional enactment, the general availability of attorney fees and court costs should be affirmed. Environmental litigation is a legitimate use of the third branch of government and should not be so burdensome to the citizen.

5. Citizen Enforcement

Another approach to encouraging -- and perhaps funding -- citizen enforcement proceedings is the monetary reward for conducting successful enforcement actions.

Section 13 of the Refuse Act of 1899 provides that it is illegal to discharge refuse matter into navigable waters or their tributaries without a permit. Upon conviction for violation, the section stipulates that the fine is set between $500 and $2,500, "...one half of the said fine to be paid to the person or persons giving information which shall lead to conviction."315

Although this kind of statute has not been very popular lately among legislatures, it would add an important incentive for citizen enforcement of environmental laws.

6. Citizen Involvement in the Corporation

As discussed previously, one of the key failures of the National Environmental Policy Act is that its requirements directly cover only the federal agencies. Numerous private sector activities are not publicly reviewed in a healthy fashion.

Apart from the question whether some sectors of the economy might best be publicly owned,316 there is a strong argument that citizens must be able to participate in major corporate decisions. At present, citizens often are impacted more directly by corporate decisions than governmental actions.317
Although involvement of one sort or another in government decisions is quite common, citizen participation in the decisions of major corporations is virtually nonexistent. It should become commonplace. Typically, a corporation announces its development plans; holds one or a few informational meetings; complies with (or obtains a variance from) applicable federal, state, and local requirements; and then proceeds with construction.

A sizeable and growing body of literature reveals the incapacity of society to control corporate behavior. Even conventional economic texts now hold that shareholders can no longer control corporate activities, while boards of directors have been criticized for their lax involvement in corporate affairs; the tendency of federal agencies to assume the interests of the corporations they supposedly regulate has been widely noted; the weakness of states in the face of large corporations is a matter of record; and labor unions assert their power generally only in the areas of wages, benefits, and working conditions. In sum, there is no decisive institutional check on the decision-making of corporate managers.

It seems, then, that only the active citizen, if anyone, is in a position to influence corporate decisions -- particularly the citizen affected by those decisions. However, to attempt this with a fair chance of success, he'll need some institutional back-up. Some of the most commonly proposed aids are:

a. Corporations could be required to replace some of their product or image advertising with expenditures for the conduct of public hearings. Instead of telling citizens what they should buy, corporations should ask citizens what they need.
b. In order for citizens to grasp more fully the dimensions and activities of major corporations, greater disclosure requirements are needed. Citizens need to know, for example, the environmental activities of corporations in other states, the size of the advertising budget, the size of the research and development budget (broken down so routine testing is not stuffed in to inflate the amount), the quantity and type of emissions and effluents, the nature of pending litigation or enforcement actions against or by the corporation, and so on.

c. The right of employees to speak out without fear of reprisal should be guaranteed so that citizens can benefit from the insights of insiders. 322

d. The public should have representatives on the corporation's board of directors, if not within management itself.

e. The public should have greater control over the activities of hired guns (particularly environmental consultants) who are sometimes employed not only to analyze relevant environmental data, but also to assuage the corporate conscience or to overcome legitimate public concerns.

f. A number of other options should be considered: stiffer penalties for corporate violations of laws, including the suspension of guilty executives; in-house corporate ombudsmen; greater access to corporate records; stricter incorporation standards; the creation of citizen advisory councils on corporate policy; structuring public debates on corporate policy; and refining the practices of social (rather than just profit-loss) accounting for corporations.

Of course, this list could be lengthened, and the debates on public ownership should continue. The point is that citizens have long
sought to participate in all decisions which influence the quality of
their lives. Now, we must turn our attention to the large corporation --
an entity granted limited liability, certain civil liberties, and a
number of tax incentives by the state, and an entity whose products (and
advertising) we buy. If effective citizen participation in corporate
decisions is not achieved, political democracy and republicanism will
become increasingly pointless.323

7. Conclusion

Ultimately, as noted by a number of authors, our entire struc-
ture of public life needs revamping. Establishing the preconditions
for this effort will require changes along the lines outlined above.

In general, we should be more cautious that, in exchange for
rapid increases in consumption and devotion to essentially private acti-
vities, we do not preempt the chance for citizens to participate in
decisions affecting their lives, their children's lives, and the lives
of future generations.
Chapter 10

Strengthening Judicial Review
and Other Changes

Although the previous discussion of the public trust doctrine, NEPA, and citizen participation covered the major necessary changes in environment-related institutions, several other innovations are needed if life-support systems and a desirable human habitat are to be protected.

A. Strengthening Judicial Review

Expense is not the only difficulty encountered by citizen groups in courts. It is now considerably easier for citizen groups to gain admission to court. The law of "standing" — which determines whether a party is sufficiently affected to file suit — has been liberalized substantially. However, it is equally important that citizens be able to accomplish something once they get into court. This can occur only if courts will undertake a probing review of the agency's challenged action — procedurally and substantively. The courts have shown some tendency toward stricter review of agency action.

One important way to restrict the excessive discretion of administrative agencies is to augment the role of the courts in reviewing agency decisions. Of course, the public trust approach would accomplish this to a great extent. Several additional steps are required, however.

Currently, the federal Administrative Procedures Act specifies a number of review standards. The one most commonly applied permits courts
to reverse agency actions if the action was "...arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." In general, the courts will not substitute their judgment for that of the agency; so, the matter often rests on whether the agency exercised "reasoned discretion" or committed a "clear error of judgment."

What do these careful but ambiguous phrases amount to? In practice, they provide substantial protection for agency discretion. They make it quite difficult for citizen groups -- or anyone else -- successfully to challenge agency decisions.

In some circumstances, a stricter standard can be applied. When reviewing an agency rule under the Administrative Procedures Act or an agency action taken after public adjudicatory hearing, the "substantial evidence" test is used. In this instance, the court will determine whether the agency decision is supported by "substantial evidence." If not, the decision can be reversed.

Some court decisions lean toward an even stricter standard and, consequently a strong judicial presence. In *Sierra Club v. Froehlke*, the court held that the agency's decision "...is entitled to a presumption of regularity, although the presumption is not to shield...action from a thorough, probing, and in-depth review." (Emphasis added) The court applied what is called the "substantial inquiry" test.

This kind of review places a heavier burden on agencies to demonstrate that there has been a genuine and not a perfunctory compliance with NEPA.

Since the courts are often the only way to a bureaucrat's heart, the stringency of judicial review is crucial. It is unlikely that the stricter
approach is amenable to a statutory resolution, but continued attorney briefing before the courts on the need for probing review will be necessary.

Although a recent analysis suggests that all this may be purely a matter of semantics, it is the case that the posture of the courts on the question of agency review will remain an important factor in the success or failure of environmental lawsuits.

B. Changing the Burdens of Persuasion and Proof

Events of the recent past have dramatically underscored the need to reexamine the traditional legal rules of proof and persuasion. One of the functions of the law is to assign responsibility and provide relief for potential or realized harms. In certain environmental and public health disputes — particularly carcinogenic and other toxic substances — this task is difficult. The prospects are too serious to ignore, however.

Throughout the mid-1970s, there has been alarming news on the cancer-inducing and toxic effects of numerous substances. Many of these — food additives, pesticides, air pollutants, hormones, etc. — are routine parts of daily life. These and other environmental factors are now thought to be the cause for 60-90 percent of all cancers in the U.S.

This news has led to a barrage of studies, conducted by federal, private, and industrial groups. There has been renewed attention to the enactment of toxic substances legislation and new product regulations, of varying efficacy, have been adopted.

Even if strides are taken in research studies and new legislation, however, a deeper problem will persist: it is legally difficult to challenge
production and marketing of hazardous substances due to the excessive proof and persuasion requirements involved.

The Reserve Mining case illustrates the dilemma. The company was dumping 69,000 tons of asbestos-fibered taconite each day into Lake Superior, which is the water supply for Duluth and other towns. Asbestos as an air pollutant is known to cause cancer in humans; however, similar studies have not proven its carcinogenicity as a water pollutant. Thus, parties challenging the taconite effluent were unable to meet the test of demonstrable health hazards and the dumping continued.

This dilemma becomes horrifying when it is realized that this type of proof-standard effectively leaves hazardous products on the market until adverse -- even fatal -- health effects show up.

One corrective step is to shift the burden of proof by allowing administrative banning of a suspect product, subject to proof in court by the producer that the product is safe. Such a move would require aggrieved industries to present their case and carry the burden to establish the safety of their product. (Also see discussion above of Michigan Environmental Protection Act, p. 77.)

However, much more is required. Absolute proof of the health hazards of many chemicals is available only if we use humans as experimental animals for twenty years and then conduct computer analyses on autopsy reports. The only entities protected by this approach are the corporate profit, graph and an abusively vague notion of free enterprise.

The most promising avenue is to structure a screening procedure that prevents potentially harmful products from being marketed. However, since any procedure will involve discretion, error, and abuse, it is also imperative to reduce the burden of persuasion and allow a shift of the proof burden in
public health litigation. There are some trends in this direction.
The District of Columbia Circuit Court has held that EPA may regulate
emissions that "...will endanger public health or welfare." Making
this determination "...does not require proof of actual harm.... Within
reasonable limits, danger is the product of magnitude of risk and magni-
tude of potential harm." (Emphasis added)

The trend toward altered standards of persuasion and proof in public
health cases should continue. Otherwise, the law will paint itself into
a corner on some of the most crucial questions of product safety and, ul-
timately, public health.

C. Promoting Cultural Diversity

Congress has shown some interest in protecting a variety of histori-
cal and cultural resources. The primary concern of efforts such as the
Antiquities Act is to protect the historical record -- to protect the past
evidence of the human past. The statutes and regulations designed for this
purpose are only partially successful. Many more projects are preceded by
archaeological investigations (although it is becoming increasingly diffi-
cult to find archaeologists willing to testify against the National Park
Service now that NPS can award lucrative and coveted contracts for pre-
project archaeological research).

Protecting cultural resources is surely a laudable goal. It is im-
portant to know of the past -- its richness and diversity, and the often
harsh lessons learned by earlier generations. The value of culture does
not stop there, however. It is not confined to human artifacts. It is
not simply a thing of the past.

In recent years it has been acknowledged that ecological diversity is
important for overall ecosystem health and stability. Resorting to monoculture, or otherwise undermining the natural diversity of ecosystems always poses the threat of increased susceptibility of the ecosystem to disease and degradation.

Virtually the same can be said of diversity in human cultures. The various cultures that have inhabited the planet have held differing world views and, more particularly, divergent approaches to nature.

For example, numerous signs of Indian reverence for the land can be found in Indian oratory. One of the most famous is the 1854 speech of Chief Seathl of the Duwamish tribe:

Every part of this soil is sacred in the estimation of my people. Every hillside, every valley, every plain and grove, has been hallowed by some sad or happy event in days long vanished. The very dust upon which you now stand responds more lovingly to their footsteps than to yours, because it is rich with the blood of our ancestors and our bare feet are conscious of the sympathetic touch.

And a Wintu holy woman once spoke harshly of the lack of American respect for the land:

The white people never cared for land or deer or bear. When we Indians kill meat, we eat it all up. When we dig roots we make little holes. When we built houses, we make little holes. When we burn grass for grasshoppers, we don't ruin things. We shake down acorns and pine nuts. We don't chop down the trees. We only use dead wood. But the White people plow up the ground, pull down the trees, kill everything. The tree says, 'Don't. I am sore. Don't hurt me.' But they chop it down and cut it up. The spirit of the land hates them. They blast our trees and stir it up to its depth. They saw up the trees. That hurts them. The Indians never hurt anything, but the White people destroy all. They blast rocks and scatter them on the ground. The rock says, 'Don't. You are hurting me.' But the White people pay no attention. When the Indians use rocks, they take little round
ones for their cooking.... How can the spirit of the earth like the White man?... Everywhere the White man has touched it, it is sore.338

The value of these differences is obvious. They fertilize the mind, demonstrating that one culture's long-developing traditions and outlook do not define the limits of human consciousness. They highlight alternative approaches to the environment. They suggest new ways of conducting human activities on the earth.

The "melting pot" approach to these differences is, in the long run, self-destructive. It reduces genuine and valuable differences and produces homogeneity — a monotonous and blind similitude of human living.

Alternative value systems should have a constitutionally guaranteed existence. They should be protected from destruction. More importantly, we should affirmatively promote cultural diversity. The various tribal, religious sect, and counter-cultural approaches — such as communal sharing of major structures, appliances, and land — should receive attention. We should fund alternative cultural experiments, particularly those which promote low-energy lifestyles, less consumptive leisure, and so on.339

Assuming that our present cultural approach is the best or only one is patently dangerous to the natural world and to man as a component.

D. Defining the Essentials for a Quality Life

Hand-in-hand with the protection of cultural diversity, we must begin to identify, in public discussion and dialogue, what is really essential for a quality life. One of the best ways to protect the environment — and to promote economic stability — is to reduce our demands and expectations. This is true because most of the uses to which we put various aspects of the environment have an adverse impact, either by reducing ecological diversity,
overcoming ecological assimilation capacities, or breaking ecological linkages. A solid solution is to reduce the consumption of nonessentials and eliminate the production of essential items by wasteful means.

We should begin a nationwide dialogue on the genuine essentials for a quality life — a painstaking, public sorting of our routine consumption priorities. We should expose sizeable portions of present-day consumption that are unnecessary, frivolous, or even dangerous. We could then begin to scale down or abolish the production and consumption of such goods or services.

Of course, attempting this planned reduction leads to a tough distinction between needs and wants. No matter how difficult it is to achieve, the promise of the distinction should not be ignored.

Aristotle's famous dictum "It is not so important to live as it is to live well" can be rephrased slightly: It is not so important to consume as it is to consume wisely. If we cannot make some strides in distinguishing between essential and nonessential consumption, we admit that hopeless confinement to passage on a rudderless ship is preferable to facing the realities of a depleted planet and steering our course to avoid them.

E. Anticipating Transitional Difficulties

No doubt, some of the transitional problems in implementing the above changes will be vexing. But numerous transitional difficulties can be expected whether these changes are made or not. Major shifts in the structure and production of the economy are in progress. These shifts will result in sizeable economic dislocations -- loss of jobs and income, skyrocketing prices, not to mention environmental disruption. 340

As a nation, we have shown pathetically little competence in anticipating or softening such changes. Our capacity to make transitions in the
economy is nowhere clearly established. How do we make basic economy changes? How can we mitigate the effects of recession and reduced demand?

A continued neglect of this subject will produce undue hardship and could well reduce the prospects for needed or desirable change. A federal-level commitment to making needed change while softening its adverse impacts is imperative. Perhaps an Office of Transition or a beefed-up Office of Technology Assessment would be able to start such an effort. But to avoid misconception: merely creating another federal office will not drive away the malady. Decentralized understanding and promotion of needed social and economic change will be crucial to ultimate success. Without such understanding, the horror of Norman Mailer could well be the prospect of the future:

...the storm approaches its thunderhead, and it is apparent that the boat drifts ever closer to the shore. So the blind will lead the blind, and the deaf shout warnings to one another until their voices are lost.
APPENDIX A

THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, AS AMENDED*

An Act to establish a national policy for the environment, to provide for the establishment of a Council on Environmental Quality, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Environmental Policy Act of 1969."

PURPOSE

Sec. 2. The purposes of this Act are: To declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation; and to establish a Council on Environmental Quality.

TITLE I

DECLARATION OF NATIONAL ENVIRONMENTAL POLICY

Sec. 101. (a) The Congress, recognizing the profound impact of man's activity on the interrelations of all components of the natural environment, particularly the profound influences of population growth, high-density urbanization, industrial expansion, resource exploitation, and new and expanding technological advances and recognizing further the critical importance of restoring and maintaining environmental quality to the overall welfare and development of man, declares that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

(b) In order to carry out the policy set forth in this Act, it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve


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and coordinate Federal plans, functions, programs, and resources to the end that the Nation may—

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The Congress recognizes that each person should enjoy a healthful environment and that each person has a responsibility to contribute to the preservation and enhancement of the environment.

Sec. 102. The Congress authorizes and directs that, to the fullest extent possible (1) the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act, and (2) all agencies of the Federal Government shall—

A. Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision-making which may have an impact on man's environment;
B. Identify and develop methods and procedures, in consultation with the Council on Environmental Quality established by title II of this Act, which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations;
C. Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on—
   i. The environmental impact of the proposed action,
   ii. Any adverse environmental effects which cannot be avoided should the proposal be implemented,
   iii. Alternatives to the proposed action,
   iv. The relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
   v. Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved. Copies of such statement and the comments and views of the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards, shall be made available to the President, the Council on Environmental Quality and to the public as provided by section 552 of title 5, United States Code, and shall accompany the proposal through the existing agency review processes;

D. Any detailed statement required under subparagraph (C) after January 1, 1970, for any major Federal action funded under a program
of grants to States shall not be deemed to be legally insufficient solely by reason of having been prepared by a State agency or official, if:
   (i) the State agency or official has statewide jurisdiction and has the responsibility for such action,
   (ii) the responsible Federal official furnishes guidance and participates in such preparation,
   (iii) the responsible Federal official independently evaluates such statement prior to its approval and adoption, and
   (iv) after January 1, 1976, the responsible Federal official provides early notification to, and solicits the views of, any other State or any Federal land management entity of any action or any alternative thereto which may have significant impacts upon such State or affected Federal land management entity and, if there is any disagreement on such impacts, prepares a written assessment of such impacts and views for incorporation into such detailed statement.

The procedures in this subparagraph shall not relieve the Federal official of his responsibilities for the scope, objectivity, and content of the entire statement or of any other responsibility under this Act; and further, this subparagraph does not affect the legal sufficiency of statements prepared by State agencies with less than statewide jurisdiction.

(E) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources;

(F) Recognize the worldwide and long-range character of environmental problems and, where consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind's world environment;

(G) Make available to States, counties, municipalities, institutions, and individuals, advice and information useful in restoring, maintaining, and enhancing the quality of the environment;

(H) Initiate and utilize ecological information in the planning and development of resource-oriented projects; and

(I) Assist the Council on Environmental Quality established by title II of this Act.

Sec. 103. All agencies of the Federal Government shall review their present statutory authority, administrative regulations, and current policies and procedures for the purpose of determining whether there are any deficiencies or inconsistencies therein which prohibit full compliance with the purposes and provisions of this Act and shall propose to the President not later than July 1, 1971, such measures as may be necessary to bring their authority and policies into conformity with the intent, purposes, and procedures set forth in this Act.

Sec. 104. Nothing in section 102 or 103 shall in any way affect the specific statutory obligations of any Federal agency (1) to comply with criteria or standards of environmental quality, (2) to coordinate or consult with any other Federal or State agency, or (3) to act, or refrain from acting contingent upon the recommendations or certification of any other Federal or State agency.

Sec. 105. The policies and goals set forth in this Act are supplementary to those set forth in existing authorizations of Federal agencies.

TITLE II

COUNCIL ON ENVIRONMENTAL QUALITY

Sec. 201. The President shall transmit to the Congress annually beginning July 1, 1970, an Environmental Quality Report (hereinafter referred to as
the "report") which shall set forth (1) the status and condition of the major natural, manmade, or altered environmental classes of the Nation, including, but not limited to, the air, the aquatic, including marine, estuarine, and fresh water, and the terrestrial environment, including, but not limited to, the forest, dryland, wetland, range, urban, suburban and rural environment; (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation; (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures; (4) a review of the programs and activities (including regulatory activities) of the Federal Government, the State and local governments, and nongovernmental entities or individuals with particular reference to their effect on the environment and on the conservation, development and utilization of natural resources; and (5) a program for remedying the deficiencies of existing programs and activities, together with recommendations for legislation.

Sec. 202. There is created in the Executive Office of the President a Council on Environmental Quality (hereinafter referred to as the "Council"). The Council shall be composed of three members who shall be appointed by the President to serve at his pleasure, by and with the advice and consent of the Senate. The President shall designate one of the members of the Council to serve as Chairman. Each member shall be a person who, as a result of his training, experience, and attainments, is exceptionally well qualified to analyze and interpret environmental trends and information of all kinds; to appraise programs and activities of the Federal Government in the light of the policy set forth in title I of this Act; to be conscious of and responsive to the scientific, economic, social, esthetic, and cultural needs and interests of the Nation; and to formulate and recommend national policies to promote the improvement of the quality of the environment.

Sec. 203. The Council may employ such officers and employees as may be necessary to carry out its functions under this Act. In addition, the Council may employ and fix the compensation of such experts and consultants as may be necessary for the carrying out of its functions under this Act, in accordance with section 3109 of title 5, United States Code (but without regard to the last sentence thereof).

Sec. 204. It shall be the duty and function of the Council—

(1) To assist and advise the President in the preparation of the Environmental Quality Report required by section 201;

(2) To gather timely and authoritative information concerning the conditions and trends in the quality of the environment both current and prospective, to analyze and interpret such information for the purpose of determining whether such conditions and trends are interfering, or are likely to interfere, with the achievement of the policy set forth in title I of this Act, and to compile and submit to the President studies relating to such conditions and trends;

(3) To review and appraise the various programs and activities of the Federal Government in the light of the policy set forth in title I of this Act for the purpose of determining the extent to which such programs and activities are contributing to the achievement of such policy, and to make recommendations to the President with respect thereto;

(4) To develop and recommend to the President national policies to foster and promote the improvement of environmental quality to meet the conservation, social, economic, health, and other requirements and goals of the Nation;

(5) To conduct investigations, studies, surveys, research, and analyses relating to ecological systems and environmental quality;

(6) To document and define changes in the natural environment, including the plant and animal systems, and to accumulate necessary
data and other information for a continuing analysis of these changes or trends and an interpretation of their underlying causes;

(7) To report at least once each year to the President on the state and condition of the environment; and

(8) To make and furnish such studies, reports thereon, and recommendations with respect to matters of policy and legislation as the President may request.

Sec. 205. In exercising its powers, functions, and duties under this Act, the Council shall—

(1) Consult with the Citizens' Advisory Committee on Environmental Quality established by Executive Order No. 11472, dated May 29, 1969, and with such representatives of science, industry, agriculture, labor, conservation organizations, State and local governments and other groups, as it deems advisable; and

(2) Utilize, to the fullest extent possible, the services, facilities and information (including statistical information) of public and private agencies and organizations, and individuals, in order that duplication of effort and expense may be avoided, thus assuring that the Council's activities will not unnecessarily overlap or conflict with similar activities authorized by law and performed by established agencies.

Sec. 206. Members of the Council shall serve full time and the Chairman of the Council shall be compensated at the rate provided for Level II of the Executive Schedule Pay Rates (5 U.S.C. 5313). The other members of the Council shall be compensated at the rate provided for Level IV of the Executive Schedule Pay Rates (5 U.S.C. 5315).

Sec. 207. There are authorized to be appropriated to carry out the provisions of this Act not to exceed $300,000 for fiscal year 1970, $700,000 for fiscal year 1971, and $1 million for each fiscal year thereafter.

Approved January 1, 1970.
Sec. 1. This act, shall be known and may be cited as the "Thomas J. Anderson, Gordon Rockwell environmental protection act of 1970."

Sec. 2. (1) The attorney general, any political subdivision of the state, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity may maintain an action in the circuit court having jurisdiction where the alleged violation occurred or is likely to occur for declaratory and equitable relief against the state, any political subdivision thereof, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity for the protection of the air, water and other natural resources and the public trust therein from pollution, impairment or destruction.

(2) In granting relief provided by subsection (1) where is involved a standard for pollution or for an anti-pollution device or procedure, fixed by rule or otherwise, by an instrumentality or agency of the state or a political subdivision thereof, the court may:
   (a) Determine the validity, applicability and reasonableness of the standard.
   (b) When a court finds a standard to be deficient, direct the adoption of a standard approved and specified by the court.

Sec. 2a. If the court has reasonable ground to doubt the solvency of the plaintiff or the plaintiff's ability to pay any cost or judgment which might be rendered against him in an action brought under this act the court may order the plaintiff to post a surety bond or cash not to exceed $500.00.

Sec. 3. (1) When the plaintiff in the action has made a prima facie showing that the conduct of the defendant has, or is likely to pollute, impair or destroy the air, water or other natural resources or the public trust therein, the defendant may rebut the prima facie showing by the submission of evidence to the contrary. The defendant may also show, by way of an affirmative defense, that there is no feasible and prudent alternative to defendant's conduct and that such conduct is consistent with the promotion of the public health, safety and welfare in light of the state's paramount concern for the protection of its natural resources from pollution, impairment or destruction. Except as to the affirmative defense, the principles of burden of proof and weight of the
evidence generally applicable in civil actions in the circuit courts shall apply to actions brought under this act.

(2) The court may appoint a master or referee, who shall be a disinterested person and technically qualified, to take testimony and make a record and a report of his findings to the court in the action.

(3) Costs may be apportioned to the parties if the interests of justice require.

Sec. 4. (1) The court may grant temporary and permanent equitable relief, or may impose conditions on the defendant that are required to protect the air, water and other natural resources or the public trust therein from pollution, impairment or destruction.

(2) If administrative, licensing or other proceedings are required or available to determine the legality of the defendant's conduct, the court may remit the parties to such proceedings, which proceedings shall be conducted in accordance with and subject to the provisions of Act No. 305 of the Public Acts of 1969, being sections 24.201 to 24.313 of the Compiled Laws of 1948. In so remitting the court may grant temporary equitable relief where necessary for the protection of the air, water and other natural resources or the public trust therein from pollution, impairment or destruction. In so remitting the court shall retain jurisdiction of the action pending completion thereof for the purpose of determining whether adequate protection from pollution, impairment or destruction has been afforded.

(3) Upon completion of such proceedings, the court shall adjudicate the impact of the defendant's conduct on the air, water or other natural resources and on the public trust therein in accordance with this act. In such adjudication the court may order that additional evidence be taken to the extent necessary to protect the rights recognized in this act.

(4) Where, as to any administrative, licensing or other proceeding, judicial review thereof is available, notwithstanding the provisions to the contrary of Act No. 306 of the Public Acts of 1969, pertaining to judicial review, the court originally taking jurisdiction shall maintain jurisdiction for purposes of judicial review.

Sec. 5. (1) Whenever administrative, licensing or other proceedings and judicial review thereof are available by law, the agency or the court may permit the attorney general, any political subdivision of the state, any instrumentality or agency of the state or of a political subdivision thereof, any person, partnership, corporation, association, organization or other legal entity to intervene as a party on the filing of a pleading asserting that the proceeding or action for judicial review involves conduct which has, or which is likely to have, the effect of polluting, impairing or destroying the air, water or other natural resources or the public trust therein.
(2) In any such administrative, licensing or other proceedings, and in any judicial review thereof, any alleged pollution, impairment or destruction of the air, water or other natural resources or the public trust therein, shall be determined, and no conduct shall be authorized or approved which does, or is likely to have such effect so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety and welfare.

(3) The doctrines of collateral estoppel and res judicata may be applied by the court to prevent multiplicity of suits.

Sec. 6. This act shall be supplementary to existing administrative and regulatory procedures provided by law.

Sec. 7. This act shall take effect October 1, 1970. This act is ordered to take immediate effect.
NOTES


2. Ibid., pp. 269-70.

3. Ibid., p. 270.

4. For example, environmental groups have established the Washington, D.C.-based Environmentalists for Full Employment, a coalition focussing on labor-intensive technologies that will provide jobs with reduced environmental impact. In addition, the Walter and Mary Reuther Education Center recently hosted a conference on justice, jobs, and environment. It attracted representatives of labor, social, cultural, and environmental groups.

5. For these and other insights on the political problems of the environmental movement, see the general reports of the Exploratory Project for Economic Alternatives.

6. As noted by the National Wildlife Federation, nearly every major index of environmental quality has declined since 1969. These include the wildlife, living space, soil, minerals, water, timber, and air indices. The latter two have shown brief periods of stability or even improvement. The general trend is one of decreased quality, however. See "Sixth Environmental Quality Index: The Year of the Trade-Off," National Wildlife, February-March, 1975.

7. There are numerous publications that can be consulted for information on environmental quality. The most comprehensive from the environmental law angle is the Environmental Law Institute's Environmental Law Reporter, Washington, D.C., hereinafter cited as ELR.

8. The non-degradation policy was unearthed in a recent lawsuit filed by the Sierra Club. Sierra Club v. Ruckelshaus, 2 ELR 20656 (D.C. Cir. 1972); affd. by split decision sub nom. Fri v. Sierra Club, 412 U.S. 541 (1973). Even though the suit was resolved in the Club's favor, the Environmental Protection Agency has not moved vigorously to implement the policy. EPA recently passed much of the responsibility for implementing non-degradation to the states where results are predictably slow-coming. For a good history of non-degradation, consult Erica L. Dolgin and Thomas G. P. Guilbert, eds., Federal Environmental Law (St. Paul: West, 1974), pp. 1079-1082. Therein is the compelling suggestion (at 1082) that the Clean Air Act should be used to re-orient our uncontrolled socio-economic system.

10. The federal Walter Pollution Control Act is 33 U.S.C. 1251 et seq.


12. Energy policy has been the subject of much federal activity. A piecemeal approach, focussed mostly on the price of oil and gas, has been enacted. However, even a cursory review of leading energy policy studies reveals clearly that the basic dimensions of a natural energy policy are non-existent. See, e.g., Energy Policy Project of the Ford Foundation, A Time to Choose (Cambridge: Ballinger Publishing Co., 1974); and Wilson Clark, Energy for Survival (Garden City: Doubleday, 1975).


15. This is the case even though some 410 billion pounds of the 50 most toxic chemicals were produced last year. See National Wildlife Federation, Conservation Report, No. 1, January 23, 1976.

16. The Federal Council on Environmental Quality receives copies of all federal environmental impact statements. CEQ writes sometimes stinging memoranda in review of these statements, however, agencies are not bound by the CEQ comments and often ignore them. A case pending before the U.S. Supreme Court could give the CEQ position "great weight" in a court of law (Warm Springs Dam Task Force v. Gribble, 4 ELR 20069). CEQ also publishes guidelines that supposedly assist agencies in the preparation of environmental statements, annual reports, and occasional papers, a couple of which, including Fred Bosselman, et. al., The Taking Issue (Washington, D.C.: U.S. Government Printing Office, 1973), and The Quiet Revolution in Land Use Control, op. cit. have been very helpful. Consult "The National


25. See Robert Sherill, "The Industry's Fright Campaign," The Nation, June 26, 1972, p. 816. Alleging that the oil crisis of 1974 was artificially induced does not mean that a more genuine crisis is not around the corner. In fact, the "crisis" was an excellent opportunity to learn ways to wind down the economy. That opportunity was not taken, however; instead, it produced the ill-advised Project Independence, an effort that has been aptly described as sticking our heads in the sand and hoping for oil. See Charles

There is a good chance too that the "crisis" slowed some of the least justifiable energy and fuel-intensive consumption activities, such as second-home resorts. See Philip Weinberg, "Contrived Crisis," Buffalo Law Review 23 (1974): 435.


30. See the federal Administrative Procedures Act, 5 U.S.C. 701 et seq.

31. See Appendix A for the text of the statute.

32. Appendix A. Sec. 102(2) (c).


36. See "Changing the Burdens of Proof and Persuasion" below.

37. See text, supra note 46.
38. See, for example, U.S. Department of the Interior, Coalwood Planning Unit (Miles City, Montana: Bureau of Land Management, 1975), p. 3.


40. See Pranger, op. cit.


Consider, too, the oratory of Indian chiefs. See John G. Neihardt, Black Elk Speaks (Lincoln: University of Nebraska Press, 1961);

Trying to find similarly sensitive and respectful statements of ethical concern among present-day American political leaders is a disappointing search.

43. Ibid., p. 153.


45. Ibid., pp. 28, 29.


47. There are three basic types of trusts in trust law: express, constructive, and resulting. Express trusts are created by formal agreement. A constructive trust is established not by words, but by equity determination in order to achieve morality, justice, conscience, or fair dealing. A resulting trust is created by legal interpretation and is presumed to have been contemplated by the parties to be found in a trust relationship. The features of the three, and their relevance for environmental trusts are discussed at 89 C. J. S. 11, 14, and 15, pp. 722-729.


49. Ibid., pp. 713-714.

50. Ibid., p. 713.

51. 90 C. J. S. 269, p. 338.

52. 90 C. J. S. 270, p. 341.

53. Ibid., p. 343.

54. Ibid., p. 344.


56. 90 C. J. S. 278, p. 417f.

57. 76 Am. Jur. 2d § 40, p. 286.

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58. Ibid., § 139, p. 380.
60. Ibid., § 135, p. 377.
61. Ibid., § 101, p. 347.
62. Ibid., § 1, p. 247.
63. Lane Title and Trust Co. v. Brannan, 103 Ariz 272, 440 P. 2d 105. Cited from Ibidem.
65. Ibid., p. 475.
67. Ibid.
68. Ibid., pp. 765-766.
72. Hibbard, op. cit.
76. 167 U.S. at 524.
79. 146 U.S. at 456.
80. 146 U.S. at 453.
Ultimately, John Locke's theories on appropriation and property were not simple at all. His property rights theory was internally contradictory and was based on the notion of perpetual abundance. See Bernard S. Cohen, "The Constitution, the Public Trust Doctrine, and the Environment," op. cit., p. 389, n. 7.


Paul Goodman spoke eloquently of the difficulties of the centralization vs. decentralization debate in his People or Personnel (N.Y.: Randon House, 1965).


100. The notable exception is the Michigan Environmental Protection Act discussed below. See text supra note p. 71.

101. See p. 87, Sec. E.

102. See note 123.


104. 146 U.S. 387, 452.

105. See note 78 supra.

106. Justice Douglas' dissent in Sierra Club v. Morton, 2 ELR 20192, 20196, suggests two tests for selection of proper parties for environmental lawsuits. These could also be criteria for selection as a beneficiary.


111. Article 3, Section 2(4).


115. Montgomery, op. cit., p. 29.

116. Hibbard, op. cit. There are numerous other accounts. For a recent one, see Paul Good, "Plunder of the Public Lands," The Nation, June 12, 1976, p. 713.


118. These are basically the tests that Justice Douglas would have required in his Sierra Club v. Morton dissent, note 106, supra.


125. Grad, op. cit.

126. §505, Federal Water Pollution Control Act, codified as 33 U.S.C. 1251 et. seq.


128. Ibid., §152, p. 601.


130. Ibid., §156, p. 606.

131. Ibid., §158, p. 607-8.


133. 42 U.S.C. 1857 et seq.


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136. This rate approach is commonly called the "Lifeline." It has been adopted in varying forms by California, Maine, Georgia, and Arizona, and is under consideration in a dozen other states.

137. See James Ridgeway and Bettina Conner, New Energy (Boston: Beacon Press, 1975); and Wilson Clark, Energy for Survival (Garden City: Doubleday, 1975) for recent treatments of new directions in energy policy.


139. 30 U.S.C. §22 et seq.


141. 30 U.S.C. §181 et seq.


144. 16 U.S.C. 528-531.

145. See text supra note p. 76. See also Daniel R. Barney, The Last Stand (N.Y.: Grossman, 1974).

146. See S. 1734 and S. 350, 92nd Cong., 1st session

147. State v. Dexter, 202 P 2d 906 (1949); affirmed per curiam, 338 U.S. 863 (1949).

148. Ibid. at 908.

149. Ibid. at 907

150. See Peter Mathiessen, Wildlife in America (New York: Viking, 1964), for a good history of human impact on the wildlife of this continent.

151. See text supra note 220.

152. La Coste v. Department of Conservation, 263 U.S. 545. See also Geer v. Connecticut, 161 U.S. 519. William F. Sigler, Wildlife Enforcement -156-
Magna Charta transferred the ownership of wildlife from the person of the king to his office—a fundamental


154. Prof. Ried Bryson has predicted that the climate of the U.S. could become more adverse to high agricultural productivity. See "New Anomalies in Climate Seen," New York Times, February 16, 1975.


156. 33 U.S.C. 1251 et seq., and 33 U.S.C. 1151 et seq., respectively.


158. Leopold, op. cit., p. 246.

159. See text, supra note 70.


161. See e.g., Bernard S. Cohen, ibid.


163. Ibid., p. 106.

164. 381 U.S. 479.


172. See text supra note 220.


174. See Appendix B.

175. Sec. 2.

176. Sec. 3 (1).


179. Ibid.


182. See S. 67, 94th Cong., 2nd Session.

183. See H.R. 330, 93rd Cong., 1st Session.

185. 16 U.S.C. 79(c).


187. 5 ELR 20519.


189. *Just v. Marinette County*, 3 ELR 20167, 20168.


193. Ibid., pp. 249, 250.

194. Ibid., p. 250.


202. Under the 1954 Wool Act, wool producers already receive a payment from the government based on the ratio of a legislatively set price
per pound of wool and the average market price. This subsidy could be supplemented to favor producers who reject chemical methods of pest control. See Toward A National Food Policy, a paper written for the Exploratory Project for Economic Alternatives by Joe Belden with Gregg Forte.

203. Article I, Section 8, U.S. Constitution.

204. Ibid.

205. Ibid.


209. Ibid., p. 34f.


213. See, in general, Fred Bosselman, et. al., The Taking Issue, op. cit.


216. Ibid., Chapter 6.

217. Ibid., p. 124.


See Appendix A, Section 101(b).

See Appendix A, Section 102(2) (c).

See, generally, the Environmental Law Reporter, op. cit., and Anderson, op. cit.


234. Calvert Cliffs Coordinating Committee v. AEC, 1 ELR 20346.

235. 1 ELR 20348.


238. 1 ELR 20351.

239. 1 ELR 20350, 20352.

240. 1 ELR 20353.


243. Calvert Cliffs v. AEC, 449 F. 2d 1109 (D.C. Cir. 1971), cert. denied 404 U.S. 942 (1972); EDF v. Corps of Engineers, 4/0 F. 2d 289 (6th Cir. 1972); EDF v. Froehlke, 473 F. 2d 346 (8th Cir. 1972); Conservation Council v. Froehlke, 473 F. 2d 664 (4th Cir. 1973); Sierra Club v. Froehlke, 486 F. 2d 946 (7th Cir. 1973). Five Circuit courts have supported the idea of NEPA creating substantive rights and two have rejected the notion. Ibid., pp. 290-1.


245. For further discussion of the role of the courts, see Dolgin and Guilbert, op. cit., pp. 219-233.

246. See note 226 supra.


248. See note 108 supra.

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252. See, e.g., Catherine Fletcher, op. cit.

253. Appendix A, Section 103.


257. This fear is expressed by Anderson, NEPA and the Courts, op. cit., p. 254f.


Agencies should take care to identify, as appropriate, population and growth characteristics of the affected area and any population and growth assumptions used to justify the project or program or to determine secondary population and growth impacts resulting from the proposed impact and its alternatives ... .

Many major Federal actions, in particular those that involve the construction or licensing of infrastructure investments (e.g., highways, airports, sewer systems, water resource projects, etc.), stimulate or induce secondary effects in the form of associated investments and changed patterns of social and economic activities ... .

Sufficient analysis of such alternatives and their environmental benefits, costs and risks should accompany the proposed action through the agency review process ... .

In each case, the analysis should be sufficiently detailed to reveal the agency's comparative evaluation of the environmental benefits, costs and risks of the proposed action and each reasonable alternative ... .

This section should contain a brief discussion of the extent to which the proposed action involves tradeoffs between short-term environmental gains at the expense of long-term losses, or vice versa, and a discussion of the extent to which environmental costs have not been reflected in such analyses ... .

Draft statements should indicate at appropriate points in the text any underlying studies, reports, and other information obtained and considered by the agency in preparing the statement including any cost-benefit analyses prepared by the agency ... .

... insure the integrated use of the natural and social sciences and the environmental design arts ... .

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264. For example, the NGPRP study does not consider non-coal development alternatives for the region. This important omission would surely be required of a study conducted pursuant to NEPA.


270. 5 U.S.C. 551 et seq.


S. 5, 92nd Congress, 1st Session.


Cf., Rick Applegate, "Citizen Participation in Environmental Decisions," Western Wildlands Spring, 1975, p. 27.

See Roger N. Clark et. al., Codinvolve Users Manual and Codinvolve; A System for Analyzing, Storing and Retrieving Public Input to Resource Decisions (Seattle: Pacific Northwest Forest and Range Experiment Station, forthcoming).

Although these are routine expenses necessary for effective citizenship, the individual citizen, unlike the corporations (who claim to be "persons" whenever governmental regulations cut into profits) cannot take a tax deduction for the cost of doing the business of citizenship. Allowing a citizenship deduction would be a relatively minor change in the strong disincentives confronting citizen participation.

See Chapter 8 and Appendix A.

5 U.S.C. 701 et seq.

Cf. Dolgin and Guilbert, op. cit.


In a standard "contested case"—an administrative action that is highly formalized to protect substantial rights of affected parties—the rules of evidence and other legal strictures necessitate that one have counsel, a role the ombudsman could play. The ombudsman can also be useful in the difficult task of securing official, public information.

A concern that advisory councils were becoming too secretive and unrepresentative led to enactment of the Federal Advisory Council Act, P.L. 92-463, 88 Stat. 770. See also, Michael Ryan, "The Role of Citizen Advisory Boards in Administration of Natural Resources," Oregon Law Review 50 (1971):153. Much of the literature on citizen participation exudes a bias in favor of conflict minimization, a dubious goal when clarification of issues and points of disagreement should be paramount. Obviously, ombudsmen are citizen substitutes.


293. Cited from Ibidem.

294. 5 U.S.C. 552.


298. 5 U.S.C. 552 (a)(2)(C). In adopting amendments to the federal Freedom of Information Act (P.L. 93-502), Congress noted that the costs of file searches, photocopying and judicial review of withholding decisions were prohibitive. Congress responded to these problems by reducing photocopy charges to costs only (the Selective Service System had charged $1.00 per page) and by including a provision to expedite administration action on document requests and judicial review. Consult Committee on Government Operations, U.S. House of Representatives, and Committee on Judiciary, U.S. Senate, Freedom of Information Act and Amendments of 1974 (Washington, D.C.: U.S. Government Printing Office, 1975).

299. This is an exceedingly rare requirement. Federal Highway Administration Action Plan requirements are close.


301. The Sierra Club, Wilderness Society, Friends of the Earth, National Wildlife Federation, National Audubon Society, and Common Cause are examples, although they are never so financially secure as the corporations they typically oppose.


303. Ibid., p. 27.
304. Ibid., p. 64.


308. See note 302 supra.


310. See also, Sierra Club v. Volpe, 405 US 727; NRDC v. EPA, 484 F. 2d 1026; and Sierra Club v. Lynn, 364 F. Supp. 834, 847.


313. §505(d), Federal Water Pollution Control Act.

314. §304(d), Federal Clean Air Act.

315. 33 U.S.C. 411

316. The emphasis on the trust approach is not intended to obviate the need for a thorough, continuing debate on the merits of public vs. private ownership.


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328. Essex Chemical v. Ruckelshaus, 5 ERC 1820, 1835.


331. Reserve Mining Co. v. EPA, 5 ELR 20596; See also, "1974 Developments Underscore Need for Altered Standard of Proof in Public Health Cases," 5 ELR 10007.

332. The Environmental Protection Agency did so with respect to chloroform on April 6, 1976, 6 ELR 10129.

333. Ethyl Corp. v. EPA, 6 ELR 20267.


See Eugene Odum, op. cit., Virginia Irving Armstrong, I Have Spoken, op. cit., p. 79.

T. C. McCluhan, Touch the Earth, op. cit., p. 15.

For a compelling argument urging Indian tribal integrity, see Vine Deloria, Jr., Behind the Trail of Broken Treaties (New York: Dell, 1974). See also the proposals of the Native American Solidarity Committee, presented on July 4, 1976, on the "Trail of Self-Determination," Washington, D.C.
