

the environment and the law

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§ 1. introduction

We hold these truths to be self-evident, that all Men are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. (Declaration of Independence, In Congress, July 4, 1776).

The enumeration in the Constitution, of certain rights shall not be construed to deny or disparage others retained by the people. (United States Constitution, Amendment IX.)

We are all aware that among the "unalienable Rights" "retained by the people" are the right to air clean enough to breathe, potable water, and environmental quality sufficient to maintain and encourage the development and evolution of those uniquely human characteristics which transcend the mere biological heritage of mankind.

Government in the United States has been established as a Trustee for the sovereign People of the United States, and surely no one doubts that our natural resources are held in trust for the full benefit, use and enjoyment of all the People, not only of this generation, but of those generations yet unborn, subject only to wise use for the advancement of civilization during this generation. It should also be apparent that American industry is attempting to provide the cleanest air and the cleanest water that the existing state-of-the-art in pollution control technology can yield.

Nevertheless we are gathered together at an American Bar Association National Institute to discuss "Environmental Litigation."

§ 2. a short history of environmental litigation

Environmental Law and Environmental Litigation became recognized elements of our legal system in the Spring of 1966 when a suburban New York housewife brought an action seeking equitable relief from a toxic insult to the community ecosystem on behalf of all the citizens of Suffolk County, New York, not only of this

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generation, but of those generations yet unborn.¹ The real defendant in that action was not the local mosquito control commission which still routinely used DDT in an attempt to control a mosquito population that had long since become resistant to the chemical but the broad-spectrum, persistent chemical biocide 1,1,1-trichloro-2,2-bis(parachlorophenyl) ethane—DDT itself.²

The New York State Supreme Court issued a temporary injunction restraining the County of Suffolk from using DDT for mosquito control on August 15, 1966³ and continued this "temporary injunction until December 6, 1967, finally holding that:

DDT has, by its inherent chemical stability, become a continuing factor in some ecological life cycles so as to profoundly alter them and the environmental equilibrium. Thus, it is reasonably apparent that DDT is capable of, and actually has to some extent, caused extraordinary damage to the resources of this county. If in no other way, the chemical by its very stability has introduced an element of instability in the general ecosystem. For instance, by reducing a food source of some of the larger wildlife and so reducing the overall larger wildlife population, lesser elements multiply more quickly. These lower forms are presumably more of a nuisance, assuming they in turn survive. Furthermore, DDT affects wildlife directly. Its ingestion, from whatever source, has the capability, it seems, to disrupt reproductive processes or even more simply act as a poison. It is fairly apparent then that the application of DDT in Suffolk County has and is continuing to have a demonstrable effect on local wildlife, reducing it slowly but surely, either directly across the board or indirectly from the top down, but reducing it nevertheless.

We have a situation where plaintiff has at least minimally sustained a massive effort to validate the allegation that DDT does in fact do biological harm.⁴

Since that decision, an increasing number of complex legal actions alleging environmental damage have provided a new area of application for systems methods. While complex scientific evidence and medical testimony have always been elements of conventional tort litigation, most such cases usually involve only sh

1. Carol A. Yannacone, individually and on behalf of all the People of Suffolk County & Co. v. Lee Dennison, et al., 55 Misc. 2d 468, 285 N.Y.S.2d 476 (Sup. Suff., N.Y. 139050/1966). See also, Briefs and Record, The Suffolk County DDT Case, reproduced and distributed by the National Audubon Society, New York City (1967).

2. 1,1,1-trichloro-2-bis (p-chlorophenyl) ethane is the designation of the pure form p,p DDT. The commercial pesticide commonly known as DDT is really a mixture of isomers including p,p DDT and a meta form of DDT, however, the general metabolic pathways that follows through living systems lead to DDE and it is DDE that is the principal environmental metabolite of DDT and the environmental toxicant which has become a matter of global concern.

3. "... Upon all the facts before the Court, the Court is of the opinion that sufficient grounds exist for the exercise of the discretion vested in the Court to stay a practice injurious to the County and its residents..." Decision, August 15, 1966 D. Orlando Rite

time lags between the occurrence and the damages alleged to result from the occurrence. Historically, tort actions have considered expert medical testimony; scientific testimony tending to reconstruct the circumstances of an accident; and engineering testimony on the use or design of a product. Until the use of DDT was challenged in Suffolk County, however, no lawsuit had ever alleged environmental degradation as the result of the use of a toxic substance, and the concept of an ecological system had ever been a subject for judicial consideration.

3. arousing public awareness

The public interest in environmental litigation is in large measure the direct result of one attorney's answer to a series of rhetorical questions posed on September 30, 1967 at the Sixty-third Annual Convention of the National Audubon Society.

What can you do when a municipality decides that the highest and best use of a mighty river is the city sewer?

What can you do when government agencies seriously consider drowning the Grand Canyon or much of Central Alaska, or when a combination of government agencies and private speculators act in concert to destroy the delicate ecological balance of the entire state of Florida?

What can you do when the United States Department of Agriculture publicly states that it does not consider the possible adverse effects of chlorinated hydrocarbon pesticides such as DDT on non-target organisms, but permits them to be sold and used even after their adverse effects become generally known?

What can you do when timber and paper companies cut down entire forests of Redwoods and other exotic species in order to "re-forest" the area with faster growing pulpwood trees?

What can you do when real estate speculators insist on dredging estuaries in order to fill marshes or strip the topsoil from irreplaceable prime agricultural land in order to plant houses?

Just what can you do?

he attorney went on to say,

The time has come for you who are committed to the preservation of our environment to . . . enter the courtroom to protect our natural resources. . . .

It is time to assert your basic rights as citizens. Rights guaranteed by the Constitution and derived from Magna Carta. It is time to establish once and for all time that our natural resources are held in trust by each generation for the benefit, use and enjoyment of the next. Today, while there is still time, you must knock on the door of courthouses throughout this nation and seek equitable protection for the environment. You must assert the fundamental doctrine of equity jurisprudence—a doctrine as old as the Talmud or the New Testament or the Roman Law—a doctrine as old as civilization, yet a doctrine as topical as today and as advanced as tomorrow: *So use your own property as not to injure the property of*

another—in particular that which is the common property of all mankind, the air we breathe and the water we drink. . . .

Experience has shown that litigation seems to be the only civilized way to secure immediate consideration of such basic human rights. Litigation seems to be the only way to focus the attention of our legislators on these basic problems of human existence.

Conservationists! You who would make wise use of our natural resources: Look to the history of the human rights struggle in the American Courts. Look to the success of the American Labor Movement and the surprising corporate survival of General Motors, Ford and Chrysler, in spite of judicial recognition of the rights of the United Auto Workers.

The major social changes which have made the United States of America a finer place in which to live have all had their roots in fundamental constitutional litigation. . . .

Our adversary system of litigation as the means of presenting evidence to the conscience of the community has been the touchstone of Anglo-American jurisprudence since Magna Carta. That adversary system of litigation survives today as the hope of citizens seeking redress of a public wrong.

If you the citizen do not forsake your Courts, they will not forsake you in your hour of need. Thomas Becket and Thomas More are only two of the many men who have given their lives that you the citizen may have your day in Court.⁵

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Shortly after that speech was delivered, a class action was brought in the Court of Appeals for the State of Michigan⁶ on behalf of all those entitled to the full benefit, use and enjoyment of the Lake Michigan Regional Ecological System without degradation from the effects of the application of the broad-spectrum persistent, chemical biocide, dieldrin for Japanese beetle control. That action was brought to restrain the aerial application of more than 5,600 pounds of dieldrin along the shores of Lake Michigan by the United States Department of Agriculture in cooperation with the Michigan Department of Agriculture. A temporary injunction was granted and although it was later vacated by the Michigan Supreme Court,⁷ aerial application of dieldrin for Japanese beetle control has never again been attempted. Following the litigation, the Michigan Department of Natural Resources succeeded in having the use of most persistent chlorinated hydrocarbo

5. Victor John Yannacone, Jr., *Courts of Equity To Protect Our Environment*, PROCEEDINGS, SIXTY-THIRD ANNUAL CONVENTION NATIONAL AUDUBON SOCIETY, Atlantic City, N.J., September 30, 1967.

6. *Environmental Defense Fund, & Co. v. Michigan Department of Agriculture, et al.*, Court of Appeals, State of Michigan (No. 4594/1967).

A companion action, *Environmental Defense Fund, & Co. v. 56 Municipalities in the State of Michigan*, No. (U.S.D.C., W.D.S.D./Mich. No. 5760, 1967) was eventually settled on stipulations from the 56 municipalities to discontinue the use of DDT for Dutch elm disease control. Negotiations were conducted under the supervision of the Hon. Noel E. Fox, during pre-trial conferences pursuant to the Federal Rules of Civil Procedure.

pesticides including dieldrin and DDT eliminated for all practical purposes throughout the entire state of Michigan.⁸

During the fall of 1968, a class action was filed in the United States District Court for the Western District of Montana on behalf of all those entitled to the full benefit, use and enjoyment of the Missoula Valley Regional Ecological System without degradation from the effects of noxious reduced sulfur compounds emitted by the Hoerner Waldorf kraft pulp mill.⁹ That action asserted that the people of the United States had a constitutional right guaranteed by the Ninth Amendment and protected by the *equal protection* and *due process* clauses of the Fifth and Fourteenth Amendments, to the cleanest air that the existing state-of-the-art in pollution control technology applicable to the kraft pulping process could provide.

While the Hoerner Waldorf action was pending a major confrontation took place before a hearing examiner at the Wisconsin Department of Natural Resources.¹⁰ There, during six months of hearings, the issue of whether DDT was an environmental pollutant was resolved, and, as a result of testimony from that hearing, the United States Department of Agriculture is no longer directly responsible for the registration of pesticides.¹¹

During the summer of 1969, shortly after the conclusion of the DDT hearings in Wisconsin, an appeal from United States Geological Survey paleobotanist Dr. Estella B. Leopold, set the stage for one of the most dramatic and effective demonstrations of federal equity jurisdiction in the history of Environmental Law.

4. the defense of florissant¹²

The Florissant fossils, located a short distance west of Colorado Springs, Colorado, are found in more than 6,000 acres of an an-

8. RALPH A. MacMULLAN, & CHARLES T. BLACK, THE CASE AGAINST HARD PESTICIDES, Michigan Department of Conservation, 1968.

9. Environmental Defense Fund individually and on behalf of all those entitled to the full benefit, use and enjoyment of the Missoula Regional Ecosystem without diminution and degradation resulting from the emission of noxious sulfur compounds by the defendant Hoerner-Waldorf Corporation (1968 U.S.D.C./Mont., Civ. No. 1694).

10. In the Matter of the Petition to declare DDT a Pollutant (Department of Natural Resources, State of Wisconsin, 1968 No. 3-DR-1).

For an interesting commentary on the social, political and public impact of the Madison DDT Hearing, see: HARMAN HENKIN, MARTIN J. MERTA, JAMES STAPLES, THE ENVIRONMENT, THE ESTABLISHMENT & THE LAW (Houghton Mifflin, Boston, 1970).

11. VICTOR JOHN YANNAcone, JR., B. S. COHEN, and S. G. DAVISON, 1 ENVIRONMENTAL RIGHTS & REMEDIES § 5:20 (Lawyers Cooperative Publishing Co., Rochester, N.Y., 1972).

Shortly after this testimony of Dr. Harry Hayes was made public, he ceased to be responsible for pesticide registration within the U.S. Department of Agriculture, and the U.S. Department of Agriculture was shortly thereafter divested of this responsibility by Executive Order and eventually legislation.

12. For a more comprehensive discussion of this case, see 1 ENVIRONMENTAL RIGHTS & REMEDIES § 2:9.

cient lake bed where seeds, leaves, plants and insects from the Oligocene period (34 million years ago) are remarkably preserved in paper-thin layers of volcanic shale which, unfortunately, disintegrate when left exposed to weather unless properly protected. A number of bills had been introduced in Congress to protect the Florissant fossil beds but did not receive extensive consideration until the National Park Service promulgated a master plan detailing the paleontological and palynological values of Florissant.

At the time the Florissant fossil beds National Monument bill passed the Senate, a Colorado Springs real estate group had already contracted to purchase a substantial portion of the ancient lake bed. While the House of Representatives was deliberating its version of the National Monument bill, the land company announced it would bulldoze a road through a portion of the proposed national monument to open the area for development and an immediate sale to anyone interested in recreational housing. A group of Colorado conservationists met with the principals of the land company in an attempt to persuade them to withhold excavation in the area to be included within the Florissant Fossil Bed National Monument at least until the House of Representatives acted on the pending bill. This request was refused as was a similar request to confine development activities to the area lying outside the ancient lake bed. The only alternative offered the conservationists was the opportunity to purchase the land—for cash immediately—at \$300 per acre, more than twice what the land company had contracted to purchase the land for a week before and a price considerably in excess of any appraised value based on recent land sales in the area.

Faced with the irreparable loss of a substantial portion of these unique and irreplaceable fossil beds, a small group of concerned citizens formed a non-profit, public benefit corporation called the Defenders of Florissant and commenced an action for declaratory judgment and injunctive relief against the land company and the other land owners and contract vendees in the area proposed to be included within the proposed National Monument.

The United States District Court for the District of Colorado heard the Defenders of Florissant application for a temporary restraining order on July 9, 1969, and although the plaintiffs' proof that the proposed excavations for roads and culverts would result in the destruction of some of the most valuable fossil areas in the proposed national monument was uncontradicted and unchallenged, the District Court held that there was nothing in the United States Constitution preventing the owners from using their pro-

the application for a temporary restraining order and a subsequent application for a stay pending appeal, but did, however, note the importance of preserving the fossil beds.

Following the District Court decision, representatives of the plaintiffs held an informal conference in the Courtroom with two of the partners in the land company who agreed to postpone excavation until Monday, July 14, if the plaintiffs gave some assurance of raising the purchase price by that day. Refusing to accept an offer they felt was little more than blackmail, the Defenders of Florissant appealed to the Tenth Circuit Court of Appeals the following morning, July 10. At the hearing before three judges of that Court in the afternoon, the Court questioned whether it had the authority to issue a restraining order in the absence of any statute protecting the fossils.

Admitting that Congress, "... in its infinite wisdom, had not seen fit to pass legislation protecting fossil beds in general," plaintiffs' counsel argued: "... if someone had found the original Constitution of the United States buried on his land and then wanted to use it to mop a stain on the floor, is there any doubt ... they could be restrained?"

Legally, plaintiffs claimed that the right to preservation of the unique and irreplaceable Florissant fossils, a national, natural resource treasure, was one of the unenumerated rights retained by the People of the United States under the Ninth Amendment of the Constitution and protected by the *due process* and *equal protection* clauses of the Fifth Amendment, and the *rights, privileges and immunities, due process and equal protection* clauses of the Fourteenth Amendment. Plaintiffs also asserted that the Florissant fossil beds were subject to judicial protection under the Trust Doctrine and while the defendants could profit from their nominal title to the land and make reasonable use of the area, they were under a duty to maintain that portion of the property vested with the public interest—the 34 million year old fossil shales. Procedurally, the Defenders invoked the federal equity jurisdiction relying on the fundamental equitable maxim, "there shall be no wrong without a remedy."

In summation, counsel for the Defenders of Florissant picked up a fossil palm leaf that had been uncovered at Florissant, and holding it up to the Court, pleaded:

The Florissant fossils are to geology, paleontology, paleobotany, palynology and evolution what the Rosetta Stone was to Egyptology. To sacrifice this 34 million year old record, a record you might say written by the mighty hand of God, for 30 year mortgages and the basements of the A-frame ghettos of the seventies is like wrapping fish with the Dead Sea Scroll.

After a short recess, the Court returned and announced that the were issuing an order restraining the defendants from

disturbing the soil, subsoil or geological formations of the Florissant fossil beds by any physical or mechanical means. . . .

After a trial on July 29, 1969, the District Court denied the Defendants application for a preliminary injunction for the same reasons it had previously denied the application for a temporary restraining order, and the land company announced that its bulldozer would begin excavation that afternoon. Several hours later the plaintiffs filed a motion for an emergency stay with the Tenth Circuit Court of Appeals, citing defendants' threat, and the Court of Appeals for the Tenth Circuit dramatically issued an order extending the restraining order of July 10 indefinitely until further order.

On July 31, 1969, the House Interior and Insular Affairs Committee, through its Subcommittee on Parks and Recreation favorably reported an amended version of the Florissant Fossil Bed National Monument bill, and floor action by the House of Representatives was scheduled for August 4.

During the argument of the appeal before the Tenth Circuit Court of Appeals, the plaintiffs amplified their legal position, asserting that the Federal Courts had a duty to cooperate with Congress, and that by issuing the preliminary injunction, pending the final deliberation of the Congress of the United States, thereby furthering the orderly deliberations of the Legislative and Executive branches of government. Plaintiffs pursued their original theory that the Trust Doctrine protected the fossil beds, arguing that the land had acquired a public character by virtue of the action of Congress in considering bills pending to dedicate the land as national monument. The Court reserved decision at the close of the arguments and continued the temporary restraining order. That afternoon the House of Representatives passed its version of the bill as a number of concerned Congressmen from all over the country turned out to suspend the rules and consider the bill out of the regular order because of the pending threat to the fossils. The Senate agreed to the House version of the bill on August 7, and the President signed the bill on August 14, 1969. The preliminary restraining order issued by the Tenth Circuit Court of Appeals remained in effect while the United States of America instituted suit to acquire the Park Land Company land by condemnation. The Florissant fossil beds were saved.

The court order prohibiting excavation of the fossil beds made

the protection of the fossil beds. The landowners were free to develop the land for tourism, scientific research, or other uses compatible with maintenance of the paleontological integrity of the area. Such uses, while perhaps not the most profitable use of the land, would still return a reasonable yield on the defendants' speculative investment.

The mere fact that the landowner might not wish to use the land for this purpose did not make the restraint on the land development an unreasonable taking where the public interest in the land was so great.

Certainly where a natural resource is as unique as the Florissant fossil beds were, the value to the public of protecting such a resource was so substantial as to justify the resultant burden upon the private property interests involved, even if it could have been shown that there was no reasonable expectation of profitable use of the property from tourism or other ancillary commercial development.

The message of the Florissant litigation is that the judicial protection of a unique, national, natural resource treasure such as the 34 million year old Florissant fossil beds warrants restraint upon private property rights particularly during the period of due deliberation by Congress or other legislative body representative of the people.

The mere fact that Congress could not move as fast as the developers' bulldozer did not prevent a federal court of equity from acting to protect a national, natural resource treasure threatened with irreparable damage.

§ 5. project rulison¹³

Finally, the success of the Colorado Open Space Coordinating Council, Inc.—a non-profit, public-benefit corporation whose corporate purposes included preservation of the environment and protection of human beings from the effects of pollution—in establishing that it is a “person adversely affected or aggrieved” within the meaning of the Atomic Energy Act and the Administrative Procedure Act should put to rest the fears of those attorneys who have voiced concern over the standing of organizations and individuals seeking to act as “private attorneys general.” The Project Rulison litigation should serve as sufficient authority for the proposition that a public benefit corporation, by demonstrat-

13. For a more extensive discussion of this litigation, see 2 ENVIRONMENTAL RIGHTS & REMEDIES § 10:11. The scientific evidence presented by COSCC in this case is extensively discussed in the second volume of the PROCEEDINGS OF THE 1973 AMERICAN BAR ASSOCIATION NATIONAL INSTITUTE ON ENVIRONMENTAL LITIGATION, entitled *Envir-*

ing its concern for the public interest and its competence as a public representative, may bring a class action on behalf of all those entitled to the protection of their health and the full benefit, use and enjoyment of national, natural resources.

Project Rulison provided the first direct confrontation among the several current theories urged in support of citizen action to protect the environment from federal agency operations. Three separate suits were filed. The first action was supported by the American Civil Liberties Union and relied on conventional theories to establish standing: individual plaintiffs alleged direct, personal, private injury and special damage, seeking injunctive relief to protect their own property rights. The A.C.L.U. action sought to restrain detonation of the underground nuclear device as its principal request for relief, and its application for a temporary restraining order had already been denied when the second action was filed by the Colorado Open Space Coordinating Council. The title of that action in itself indicates the contrast in theories.

4 COLORADO OPEN SPACE COORDINATING COUNCIL, on behalf of all those entitled to the protection of their health and safety and of the health and safety of those generations yet unborn, from the hazards of ionizing radiation resulting from the distribution of radioactive materials through the permanent biogeochemical cycles of the Biosphere as a result of the defendants conduct of *Project Rulison*, and

on behalf of all those entitled to the full benefit, use and enjoyment of the national, natural resource treasures of the State of Colorado without degradation resulting from contamination with radioactive material released as a result of the defendants conduct of *Project Rulison*, and all others similarly situated,

Plaintiffs,

—against—

Austral Oil Company, Incorporated
and
CER Geonuclear Corporation,

Defendants

U.S. Atomic Energy Commission,
Bureau of Mines, U.S. Department of Interior, and
Los Alamos Scientific Laboratory,

as their several interests may appear.

The shift in emphasis in the COSCC action from an emotional outcry against the underground nuclear blast itself to a reasoned demand for care in the release of radionuclides to the environment led to a Court order restraining the "flaring" of the radioactive natural gas following the blast until the hearing and determination of the action brought by COSCC. By amending their com-

viduals concerned personally with the blast, remained in the action. Subsequently, the District Attorney of the Ninth Judicial District of the state of Colorado attempted to bring an action in the state court on public nuisance theory, but that action was summarily transferred to the U.S. District Court and consolidated with the COSCC and A.C.L.U. actions at the request of the Atomic Energy Commission.

Among the procedural landmarks established in the Project Rulison litigation was the right of the plaintiff COSCC to take the depositions of experts prior to the determination of the defendants' motion for summary judgment to dismiss the complaint. Plaintiffs argued that the motion for summary judgment could not be decided without considering the relevant testimony of certain experts under the control of the defendants and the Court directed the defendants to produce those experts for pre-trial deposition. The information obtained in those pre-trial examinations established the need for a full hearing on the merits as a condition precedent to determination on the AEC motion for summary judgment.

The issues raised in the Project Rulison action are common to all environmental litigation now pending against federal administrative agencies.

Issues of Law

The first four issues of law may be considered the jurisdictional issues presented.

1. Do the plaintiffs have standing to sue?
2. Is there a justiciable controversy entitling plaintiffs to declaratory relief?
3. Are the plaintiffs' actions unconsented suits against the United States?
4. Is the AEC following its Congressional mandate and its own rules and regulations in that the actions and plans for protecting health and minimizing danger to life and property are a reasonable exercise of its statutory authority?
5. Are the plaintiffs entitled to an order directing the AEC to answer all questions and to turn over to the plaintiffs all information regarding Project Rulison?¹⁴

The Court was forced to consider the issue of standing under the Administrative Procedure Act against the assertion by the AEC that the action was in reality an unconsented suit brought against the United States, or in the alternative, was an attempt to review the purely discretionary actions of an administrative agency.

The plaintiffs, arguing entirely from the history of the Atomic Energy Act of 1946, succeeded in establishing that the actions of

the Atomic Energy Commission are subject to judicial review under the provisions of the Administrative Procedure Act; the Court holding that the Administrative Procedure Act does apply to the Atomic Energy Commission with only minor exceptions, one involving defense information and the others involving procedures in cases dealing with licensees for production and utilization facilities and patent procedures under the Atomic Energy Act.

Along the way towards determining that the AEC was subject to the Administrative Procedure Act, the Court laid to rest the issue of sovereign immunity as far as federal agency action is concerned. Although the plaintiffs struck directly at the entire doctrine of sovereign immunity, asserting that the general doctrine of the immunity of the United States from suit without the consent of Congress is but a rule conceived by the federal judiciary without basis in the Constitution or any Act of Congress and tracing the doctrine to a dictum of Chief Justice John Marshall, the Court was able to sidestep the issue by holding that joinder of the nominal head of a federal administrative agency is sufficient to make the agency accountable under the Administrative Procedure Act if all the other elements of jurisdiction under the APA have been satisfied. After finding that the Administrative Procedure Act does apply to the Atomic Energy Commission and exploring the meaning of "agency action" in light of the exigencies of modern administrative operations, the Court found

... that COSCC, as a public benefit corporation asserting the interest of all those persons entitled to the protection of their health and all those persons entitled to the full benefit, use and enjoyment of the natural resources of the state of Colorado, is adversely affected or aggrieved, if in fact the AEC is obligated by the Atomic Energy Act to consider the interests asserted by COSCC in its representative capacity.¹⁵

The seemingly contrary holding of the United States Supreme Court in the *Mineral King*¹⁶ case can in large measure be attributed to the failure of the Sierra Club to adequately establish its position as a person or party aggrieved—a failure of proof rather than a return to the strict interpretation of standing. The real tragedy of the *Mineral King* case lies in the failure of the plaintiff Sierra Club to establish the basic requisites for equitable relief—serious, permanent and irreparable damage to a national, natural resource treasure.

It would be interesting if the Sierra Club would amend its complaint to challenge the proposed high intensity recreational de-

velopment and its supporting transportation system and overhead transmission lines on the grounds that such development does not represent the highest and best use of that national, natural resource treasure, the Sequoia National Park, and assert that determination of the highest and best use of a national, natural resource treasure such as Sequoia National Park must utilize modern techniques of systems ecology; bringing the action "on behalf of all the people of the United States, not only of this generation, but of those generations yet unborn, who are entitled to the full benefit, use and enjoyment of that national, natural resource treasure, Sequoia National Park, without degradation by reason of the failure of the defendants to determine the ecological impact of their proposed public improvement upon such a national, natural resource treasure in accordance with modern methods of environmental systems science."¹⁷

earth day, 1970¹⁷

By Earth Day, April 22, 1970, environmental litigation was well established as a weapon in the armory of those seeking to defend the environment. Building on the rhetoric that had launched the Environmental Movement, speakers at college campuses throughout the country damned industry, government and free enterprise as the source of all environmental degradation.

There were cries of: Ban DDT! Ground the SST! Stop at Two! Up the Organization! and Burn, Baby, Burn!

Coalitions were formed and large numbers of law students and young lawyers began to plan attacks on business, industry and government. One major, tax-exempt conservation legal action group selected the following "targets:"

1. The automobile. . . . the number one public enemy to health in the United States. . . .
2. Gasoline. Lead pollution is as pervasive as DDT. . . .
3. Highways.
4. Insecticides—herbicides—fungicides—fertilizers. . . . Even if the complete use of DDT stopped tomorrow, the environment might not be purged of the chemical for 30 years. But the Government is not banning its manufacture. It will still be used in malarial nations and continue to contaminate the planet. . . . Mercury. . . . Nitrates, used extensively as fertilizers. . . .
5. Other chemical toxins. PCBs—Polychlorinated biphenyls may be the match of DDT as an environmental poisoner. . . . PVC. Polyvinyl chloride . . . throws off injurious hydrochloric acid when incinerated. Three billion pounds of PVC were manufactured in 1968.
6. Food additives. . . . The Delaney Amendment is a key legal instrument in this area.

7. Nerve weapons. Chemical-biological weapons, while we're on the subject.

8. Radiation. 100 nuclear plants are in some stage of planning, 65 scheduled for completion by 1976—but 23 are behind schedule because of various protests. . . .

9. Thermal pollution. . . . Generally, companies are unwilling to invest in cooling equipment and never consider asking whether customers would consider accepting an extra cost to protect their waterways. . . .

10. Noise. In *Thornburg v. Port of Portland* it was ruled that jet noise in effect condemned nearby property and the owners could be compensated. The towns of Hempstead, New York, Inglewood, California and East Boston, Massachusetts have met to see what could be done about their mutual problem. There is great public feeling on this issue. It might be worth exploring to see if some breakthrough could be achieved here, such as John Banzhaf won with the FCC.

11. SST. While the supersonic transport promises to provide a new generation of noise pollution, it is notable on other environmental accounts and looks like a target to consider. . . .

12. Packaging. Another consequence of our commercial technology is that enormous efforts are concentrated on marketing, selling, and virtually no research on what to do with the stuff when it turns into junk. . . . There is rising municipal impatience in this area and legal action might prod irresponsible and reluctant manufacturers to do right.

13. Deep well burying.

14. Population.

15. Land.

16. Mining.

17. Forests. Most forest areas still are under federal jurisdiction, but lumber interests are pushing hard with the National Timber Supply Act going through the congressional mill.

18. Strip mining.

19. Acid mines.

20. Estuaries.

21. Maritime.

22. Water pollution. Pick your target. Still-clean Lake Superior where the Reserve Mining Company continues to dump iron wastes, would be a good one. Also: Lake Erie, Lake Michigan, Lake Ontario, Lake Huron, San Francisco Bay, Hudson River, Cuyahoga River, Detroit River, Potomac River, Barnegat Bay, Long Island Sound. . . .

23. Factory farming. A particularly obnoxious practice where a chicken or animal is confined in a cell-like area for its lifetime, turned into a living machine to produce eggs or fatten for slaughter.

24. Oil Shale. A trillion gallons or more locked up in the Rocky mountains. . . . The next target after Alaska.

25. Alaska. The last great unspoiled bastion in the United States. Here is the chance to preserve virgin territory for posterity. The oil companies have been moving with great haste, but the House In-

goes on. . . . Conservation lawyers complain that the oil companies have pre-empted key people in the case.

27. Everglades. The Dade County Port Authority Jetport seems to be a choice for action with strong conservation and public feeling on the issue. . . .

28. Mineral King. Recreation areas cannot be built without an access highway across Sequoia National Forest. Another encroachment. . . .

29. Huron River Expressway.

30. Colorado River.

31. Hell's Canyon.

32. Storm King.

33. North Cascades. The Seattle City Light & Power Co. wants to intrude in the new national park by building an addition to Ross Dam that would supply only a small increment of power.

34. Challis National Forest. ASARCO wants to go into Idaho's White Cloud Mountain Range to search for molybdenum. . . .

35. Glacier Peak Wilderness. The Kennecott Copper Company wants in here, and has that Mining Law going for it.

36. Admiralty Island. This virgin Alaskan territory seems well worth defending. . . .

37. Boundary Waters Canoe Area . . . was explored this summer for mineral resources.

38. The Great Smokies seem about to be skewered by another road.

39. Other important endangered areas: Point Reyes in California, Corkscrew Swamp in Florida, Pine Barrens in New Jersey, Buffalo River in Arkansas.

40. Alligators.

41. Historic sites, and finally,

42. Targets of opportunity. It is presumed that our group will have a reserve capability to meet the public thefts and environmental disasters as they reveal themselves.

That list of "targets" was compiled during 1970. A brief look at the environmental litigation docket indicates that environmental lawsuits are proliferating and few of the "targets" have been missed.

§ 7. the law/environment interface¹⁸

Law and the environment interact in three major areas:

legislative

Existing statutory law: federal, state and local; and developing new legislation that is ecologically sophisticated, environmentally relevant, socially responsible and politically feasible.

administrative

Federal, state and local regulatory agencies to effect their statutory missions in ways which affect the environment.

judicial

Appeal to the courts, federal, state and local for protection of the environment in:

Litigation based on statutory interpretation, and the common law of nuisance, negligence and trespass; and in .

Litigation seeking declaration of the rights of the people (class actions for declaratory judgment) and equitable relief (injunctions, reparations) based on ancient common law equity principles (the Trust Doctrine; *sic utere tuo alienam non laedas*—use your own property so as not to injure the property of others) and on the Constitution of the United States, particularly on the *unenumerated rights* retained by the People under the Ninth Amendment and protected against Federal limitation by the *due process* and *equal protection* clauses of the Fifth Amendment and against state interference by the *rights, privileges and immunities, equal protection*, and *due process* clauses of the Fourteenth Amendment.

§ 8. defending environmental litigation

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There are a number of ways environmental litigation can be defended. The most common method is to move against the complaint raising technical procedural issues such as standing, jurisdiction and existence of a cause of action. This is the kind of legal activity that is now cluttering up the appellate courts of the land. It is just the kind of formal exercise in futility that led the divers, wits and pens of Shakespeare, Swift, Dickens and Gilbert to taunt the law and mock the lawyer.

The interests of justice would better be served, as would the particular interests of American business and industry by defending these actions on the merits. Try the case. In many of the pending actions defendants can win on the merits or at least negotiate a reasonable disposition of the issues. The recent litigation involving American Smelting & Refining Company¹⁹ which began in El Paso, Texas in a local Court and terminated in New York City in the United States District Court for the Southern District of New York is a classic example. On ASARCO's motion, the action was dismissed without costs, but not without the defendant encouraging citizens to file great numbers of § 304 damage suits under the Clean Air Act of 1970, as amended. Instead of disposing of all the issues on a national basis in a single action which might have then become *res judicata* or at least a reasonable basis for

19. Southwest Environmental Council v. ASARCO, (1970 U.S.D.S./S.D.N.Y. 70 Civ. 729)

asserting collateral estoppel, defendant's counsel, in the haste to dismiss the complaint on a procedural technicality opened a veritable Pandora's Box of local litigation.

American business and industry now has a real choice among alternatives. In addition to the negative responses of defending litigation and lobbying against legislation, there is the affirmative opportunity to use corporate power to encourage wise use of our natural resources and ecologically sophisticated, environmentally responsible, socially relevant and politically feasible legislation.

§ 9. environmental legislation—in general²⁰

Consider for a moment the evolution of "Conservation" as a social movement. Under the early leadership of Theodore Roosevelt and Gifford Pinchot, it seemed as if all the conservationists wanted were ducks in the marsh, deer in the forest, trout in the streams, salmon in the rivers, robins on the lawn, a few parks here and there, some scenic highways to reach the parks, and a conservation commissioner or Secretary of the Interior to make them feel that they had the ear of government. Today, conservationists demand wilderness in sight of our great cities and clean air and clean water—NOW! All the while conveniently forgetting that government action programs cost public monies which, in large measure, are derived from the very business and industrial activities being condemned for damaging the environment.

One of the major concerns of all citizens in general and the legal profession in particular today should be assisting Congress, state and local legislative bodies to draft laws concerning natural resources and the environment that are ecologically sophisticated, environmentally responsible, socially relevant and politically feasible.

§ 10. environmental legislation; definitions²¹

In the *Clean Air Act*,²² the term "air pollutant" is defined as: "an air pollution agent or combination of such agents," while the term "hazardous air pollutant" is defined as "an air pollutant to which no ambient air quality standard is applicable and which in the judgment of the Administrator may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness," and "All language referring to

20. Much of the material in this section has been adopted from VICTOR JOHN YANNA-CONE, JR., ENVIRONMENTAL LEGISLATION AND POLITICAL REALITY. Leadership 70, The 1969 Mid-Winter Republican Governor's Conference, Hot Springs, Arkansas, December, 1969.

21. Victor John Yannacone, Jr., Engineering, Environment and the Law, a summary paper, SAE/DOT Conference on Aircraft and the Environment, Washington, D.C., February, 1971.

22. See generally, 1 ENVIRONMENTAL RIGHTS & REMEDIES § 5:12.

effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being."

Unfortunately, what is needed in the *Clean Air Act* is nowhere to be found. There is no definition of "pollutant" that the public, business and industry can understand without reliance upon administrative whim or judicial fiat. The statute as now written invites extensive, expensive, debilitating litigation by individuals, conservation organizations, business, industry, and government agencies throughout the country, crippling any real efforts to meet the air pollution crisis and paralyzing long-term industrial planning efforts.

Consider pesticides. Any law simplistically banning the use, sale, manufacture or distribution of DDT or any other broad-spectrum, persistent, chlorinated hydrocarbon biocide without at the same time establishing an ecologically sophisticated pesticide regulation program, is a bad law. It will permanently polarize agriculture and conservation to such an extent that common problems can no longer be considered topics suitable for rational discourse. The same effect will probably follow from similar laws dealing with other environmental toxicants.

While it has long been obvious that existing laws regulating the use and manufacture, distribution, advertising and sale of pesticides and other environmental toxicants are inadequate at best, the initial reaction from organized conservation groups throughout the country has been a demand for majority representation on regulatory agencies or a thinly veiled appeal for appointment of an environmental dictator—the eternal lure of the benevolent despot: "Make a conservationist czar of the environment and the egg-shells of the peregrine falcon and brown pelican will be thicker, the salmon fry will survive and all will be right with the world."

How do you write a pesticide control law capable of protecting the environment yet still feed mankind, whether the body administering the law is made up entirely of farmers, or entirely of bird-watchers, or entirely of agricultural chemical company executives; a law that will encourage efforts to maximize agricultural productivity over an extended period of time while minimizing disturbance to the environment and cost to the farmer over a similar extended period of time; a law that will encourage application of

The essential element of any such law is the criteria for administrative action. Such criteria must be written into the enabling legislation so that later determinations of the body administering the law can be tested in the courts, if necessary, against some objective standard.

In any pesticide control law there are, of necessity, three controlling definitions:

Control—maintaining pest pollution at a density at or below the economic threshold.

Pest—any organism that is present at a population density above the economic threshold.

Economic Threshold—a pest population density above which there is significant damage to man or his interests.

These are definitions tolerable to each vested interest—agriculture, conservation and chemical manufacturers. These definitions are acceptable, and acceptability is the hallmark of politically successful legislation.

Just what kind of definitions are needed in a general law regulating other airborne environmental toxicants such as mercury, lead and the other heavy metals, asbestos, sulfur and the oxides of nitrogen, hydrogen sulfide and the other reduced sulfur compounds, the many aliphatic hydrocarbons generated during the combustion process and radionuclides, just to mention a few?

If we are ever to have meaningful pollution legislation, we need a definition for "environmental toxicant" in terms of its effect on man, the works of man, animals, vegetation, and the regional ecological systems in which such environmental toxicant acts or concentrates.

Environmental Toxicant—Any substance which acts upon man, the works of man, animals, vegetation, or becomes an element of or affects the operations of any regional ecological system.

Having defined "environmental toxicant" in relevant terms, it becomes necessary to consider the effects of the introduction of an environmental toxicant into a regional ecological system in order to develop criteria for action by an administrative agency. Following the pattern of the *Clean Air Act* we must next define:

Hazardous Environmental Toxicants—Any environmental toxicant which is present in a regional ecological system at a level resulting in damage to man, the works of man, animals, vegetation, or any regional ecological system, provided such damage exceeds the economic threshold.

Economic Threshold—The level of any hazardous environmental toxicant where the social cost attributable to the effects of such hazardous environmental toxicant exceeds the public benefit from the operations producing such hazardous environmental toxicant

and we define

Social Cost—The total of all costs attributable to the effects of a hazardous environmental toxicant, including, but not limited to, the direct expenses occasioned by the demonstrable effects of such hazardous environmental toxicant on man, the works of man, animals, vegetation, or any regional ecological system. Where such damage is serious and permanent, the value of such damage shall be based upon the replacement cost of the element damaged.

The final definition required is the most complex but at the same time the most flexible.

Regional Ecological System—The aggregation of all the ecological systems in which the presence of an environmental toxicant can be directly detected or the presence of such an environmental toxicant can be indirectly detected as an element of, or by its action upon, any process which may be an element of such system.

§ 11. environmental legislation; standards^{20, 21}

If it is the intent of our legislators to maintain a healthy environment free from the damaging effects of airborne environmental toxicants, then the foregoing definitions can provide objective standards against which attempts to establish ambient air and water quality standards and emission standards can be judged.

Any attempt to establish ambient air and water quality standards for particular environmental toxicants or to limit emissions of such environmental toxicants from specific operations without at the same time recognizing the complex systems characteristics of each regional airshed and watershed is ultimately doomed to failure.

Any general law dealing with environmental toxicants requires provision for public information that will satisfy the citizen, and the elected official, while at the same time not unduly burden industry or government.

In order to encourage national standards and still satisfy the procedural due process requirements of the Constitution, a general law dealing with environmental toxicants should provide that,

The manufacturer, or the distributor, or the operator, of any device or process from which any environmental toxicant may be emitted, shall furnish reliable scientific data showing:

(1) The quantity of each environmental toxicant emitted, and the rate of emission of each such environmental toxicant at the source of each such emission.

(2) The existing ambient levels for each such environmental toxicant at the site of such emissions.

(3) The distribution characteristics for each such environmental

(4) The rate of distribution for each such environmental toxicant throughout the regional ecological system in which such environmental toxicant may be operative.

(5) The stability (persistence) of each such environmental toxicant in the regional ecological system in which such environmental toxicant may be operative.

(6) The characteristics of each such environmental toxicant in terms of its action and effects at points distant from the site of emission, alone or in combination with other environmental toxicants, or as added to existing levels of the same environmental toxicant already present as elements of the regional ecological system.

(7) Current market information indicating the state-of-the-art emission control applicable to the particular device or process from which each such environmental toxicant is emitted.

Modern environmental legislation must establish "state-of-the-art" as the industrial standard as far as pollution control is concerned. Only in this way can the legislation remain flexible enough to be effectively implemented by administrative process.

Establishing "state-of-the-art" as the standard for pollution control technology assures the same type of rapid technological progress through expanded private sector research and development that imposition of the same standard by operation of free market processes on the electronics, office equipment and computer industries has encouraged.

12. environmental legislation— economic consideration^{20, 21}

At the same time, government and the People must recognize that depreciation-amortization regulations applicable to corporate income tax must reflect the fast write-offs needed if state-of-the-art becomes the standard for capital investment in environmental protection.

One of the major contributions of American Business has been creative innovations in financing. It is obvious that the actual cost of air pollution and water pollution control facilities are far beyond the rather modest estimates made during the past decade and that most of the private sector is unable to bear the full cost at present. There is great need for new techniques of corporate financing capable of meeting the substantial capital investment requirements of environmental protection.

One suggestion has been cooperative financing with local municipalities particularly for water pollution control. The municipality furnishes the capital through a bond issue secured by a contract with a local industry to utilize the facility at an annual charge which includes interest and amortization of the municipal obliga-

tion. The industry avoids the need to increase its long term debt and meets the cost of environmental protection out of current income; while the municipality acquires a pollution control facility which can also serve its own needs without the need for a substantial increase in real property taxes.

§ 13. environmental legislation— judicial review^{20, 21}

Finally, no law is complete without provision for judicial review on demand of any party aggrieved. This means that in any matter of great controversy the issue can be eventually resolved in court.

Enlightened environmental legislation must provide a speedy, summary appeal for business and industry through familiar administrative review channels, while at the same time affording the citizen a declaratory judgment procedure through the courts. Provision must also be made to protect business and industry from harassment by frivolous litigation.

Any person aggrieved by any decision of the [administrative body] whether affirmative or negative in form, which relates to granting or revoking a license or permit is entitled to review thereof in accordance with the laws of the state of [. . .].

On petition filed, the [administrative body] may issue a declaratory ruling determining the applicability to any person, upon any state of facts, of any rule or statute enforced by it or it may promulgate new or amended administrative rules. Within a reasonable time after receipt or such petition, the [administrative body] shall either deny the petition in writing or schedule the matter for hearing. If it should deny the petition, it shall promptly notify the person who filed the petition of its decision, including a brief statement of the reasons therefore. If the petition is granted, full opportunity for hearing conducted under the rules of evidence applicable to a quasi-judicial proceeding shall be afforded to interested parties. A declaratory ruling shall bind the [administrative body] and all parties to the proceedings on the statement of facts alleged unless it is altered or set aside by a court. A declaratory ruling shall be subject to review in the courts in the manner provided for the review of administrative decisions.²³

§ 14. environmental legislation—citizen action²¹

Enough of model laws and the best of all possible worlds, in addition to the mischievous *Rivers & Harbors Act of 1899*, which some of you may recognize as the *Refuse Act of 1899*, there is now § 304 of the *Clean Air Amendments of 1970* providing for citizen suits.

(1) against any person (including (i) the United States, and (ii) any other governmental instrumentality or agency) . . . who is alleged to be in violation of

(A) an emission standard or limitation under this Act or

(B) an order issued by the Administrator or a State with respect to such a standard or limitation, or

(2) against the Administrator where there is alleged a failure of the Administrator to perform any act or duty under this Act which is not discretionary with the Administrator.

Note well that there is no protection for business, industry, government agencies, or elected officials from the wrath of irate citizens other than a 60 day notice requirement and the possible defense that the accused might be in compliance with an existing order of the Administrator.

The law is already there for air pollution; it has been followed in short order by a similar law dealing with water pollution and these laws will eventually be followed by a law dealing with solid waste, and then a law dealing with noise, and then a law dealing with land use and then a law dealing with resource allocation, and then a law, and then a law, then still another law, each law spawning a new administrative or regulatory agency. [ed. note: This section was written in 1970]

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§ 15. alternatives to environmental litigation^{21, 24}

Consider the choices available to business and industry. They can lobby against the proliferation of environmental legislation and legislative authorizations for citizen originated environmental

24. Many of the concepts expressed in this section were first presented on February 19, 1970, at a Conference in Washington, D.C., sponsored by the Public Affairs Council and the U.S. National Committee for the International Biological Program, Environment: The Quest for Quality; Mobilizing Science, Industry, and Government. The paper and proposal, Project Eagle and A National Trust for the Environment was prepared by an ad hoc committee which included, Dr. Robert Cancro, research psychiatrist, The Menninger Foundation, Visiting Professor of Computer Science, University of Illinois at Champaign-Urbana; Dr. Orie Loucks, Professor of Botany, Coordinator, Lake Wingra Project, IBP, University of Wisconsin, Madison; Dr. Ian Marceau, agricultural economist, leader, large-scale planning group, ILLIAC IV Project, University of Illinois at Champaign-Urbana; Dr. Ian McHarg, Chairman of Department of Landscape Architecture and Regional Planning, University of Pennsylvania, Philadelphia; Dr. John Rankin, Professor and Chairman of Department of Environmental Medicine, University of Wisconsin School of Medicine, Madison; Dr. Lawrence Slobodkin, Director, Evolution and Ecology Program, State University of New York-Stony Brook; Dr. Daniel Slotnick, Professor of Computer Science and Director, ILLIAC IV Project, University of Illinois at Champaign-Urbana; and Victor John Yannacone, Jr., Attorney, Environmental Law Section, American Trial Lawyers Association, Patchogue, New York.

The fate of Project Eagle was accurately described in a newspaper feature a few weeks later.

Project Eagle, a crash program to save the environment, took wing at a national conference on environmental problems last month and immediately flew into heavy flak.

The Washington conference was a three-day talkathon at which some of the nation's biggest industrialists and most important environmentalists gathered to tell each other just how critical the problem of preserving the environment had become.

litigation. They can defend the many lawsuits already filed and under consideration throughout the country, winning some and losing others in the courts and before the administrative agencies, but on the whole losing the respect so hard won from the public.

Or, they can recognize the existence of a new challenge and a new opportunity—the opportunity to participate in the development of a new business, a new industry—environmental rehabilitation—the new business and new industry which can provide a solid economic base for the next generation.

There is already a clear and present danger of government interference with the free enterprise system in the name of pollution control, yet there is still time for business and industry to respond to our most critical problem—survival. Not merely the biological survival of man as just another animal species, but rather the survival of those uniquely human characteristics which transcend the mere biological heritage of mankind.

Business and industry can lead the way toward national mobilization for the war on environmental degradation. Once before, industry, science and the American people joined together to meet a common enemy. During World War II, we had to put aside many of our individual professional differences and unite against a common threat. The technological revolution which followed this effort—radar, racons, shoran, loran, sonar, RDF, rangefinders, operations research, reconstructive plastic surgery, dried blood plasma, protein fractionation of whole blood, dynamic testing techniques, jet propulsion, rockets, insect repellents, magnetic airborne detection, aerial reconnaissance and remote sensing, atabrine, chloroquine, and other antimalarials, advances in psycho-acoustics, and psycho-physiology, rodenticides, anticoagulants, the sulfonamides, insecticides, and more—that technological revolution has yet to be duplicated.

§ 16. environmental rehabilitation²⁴

Correlation between pollution of air and water and the incidence

Project Eagle was the only concrete proposal put before the conference and it gave the assembled scientists, government officials and industry publicists something to chew on. And chew they did.

Some of the scientists wanted to know just who would administer the program and how the funds for research would be distributed, not to mention just how much money finally, the project would require.

The attack of some of the industry public relations men was a bit more personal; the men behind Project Eagle were described as everything from "henchmen" to "Commies." . . .

Several industry representatives, meanwhile, said that they were awaiting the creation of a national trust and a more specific proposal from the Project Eagle people

of poverty, social disease, chronic disease and social unrest has been established. The conclusion is inescapable.

The urban pressures resulting from dense packing of human beings act synergistically with any degradation of environmental quality to encourage social disorder, the manifest symptoms of which may be disease, social unrest or simply chronic, hopeless poverty. It has become a demonstrable fact of life that our core cities, if they are to survive, demand the most sophisticated environmental engineering of which man is capable.

If the many recent advances in basic science are to be made relevant to social problems and if the nation is to tap the enormous and tragically underutilized reserve of engineering, business and industrial talent in order to meet the very real environmental crisis facing most of our metropolitan centers, certain fundamental questions must be answered:

What, if any, are acceptable levels of tolerance for Environmental Toxicants?

How much, if any, of direct governmental intervention is necessary to restore and maintain environmental quality?

There is a substantial probability that by the year 2000 we must establish an economy in which most of our production is recycled. The choice is whether this reordering of our national resource economy will be accomplished by massive government intervention or by the orderly evolution of American business and industry within the free enterprise system.

The limited experience of scientists with the analysis of stability and productivity in natural ecological systems clearly demonstrates that there is a great deal to be learned before we can safely recommend balanced environmental control measures.

However, unless we dramatically change the structure of our quest for environmental quality and unless we improve the access of our legislators and the voting public to systems techniques and socially relevant environmental data, the free enterprise system will be seriously compromised.²⁵

Unfortunately, the leadership responsibilities for restructuring our national, natural resource economy are now scattered among federal and state agencies, universities, business corporations and industrial associations. It is clear that this continued diffusion of leadership and dilution of initiative cannot meet the timetable imposed by the reality of our environmental and social crises.

The pressing need to mobilize the rich resources of scientific, technical and administrative skill traditionally separated from

25. Victor John Yannacone, Jr., *How Much Environmental Science Is Relevant To The Eighteen Year Old Voter?*, Tenth Annual Conference on Law & Contemporary Affairs

each other by the differing priorities of university, industry and government affords business and industry the opportunity to bring together the human and technological resources of these disparate communities and mount a concerted effort to restore and maintain our beneficent environment. The very act of bringing together talented, concerned individuals who would otherwise be working on environmental problems in isolation or not at all would of itself represent an immediate improvement.

§ 17. national mobilization for environmental rehabilitation²⁴

In spite of the frenzied flurry of environmental legislation at all levels of government, there is still no mobilization of those human and physical resources already available in business and industry, at the universities and hidden away in the many pigeonholes of government. There is still no coordinated effort to combine existing resources in a unified effort to reverse the processes of environmental degradation and rehabilitate those elements of the environment that have already been damaged.

The first phase of any such national mobilization would, of course, be influenced by

- Existing surveys of our remaining non-renewable resources, the extent of waste build-up, air and water quality degradation, and natural constraints on the timetable for the present decade during which the initial changeover to a recycling resource economy must be accomplished.
- Continued progress in the integrated study of complex ecological systems.
- The existing data, manpower and techniques available in both the public and private sector which could be combined in meaningful remedial action programs to rehabilitate the environment and restructure our natural resource economy.

Let us assume that we do mobilize to protect the environment. What are the short term, real time efforts that such a national mobilization should make?

- Analysis of regional processes such as urbanization, land utilization, land abandonment, atmospheric contamination, changes in water quality and population dynamics. Such studies must take advantage of the modern remote sensing techniques developed by the military, government and industry to furnish much of the data needed for meaningful simulation of regional ecological systems.
- Detailed description of the variables in existing social, biological and environmental systems and the processes by which their state values change. These studies would lead to descriptive conceptual models at first and finally operational models permitting computer

- Developing strategies for monitoring the secondary effects of environmental toxicants in the environment.
- Determination of the limits of mankind's tolerance of atmospheric, hydrologic and other environmental alterations.
- Examination of the psychological interaction of man with his environment and the adaptability of mankind as a species to technological change.
- Development of regional planning methods which take into account the ecological, social, economic and political factors involved in the development of real property—a quality of life approach to regional planning.
- Implementation of data collection, storage and information retrieval methods, systems modeling and optimization techniques in order to develop criteria for choice upon which elected officials and the voting public can act.
- Development of educational programs in environmental science which incorporate the results and experience derived from the national mobilization effort against environmental degradation.

§ 18. land use²⁶

If we are to live in harmony with that which has been given to us from preceding generations, and from the earth before man, we must make certain assumptions with respect to every accessible parcel of real property in the United States.

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- The land and landscape are vulnerable.
- Development of some kind is inevitable.
- Development of the land to its highest and best use as an element of human ecology must be accommodated.
- The social cost of development is determined by the environment of the region and its natural ecological constraints.
- The area should accommodate growth without limiting its highest and best use as an element of human ecology.
- Planned growth consistent with the highest and best use of the land and its associated environment is more profitable to the region and its people than unplanned growth.
- The police power of the state, the ultimate sovereignty of the People, and the maintenance of traditional American concepts of private property are not inconsistent and can contribute to the harmonious, mutually beneficial development of any area.

Recognizing the limited availability of land itself and the place of land as the basic capital asset and fundamental natural re-

26. Victor John Yannacone, Jr., Program Coordinator, Editor Joseph F. Boyle, Robert Cancro, Orie L. Loucks, James A. Lowden, Ian W. Marceau, Roy Markon, Ian McHarg, John Rankin, Anthony S. Taormina, Maurice Van Susteren, Proceedings 1970 High Level Conference, American Society of Real Estate Counselors, Williamsburgh, Va.

See also Victor John Yannacone, Jr., and Pasquale Frangella, *Environmental Concern—The Law and Aviation in MASTER PLANNING THE AVIATION ENVIRONMENT*, ed. Angelo J. Cerchione, Victor E. Rothe, James Vercellino, The University of Arizona Press, 1969. Victor John Yannacone, Jr., *Environmental Litigation*, 1971 PROCEEDINGS, SECTION OF INSURANCE, NEGLIGENCE & COMPENSATION LAW, AMERICAN BAR ASSOCIATION.

source of civilized man, land use historically has been limited by executive, legislative and judicial process.

The judiciary in the United States has upheld the attempts of the several states, and at the local level, individuals and municipalities, to restrict the use of land in accordance with some rational plan, usually designated euphemistically as the Community or Regional Master Plan.

Zoning laws and subdivision regulations have been upheld by the courts on the grounds that they represent an attempt by an individual community, government agency or state to determine the highest and best use of its limited land resources for the greatest number of people without undue infringement on the individual rights of property owners. The key to successful land use legislation is the determination of the highest and best use of land resources in terms of their intrinsic suitability for human development. Of necessity this must be done by a team of individuals trained in the various disciplines necessary to define the environmental parameters of a regional ecological system. The community itself, especially its people, constitute elements of the regional ecological system just as surely as do the landscape and the topography, hydrology, meteorology and climatology of the area.

The adequate determination of the highest and best use of the limited natural resources of a regional ecological system mandates a systems approach supported by modern computers in order to determine the boundary value solutions and elemental optimizations of the complex, nonlinear dynamic relationships that describe the region as it actually exists in real time, rather than as a stylized formalization which is little more than a figment of the imagination of some self-proclaimed expert.

Of what relevance is an esoteric consideration of systems methods in ecology to the corporate attorney advising a client on plan site selection? The real estate investor? The homeowner? The business executive?

It means that any zoning law or land use regulation which *does not* fully reflect the environmental verities of the region in which it intends to operate is fatally defective in the legal sense. It *cannot* be sustained in the courts in the face of an ecologically sophisticated attack.

It means that any zoning law or land use regulation which *does* in fact reflect the environmental verities of the region in which it intends to operate *can* be sustained in the public interest, even if it appears to limit private property rights.

consider the ecological integrity of the region and fully determine the interrelationships among each element of the land and the landscape and each natural resource is scientifically incomplete and legally defective.

It means that any comprehensive or master plan which *does*, in fact, consider the ecological integrity of the region and *does* fully determine the interrelationships among each element of the land and landscape and each natural resource is scientifically complete and *can* be sustained as the basis for legal restraints upon land use even when such restraints appear to limit private property rights.

Any comprehensive plan, be it for village, town, city, county, state or region, which fails to fully evaluate the effects of any proposed land use on the overall ecological integrity of the regional ecological system is an inadequate plan at best and is ultimately doomed to become a costly and even deadly hoax on the community. Any zoning law or land use regulation—local, state or federal—based upon such an inadequate evaluation must fail. It should fail as legislation, and it will fail in the courts; just as every attempt to ignore the natural limitations imposed on man's use of natural resources must fail.

By simply insisting that no site for business or industrial development will be considered unless the municipality having primary jurisdiction over the area has promulgated ecologically sophisticated, environmentally responsible, socially relevant and politically feasible land use regulations based on a comprehensive plan that recognizes the highest and best use of each element of land and landscape as determined by the intrinsic suitability of such areas, American business and industry could provide a major stimulus for regional planning and orderly development of the small and medium sized municipalities on the outskirts of major metropolitan areas.

§ 19. environmental auditing²⁷

Although the risk of financial loss resulting from liability for the results of regular business and industrial operations are normally assumed by some liability insurance carrier, recently, this broad umbrella of protection has been removed by the provisions of the environmental exclusion in general liability insurance policies:

27. Victor John Yannacone, Jr., *Environmental Auditing*, Briefing Conference on Environmental Law, The Federal Bar Association, The Foundation of the Federal Bar Association, The Bureau of National Affairs, May 1, 1973, "The Environmental Audit: Necessary Protection for the Investor, Developer or Property Manager," National Real Estate Investor.

It is agreed that the insurance does not apply to bodily injury or property damage arising out of discharge, dispersal, release or escape of smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, liquids or gases, waste materials or other irritants, contaminants or pollutants into or upon land, the atmosphere, or any water course or body of water; but this exclusion does not apply if such a discharge, dispersal, release or escape is sudden and accidental.²⁸

Just as rising workmen's compensation and general liability insurance rates led business and industry to demand, and insurance carriers to provide (often free of charge) safety engineering services, the sudden need to evaluate the risk of and liability exposure from, the environmentally significant activities of business and industry has led to the offering of a new professional service *Environmental Auditing*.

Corporate management must now insist on environmental auditing to protect the public and incidentally minimize the risk of liability for environmental damage arising out of regular business and industrial operations.

The environmental audit—the work product of the environmental auditing process—must become an accepted planning tool of corporate management, just as the management audit and the more traditional financial audits.

While safety engineering has become an established service of most insurance carriers, statutes and judicial enunciations of public policy, unfortunately, have prevented insurers from offering this service in matters of environmental concern.

If this trend holds, it will be the responsibility of corporate counsel to advise corporate management on the exposure of the corporation to liability which might result from the environmental effects of regular business and industrial operation. The environmental audit is an absolute prerequisite for sophisticated judgment in this area.

§ 20. environmental audit or environmental impact statement?²⁷

The environmental audit is simply an evaluation of the environmental impact of business or industrial operations. The difference between a conventional—that is if, any technique and concept less than three years old can be called conventional—environmental impact statement and an environmental audit is one of emphasis and objective.

The conventional environmental impact statement is an exer-

cise in data collection and basic scientific research designed by natural scientists primarily for consideration by other natural scientists, and incidentally by one or more review authorities in government.

The environmental audit is designed to meet the needs of corporate management and establish underwriting criteria for the substantial, self-insured risk of liability for damages resulting from the environmental effects of business and industrial operations. You might say that the environmental impact statement is plaintiff or prosecution oriented while the environmental audit represents a first line of defense.

While the preparation of conventional environmental impact statements is generally directed by scientists and engineers, the environmental audit must be commissioned and managed by legal counsel.

At the present time, environmental impact statements are capable of review and evaluation generally by only a select few in the environmental science community and even fewer attorneys. To be effective, the environmental audit must be understood by, and useful to, all levels of corporate management, not just MBAs with degrees less than a few years old.

The environmental audit generally is divided into three parts: *Description* of the Regional Ecological System; *Identification* of the environmental effects of business and industrial operations, and; *Evaluation* of those environmental effects.

§ 21. the environmental audit: description²⁷

While it seems patently obvious that the environmental audit must include a *description* of the Regional Ecological System of which each business or industrial operation is a part, it seems less obvious to corporate management that the extent of such a Regional Ecological System is limited only by the sophistication of modern analytical techniques in Chemistry, Physics and Biology, because the Regional Ecological System is properly defined as the area—in three dimensions, for each of three systems: air, water and land—within which any effect of business or industrial operations may be observed or measured.

Briefly, the description of the Regional Ecological System of significance to corporate management involves an evaluation of the state-of-the-art in analytical techniques capable of identifying the direct and indirect effects of business or industrial operations. Of most obvious concern are those techniques capable of identifying the emissions from corporate operations.

soil; next are those capable of identifying effects by observing the modification of physical, chemical or biological processes attributable to such operations (e.g., biological magnification of certain toxicants such as methyl mercury and chlorinated hydrocarbons).

The extent of such effects represents the entire area of concern for management—the Regional Ecological System. The area outside can be ignored—at least until analytical techniques are again refined. *Caveat:* Remember that in less than three years techniques for detecting mercury residues were refined more than two orders of magnitude. They became 100 times more sensitive.

Environmental auditing includes some consideration of future refinements of analytical techniques and resulting increase in the area of the Regional Ecological System.

For many products such as chlorinated hydrocarbons and certain other ubiquitous environmental toxicants, the Regional Ecological System might well include the entire Atmosphere, Hydrosphere, Lithosphere and Biosphere. The next step in environmental auditing is designed to bring the risk evaluation process down to manageable proportions.

§ 22. environmental auditing: identification

Of course, the two initial phases of the environmental audit—description of the Regional Ecological System and identification of the effects of business and industrial operations in that system—proceed contemporaneously, though not necessarily simultaneously. However, the Identification Phase of the environmental audit concentrates on in-depth consideration of the effects of business and industrial operations on natural resources and operative natural processes within the Regional Ecological System. While the Descriptive Phase only requires determination of the limits of detectability of the environmental effects of business and industrial operations, the Identification Phase requires detailed consideration of the effects themselves.

It is during the Identification Phase of the environmental auditing process that first contact is generally made with the environmental science community. It is here that corporate counsel must begin to assemble the information that corporate management will require in order to appreciate the risk from environmental damage and resulting corporate liability arising out of continuing unmodified corporate operations.

It is during this phase that corporate counsel must begin

§ 23. the environmental audit: evaluation²⁷

The environmental audit concludes with an evaluation of the environmental impact of each business and industrial operation and the potential liability of the corporation for such environmental impact.

It should now be apparent why the description of the Regional Ecological System for each business or industrial operation is so important, for this defines the geopolitical area within which the corporation may be liable. The law of each jurisdiction involved must be searched in order to determine the potential liability from the effects of each business and industrial operation manifest in such jurisdiction.

In addition corporate counsel must also consider the vulnerability of the corporation to judicial protection of the fundamental constitutional right of the People to a salubrious environment and application of elements of equity jurisprudence such as the Trust Doctrine.²⁹

§ 24. environment/the law/the legal profession

There is little need to review the environmental litigation docket, or the announced policies of many organizations to "go after business and industry."

There is even less need to review the many bills pending before the Congress of the United States and the 50 state legislatures all sharing a common concern for providing citizens and citizen groups with easy access to the courts for the maintenance of environmental damage actions against business and industry.

There is, of course, no need to restate the principle that law is the framework of civilization and the ordering program for society. Our adversary system of litigation is the civilized alternative to bloody revolution; and so long as the door to the courthouse remains open, the door to the streets can remain closed.

There is, however, some need to remind my bretheren at the Bar and my colleagues in the environmental science community that there is a very real opportunity for American business and industry, individually and collectively, to take direct action to restore and maintain the quality of our environment upon which the quality of our lives depends.

American business and industry act upon legal advice. They rely as much upon the wisdom of corporate counsel as their own hard-earned experience. Those who comprise the Corporate Bar shoulder a heavy burden, and I wish them well.

May God bless each of you, and may God help all of us.

29. See 1 ENVIRONMENTAL RIGHTS & REMEDIES, Chapter 2.

