than they would have been twenty years ago. The proportion of fatalities or serious injuries among participants on commercial trips has decreased significantly. Without the advantage of technological advances and the knowledge and understanding of skilled professionals, there is greater risk of injury. Therefore, the participating public benefits from the experience of professional outfitters and is aided more than harmed by honoring express and implied assumption of risk to limit outfitter and guide liability.

Adventure sports allow individuals to challenge themselves, to gain a sense of accomplishment and satisfaction. Is it in the public interest to eliminate or greatly reduce participation in these sports, solely because they may lead to a risk of harm? Choice and personal freedom are highly valued rights in America. Freedom to contract and freedom to participate in the activities of one's choice are among those rights. They should not be limited without adequate reason.

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The Environmental Protection Act of 1990: A Public Policy Perspective

by Elizabeth Friedman

INTRODUCTION: THE SOCIAL POLICY CONTEXT, TWO DECADES OF ENVIRONMENTAL POLICY

In June of 1987, Barry Commoner wrote a different kind of environmental policy critique in the *New Yorker* magazine. Commoner, *A Reporter at Large: The Environment, New Yorker*, June 15, 1987, pp. 46-71. In keeping with that publication's penchant for the calmly provocative, Commoner took Earth Day 1970 as his starting point and assessed the result of nearly 20 years of environmental policy in the United States.

For the most part, he found failure, or at best, stasis. Where he found success, he saw a common theme -- the source of pollution had been outright banned. The failures were failures of pollution control.

According to Commoner, we must change how we conceptualize and act on environmental issues. Commoner argues that we need to stop mitigating pollution after it occurs and start preventing its production. As we explore his argument below, we see that such a policy shift would entail changing the role government plays. Government would be obliged to change from policing pollution to leading the development of nonpolluting industries. California's proposed Environmental Protection Act of 1990 (EPA 90), which has been dubbed the "Big Green" initiative, can best be understood in light of Commoner's analysis. EPA 90 is a sweeping piece of legislation which ranges from marine and coastal protection to phase-out of carcinogenic chemicals in foodstuffs, from funding alternatives to pesticides to saving old-growth redwoods. To oversee these changes, it creates a new state office, the Environmental Advocate.

As described in the "Findings and Declarations" which preface the initiative, the authors of EPA 90 see it as a cohesive whole. The initiative outlines a policy response to Commoner's critique of environmental regulation in the past 20 years. To understand the policy thrust of the Big Green initiative, we first turn to Commoner's critique, and then to the EPA 90 response.

CRITIQUE OF ENVIRONMENTAL POLICY

Commoner takes Earth Day 1970 as the beginning of the modern environmental movement and ques-

tions "What has been accomplished?" in the intervening years. Not least of the accomplishments he finds is an overall increase in our knowledge of the environment and its degradation: "In the last 15 years, the United States has established monitoring systems that record the annual changes in environmental quality, and these give us an indication of what has happened in the environment since the effort to improve it began." *Id.* at 46. Surveying the results of our environmental monitoring yields a picture of minimal gains and continued pollution.

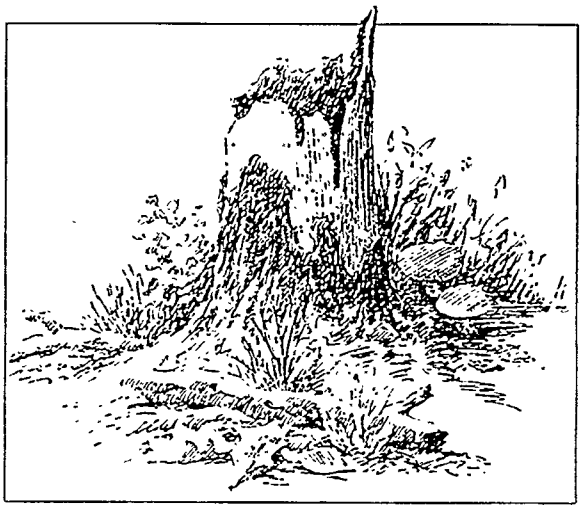
Commoner finds "marked successes" only where we have eliminated the source of pollution. Three well-known examples are: 1) phasing out lead from gasoline, 2) banning DDT, and 3) stopping atmospheric testing of nuclear weapons. These bans have led to clear changes: strontium 90 in cows milk declined from 23.8 picocuries per litre in 1964 (the year following the test atmospheric test ban treaty) to 2.0 in 1984 (Id. at 53); DDT levels in the body fat of Americans decreased by 79 percent from 1970-1983 (Id. at 52); lead emissions decreased by 86 percent between 1975 and 1985, and blood lead levels decreased 37 percent between 1976 and 1980. *Id.* at 47.

On the other hand, Commoner sees "marked failures" in attempts to prevent pollutants, once produced, from being emitted into the environment. Among the "failures" he cites are nitrogen oxides emissions, primarily from auto exhausts and power plants, which are key ingredients of photochemical smog and acid rain. These emissions increased four per cent between 1975 and 1985. *Id.* at 50.

Water quality, another key area of environmental concern, has also seen little improvement. Commoner finds little or no over-all improvement over the last decade in the five standard pollutants used to determine water quality: fecal coliform bacteria, dissolved oxygen, nitrate, phosphorus, and suspended sediments. Most telling is the increasing levels of nitrate accumulations in groundwater. Some fifty percent of the drinking water in the United States comes from groundwater. The culprit in much of the water pollution is agricultural runoff contaminated by chemical fertilizers. *Id.* at 52.

Contrasting the "bans" and the "pollutant controls," Commoner states:

> [w]hen the process that produces a pollutant is stopped--the banning of pesticides, the halt in atmospheric nuclear testing--there is



> considerable environmental improvement; if, instead, an effort is made to control the pollutant by recapturing or destroying it before it escapes into the environment, there is some improvement in environmental quality, but generally not much. In fact, such controls are ultimately self-defeating. *Id.* at 56.

Why are controls self-defeating? This is a key point in Commoner's argument and bears scrutiny. He points to the logic as well as the empirical experience of our attempts to control pollutants. First, control devices are, by design, never complete. They are designed to reduce the amount of emissions, but never totally eliminate them. To do so would be either economically or technologically infeasible. Therefore, even when control devices function perfectly, certain amounts of the pollutant escape. Commoner points out that as the pollution-generating activity increases, pollution levels climb despite the control device. For example, even if all automobiles were equipped with emission control devices, an increase in the number of automobiles still leads to more pollution. Ultimately, the volume of the activity undercuts the device.

Another problem with control devices is that they cannot be used if the pollutant has numerous source points. Commoner uses nitrogen fertilizers in agriculture as an example. The fertilizers are spread across a field, which is subsequently watered. The nitrates leach into irrigation water and then into the drinking water supply. Commoner cites studies from Ohio, Pennsylvania, Nebraska, and California all revealing excessive nitrate levels in well water. Each heavily fertilized field contributes to the increase in nitrate levels. Control devices simply cannot be used on every field and irrigation ditch.

Having set out the dichotomy between bans and controls, Commoner then casts a critical look at plans to substitute one dangerous product for another. The success of banning DDT and the subsequent reduction of this chemical in the food chain is undercut by the impact of DDT replacements. Commoner singles out the chemical toxaphene used to replace DDT. When DDT was banned in 1972 and toxaphene substituted, fish populations experienced a twentyfold increase in toxaphene content from 1970 to 1980. *Id.* at 57. Commoner states that bans have to be seen in a larger context -- the overall production process or industry.

After arguing that agricultural chemicals are dangerous to the environment -- wildlife and water quality -- Commoner then switches the focus to chemical production. He points to Bhopal, India, where thousands of people died in an accident at the Union Carbide plant that produced methyl isocyanate, a chemical used to manufacture insecticides. Similar accidents, although with less devastating results, have taken place in the United States.

THE TECHNOLOGY OF PRODUCTION

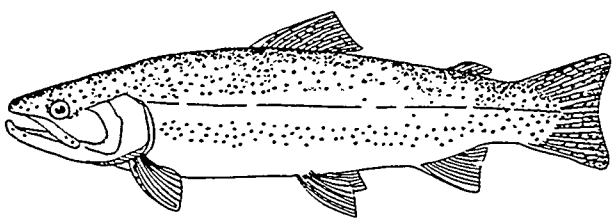
This line of inquiry ultimately leads Commoner to question the technology of chemical production. While no industrial process is completely safe, Commoner questions the policy of maintaining industries whose processes and products are dangerous.

For example, Commoner's analysis of the petrochemical industry shows that many of the goods manufactured (pesticides and plastics), as well as its waste products, are polluting. He states that "[t]he petrochemical industry is inherently inimical to environmental quality. The only effective way to limit its dangerous impact on the environment is to limit the industry itself." *Id.* at 59.

Commoner asserts that, given the necessary political will, it is feasible to drastically limit the scope of the petrochemical industry and still have needed consumer and industrial goods.

> [T]he petrochemical industry--on its present scale, at least--is not essential. Nearly all its products are substitutes for perfectly serviceable preexisting ones: plastics for paper, wood, and metals; detergents for soap; nitrogen fertilizer for soil, organic matter, and nitrogen fixing crops....

Id. at 59.



However, Commoner does not underestimate the political barriers to such a move. Americans believe deeply that it is legitimate for industry to be propelled by profit, and that profit may take precedence over social costs. The petrochemical industries are highly profitable, and conversion to more environmentally sound systems or curtailment of these industries would require a level of "social governance" to which most Americans are not amenable. Commoner writes:

> This effort...meets a politically immovable object: the conviction, powerfully embedded in American society, that the decisions that determine what is produced and by what technological means ought to remain in private, corporate hands.

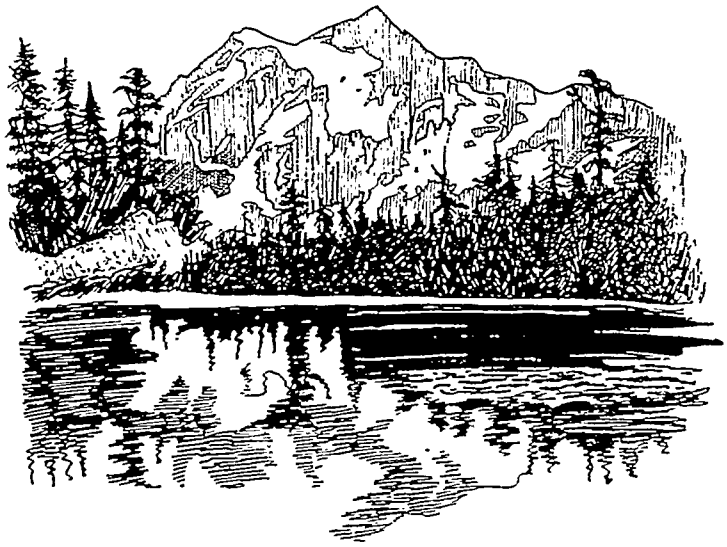
Id. at 64.

Commoner's review of recent environmental policy shows that our "social governance" has been limited to regulatory legislation rather than a "socially mandated choice of production technology." *Id.* at 63. Instead of directing the government to guide industrial production, we have limited government's role to regulating the by-products (pollutants) of the production process. This policy direction, according to Commoner, is why effort over the past decades to control pollution have had so little success. He states,

> [r]ecognition that significant environmental improvement depends on social rather than private governance of production decisions helps us understand why the considerable effort to improve the environment has had so little effect.

Id. at 64.

Commoner sees the central societal issue as "how the choice of production technologies is to be determined." *Id.* at 70. These choices have repercussions for the earth itself. Pollution emanating from the United States contributes significantly to such worldwide environmental phenomena as global warming and depletion of the ozone layer. According to Commoner, we are now engaged in "a historic



passage toward a democracy that can exert its force on the germinal decisions that determine whether we and the place we inhabit will thrive." *Id.* at 70.

ENVIRONMENTAL PROTECTION ACT OF 1990: A STATEMENT OF POLICY

California's current contribution to the environmental debate is EPA 90. The Environmental Protection Act of 1990 is prefaced by "Findings and Declarations" which present the policy underpinnings of the initiative. Although the initiative frames the issues somewhat differently than does Commoner, it contains his central themes. EPA 90 would allow the public to exercise more control over toxic products and byproducts and would give state government a role in developing alternatives to polluting industries. The initiative also frames traditional "conservation" issues in light of their relationship to larger environmental questions.

FINDINGS AND DECLARATIONS

The "Findings and Declarations" first state that the "health, natural environment and quality of life" are threatened by "chemical pollution" and these problems "arise from a common cause, our production of and dependence on toxic chemicals in all aspects of the economy." After maintaining that "[s]tate and federal governments have failed" to adequately deal with the environmental problems, the Findings and Declarations delineates four specific areas EPA 90 addresses: pesticides, global warming, ozone depletion, and the ocean environment.

A. Pesticides

The first concern presented in the Findings is pesticide use. The initiative's authors cite the "millions of pounds of pesticides" used annually in California, stating that many of these "pose clear hazards to human life and health." The authors point out that children are more vulnerable than adults to pesticides and have a greater risk of developing cancer when exposed. The Findings state that current federal and state pesticide regulations are inadequate, and that there is a need to protect consumers and agricultural workers.

The solutions outlined in this section include:

* Phasing out cancer causing and hazardous pesticides;

* Shifting regulatory responsibility to the California State Department of Health Services [from the Department of Food & Agriculture]; and

* Providing funds to develop safe alternatives to cancer causing pesticides.

B. Global Warming

This section analyzes California's contribution to global warming and describes steps to control the problem. According to the Findings, California's rapid population and economic growth results in consumption of "vast amounts of fossil fuels and other chemical substances." Use of these products in transportation, heating and cooling, manufacturing, and production of electricity all contribute to a global phenomenon of gradually rising temperatures. The Findings state that the specific impacts on California of global warming could include reduction in availa-

bility of water, decreased crop yields, expansion of San Francisco Bay through rising ocean levels, and increased temperatures.

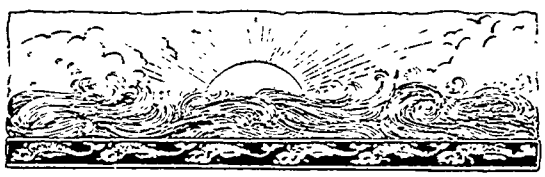
The authors specifically cite carbon dioxide, chlorofluorocarbons and halons, and nitrous oxides as the main waste gases and pollutants emitted into the air in California by the "tens of millions of tons." The text of the initiative, Title Four, creates a "Greenhouse Gas Reduction Plan" which, among other measures, requires a net reduction in carbon dioxide emissions of twenty percent by the year 2000 and forty percent by 2010.

Another cause of global warming is deforestation. The authors cite the loss of over 700,000 acres of forests in California between 1977 and 1986. The Findings point to two steps to counteract deforestation. The first step is to preserve California's old growth redwoods. Because of their extremely high biomass per acre, these ancient redwoods stands can significantly counterbalance global warming. The second step is to provide for the reforestation of urban areas; the initiative requires developers to plant one tree for each five hundred square feet of project. The initiative creates an Ancient Redwood Forest and Reforestation Fund financed through three hundred million dollars in general obligation bonds to be used for acquisitions of ancient redwoods and for urban and other forestry projects.

C. Ozone Depletion

Another global environmental phenomenon the authors cite is depletion of the ozone layer. "There is...increasing and substantial scientific evidence that chemical substances are contributing to the destruction of the ...ozone layer." The Findings state that this destruction could affect the "health and welfare" of Californians in a wide variety of ways, from an increase in skin cancer to decreased crop yields.

EPA 90 proposes to reduce, and eventually eliminate, the use of chemicals which destroy the ozone layer. Title Four, Part 8 of the initiative mandates specific steps. These include recycling and recovery of chlorofluorocarbons, halons and other chemicals used in air conditioning and refrigeration systems. Over a thirty year period, specified halons, chlorofluorocarbons, hydrochlorofluorocarbons, and other gases with the potential to deplete stratospheric ozone would be completely phased out.



D. Coastal Policy

As described in the Findings, the authors seek to form a coastal protection policy which links protections from accidental oil spill and intentional toxic discharges into a single policy for California's coastal environment. The Findings cite unsafe practices in the transportation and development of oil resources. The authors refer to the recent Alaskan oil spill [*Exxon Valdez*] as evidence that "current oil spill prevention practices and cleanup techniques are completely incapable of protecting the State's fishery resources, marine food chain, coastline and beaches in the event of a major oil spill." In addition to oil spills, the Findings point to the adverse consequences on the coastal and ocean environment from past discharges of toxics by municipal, industrial, and agricultural sources.

Title Five of the initiative addresses coastal protection by creating a Marine Resources Sanctuary, which includes all marine bays, estuaries, and ocean waters. Title Five precludes a number of activities within the sanctuary, including a prohibition on any oil or gas leases after the year 2000 (except in national emergency). The initiative would require increased waste treatment prior to discharge into coastal waters.[1] The initiative also would create a state Oil Spill Coordinating Committee, a State Oil Spill Prevention Plan, and an Oil Spill Prevention and Response Fund.

E. Summary

EPA 90's "Findings and Declarations" call for a comprehensive program to deal with global environmental issues directly affecting California. When seen in the context of Commoner's argument, the broader implications of EPA 90 become apparent.

THE ENVIRONMENTAL PROTECTION ACT OF 1990 AND THE COMMONER CRITIQUE

Looking at the "Findings and Declarations" and the content of the statutory changes proposed in

the initiative, we find EPA 90 to be a rather thoroughgoing response to Commoner's critique of the past 20 years of environmental policy. The initiative addresses Commoner's call to curtail pollutant production in agriculture (pesticides) and industry (emissions of gases). It also provides research funds for developing the alternative technologies he suggests.

While containing a number of "traditional" regulatory approaches, (for example, control over exposure of agricultural laborers to pesticides, or detailed processes for registering pesticides) EPA 90 provides for the government to take a comprehensive leading role in banning pollutants and developing alternatives to them. However, even where the initiative is "regulatory," it has an innovative twist. The clearest example of this is the new standard for pesticide registration: the "burden of proof...[is to be] on the registrant...to demonstrate that...[the] pesticide conforms to...the EPA of 1990." Cal. Health & Safety Code proposed § 26909.

Even the major "administrative" change the initiative proposes -- switching pesticide regulation from the State Department of Food and Agriculture to the State Department of Health Services -- represents a significant policy change. The State Department of Health Services is a public health agency while Food and Agriculture "promotes and protects" the state's agriculture industry.[2] Shifting pesticide regulation to a public health agency is a clear statement of policy priorities.

One of the key features of the initiative is not described in the Findings and Declarations. EPA 90 creates a statewide elected office, the "Environmental Advocate," and the California Council on Environmental Quality (within the Office of the Environmental Advocate). The Environmental Advocate's primary function is to monitor the implementation of EPA 90 by conducting oversight investigations and studies. The Environmental Advocate is authorized to intervene in any legal or other proceeding to ensure compliance with EPA 90 (subject to certain coordination requirements with the Attorney General).

The Environmental Advocate is to appoint a six member Council on Environmental Quality (Council), two of whom would represent the University of California and the California State University. Council members are required to have "significant expertise on questions of environmental protection and public health." In addition to evaluating EPA 90's implementation, the Council will administer two mandated competitive grant programs with $40 million initial funding. The Council is required to award grants for applied research on alternatives to pesticides in agriculture, for source reduction of toxic chemicals, and for "development of alternatives and compliance with" Title 4 (greenhouse gas reduction and stratospheric ozone layer protection) and Title 5 (bay, estuarine, and ocean water protection) of EPA 90.

Seemingly, the Environmental Advocate and the Council provide the "social governance" element for the new policy direction charted in EPA 90. Whether this is the optimal structure for achieving the EPA 90 mandate is considered below.

THE ENVIRONMENTAL PROTECTION ACT OF 1990: QUESTIONS AND ISSUES

EPA 90 opens a spectrum of questions. We need to consider the overall policy question: is this possible at a state level? Can a state revamp industry or technology without a coherent national policy? Commoner's argument addressed the thrust of national policy; however, it did not preclude state action. Some of the considerations regarding state actions are purely monetary. Can a state provide enough research and development funds to create significant alternatives to polluting technologies? Are states able to provide economic incentives (or disincentives) to polluting industries? Since states are so dependent on federal matching funds, how far can a state go in providing the infrastructure for alternative industries, transportation, and agriculture?

Narrowing the focus to the policies of EPA 90 itself, we need to question whether in its own terms it is sufficiently comprehensive. One area it does not address is transportation. Should there have been a

transportation policy component to complement the greenhouse gas or ozone depletion policies? A partial answer may be found in proposed transportation. initiatives.

The Commoner perspective raises the issue of whether EPA 90 contains a sufficiently powerful mandate for the social governance or leadership needed for so drastic a policy shift. Should EPA 90 have created a stronger policy direction for alternative agriculture and nonpolluting technology projects? Perhaps the initiative should have delineated a specific policy agenda for the grant programs. For example, there are goals and timetables for pollution controls, but there are no concomitant goals and objectives for the research initiatives.

The other facet of the leadership mandate is the Environmental Advocate. Is this office the most effective way to ensure implementation of this program? Should this office have been given more specified powers *vis-a-vis* existing state agencies which will be implementing EPA 90? As currently structured, the Environmental Advocate is more of an intervenor than a leader.

In considering EPA 90, we must return to Commoner's problem of how Americans conceptualize the role of government. Perhaps EPA 90's most significant contribution will be to bring into public debate the necessity to recast the role of government policy toward the environment into a positive leadership role.

NOTES

1. Specifically, after January 1, 2000, the initiative would preclude publicly owned treatment works from discharging pollutants into marine waters without at least secondary treatment as defined in the Federal Clean Water Act. Currently, the Federal Clean Water Act allows publicly owned treatment works to apply for a waiver of the secondary treatment requirement with the concurrence of the state (33 U.S.C.A. § 1311(h) (West 1986 & Supp. 1989). The initiative would preclude the state of California from concurring in waivers to be in effect after the year 2000. This raises potential federal preemption issues.

2. Cal. Food & Agric. Code § 3 (West 1986) states that the provisions are enacted "...for the purposes of promoting and protecting the agricultural industry of the state and for the protection of the public health, safety, and welfare." The mandate of the Department of Health Services includes broad authority for "the detection and prevention of the adulteration of articles used for food and drink..." Cal. Health & Safety Code § 202 (West 1979). However, adulterated foods do not currently include pesticide residues which are regulated by the Department of Food and Agriculture.

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Proposition 65: An Initiative Poised to Fulfill its Promises?

by Andrew Sabey

INTRODUCTION

Proponents of Proposition 65 (Prop. 65) promised that if the initiative passed, it would effect real change in the area of toxics enforcement. The proponents promised safer drinking water, clear warnings of toxic exposure, effective enforcement, greater government disclosure regarding toxics, and a shift of hazardous waste clean-up costs from the taxpayers to the offenders. Cal. Health & Safety Code § 25249.6 (Deering 1988).

These promises carried some weight with California voters. The initiative garnered sixty-six percent