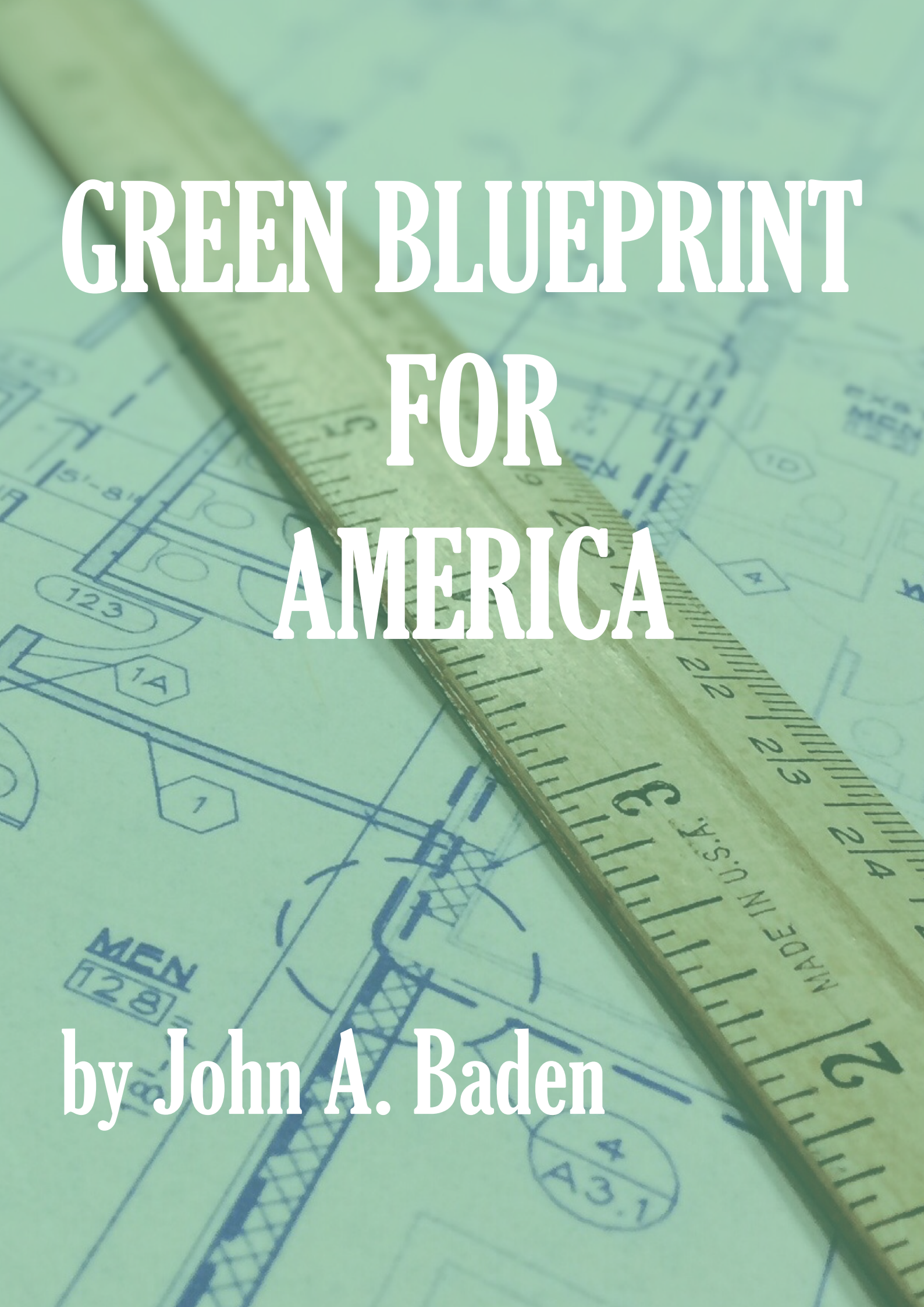
GREEN BLUEPRINT
FOR
AMERICA
by John A. Baden

Green Blueprint for America

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Part I

Green Perspectives on Economy and Ecology

Introducing The New Environmental Agenda

The New Environmentalists

Environmentalists agree that while we have made progress in certain special areas such as water pollution, the regulations associated with the first Earth Day movement have failed to protect nature from general deterioration. The movement advocated two types of changes: greater sensitivity toward our environment and greater governmental command and control regulation over it.

On the 20th anniversary of Earth Day, alternatives to statist environmentalism are increasingly advocated by the environmentally sensitive. There is increasing recognition that an environmentalism based upon property rights, incentives, market mechanisms and voluntary associations have great potential for environmental management. Concurrently, there is greater understanding of the potential for mischief inherent to political control. As war is too important to leave to the generals, ecology is too important to trust to politicians and bureaucrats.

On the First Earth Day the term "free market environmentalist" would have been an oxymoron or described a null set. Today environmental activists understand that such people exist and share with other environmentalists a passion for nature.

The market oriented or classical liberal environmentalists have moved up the learning curve. They understand the failure of profit oriented organizations to consider environmental values. Unless they face incentives, firms discount environmentally prudent behavior. Likewise, U.S. Forest Service officials place their budget above ecological considerations. In both cases the

managers make decisions on the basis of information they have and the incentives they face.

These new environmentalists understand why past remedies have failed and agree on the logic underlying the new methods that should be tried. The market oriented environmentalists want to harness the power of environmental concern. They stress the positive potential of private property rights, the power of voluntary action when organized by organizations such as The Nature Conservancy and the Environmental Defense Fund, and usefulness of markets and voluntary cooperation for ecological integrity.

This New Resource Economics, or free market environmentalism, is the only approach to environmentalism consistent with American traditions of liberty and individual responsibility. Before exploring this model, I review the conventional approach.

Economics and Ecology

The root of both ecology and economics is derived from the Greek word, oikos, meaning "house." In a sense, this Green Blueprint is a repair manual for that house and the institutions that govern it. What we learn here can be applied throughout the environmental policy arena.

It is important to understand that environmental problems are normally not caused by bad, malicious, or incompetent people. Given the institutions within which they work, most people do as well as can be expected. While increased environmental concern and widespread understanding is important, it is policies and institutional arrangements that most need reform. This blueprint proposes a series of reforms guided by the New Resource Economics, a mode of understanding that incorporates science, culture and economics. Specific focus is on the creation of information and incentives in the institutional

environment in which environmental decisions are made.

People make decisions on the basis of information and incentives. These incentives have moral, cultural and financial components. The serious problems that have become so obvious are caused by institutions that generate misleading or inaccurate information and by incentives which encourage or tolerate environmentally costly behavior. Federal agencies with management responsibility over lands and waters claim that the problems can be cured with larger budgets, more personnel, and grants of ever greater power. The best solution, however, requires something more complex than expanded budgets and increased power. Successful environmental management requires institutional changes. This Green Blueprint outlines several.

The prospect of institutional reform threatens the special interests, including the federal bureaucracies, that control our environment. These institutions are enmeshed in political systems which produce decisions based upon contending cultural and economic interests. Reform is resisted by those most intimately connected to the institutions most in need of reform.

There is one important reason why it is difficult to implement reform: various special interests have stakes in the existing arrangements. Those who expect to lose from change will resist reform. In contrast, many of those who would benefit from reform are unorganized and unaware. The taxpayers whose monies currently subsidize destructive practices are those most likely to be unaware of the likely benefits. I hope this Green Blueprint provides useful understanding that will foster reform.

America's First Environmental Movement: The Progressive Era

Yellowstone National Park was created in 1872, and the National Forests nineteen years later with the

Withdrawal Act of 1891. They stand as the finest monuments to the good intentions of the Progressive Era. The Progressives had faith in "scientific management," and they believed that federal bureaucrats could be insulated from political pressures. This sincere belief underlies the creation of the agencies that manage the vast majority of America's federal lands, approximately 700,000,000 acres, one third of the nation.

The Progressives assumed that scientific managers would act on the basis of "higher" values. They apparently believed that an environmentally sensitive Platonic despot would emerge as the bureaucratic norm. This creature was to combine the knowledge of Aldo Leopold, America's revered pioneer wildlife ecologist, with the spirit of St. Francis, the patron saint of the environmental movement. But the results of a century's management reveal this idealized bureaucrat was an impossible dream.

The Progressives' faith in "scientific management" resulted in environmental costs, inequities, and economic inefficiencies. This is understandable for when the Progressives substituted governmental control for private management, they dramatically altered the calculus of the individual decision-maker. As an unintended consequence, they also introduced perverse incentives into the decision-making system.

In both political economy and ecology, unintended consequences are often exceedingly important. Just as pesticides in the natural environment adversely affect the hatching of eagles, perverse incentives in the political environment adversely affect land management.

The Progressives' model was well intended but hopelessly naive. A hundred years earlier the Founding Fathers had a far better sense of human behavior when they designed our Constitution. A century after the Progressives, we can appreciate the Founders' wisdom. Madison's discussion of factions in Federalist Paper #!0 is especially

relevant when we examine special interests operating throughout the environmental policy arena. This Green Blueprint takes them into account.

We recognize that neither the good intentions of politicians, nor pious claims of environmental responsibility by CEOs are sufficient. Successful reform leading to environmental quality will have three components: widespread agreement that environmental quality has a high value, good information about the ecological consequences of actions, and strong incentives to act responsibly. This Green Blueprint's reforms begin with this foundation.

The New Resource Economics: Tools for Environmental Management

To build a house of any complexity, some type of plan is required. It is usually called a blueprint. Implicit in that blueprint is a host of theories about stress, moments of inertia, conductivity and resistance, flow mechanics and thermal dynamics. Likewise when designing institutions for environmental management, theory is critically important. The theory that many economists and policy analysts find most useful in their environmental work is called the New Resource Economics (NRE). Since nearly everyone knows about Yellowstone Park, we will introduce the NRE by using the Greater Yellowstone as a case. [For greater detail about reforming Yellowstone see The Yellowstone Primer: Land and Resource Management in the Greater Yellowstone Ecosystem, eds. John Baden and Don Leal, Pacific Research Institute, San Francisco, 1989.] The lessons learned there are applicable elsewhere.

The New Resource Economics enables us to better understand the impact of politics upon ecology. Many analysts believe that the NRE model fosters ecological integrity and economic efficiency.

Because it also employs market forces and relies upon incentives rather than bureaucratic command-and-control, NRE is popularly known as "free-market environmentalism."

Greater Yellowstone as an Example

Because ninety-five percent of the Greater Yellowstone ecosystem is controlled by government agencies, the peculiarities of bureaucratic decision-making are vital to our understanding of the area's problems. Decisions in the Park Service and Forest Service, for instance, are more often influenced by political than by biological or economic considerations. Political

decisions are not random but rather are patterned, and if we understand the patterns, their directions are predictable.

The NRE model combines economics and political science to make these patterns easier to see. We use NRE as a lens we can focus on choices in the environmental policy area. The key ingredient of the NRE is Public Choice theory.

Public Choice theory is a sub-discipline of economics. Nobel Laureate James Buchanan and his colleague Gordon Tullock led its development in America by applying economic reasoning to decisions in the public sector. Public choice was first applied to environmental matters by the founders of the New Resource Economics, operating out of Bozeman, Montana. Public Choice provides NRE theorists a better understanding of how perverse environmental decisions are set in place and then perpetuated.

A fundamental tenant of Public Choice is that politicians, like most other people, tend to give primary weight to their own well-being (and that of their colleagues and families) when making decisions. A desire to enhance their own political careers is normally paramount for those politicians who want to survive and prosper. They do better politically if they are not too heavily burdened by principle. Politicians who do not make self-interest their first concern are often selected out by competitive pressures of the political environment. For that reason, politically unpopular decisions (such as removing excess elk in Yellowstone) are avoided by all career-minded office-holders.

Similarly, when governmental bureaucrats face decisions with outcomes affecting their welfare, they tend to favor their own interests. This normally involves aiding their clientele. Once again, politically unpopular decisions will be avoided, regardless of their scientific merit.

Public sector bureaucrats are usually motivated by political accounting rather than direct financial

gain. Government salaries are fixed and are independent of the success of any programs for which bureaucrats are nominally responsible. For example, when Teton Dam in the southern portion of Greater Yellowstone burst in June of 1976, it cost eleven lives and washed Wilford, Idaho, off the map. Taxpayers were forced to pay over $2 billion dollars to repair the damage.

Before its construction, the Teton Dam project failed any reasonable cost/benefit analysis. It was strongly opposed by every environmental group in the area. And yet, the dam was built — in an active earthquake zone and on a foundation of bedrock honeycombed with fissures. Powerful Idaho politicians with a shopping list of favors due from Washington joined fanners with new fields to irrigate and bureaucratic entrepreneurs in the Bureau of Reclamation in a coalition that got funds appropriated for the dam. It collapsed just before the reservoir was full.

Soon after the cataclysmic flood, the Bureau requested an appropriation to rebuild the dam — this time with a higher margin of safety that could then be applied to the budgets of all other dams. This is a clear example of the process of politics and the incentives of governmental bureaucracies. Both fiscal conservatives and environmentalists find this process perverse. The problems come from poorly designed institutions rather than incompetent or evil people. It is the institutional structure that needs reforming.

We find strong arguments for fundamental reform of the institutions created for environmental management throughout America. Decisions are made with the decision-maker’s self interests in mind. These decisions have caused local extinction and gross mismanagement of wildlife in Yellowstone Park. Below-cost timber sales are the norm in the five national forests surrounding Yellowstone and Teton National parks, while subsidized dams and water diversions are recurrent threats to the trout waters of Greater Yellowstone.

These problems are not unique to Yellowstone. Unfortunately, they are the norm.

Evidence convinced me that the current system is fundamentally flawed. Even if simple reforms based on a better people/better government model could be implemented, and even if public servants served the public selflessly, few significant improvements could be expected with the current institutional structure.

Scientific management is impossible to execute under existing institutions because of political pressures. The visions of the Progressive Era reformers who created the federal agencies responsible for land, water and resource management have turned out to be woefully deceptive mirages. The good intentions of the founders of our national parks and forests have not been realized.

There is no way for even the best-intentioned public servants to divine the public interest. As the czars of centrally-planned economies consistently rediscover, it is impossible to centralize and efficiently process the massive volume of site-specific information held by millions of people, none of whom can possibly know what most of the others know. This is a fundamental problem of centralized bureaucracies from Poland to Puget Sound.

Under existing institutions managers have little incentive to heed either science or the general citizen's preferences for sound management. Bureaucratic managers are more likely to respond to their clientele and to the budget demands of their agency. Survival and career advancement, along with a sense of specialized wisdom, encourage them to respond in this manner.

The Logic of Bureaucratic Decisions

The bureaucratic decisions of federal agencies are not controlled by incentives and constraints communicated by price change. Rather, they are controlled by a strong political calculus. What is

politically feasible depends upon the invisibility of costs and the visibility of benefits. The net value of the output is often largely irrelevant. For example, the U.S. Forest Service persists in selling timber in the national forests surrounding Yellowstone Park despite huge losses on nearly every sale. If we are lucky, for each dollar the USFS spends on timber and roads in Greater Yellowstone, a dime is returned to the federal treasury. Often, it's only a nickel. Backpackers in its wilderness areas are also subsidized, as are the grazing interests and the snowmobilers among others. Political accounting is different from that of a family or a business.

Ordinary business enterprises attempt to keep the cost of production below the value of the output to the consumer. Public bureaucracies are run differently, but not irrationally from the decision-maker's perspective. The decisions made in a bureaucracy are the predictable consequences of the political incentives in their environment. Economic efficiency does not dominate the bureaucratic leaders' calculus for quite rational reasons. This is not the fault of the bureaucrat who tries his best to do good work within fundamentally flawed institutions. The faults of those institutions are outlined below.

A bureaucrat's status, rank, and pay are determined largely by the responsibility he is assigned in an organization chart. His salary depends on how many people he manages, the size of the budget he administers, and his GS ranking in the bureaucratic hierarchy. Over- staffing and paperwork are the predictable consequences of these incentives. Bureaucracies also require massive red tape to enforce accountability upon individuals who do not have their own assets at stake. By definition, the discipline of ownership is absent in a bureaucracy.

Governmental bureaucracies, such as the Forest Service or Park Service, also have strong incentives to price their goods and services at levels that increase the volume of the activities they manage,

e.g., the volume of timber cut or the number of visitor days. The amount of services demanded can be expanded, as it is in the Park Service and Forest Service campgrounds, by setting prices below the cost of managing these facilities. The lower the price a user pays, the more goods or services he will demand.

Timber that is sold for a few cents on the dollar, and national park admission prices that did not increase from 1902 until 1987 are excellent examples of increasing consumers' demand by discounting prices. The resultant high levels of camping and logging are then used to justify increases in the managing agency's budget and staff.

These public managers are not evil or stupid. They do, however, face perverse incentives that encourage normally competent and well-intentioned people to do economically and ecologically bad things. This problem is increasingly well understood.

The NRE approaches this situation with the assumption that individuals in both the private and public sectors are sensitive to their own interests. Thus, for example, irrigators will attempt to use the political process to provide subsidized water from dams such as the Teton. Timber interests will press for a continual flow of subsidized sales and logging roads. Hunters, backpackers and offroad recreational vehicle enthusiasts will lobby for management that favors their interests.

Political entrepreneurs in the Bureau of Reclamation (one of the most troublesome legacies of the Progressive Era) will use the promise of subsidized water (to a few irrigators) to gain support for an expanded budget. While the cost of the program will be hidden from the general taxpayer, its beneficiaries will be appropriately grateful to their political representatives who arranged financing for the project.

The Progressive Era agencies that manage western lands and resources have been welded into an iron triangle: the bureaucratic entrepreneurs (e.g., Bureau of Reclamation), special interests (e.g., owners of the land to be irrigated and the suppliers of farm equipment), and elected politicians (U.S. Senators and Congressmen). This triangle of interests exploits taxpayers while destroying ecological integrity.

The Progressive model of "scientific" resource management which governs the public-political lands is based on centralized command and control approaches. NRE analysts diverge from this model by stressing the importance of information and incentives to decision-making. Scientific understanding of forestry or hydrology is important, but it does not govern the decision-making process.

NRE analysts address the same problems identified by the Progressives. However, unlike the Progressives, we focus on real world behavior when considering various policy alternatives. When analyzing Greater Yellowstone, the NRE analysts compare the operation of actual, rather than idealized, markets and governments.

The NRE approach is especially useful in the most sensitive areas of environmental protection and resource management, i.e., those involving important trade-offs of values. The analytic leverage of economics (especially public choice, law and economics, and Austrian economics), is the foundation of the NRE. The NRE focuses on environmental problems exacerbated by the incentives prevalent in the private sector and public institutions.

For example, if private irrigators pay only a small portion of the costs of the water they use, they generate political demands for more dams than are socially optimal. Thus, in a period of huge crop surpluses, the Bureau of Reclamation proposes more dams to produce more new irrigated farmland. This injures existing producers of crops

as well as all taxpayers who must pay for the uneconomical dam projects. The NRE enables us to understand and predict such outcomes. When proposing reforms to improve environmental management and economic progress, NRE analysts examine institutional arrangements, focusing on the information and incentives generated by alternative institutions.

Environmental Protection and the NRE: Yellowstone Examples

For illustrative purposes we will again use Greater Yellowstone to demonstrate the NRE framework. The NRE rests upon a fundamental principle of behavior: When prices provide valid information about costs, including environmental costs, they convey highly distilled information. Prices also carry strong incentives to respond to information efficiently. Governmental distortions of market prices, (below-cost timber sales or, in the case of pollution, failures to enforce property rights) produce bad information about the true costs of actions that affect the environment and other people. It is this bad information — in the form of distorted price signals — that has led to inefficient decisions and an injured environment in Greater Yellow-stone. While I oppose selling Yellowstone Park to the highest bidder, I believe that the logic of the market process and voluntary exchange offers valuable insights for improving the management of this treasure.

In a market system, a change in price immediately provides information to both producers and consumers of the resource. An increase in price indicates that the resource has become more scarce relative to the demands for it. This increase in price also provides incentives to conserve the resource and search for substitutes.

Accordingly, prices enable individuals to make informed decisions while encouraging them to care about the preferences of others who may want to use the resource. The key point is that prices which accurately include environmental and social costs

minimize the amount of information required for sound and responsible action. In

contrast, governmental planning increases the amount of information required for economic coordination. It is hardly surprising that the problems of the Forest Service's five-year plans resembles those found in the U.S.S.R. and Eastern Europe.

However well-trained and well-intended, public bureaucrats normally lack the information provided by market-clearing prices. Throughout the Rockies, Forest Service timber, BLM rangelands, Bureau of Reclamation water and access to parks are normally priced far below their true market value. Other resources — for instance, wilderness that lies above oil, gas, and mineral deposits — are often valued at a higher level than their true worth. Restricting all development in an area implicitly places an infinite value upon those uses which are permitted.

While studying ways to improve environmental management we often find potential trade-offs and exchanges that would leave everyone better off. For example, a small development that may take only a few acres near a town in Greater Yellowstone could generate enough income to buy the rights to many thousands of acres of ecologically more valuable land, for example winter range for elk and buffalo. This land could be used for winter range for wildlife or other highly important purposes. This is precisely what some conservation organizations— for example, the Nature Conservancy — do in practice. The government's difficulty in making such exchanges causes many of the most serious problems discussed in this book.

Using the NRE to Harmonize Economic Progress with Ecological Integrity

Today, efforts to reform environmental and natural resource management have a strong advantage: demands for environmental quality and ecological

integrity have ratcheted upward. On Earth Day 1990, it seems likely that this is a permanent shift rather than a transitory phenomenon. This increase in environmental awareness is associated with increased affluence and education, qualities that encourage people to understand, care about and to place a higher value on environmental amenities.

Missed Environmental Opportunities in the 1980's

Environmental quality is a "superior good" in the same sense as foreign travel, classical music, and gourmet foods are superior goods. When examining superior goods, we find a disproportionate increase in the demand as income rises. This increase in environmental awareness was not understood by the Reagan Administration. Thus, a great opportunity for reform was passed by. A supposedly "conservative" economic agenda failed to include complementary environmental changes.

One of the greatest confusions of the past decade has been the entirely erroneous belief that the Reagan Administration offered a fundamental change in environmental and natural resource policies. Neither James Watt, Secretary of the Interior, or Ann Gorsuch Bur- ford, administrator of the Environmental Protection Agency, gave the slightest indication that he or she understood alternatives to governmental ownership or to centralized command-and-control approaches to environmental and resource management.

Although they supported economic development, both Watt and Burford seemed to believe that it is necessary to defend public land ownership and define minimal pollution controls in terms of technology rather than efficiency. As a result, there are no significant environmental reforms or improvements associated with Reagan's years in office. For example, no Administration official defended private ownership and management on grounds of its potential for improving environmental quality.

The Administration's spokespeople seemed largely ignorant of private success in the environmental arena and of opportunities to foster such private institutions as the Audubon Society's Rainey Preserve, a 28,000 acre wildlife refuge in Louisiana that produces natural gas and petroleum liquids. Watt reported with apparent pride that "more land was added to the federal estate for park and wildlife purposes in 1983 than in any single year since 1867, when Alaska was purchased from the Russians."[i]

Unfortunately, aside from largely neglected members of the Presidents Council of Economic Advisors, there were very few influential policy makers or advisors in the Reagan Administration who understood the message of the New Resource Economics. None succeeded in explaining to the press and concerned public how economic progress and limited government could be reconciled with ecological integrity. In fact, no one seemed to care.

Summary

In contrast to the Reagan Administration's approach, scholars and policy activists who understand and appreciate the NRE realize that the environmental debate must focus the comparison of private and governmental ownership, management, and control. As discussed above, the Progressives fundamentally restructured our approach to resource management a hundred years ago when they placed the wellbeing of the public lands and resources in the care of government bureaucrats. Given what we now understand about political behavior, the monumental environmental failures are expected consequences not bizarre aberrations.

The record of federal management under the iron triangle of bureaucratic entrepreneurs, elected politicians, and special interest groups has become increasingly obvious. Individuals from diverse backgrounds have sought alternative models for environmental protection. Many of them are discovering the reform potential of the NRE.

The alternative advocated by NRE scholars is an approach that is gaining support throughout the environmental community as well as among economists and other policy analysts. These individuals recognize that private property rights can be used to safeguard the environment, protect wilderness and wildlife habitat, and preserve resources for future generations. Voluntary action and increased reliance upon market forces are gaining recognition as important tools for environmental improvement.

Organizations such as The Nature Conservancy, Ducks Unlimited, Environmental Defense Fund and the Montana Land Reliance provide alternative models for management based on private property rights and voluntary action. Policies which rely upon the private sector often are economically more efficient, providing greater protection at lower cost. Even more important, a system built upon free market exchange among individuals is consistent with the ideals of a free society.

Policy reforms based upon the New Resource Economics utilize property rights and the market process to coordinate behavior when dealing with marketed resources such as timber. Information on relative scarcities is automatically transmitted by prices. NRE recognizes this information transformation as a valuable function.

The NRE also acknowledges that the incentive effect of prices upon supply and demand contributes to an improved environment. All individuals respond to some kinds of incentives, e.g., moral, financial, reputational. It follows that there is a strong argument to give business managers economic reasons to reduce pollution via a financial charge for pollution rather than by imposing inflexible technical regulations. Again, efforts to increase economic efficiency enhance and protect environmental quality and are consistent with the traditional principles understood by America’s founders such as Jefferson, Madison and Franklin.

Private property rights are important to preserving ecological values partly because they assign costs to those who abuse them. Hence, properly structured property rights foster an accounting of environmental costs. While a timber company may abuse federal forest land with impunity or a rancher may overgraze BLM lands (as long as they stay within the letter of the law), undercurrent institutions they do so without suffering a clear personal loss of property value.

When dealing with commodities, a system of private property rights limits favor-seeking activity by special interest groups agitating for policy beneficial to them. Policy beneficial to stronger, more organized groups is likely to be detrimental to weakly organized groups — especially taxpayers. When management of privately held lands is determined largely by the market, users must pay and special interest groups have less influence. Thus, we can reduce the opportunity to engage in the political favor-seeking behavior that results in poor policy decisions by using market approaches. Specifically, political favor-seeking decreases to the degree that private property rights are respected, and market signals used to direct resource use. Public-political management should over-ride private and market generated outcomes only when important public goods are involved, such as when species may be endangered by some proposed action like spraying DDT to control spruce bud worm.

When government holds property, bureaucratic decision-makers have incentives to maximize budgets rather than net resource value or environmental quality. Net economic value (benefits minus costs) is fundamentally irrelevant in the bureaucratic calculus. If private landowners behaved in a similar manner, their personal assets would lose value and they would suffer reduced wealth. If they persisted in such activity, they would go bankrupt — and bankrupt entities control few resources.

The positive implications of this are enormous. Many problems on the national forests, for example excessive road building and heavily subsidized clear-cuts, would stop if only the national forests could go bankrupt. Private ownership — as long as it has clearly associated responsibilities — has many environmental as well as economic advantages.

When private property is secure over time, owners of that property face strong incentives to carefully weigh future costs and benefits. Investors have incentives to buy resources and hold them until the social value of the resource is higher. Thus, with secure private property rights, resources are withheld from present consumption as speculators wait for the resource to become more valuable. In economic terms, speculators arbitrage across time.

No one has been able to design a political analog to the speculator for the simple reason that tomorrow's generations do not vote today and thus politicians have incentives to discount future interests to nearly zero[ii]. Nonprofit corporations and trusts such as the Nature Conservancy and the Montana Land Reliance have a better record of managing for the future than do governmental agencies which, by the nature of the incentives they face are responsive to immediate political pressures.

Environmental reform is in order, but those who would successfully reform the system must recognize the following facts. First, scientific information is necessary but is not sufficient on its own for good management. Reforms that merely increase our knowledge while ignoring the decision-makers are not likely to yield improvement. Second, decisions are made on the basis of information and incentives. Third, institutions generate and mold both information and incentives.

Successful reform requires three changes: first, increased environmental knowledge and concern, second, the redesign or elimination of the

institutions which govern it and third, the development of new and expanded institutions which are more responsive to higher ecological values. The lessons of Yellowstone contain principles that we can apply to nearly all environmental issues. We will apply these principles throughout the Green Blueprint

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[i] James Watt (with Wead), *The Courage of a Conservative*, (New York: Simon and Schuster, 1985, p.4l.

[ii] John Baden and Richard Stroup*, Bureaucracy vs. Environment*, "Transgenerational Equity and Natural Resources," University of Michigan Press, pp. 203-16.

Part II

Economic Incentives For Environmental Quality

Fresh Approaches to Fresh Air: Pollution and Regional Politics

Air is a resource we hold in common. No property rights can divide the blanket of air swaddling our planet. Because air does indeed move about, what happens five states away, or even a continent away, can eventually affect our health and well-being. Because of this, it is not easy to make polluters responsible for the negative effects they impose upon us.

Yet reasonable solutions exist. Standing in the way of their acceptance are incentives which make it economical to pollute. Moreover, the legislative process embroils politicians in special interest considerations rather than in honest efforts to clean up our air.

As a result, many citizens are accepting far more smog, acid rain, and ozone depletion than need be. This is not an evil necessary to economic progress. For in this, as in so many areas of the environment, economic progress and environmental quality can go

together. To achieve this harmony, we can apply economic incentives which encourage polluters or potential polluters to initiate socially responsible action to improve air quality. And we can insist upon regulations which use the freedom of the market, offsetting the tendency of our political representatives to turn efforts at cleaning up the air into wasteful economic battles.

Clean Air Act Sets Up Regional Rivalries

Major environmentalists hail the Clean Air Act of the 60s as the turning point in American pollution control. It is true that the Act succeeded in raising the environmental consciousness of the nation. Yet Senator Domenici (R.-ND) labels the Clean Air Act "stagnating, politically, conceptually, and environmentally."

By establishing New-Source-Performance Standards (NSPS) and National Ambient Air-Quality Standards (NAAQS), the Clean Air Act amendments of 1970 and 1977 embroiled eastern and western industrialists and politicians in stagnating regional rivalries. The process leading to these amendments dramatizes the difficulty of achieving environmentally and economically sound goals via politics.

The National Ambient Air-Quality Standards divided the nation into 236 air quality regions. It designated each region "clean" or "dirty." Given America's economic history, most of the dirty areas were in the East, while most of the clean areas were in the West. Therefore, costs to clean up the East were higher. In terms of attracting new industry, this legislation placed the East at a disadvantage.

The New Source Performance Standards limited the amount of pollutants from a new plant. To meet these standards, plants could bum high-sulphur coal from the East and Midwest, but this required installing expensive scrubbers to reduce the amount of sulphur dioxide emitted. Alternatively, the plants could bum low-sulphur coal from the West.

Faced with this decision, plant managers in the East and Midwest compared the cost of installing scrubbers with that of importing coal from the West. Clean coal often won out and the East began to lose mining jobs as well as coal-severance tax revenues. Thus these amendments to the CAA gave the West the economic edge and left the East at a disadvantage. But Eastern politicians and a variety of special interests saw opportunities to use political force to regain what they had lost.

Seven years later we suffered from a major political power play that injured our environment and our economy. Participants in this drama included environmentalists, the United Mine Workers, eastern and western industrialists, coal producers from both regions, and of course. Congress.

The Eastern states wanted to halt the westward migration of industry. Eastern coal producers wanted to protect the market for their coal. And environmentalists wanted to protect the West from any intrusion of industry, which they believed would desecrate the envi-ronment. We think it fair to say, also, that many Congressional representatives wanted to please their constituents, even at the expense of sound national policy. Tip O'Neill was all too right when he observed: "all politics is local politics." The political pendulum had swung, and this time the East regained economic advantage by manipulating the rules of the environmental policy game.

The Clean Air Act amendments of 1977 favored the victorious East in several ways. First, new performance standards called for new plants to realize a "percentage reduction" in emissions. This provision *forced plants to use scrubbers even if they chose to burn low-sulphur coal*. Therefore, the advantage of burning western low-sulphur coal was eliminated, and the eastern coal producers got their victory.

Moreover, the performance standards required all new heavy- pollution sources to install the "best available control technology," *another way of forcing plants to use scrubbers, even if they burned low-sulphur coal which could meet standards even without scrubbers*. The standards further called for "visibility impact reviews." This applied in any permit application where a new source might threaten the "visibility" of a clean area. If the proposed source was found to have an adverse impact on visibility (for example, visibility cut from 50 miles to 25 miles) the permit to construct would be denied.

However, no provision was so blatant in purely political motives as Senator Howard Metzenbaum's "local coal amendment." The Senator gave an unforgettable lesson on how to use the political process to usurp the operation of environmental common sense to the advantage of special

interests. *His amendment banned the importation of western low-sulphur coal when* it threatened mining jobs in the East and Midwest.

Plants Forced To Burn Dirtier Coal

When the amendment came up for a vote, it seems that the Senator seriously misrepresented the consequences when he bellowed before the Senate, "I want to stress that this amendment will not—I stress, will not—weaken our nation's air quality standard." Yet by this amendment, coal-burning power plants would be forced to use dirtier coal. Moreover, since scrubbers were often broken, large amounts of sulphur dioxide would be spewed into the air. Political power thus produced environmental dirt and economic waste.

Western senators, fearing a loss of jobs and economic oppor-tunity, were decidedly against the measure. Eastern senators, eager to halt the expansion of industry westward, were decidedly for the amendment. The measure passed with the voting clearly split along regional lines.

Some senators from both regions realized the provincialism of the legislation and spoke out against the amendment, yet the measure passed by one vote. The coercive power of government was employed to thwart the use of market incentives to provide efficient environmental protection.

Even the most casual political observer would find the coalition of environmental groups, the United Mine Workers, and eastern coal companies highly suspect. They obviously had divergent goals, but colluded to exploit the political process as a mechanism to transfer benefits to their special interest supporters. Senator Malcolm Wallop said of the environmental groups' motives, "We are talking about the clean air coalition and the Sierra Club, and all those people who support it, for one reason, and one reason alone: they do not want any mining in the West."

The Act's symbolic demand for using "the best available technology" to clean up the air was skillfully manipulated on behalf of a regional segment of the coal mining industry[iii]. Had the sweeping, centralized regulations imposed by the Clean Air Act proven effective in cleaning up the air, perhaps this would not seem as onerous. But the data indicates otherwise. Brookings Institute economist Robert Crandall states "there is no clear proof that air quality improved more

quickly during the 1970s than in the 1960s, before massive federal intervention; or that the Clean Air Act has reduced the absolute level of emissions."[iv]

Clearing the Air: An Economic Approach

There is a superior method of pollution control. Almost all economists, regardless of their political persuasions, believe an economic approach will work far better than the present bureaucratic command-and-control limitations. Thus far, political considerations prevent this system from being implemented. Yet the reasonableness and simplicity of the method merits continued effort to present it to our lawmakers. The system, in short, proposes to place the burden of pollution on those who pollute through the use of an emissions tax.

Consider the following hypothetical example. To reduce its emissions of pollutants by one ton, it costs a tire company in Chicago $200. For the electric utility down the street to accomplish the same reduction, the cost is $50 per ton. The utility can cut emissions more cheaply. An improvement in air quality could be achieved through the use of a tax. Yet the tax would have to be arranged so that industries cooperate to achieve clean air standards.

If the tax rate were set at $ 100 per ton of pollutants emitted, the utility would find it financially advantageous to take pollution control measures. But the tire plant would continue to pollute and pay the tax. The government could

observe the improvement and adjust the tax so that the desired reduction in emissions is realized. Note that with a charge rather than a set of regulations, both firms have incentives to find ways to reduce emissions.

Economist Alan Blinder of Princeton believes "this profit motive will automatically assign the task of pollution abatement to the low-cost firms—something no regulators can do." Robert M. Solow of M.I.T. finds this method to be superior for several reasons:

1) It is in the social interest that the cheapest method should be adapted to achieve any given reduction in pollution. A system of taxes and charges is more likely to accomplish this than direct regulation.

2) Financial incentives are usually easier to administer than direct regulations.

3) A system of direct regulation ignores the fact that some sources of pollution are more readily remedied than others.

In the early seventies, a group called the Coalition to Tax Pollution proposed that Congress tax polluters for their noxious emissions and effluents, varying the tax according to the amount of pollution damage. At that time most environmentalists regarded this solution as "a license to pollute." The keys to this proposal—using incentives and market principles—were viewed as a "real nonstarter."[v]

Occasionally, however, a legislator would attempt to get such a plan implemented. In 1972, Senator Proxmire tried to establish a system of effluent charges for all effluents other than municipal sewage. He planned to attach it to the Waste Pollution Control Act Amendments of 1972. Proxmire even found an ally across the aisle in Senator Charles Percy who told his fellow senators, "I believe the cost of cleaning up the industrial pollution should be borne by the party which does

the polluting, not by the federal taxpayers generally."

Before the vote, sensing inadequate support for his proposal, Senator Proxmire made his final plea: "*The fact is that we have tried this old method for years. It has not worked. On the other hand, we know that if we impose a tax of this kind, we have the means to collect it, we have the custom of paying for our taxes, and it will he enforced effectively*."

The Senate voted down the amendment, with Senator Edmund Muskie leading the opposition. Muskie's short-sighted response, "We cannot give anyone the option of polluting for a fee," has dominated the arena of pollution control. A system that relies on economic incentives is easy to understand but few legislators have dared to propose such a system. Although some legislators understand the logic of economic incentives, most ignore this logic. Instead, they base their positions on emotional appeals just as Muskie's and continue to view pollution as a sin, not a cost to be minimized.

On the 20th anniversity of Earth Day, the entire world ac-knowledges the potential danger of acid rain and ozone depletion on the global environment. Delayed action will only intensify the consequences. The rest of the world needs a workable model to duplicate. One based on economic incentives and that harnesses entrepreneurship has much to recommend it.

[iii] Ackerman, Bruce A. and Hassler, William T. "Beyond the New Deal: Coal and the Clean Air Act*." The Yale Law Journal*. Volume 89-Number 8, July 1980, p. 1504.

[iv] Bandow, Doug. "A New Approach for Protecting the Environment," in *Critical Issues—Protecting the Environment: A Free Market Strategy*. The Heritage Foundation, 1986, p. 7.

[v] Turner, Tom. "The Legal Eagles," *The Amicus Journal*, Summer 1987, p. 33.

Reforming the Federal Grazing Lands Benefits to the Environment and Taxpayers

During the days of the Homestead Acts, much of the land now managed by the Bureau of Land Management wasn't claimed when available at no charge. It was too dry and rocky, and the climate was too unforgiving for growing crops. Although few wanted to own these lands, many people wanted them for grazing.

In 1873 the Desert Land Act increased to 640 acres the allotment of land to homesteaders. Even so, some ranchers merely fenced in public lands to graze their livestock, without obtaining a title. Without private property rights, ranchers had economic incentives to overgraze before their neighbors did, to turn out stock before young grasses had matured and seeded, and to run more stock than the land could sustain. This paved the way for the dust bowl era of the "dirty 30's". As a result, much of the western lands became barren, devoid of topsoil, and unable to economically support livestock in commercial numbers.

By 1934 twenty-five million acres of western range had been plowed up and abandoned. In that year the Taylor Grazing Act, an executive order, withdrew all public land from further homesteading in ten western states[vi]. To administer the range land and help stabilize the livestock industry in the West, Congress established the Grazing Service in the Department of the Interior[vii].

This act was a step forward because it controlled grazing on public lands. Under the act, ranchers could invest in the maintenance and improvement of public grazing lands they used, and be reasonably secure that they would enjoy the benefits that they paid for. Their leases even had equity value at rural banks. This led to some substantial improvements[viii].

However, the new agency was not fully successful. Eastern representatives, unwilling to grant

Westerners a free ride, were pushing the agency to raise grazing fees to market values. Western representatives, trying to satisfy the demands of ranchers, fought to keep the fees low. The resulting political tussle caught the agency in a political bind.

In 1946, Congress combined the Grazing Service and the General Land Office into the Bureau of Land Management (BLM). The first director of the BLM, was Marion Clawson, a Harvard trained economist who had grown up on a Nevada ranch. Clawson spent the next seven years reducing the red tape and paper work of the agency. He also raised grazing fees, and hired more range management. This made him unpopular with the stockmen who had grazing rights on public lands, and were used to cheap fees. They did not appreciate an economist operating the BLM like a professional land management agency. In 1952 he conducted a detailed study of grazing fees and concluded they should be raised to an average of 28 cents per animal month. (The amount of forage one cow with calf would eat in a month.) But his efforts to raise fees to that level failed, due to heavy political pressure from the stockmen. Shortly thereafter he was fired[ix].

The ranchers saw any attempt to marketize the public lands as an infringement on their rights—and their way of life. Once a group is nurtured and coddled at the public trough, it is virtually impossible to break the cycle without a major political battle. That battle is still being fought. In the meantime the taxpayer loses.

Grazing Rights Costs Taxpayers Far More Than Collected Fees

Twenty thousand ranchers have permits to use BLM lands, and they pay from one-fifth to one-tenth the price paid for grazing rights on nearby private land.[x] Grazing fees yielded only $23 million in 1984, while administration of the rangeland, according to Department of Interior economist Robert Nelson, costs the government between $100 million and $200 million annually.[xi]

Several acts passed in the 1960s and 1970s culminated in the Land Policy and Management Act of 1976. They reversed the trend towards quasi-property rights set in the Taylor Grazing Act. The recent acts have given the BLM more control over grazing rights, and private ranchers less incentive to invest in improving the quality of public land. "The BLM has no incentive to keep costs down, or even maximize revenues from grazing fees, which go into the overall U.S. Treasury rather than its own coffers. Instead the BLM builds its budget by winning political support from ranchers who then lobby for BLM expenditures."[xii]

Wildlife management, recreation, watershed maintenance, and energy development should all receive the attention of the agency in

accord with its multiple use mandate. The land's aesthetic value as well as an economic return shall be weighed. But grazing creates larger budgets. Therefore the amenity values tend to lose out when competing for funds. As public choice economists have shown, a bureaucracy is driven to emphasize those activities which promote a continually expanded budget. The BLM fits this pattern well. Furthermore, the BLM's traditional constituents are politically powerful ranchers.

The BLM's emphasis on grazing has led to environmentally destructive behavior. Perhaps no BLM practice is as appalling as "chaining". This dramatic and especially ugly way of removing trees is accomplished by two D-8 class crawler tractors linked by 600-foot anchor chain, moving forward uprooting trees and shrubs in its path. It is a dramatic and expensive method for sweeping scrub tree areas to improve rangelands. By removing the trees and shrubs, which compete with grasses for nutrients and water, more forage is produced for livestock. And more grazing land means a larger inventory of political favors for the BLM.

"Chaining" Practices Destroy Plants and Wildlife

However, "chaining" has disastrous consequences.[xiii] By 1964, nearly three million acres had been chained, with millions more planned. There are approximately 50 species of fish, 66 species of reptiles and amphibians, 75 species of mammals, and 140 species of birds in or around the pinion and juniper trees that are uprooted by chaining. Wild ungulates, such as mule deer, tend to avoid the chained areas due to their natural hesitancy to expose themselves in the middle of clearings that often exceed a section (one mile by one mile) in area.

Trout are threatened because overgrazing leads to soil erosion, which muddies streams and makes it difficult for the trout to reproduce. Trout taxonomist Robert J. Benke of Colorado State University has written, "Livestock overgrazing is the greatest threat to the integrity of trout stream habitat in the Western United States."[xiv]

Yet, the Forest Service and the BLM actually maintain that "chaining" is beneficial to the environment. They either possess some scientific knowledge that enables them to improve Mother Nature's handiwork, or are attempting to protect an activity that increases their budget.

In an outrageously funny article, Edward Abbey argued that we do not need the "public lands beef industry" because it only supplies two percent of our beef. The great majority of our beef comes from private lands in the Midwest, East and Southeast, "and for a very good reason: back East one can support a cow on maybe half an acre. (In the West) it takes anywhere from twenty-five to fifty acres. In the red rock country of Utah, the rule of thumb is one section — a square mile per cow.[xv]" Yet the western beef industry continues to prosper on heavily subsidized public lands at a huge cost to taxpayers.

Providing Taxpayer Relief and Environmental Amenities

If the land's values, e.g., water rights, wildlife habitat, and recreational amenities, could be

captured by private parties, there would be incentive to prevent overgrazing. One of the most obvious methods to stop overgrazing is to charge market prices, something private interests naturally do in response to supply and demand condition. Such a scheme would have two major benefits: the taxpayers would be free from the burden of paying for costs for the ranchers who use public lands. Moreover, the environmental degradation that results from poor grazing management would be reduced.

A more extreme method of improving the conditions of BLM lands is divestiture. "Only in this way can all of the people of the nation capture the benefits into perpetuity produced to public interest foun-dations and ranches by the 170 million acres of grazing land in the West now managed by the BLM."[xvi] A mixed tenure of private ownership of the BLM lands could encourage a diversity of uses, and a dynamic management system capable of adapting to changing needs and priorities.

To safeguard the multiple values, the lands should be transferred or sold with protective covenants. For example, an area frequently used for recreation could be transferred to a land trust or sold with the understanding that the new owner may not prohibit such recreation. Also, the ranchers now getting a subsidy on public lands need not be disadvantaged by their divestiture. Current lease holders could be offered secure and transferrable rights to the grazing on the lands they now use. Making these property rights permanent would increase their value to the user, since the benefits of long term management practices, would present the user future benefits.[xvii]

Further, consider the wide array of benefits flowing from a divestiture plan: current users of the land gain because of the opportunity to engage in better long-term management practices; citizens gain from increased productivity, and by not having to fund inefficient BLM management practices. The

only interests not to gain are those currently subsidized and the BLM itself.

Costly lobbying and the constant struggle to please both ranchers and environmentalists would be eliminated. A divestiture would encourage environmental groups to purchase environmentally sensitive lands, and ranchers to purchase most productive rangeland. Both interests would be better served, and economic efficiency and environmental integrity would be fostered.

On Earth Day we need institutional arrangements which recog-nize economic incentives and environmental values. We find opportunities to overcome many environmental problems of our nation with nongovernmental arrangements. The Progressive-era type institutions like the BLM circumvent market forces and the potential of voluntary action.

Yet bureaucratic institutions have been part of the American political landscape for over a hundred years. They are so entrenched that any alternative arrangements for management have been neglected. Control of the BLM lands should move to those who use and appreciate them, not those with the political power to gain financial subsidies and the right to impose environmental destruction.

[vi] Junkin, Elizabeth Darby. *Lands of Bl ighter Destiny.* Fulcrum Incorporated, Golden Company. 1986. p. 86.

[vii] Kemp, Sabine. "A Perspective on BLM Grazing Policy," in *Bureaucracy and the Environment.* John Baden and Richard Stroup, eds., The University of Michigan Press, Ann Arbor, 1981, p. 128.

[viii] *Baden, John.* Destroying the Environment: Government Mismanagement of our Natural Resources, National Center for Policy Analysis Report it/24. *NCPA, Dallas, 1986. p. 22*

[ix] Culhane, Paul J. *Public Lands Politics: Interest Group Influence on the Forest Service and the Bureau of Land Management.* Resources for the Future, Inc., John Hopkins University Press, Baltimore, 1981, pp. 89-91

[x] Op. Cit., Baden, *NCPA,* p. 17.

[xi] Bardow, Ious. *Critical Issues—Protecting the Environment: A Free Market Strategy.* The Heritage Foundation, 1986, p. 13.

[xii] Baden, John. "Crimes Against Nature," *Policy Review,* Winter 1987, Number 39, p. 38.

[xiii] Lanner. Ronald M. "Chained to the Bottom," in *Bureaucracy and the Environment,* Baden and Stroup, eds.. University of Michigan Press, Ann Arbor, p. 161.
[xiv] Op. Cit., Baden. *NCPA.* p. 23.
[xv] Abbey, Edward, "Even the Bad Guys Wear White Hats,"*Harpers,* January 1986, p. 52.
[xvi] Stroup, Richard and Baden, John. "Property Rights and Natural Resource Management," *Literature of Liberty: A Review of Contemporary Liberal Thought,* Cato Institute, 1979, p. 37.
[xvii] Ibid., p. 37.

Politics vs. Science in Our National Parks: Looking for a New Management Approach

A great outdoorsman, Teddy Roosevelt wrote glowingly of the varied natural life in Yellowstone, the nation's first national park. He wanted to share the wonders of this rich heritage. "Our people should see to it that they are preserved for their children and their children's children forever, with their majestic beauty all unmarred."

A great idealism inspired the establishment of the parks, and Progressive Era reformers called for their "scientific management." Without their protective actions, many majestic lands would undoubtedly have been ravaged and stripped of their natural resources by the accelerating Industrial Revolution. Americans are indebted to those who fought to protect these lands.

And, yet, as we examine three elements of Yellowstone's ecology we are impressed with the fact that public servants, entrusted

with their stewardship, are constantly hampered by the institutional arrangements under which they must work. Centralized command- and-control bureaucracies seem to work against efficient resource use, employee accountability, and truthful information flow.[xviii] Yet these elements are needed for efficient management.

Unscientific policies evolve all too easily in a highly charged political atmosphere. Working under that handicap, the Park Service is gradually turning what was once an ecosystem full of diverse wildlife into biological monocultures. Already many species have been driven from the Park, some intentionally killed off by the Park Service. The story of the elk and the bear, and an examination of the conditions contributing to the exacerbated destruction of the 1988 fires offer strong argument for a new management approach for Yellowstone, other national parks, and for America's nearly seven hundred million acres of public land.

Pamper the Elk, Suppress Diversity

In 1915 Teddy Roosevelt noted the overpopulation of elk in his much loved Yellowstone Park. He urged the game preservation committee of the Boone and Crockett Club, America's first wildlife conservation organization, to control the herds. However, over the next few years, severe winters caused a decline in the number of elk, and the newly formed Park Service worried about how they were to maintain their goal of showpiecing elk and other big game, to attract the tourists required for political support.

When Park Service managers decided that predators rather than severe winters were threatening the elk, they initiated an extermination policy for wolves, mountain lions and other predatory animals. However, they didn't anticipate what a protected and increasing elk herd meant to other species. In the absence of predators, the elk herd expanded rapidly, driving from the park borders most white-tailed deer, pronghorn antelope, mule deer, bighorn sheep, and moose.

As wolves were hunted, the expanding elk populations destroyed beaver habitat. With the disappearance of beaver, the wolves could not return, perhaps because they relied upon beaver as a major food source in Yellowstone,[xix] as in the famous study of wolf, beaver and ungulates in Isle Royal National Park of Michigan. After only two decades of this policy of killing off predators to save their big-game animals, the Park Service had handed a definite competitive advantage to elk, which, discounting buffalo, were the largest of the animals they wished to preserve. The Park Service predator-control policy managed to eliminate not only mountain lions, wolves, bobcats and lynx, but even such "ferocious" animals as the fox, otter, fisher, marten, and pelican.[xx]

Park management policy—not predators—was responsible for killing animals and eliminating numerous species of wildlife within the park. Yet the Yellowstone Park Act of 1872 had called for protection against any wanton destruction of the

game and fish within its borders. In their zeal to protect the politically popular elk, the Park Service robbed Yellowstone of its richness of biological diversity and clearly violated their custodial mandate.

Locking Out the Bear

From the earliest days of Yellowstone National Park, the grizzly bear shared with Old Faithful a distinction and popularity among park visitors. However, visitors today will be lucky if they see a bear of any kind. The vanishing bear is a consequence of conscious Park Service policy.

Perhaps no other animal in Yellowstone is more dependent upon an ecological relationship with man than the bear. In earlier centuries, the Indians periodically killed large numbers of bison by herding them over cliffs. The bears scavenged what remains the Indians left behind, and the far more common carcasses of animals killed when the ice gave way as they attempted to cross frozen rivers.

Since the late 1800's, the bears frequently fed on garbage left outside of hotels or deposited in garbage dumps. However, in the 1960's, the Park Service began closing these dumps, believing that the animals should subsist on purely "natural" sources of food. Park managers thought that by locking out the bears' usual source of leftovers from human consumption, they would return to the wilderness where they could roam freely and search for food as an integral part of an ecosystem.

But this broke an established ecological relationship. The bear was not weaned from man's food, but began more frequent raiding of campgrounds. There was an increase in bear incidents, and the first fatality in thirty years occurred in June of 1972 when a grizzly mauled a camper near Old Faithful.

In response, the Park Service began to kill more bears. Park Service estimates of numbers killed from 1968 to 1973 stand at 37. Estimates by outside researchers for the same period stand at

189 and possibly higher.[xxi] In the 60's and 70's sheepherders running bands (thousands) of sheep on the national forest grazing lands between the Gallatin and Madison rivers north of the Park boundary, often served as the bears' executioners when the Park Service dumped drugged bears on the sheep bedding grounds.

Another bear caused fatality occurred in June 1983. A bear well known to rangers and accustomed to feeding at a dumpster at the West Yellowstone airport, was weaned from this habit when authorities mixed ammonia with the garbage. After losing 173 pounds, the bear wandered into a campground, ripped open a tent, dragged a man from his sleeping bag and began to eat him.[xxii]

Unless the bears are provided with the food to which they have been accustomed, incidents will continue to occur. Park Service policies are obviously not preserving that species, and have endangered human life as well.

Fire policy: A Call for Common Sense

The fires of 1988 placed Yellowstone in the national media spotlight, and focused the public's attention on the alleged misman-agement of the park.

Prior to 1972, all fires, whether of natural origin or human carelessness, were quickly suppressed. This had been the policy since shortly after the park's creation. By 1988 much of Yellowstone was laden with excessively mature forests. The older trees blocked out sunlight, thereby restricting the growth of underbrush on the forest floor. Some of the trees fell prey to disease and parasites, creating a huge stock of fuel that the right conditions would convert into an inferno.

Those conditions appeared in 1988 in the form of a severe drought. When the fires first began, it was thought that they would bum themselves out. But feeding on a century's accumulation of fuel, the fires burned hot and spread quickly—far beyond Park Service control.

It’s not possible to immediately return to a natural state if one has not existed for nearly one hundred years. The “let-burn” policy was a step in the right direction to rejuvenate Yellowstone, but, due to political pressures, it lacked common sense. Prescribed bums should have been employed to gradually reduce the fuel loads, so that the risk of conflagrations would be reduced. The fires of 1988 would undoubtedly have been less severe had Park managers accepted the wisdom of early man, who “burned to prevent the buildup of combustibles that would later cause a climatic and dangerous forest fire.”6[xxiii]

(See “The Song of the Elk,” for an analysis of politically influenced decisions.)

Private Sector Management Of Our National Parks

Analyzing the Park’s experience in the shadow of politics, we propose that the parks be insulated from political pressures. Instead of more federal support, as some advocate, we propose that the management of these ecological treasures be improved through a well-tested mechanism that works with museums and land trusts: managing through a board of private trustees, much like the Smithsonian Institution.

Please note that this measure does not call for selling our national parks. We propose taking advantage of the many benefits of private management, while title to the properties remains with the people as a whole.

Several non-profit conservation groups have shown how en-trepreneurial efforts can be harnessed in the interest of environmental quality. Another organizational model can be found in a most unlikely place, the mechanisms used by the federal government to lease oil and gas tracts.

An experiment could begin by announcing that eligible conser-vation groups could nominate existing federal parks, wildlife refuges and wilderness area for private control. Eligible groups

could then bid for the right to manage specific tracts.

The groups would have incentives to be creative and efficient, would be required to follow the guidelines Congress imposed when it established the areas, and would be subject to "ecological audits," perhaps by committees established by the National Academy of Sciences. The groups would also face strong incentives to generate revenue in ecologically sensitive ways.

Such organizations have already demonstrated great success in generating substantial revenue—and usually without a large land base. The annual budget of the Wilderness Society is nearly equal to that of Yellowstone Park. The Sierra Club's budget is more than twice that, and the National Wildlife Foundation's more than four times as great. The Nature Conservancy, an immensely successful institution, already manages a portfolio of lands valued at more than $500 million.

The primary argument, however, is not economic—it is the ecological advantage of insulating science from politics by placing responsibility for decision-making upon an independent board of trustees.

By isolating these private management boards from the direct political pressures experienced by Park managers, more consistent scientific and managerial policies can be established and applied. This will benefit the nation and the people for whom the parks were established. If we are willing to establish such Ecological Endowment

Boards, we may yet save these areas for the enjoyment of our children and ourchildren's children, "with a beauty" if not" all unmarred," then at least "restored."

Advocating this will require courage from the new president, and an admission that the current system is fundamentally flawed. We can only hope that the Bush administration will show this courage before our parks deteriorate beyond repair.

Notes: We are highly indebted to the work of Alston Chase whose book*, Playing God in Yellowstone: The Destruction of America's First National Park* (Atlantic Monthly Press, 1986) provided valuable information.

[xviii] Ideas developed by Gordon Tullock, *Politics and Bureaucracy.*

[xix] Chase (as above), p. 136.

[xx] Ibid., p. 124.

[xxi] *National Parks for A New Generation: Visions, Realities, Prospects*. A Report from the Conservation Foundation. 1985, p. 24.

[xxii] Cit., Chase, p. 187.

[xxiii] Ibid., p. 93.

The Song of the Elk: Environmental Policy at the Mercy of Politics

An Analysis of Park Policy

As we examine the nature of problems in the park we are impressed with a recurrent theme: National Park problems seem to be predictable consequences of park mangements' dependence upon changing political influences. Like the chorus of a song, this theme repeats itself throughout the park's history and is well-illustrated through an examination of policy changes made regarding the elk.

The Song of the Elk

Verse 1: *Responding to an existing or potential ecological problem. Park managers design a well-founded policy based upon science and ecological common sense.*

In 1961, the Park Service instituted a plan for direct reduction of elk in Yellowstone, since the burgeoning elk popu-

lation had placed intense pressure on the range and other animals. Direct reduction calls for the Park Service to kill elk. At that time Superintendent Lemuel Garrison wrote: "It is our responsibility to manage the... Elk Herd... in such a way that the vanished whitetailed deer can return, that beaver, antelope, mule deer, bison and bighorn can hold their own, and that the elk herd itself remains healthy instead of further damaging their impoverished range."[xxiv]

Chorus: *Politics, Politics: This policy irritates special interests and generates political opposition, and the Park Service changes its policy.*

In the case of the elk, hunters were incensed because they wanted to do the killing themselves, and animal lovers were upset because they wanted all elk spared. In response to political pressures from various special interests. Park agents adopted

a "do nothing" policy to "let nature take its course." The blame is shifted to God.

This occurred in 1967 when the Park Service adopted a policy of "natural control" (a euphemism for "do nothing" and "offend no one"). Implicit in this policy was the belief that the elk population would be naturally regulated by the "combined actions of native predators and periodic severe winters."[xxv] Killing elk in the Park would no longer be necessary.

Verse 2: *The "do nothing" policy generates a new problem since all political decisions are subject to the reality checks of natural system dynamics.*

A crisis quickly developed: a massive explosion in the elk population. While developing the "natural control" policy. The Park Service neglected to acknowledge that they had previously eliminated major predators within the park's borders, and that Indians who previously hunted the elk were no longer present.

At the time of the fires of 1988 the elk population was estimated at 60,000 to 90,000. This was far higher than any upwardly revised Park Service estimates of carrying capacity of the range. This estimate, as low as 4,000 in 1967, had been increased wheneverpolitically necessary, until it reached 12,000 in 1974.[xxvi]

Chorus: *Politics, Politics. This new crisis produces great media attention, which in turn precipitates direct political pressure and intervention. And an imminent change in park policy.*

The fires and the drought of 1988 combined to heighten the plight of the elk. During the next winter, the enormous elk herd faced an even lower supply of food than usual. Although resisted by the Park Service, pressure was applied and non-native winter wheat was planted. Other plans were made to supplement the feeding of elk. Many were fed when they left the Park. Clearly, the feeding of elk directly contradicts the "natural control"

philosophy. This feeding encourages an even greater increase in the elk herd, more animals driven out of the Park, and the further destruction of the range.

Verse 3 and Repeat Chorus: *Politics, Politics*

Thus, direct political intervention creates a new policy, bom of political desperation, immune to scientific understanding, and

ecologically unsound. This in turn sets the stage for a new crisis and the routine can begin again.

It's time to insulate ecological systems from political pressures.

[xxiv] Chase, Alston. *Playing God in Yellowstone: The Destruction of America's First National Park*. Atlantic Monthly Press, 1986, p. 30.
[xxv] Ibid., p. 38.
[xxvi] Ibid., p. 38.

Conserving Water Resources and Ending Pork-Barrel Projects

Americans were encouraged to settle western territories by the Homestead Acts. They were drawn by the promise of rich farming and the opportunity to call a chunk of land their own. But crossing the 100th meridian brought them into territory receiving significantly less rain than the eastern lands from which they had come, in general less than 20 inches/year.

Congress seized irrigation as the miracle to transform this semi-desert into imitations of the corn belt states. In 1902 it created the Bureau of Reclamation to mastermind the work. The Bureau began with optimistic plans. It would be self-supportive. It would lend money for irrigation projects. It would sell water for a fee, and this income would repay construction costs plus interest.

Yet the Bureau's mission soon expanded into power, flood control, recreation, and fisheries. Irrigation benefits were charged against the cost of construction and operation, and hence not truly reimbursed. Since the sale of water was not covering the Bureau's expenses, the idea of self-support was abandoned.

Major Bureau effort went into the building of dams and waterways. By 1977 over 50,000 dams twenty-five feet and higher, as well as 2.5 million smaller dams, dramatically reduced the amount of undammed flowage. If the benefits from damming rivers and streams were greater than their costs we could take satisfaction in these "improvements" and treasure the few remaining free-flowing streams which are left. But the benefits went to the few and the costs were borne by the country as a whole.

Taxpayers Bear Irrigation Costs

Growing grass for cattle in near-desert areas cost taxpayers more than they realize. In 1986 California irrigated pastures consumed almost 5.3 million acre-feet of water—as much as all 27 million people in the state personally consumed, including use for swimming pools and lawns. What these pastures contributed to the state's $500 billion economy was a meager $94 million. One five-thousandth of the economy; one-seventh of the water.[xxvii]

This story repeats itself in other states. West of the 100th meridian, agriculture takes up to 90% of the water supply. Most of that water goes to raise supplementary feed for cattle and to irrigate staple grain and fiber crops, all of which are or could be grown elsewhere in the nation. Very little water is used to grow the specialty crops that have made the western farmer famous; according to the Bureau's statistics, a mere 17% percent of its water flows to vegetables, fruits, and nuts, and the portion flowing to winter-season lettuce or citrus fruits is only a miniscule part of that.[xxviii]

Marc Reisner, historian of water-use in the West, argues that western agriculture causes more environmental damage than any other single activity. He places responsibility for the West's water crises upon irrigated agriculture, and especially upon the raising of livestock on irrigated pasture. He asks, why raise cattle and sheep in the West when they could more easily be raised in a part of the country which receives a decent amount of rain?[xxix]

The source of the problem is obvious. The western water pathology has dominated our region only because the Bureau of Reclamation sells water "at astoundingly subsidized rates, often as little as a quarter of a cent per ton."[xxx] At such prices a rancher or farmer has little incentive to conserve water. He can simply use his entitlement at a very low price. The cost to society, however, is huge.

Moreover, the system of water rights encourages wasteful use of water. A farmer or rancher who fails to use the full amount of his water rights per year forgoes these rights. What he doesn ' t use he loses, even if his effort is a reasonable effort to be efficient and conservative during a season when he doesn't need as much water. The result is that it costs him more to conserve than to waste the water.

The Shame of Political Maneuvering

The West does not have a monopoly on poorly conceived water projects. Perhaps the most glaring example of politics and bureaucracy gone amuck is the Tellico Dam on the Little Tennessee River, a project bandied about since the 30’s, then seriously considered dur the 60's.

The dam fails on economic and environmental grounds, produced no power, no flood control benefits, few recreational bei fits, and no fish and wildlife benefits. Regardless of the potential ha to the now famous snail darter, it made no sense at all — exci politically. The dam was important to the politicians who told th constituencies it would be an economic boon. The process of politii maneuvering surrounding this project presents a lesson in the mist of power and the failure of political process to enact sound enviri mental policy.

Under pressure to justify the dam, the Tennessee Vail Authority decided to create a new town around the reservoir, where town had been before. “It was like deciding to put a fifty-thousand-si Superdome in the middle of Wyoming and then building a city 150,000 people around it to justify its existence.”[xxxi]

Environmentalists discovered that the dam would threaten I snail darter, a fish thought to be an endangered species. Under thi influence. Congress halted construction, even through the dam w 95% complete.

Some saw this as a reasonable economic loss. Chairman of tl Council of Economic Advisers,

Charles Schultz said: "Here is project 95 percent complete... and if one just takes the cost of finishii it against the benefits... it doesn't pay."[xxxii]

Yet the dam was not dead. Senator Howard Baker ai Representative James Duncan of Tennessee can be credited with reviving it. Representative Bob Edgar describes their "creative" legislation:

"Duncan walked in waving a piece of paper... He said , 'Mr. Speaker! Mr. Speaker! 1 have an amendment to offer to the public works appropriations bill.' Tom Bevill and John Meyers of the Appropriations Committee both happened to be there... Bevill says, T've seen the amendment. It's good.' Meyers says, 'I've seen the amendment. It's a good one.' And that was that. It was approved by voice vote! No one even knew what they were voting for! They were voting to exempt Tellico Dam from all laws. All laws! They punched a loophole big enough to shove a $100 million dam through it."[xxxiii]

The experience of Tellico Dam demonstrates that sound eco-nomic judgment is primarily a nuisance in the political arena. This is not the type of government our Founding Fathers envisioned when they drafted the Constitution. But it is the sort of outcome they would have expected if the government were permitted to allocate resources. This is a key reason why they wanted to minimize the role of government in the economy.

Marketing Water: A Conservation Measure

It's obvious that the prevailing incentives will continue to lead to misuse and a needless waste of water. The system needs a major restructuring. To begin with, the price of water sold by the Bureau of Reclamation should be high enough to encourage conservation. Also, farmers and ranchers who take steps to save water should be rewarded. As it stands now, rewards often encourage wasting water.

Private ownership of water rights would help solve many of the problems associated with water use problem. Owners would be free to conserve and

reallocate this scarce resource into its most highly valued use. Huge gains are possible from water trading. "If a city is willing to pay more for drinking water than the water is worth for irrigating crops, farmers gain by selling or leasing it to the city. The city obtains a new water source without large capital outlays. Taxpayers gain by not having to finance water projects, and citizens generally gain by not having dams and canals which harm the environment."[xxxiv]

Under this system, western agriculture will undergo several dramatic changes, with some lands dropping out of irrigated crop production and becoming land for recreation, grazing, and wildlife. However, there is no reason why certain crops which use enormous quantities of water in the West should not be grown where it rains. For example, it is much cheaper to grow grains in the corn belt states than in an arid semi-desert. The land that would go out of production would be the most submarginal, lands that have extremely low productivity even given their "water subsidy." One time transfer payments could then be given to farmers and ranchers, to make the breaking of the "feeding at the public trough" habit as painless as possible, and to make the shift politically feasible. Positive economic benefits would ripple throughout the entire economy.

The implicit tax that goes to subsidized grain would drop, thereby helping to reduce the debt crisis. A halt to inefficient new water projects would result, and save the taxpayer from future costs of subsidization. Water would be conserved, and there would be less pressure to implement costly water impoundment and distribution projects that harm wildlife.

Most importantly, items of "pork-barrelling" would be removed from the American political agenda, and taxpayers would receive a break from the special interests who increase their wealth at the expense of the taxpayer.

[xxvii] Reisner, Marc. "NoCountry on Earth Has Misused Water as Extravagantly as We Have," *New York Times*, Oct. 30, 1988, p. 4E.
[xxviii] Worster, Donald. "An End to Ecstasy*," Wilderness: Water and the Dimensions of Crisis.* 1987. p. 21.
[xxix] Op. Cit., New York Times.
[xxx] Ibid.
[xxxi] Reisner, Marc. *Cadillac Desert: The American West and Its Disappearing Water*. Viking Penguin, Inc., 1986, p. 336
[xxxii] Ibid., p.339
[xxxiii] Ibid., p. 340
[xxxiv] Leal, Don. "Making Every Drop Count: The Case for Western Markets," *The Freeman*. June 1988. p. 235.

"Tough Love" Choices Needed In the Protection and Management of Wild Horses

Mustangs and other wild horses roam the landscape in ten western states. Known as "feral'' or "free-roaming," they are a symbol of the "wild west." Their hardy nature mirrors the character of the pioneers who settled these harsh lands. With the American frontier long since closed, these horses remain among the last representatives of the freedom spirit of the "Old West."

Unfortunately, the horses are destroying the range upon which wildlife and ranchers depend. The government has responded with mechanisms for reducing the herds. But the methods have allowed grossly inhumane treatment of the horses, and increased tensions between ranchers, animal lovers, and the government. Chaos has resulted, and the numerous instances of mistreatment and neglect have created a breeding ground for rumor and innuendo.

In July of 1987,400 wild horses acquired through the Bureau of Land Management's Adopt-A-Horse program were discovered wintered on barren range in North Dakota. One-hundred ten of them had died of starvation and dehydration. The Bureau gave little attention to the incident.

Shortly after, a Montana rancher admitted to a reporter that the 600 horses he had acquired through the same program were headed for slaughter. Strong public outcry roused the Bureau. They demanded the return of the animals.

In September of 1987,48 wild horses died of dehydration after being rounded up for an experimental birth-control program, and then abandoned behind a barbed wire fence separating them from water.

In November of 1988, a news article reported the suspected but unconfirmed killings of dozens of wild horses by Nevada cattlemen. Quoted attitudes of the ranchers included, "They're nothing but

nuisances. All they do is eat the food and break the fences. They oughta send all them horses over to Ethiopia and feed them to the starving (people)."[xxxv]

In the same month an appeal decision brought the courts into the act, dictating public policy on the management of wild horses. The Bureau of Land Management was forbidden to transfer title to anyone intending to use the horses for pet food.

Through cases like these, emotionally charged public sentiment focuses attention on this technically complex issue: how to protect and at the same time control the "wild horse" population. With the extremely proficient breeding instincts of the wild horses, and with no predators to help control their population, they exceed the range's carrying capacity. As a result, the lands' productivity is decreased and indigenous wild animals are driven out. Families who have been living off the grasslands by running their domestic livestock for generations, are also threatened by the degradation of the range. Moreover, the horses themselves face starvation if allowed to outbreed the capacity of the range to produce forage.

Faced with this situation, the BLM has limited means of control. The Wild Horse and Burro Act of 1971 provided the basis for the Adopt-A-Horse program which the BLM currently conducts. The program runs as follows: 1) biologists and range scientists estimate horse numbers on each of the ranges in ten western states; 2) helicopters are used to round up "excess" horses; 3) the horses are then collected into holding pens; 4) individuals can purchase up to four horses for $125 each, or, by collecting power of attorney from other people, can adopt hundreds at no fee; 5) the BLM is then supposed to check on the horses for one year to make sure they are being treated properly; and 6) if, at the end of one year it has been determined that the horses have been properly cared for, the BLM grants title to the new owner.[xxxvi]

Under the current adoption program, many of the horses remain unwanted and are doomed to living their lives in federal corrals that in reality are septic prisons. This is a horrible existence for the horse and a drain on the taxpayer. Since 1980 alone the BLM has spent more than $92 million on the program in its attempt to reduce the number of feral horses to 30,000 from the 1978 estimate of 54,000.

It is abuses of this program which have brought a new wave of public comment on the wild horse issue. The media report on the failure of the BLM to adequately follow-up for one year on the type of treatment "adopters" are giving the animals. Criticized also is the agencies' lack of interest in knowing the intentions of those who harvest the horses.

The fact that the BLM often gives these animals away to parties who abuse and mistreat them is not commendable. Neither are the negative attitudes of western stockmen. And yet equally difficult is the situation where bureaucrats must deal with the capriciousness of public opinion, and frequently changing public laws, while trying to manage wildlife.

The first policy-dictated reduction of the herds began in the 30's, with large-scale reductions into the 40's. The pet food industry provided a ready market for horse flesh. As these necessary removal efforts became known to the public, politicians were pressured to protect the horses. Legislation in 1959 curtailed to some degree the killing of the horses.

Then in the 1960's, due to the lobbying efforts of wild horse groups, Senators were flooded with public comment on the wild horses. Evidently, many people in the nation were seduced by the romance of the wild horse. One senate staffer commented that mail on this issue took second place only to letters on the Vietnam War. That placed it ahead of letters on civil rights, education and unemployment.

This effort culminated in passage of the Wild Horse and Burro Act in 1971. The Act declared, "wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West" and provided that they "be protected from capture, branding, harassment and death."

Changes made in the Adopt-A-Horse policy over the years provide another example of the see-sawing efforts of the BLM to manage the herds yet deal with public policy and the public at large.

With the herds expanding in the 70's, the BLM began allowing mass adoptions. However, wide-scale abuses provoked an amendment to the law in 1980, allowing only four adoptions per person. Yet in the mid-BO's the bureau saw the need for heavier culling of the wild horse population. It then circumvented the restriction of four by allowing an individual to gather powers of attorney from any number of people. In this way, one individual could claim a substantial herd.

Without adequate follow-up for one year, real abuses were likely, especially when an individual bought the horses specifically to end up as pet food. The program itself fostered this abuse by demanding that a year of care be provided before the horses could become the property of their adopters. This is not an economic arrangement for a responsible and humane person who would have to provide adequate feed for that year. Thus the system selected for the most callused and cruel. Only those willing to keep their free horses at a starvation level could profit from this system.

Now that the courts have further mandated public policy by placing a restriction on the purposes to which the animals can be used, the situation only becomes more complicated. The natural system and the horses and ranchers dependent upon it are likely to suffer.

Tough Love Choices Required for Reform

Solving the wild horse problem requires hard choices, the type of choices that lawmakers nearly

always try to avoid. The solution we outline here may offend some, but we feel it is the best way to preserve these herds, and protect the range and the wildlife and humans dependent upon it. In short, our solution allows these animals to exist where the damage they cause will be kept at a minimum. It also requires a specified number of horses to be removed each year by private interests, who may do with them as they please subject only to our laws which justly protect against cruelty to animals.

Our solution begins with the designation of wild horse refuges, such as that found in the Pryor Mountains of Montana. Obviously, these ranges should be selected with an emphasis on topographic features which provide natural containment. The horses should then be allowed to reach their natural equilibrium or capacity. Careful attention and substantial publicity should be given to the establishment of these areas. Particular emphasis must be given to the place these animals fill in the total ecology as well as their historical or sentimental value.

On each of these refuges a carrying capacity must be established through scientific study. Once this number is established, it should be maintained. For example, if a herd of 200 is scientifically established for the Pryor Mountains and the herd is found to have a 10% natural increase each year, than 20 horses must be removed annually.

Private parties would then be allowed to bid for the right to remove the 20 horses, say for example $2,400. The horses would be humanely rounded up (without the use of guns) by the highest bidder. Once they have been gathered, the new owner may do with them as he wishes, just as any other owner of a horse.

What happens when the remoteness or difficulty of an area keeps any private party making a positive bid? In that case the smallest negative bid should be accepted. In other words someone would be

paid to round up and remove the horses from the over-stocked range.

Obviously, not all of the harvested animals will be fit to become saddle or draft horses—some will end up being slaughtered. Thus, this policy clearly forces us to make some hard choices. This is a "tough love" situation.

But that is what good policy making is all about. Coming up with the best alternative often requires institutional reform. When unpleasant decisions require the intelligence to understand complex situations, and the courage to take responsible action in the face of strong feeling, we must have institutions which provide the information and incentives to take that right action.

Even if some horses end up as Puppy Chow, the feral horse population and its environment will be better off in the long run. By keeping the number of horses on the refuges constant, the range will be protected and the animals will be preserved— that is the happy ending.

Given the public ownership of the wild horses and burros, and the public range upon which they roam, we cannot rely solely on private property rights to solve the problem. We can, however, use the market. Through this proposed system of bidding for harvesting rights, the market provides us an apparatus with which domestic livestock are allowed to flourish, damage to the range is reduced, and the future existence of wild horses is ensured.

[xxxv] Noreen, Barry. "Wild Horse Killings Are Stirring Nevada," *High Country News*, Nov. 21, 1988, p. 3.
[xxxvi] Nack, William. "Bad Times for Wild Horses," *Sports Illustrated*, April 25, 1988, p. 28-35.

Ecological concern is highly visible in the political arena, and demands for fiscal restraint counter those for environmental quality. While ecology has a constituency, efficiency does not. Yet, there are many chances to reduce expenditures while enhancing environmental quality. This possibility is generally ignored in the media and in Congress. A prime example is the massive environmental destruction and economic waste of excessive road building and below-cost timber sales run by the "guardians" of the federal forests, the Forest Service.

The U. S. Forest Service has custody over 192 million acres of federal forest and rangeland—an area larger than Texas. Like the National Park Service, the Forest Service is commonly viewed as a stellar example of Progressive Era legislation. Unfortunately, the Forest Service clearly and recurrently has violated the spirit of its

stewardship responsibilities. Its self interest in budget expansion conflicts with environmental protection and economic efficiency. In the process, it significantly injures private forestry. As they gain wider attention, below cost sales become the forestry equivalent of the Valdez oil spill.

Below-Cost Timber Sales—A Predictable Bureaucratic Outcome

A recent study released by the Forest Service claimed that in 1987, revenues exceeded costs by $540 million. However, many consider these numbers to reflect creative accounting. Dr. Peter Emerson, Chief Economist and Vice President for Planning at the Wilderness Society, maintains that the Forest Service lost an average of $406 million per year from 1982 through 1987, including $233 million in 1987. While many economists consider this a high estimate, all agree that they exist and are significant.

Another economist, Randal O'Toole, president of the Cascade Holistic Economic Consultants (CHEC)

in Eugene, Oregon, contends that the accounting system the Forest Service used—the Timber Sale Program Information Reporting System (TSPIRS)—is based on false assumptions and makes unreasonable projections of future returns. The Forest Service model generates predictions that in the future all but twelve of the nations' 120 national forests will produce greater benefits than costs. Most road and reforestation costs are ignored, however, and timber cutting is credited with economic benefits assigned to water, wildlife and recreational enhancement.

America's 156 national forests are managed by 120 forest supervisors. According to the government, 76 of these 120 forest supervisors reported that their units lost money in 1987, yet revenues from areas that produce highly valued timber, the Pacific Northwest and Southeast, covered the losses reported for the system as a whole. Essentially, those forests that are warm, wet and low, cross-subsidized those in the Rockies that are high, dry and cold. Most simply, the U.S. Forest Service should invest more in managing the productive forests of Oregon and Washington while reducing expenditures in the Rockies. Alternatively, they could transfer the productive forests to the private sector with appropriate environmental safeguards.

Generally, the U.S. Forest Service policies of below-cost timber sales lead to substantial environmental destruction, economic waste and the further erosion of civic virtue as bureaucrats, politicians and special interests attempt to justify continued support for money losing and environmentally destructive practices. While managing timber for commercial harvest is economically feasible in the coastal Northwest and Southeast regions of America, massive subsidies are required throughout the central and southern Rockies. The 76 forests which reported losses in 1987 are located in regions outside the productive timber belts. They also tend to be environmentally fragile, meaning that the potential for environmental destruction, for example, from sheet erosion, is

high. About 90 percent of this erosion comes not from timber harvesting, but from the construction of roads.

The U.S.F.S. - The World's Largest Socialized Road Building Company

The Forest Service advocates and oversees the building of roads throughout the national forests. Environmentalists claim this subsidizes the logging operations of private timber companies. Furthermore, these roads are increasingly built on steep mountain slopes and reach poor quality timber. These roads cause soil erosion and siltation of the rivers and streams, thus harming irrigation systems and reducing the quality of wildlife and fisheries habitat. The total mileage

of roads built by the Forest Service is more than eight times the total mileage of the U.S. Interstate System. Almost 342,000 miles of roads have been constructed in the national forests and there are plans to nearly double this mileage. (See Graph Appendix A)

According to recent Congressional testimony from the Forest Service, over the next 50 years the Forest Service is planning the construction of 262,000 miles of new roads and the reconstruction of

319,0miles of existing roads. The total miles of new and reconstructed roads is enough to go to the moon and back and then circle the earth four times.

In general, this massive road building program is designed to accommodate logging activities. Yet much of the logging that occurs in our national forest is uneconomical and would not occur in the absence of substantial subsidies from the federal government. The USFS classifies land as commercial forest if it produces 20 or more cubic feet of wood fiber per year. In contrast, the standard for firms is 3 to 5 times that amount. As a consequence of the incentives this program presents, the Forest Service consistently under-

invests in its most productive sites and over-invests in relatively unproductive sites.

We should not be surprised when decisions made in the political arena use political rather than ecological or economic criteria. As a result of these allocational decisions, rather than maximizing net benefits from public lands, competing interests have created a "commons" of old with all the attendant problems (See Managing the Commons by Garrett Hardin and John Baden, W.H. Freeman and Company, 1977). The result is high environmental, ecological and economic costs.

Environmental, Ecological and Economic Costs

While building roads may seem to be a productive and harmless activity, the environmental consequences in mountainous forests are often far from benign. The problems are especially acute when the Forest Service designs and pushes roads into the high, steep, and fragile backcountry of the Rockies and Alaska.

As a timber buyer and contractor, I have built roads in moun-tainous terrain. It is necessary to strip a road right-of-way of its trees and then remove vast quantities of earth in order to make the cuts, fills, and switchbacks, and to install the pipes and culverts necessary for road construction. Disturbing soil, sand, and rock destroys the network of vegetation that held it in place, making the area prone to erosion. Massive erosion and siltation from Forest Service roads adversely affect trout and salmon fisheries, farmers' and ranchers' irrigation systems, and the general quality of water. When building roads, there are clear trade-offs between economy and erosion control. Efforts to reduce erosion are often expensive. Hence, the Forest Service managers are squeezed between economic costs and environmental demands.

For example, in the northern Rockies, some of America's finest trout and salmon rivers have been severely damaged by more than ten feet of siltation (mud) caused by Forest Service road building and logging. And, although some of Idaho's waters are

finally recovering from road building and logging activities of the 1950's, the Forest Service is planning new developments on fragile soils that are destined to repeat the injury.

As the timber at lower elevations and in easily accessible valleys is harvested, the Forest Service builds its roads farther into the

backcountry and on higher and steeper slopes. As a general rule, the steeper the slope, the greater the danger of land slides, slumps, sloughs, and earth Hows from logging and road building activities.

This increased road access to the backcountry effectively displaces many wildlife species. Although the Forest Service claims to close roads except when used for management or logging, they do so by placing a green gate across the road. Often this is a symbolic action offering a challenge to four-wheel drive enthusiasts and provides no significant impediment to motorcycles, snowmobile, and all- terrain vehicles. Thus, areas of backcountry solitude originally intended for hikers, photographers, and hunters are converted into recreational areas for motor vehicles. The wildlife dependent upon solitude is effectively pushed from these areas.

The roads and logging activities have also displaced trails. For example, in the 1940's, the U.S. National Forest had 144,000 miles of trails. By 1984, there were only 98,500 miles of trails. This occurred despite the fact that the number of backpackers and other recreationists using the forests had increased by a factor of 10. Backpackers, however, contribute little to Forest Service budgets.

Clearcutting

The practice of removing all trees from an area is a form of logging called "clearcutting." This practice is not inherently bad but it affects the environment in several ways. In the first place, it removes the natural habitat of the species of animals and plants in the area. In the second place, it reduces the

ability of the area to absorb water, thus increasing the spring runoff of melting snow. The high slopes of the Rockies collect snow in the fall, winter, and early spring and release it in the form of water during the warm weather months of May, June,

July and August. As a result of clearcutting, extra flooding erodes river banks, decreases the survival of young trout and threatens irrigation systems.

Further, the small clearcuts increasingly favored by the Forest Service require more roads per unit of timber removed. The increased road construction to these more and more remote and fragile sites fosters disease, such as black stain root rot. and undesirable weeds, such as spotted knap weed—a species that is taking over millions of acres in the Rockies.

The proposed sale of timber in Tolan Creek, Montana, typifies the economics of timber sales in Bitterroot National Forest. After the Forest Service spent $304,000 to build new roads in the area, the agency estimates it will lose $257,000 on the timber sale. Although the agency maintains that future sales in the area will pay for the roads, an analysis by a Forest Service economist indicates that even after receipts from future sales are considered the agency will lose more than $24,000.[xxxvii]

The Wilderness Society maintains that things are even worse in theTongass National Forest in Alaska. They claim that inTongass, taxpayers are subsidizing logging and road building to the tune of more than $50 million per year. This implies that we are spending more than $30,000 to create each timber job. In terms of its own budget, the Forest Service returns seven cents to the U.S. Treasury for every dollar it spends.[xxxviii]

If the road building and logging activities described above served a great national economic interest, they would be more defensible. We must often balance environmental and economic goals. Yet in the above examples, the economic costs of

securing the timber far exceeded any commercial value of the timber. In many cases, roads funded at taxpayer expense allowed access to timber that was too sparse, too marginal, or too slow-growing to justify the high price of the roads and other development costs. In essence, taxpayers are subsidizing environmentally destructive behavior that no private timber company or private landowner would ever consider.

In general, sound environmental policy and economically sensible timber production are not in conflict. In the Rockies, environmentally destructive timber production occurs when the federal government subsidizes it or when the political and legal institutions encourage environmentally irresponsible behavior on the part of private firms.

The Politics of the Forest Service

The political logic of below-cost timber sales is straightforward. National forests are located in 40 states and in many congressional districts. In these districts, logging and road building directly provide jobs and income to the local communities. To enhance its budget, the Forest Service provides a timber program in virtually every national forest, regardless of efficiency considerations. Consequently, many senators and representatives find it in their interest to vote for maintaining the expansion of Forest Service road building, logging and timber management. The politician benefits, the constituent who has a job benefits, some timber companies are able to operate where they otherwise could not, but the taxpayer ends up subsidizing the reduction in quality of an environment he increasingly values.

Politicians use "community stability" to justify subsidies. However, in addition to the economic and environmental losses resulting from below-cost timber sales, a less obvious effect of current management practices is that the Forest Service may actually be harming local economies. In many

parts of the West, recreation represents a larger contribution to local economies than timber sales.

In the Gallatin National Forest headquartered in Bozeman, Montana, for example, recreation (which involves significant areas of backcountry) provides more than 16 jobs forevery job produced by the timber industry. The timber jobs, in fact, make little contribution to community wages because they represent only 2% of local employment, a figure far lower than that of the recreation industry. Yet, there are plans for a massive road-building project to maintain 71 timber- related jobs. Little attention is given to the impact upon 1,171 workers in the recreation industry whose jobs are partially dependent upon a relatively pristine environment.[xxxix]

The small amount of attention given to the recreation industry is also a predictable consequence of the institutional arrangements and incentives faced by the Forest Service. Forest Service managers are rewarded for selling timber, even when the timber they sell loses money. Their discretionary budget is largely dependent upon timber volume, not net value. Congress, which liberally funds timber sales, allows forest managers to keep a share of timber receipts for their own budgets, and the amount they keep is a function of timber volume. Forest managers who want a larger budget can essentially appropriate more money to their unit by selling timber for their agency can keep a share of the receipts. Since Congress pays the cost of arranging sales and building roads, but does not require the Forest Service to reimburse the T reasury for those costs, from the perspective of the district ranger, sales often appear to generate profits, not losses.

On the other hand, most recreational activities produce no budgetary reward for managers because Congress permits fee collection only for developed campgrounds. Also, Congress is less generous in funding recreation activities than in funding timber-related ones. The result is that even

if managers are more interested in recreation than in timber, the only way to fund many of their recreation programs is by selling timber. The incentives which flow from the institutions governing privately owned timber lands lead to much different outcomes.

Subverting Private Forestry

There is increased awareness that mankind is running up against serious environmental constraints. People locally and nationally are beginning to recognize that below cost sales are injurious to the long run economic health of many areas.

Unfortunately, such sales influence peoples' perception of the entire forestry products industry. They have a negative political impact upon the political environment within which the industry operates. In the same way that the Exxon Valdez spill hurt nearly all domestic oil producers, below cost timber sales in areas such as the Greater Yellowstone portray the industry as environmentally insensitive and dependent upon government largesse. The responsible timber industry has a stake in eliminating below cost sales.

Environmentalists are often guilty in perpetuating this negative effect on the industry by seeking political solutions instead of market solutions. They often decry private timber companies as environmental plunders. Inciting public indignation in order to generate funds, environmental groups portray the timber industry as a wanton destroyer of wilderness and wildlife. However, this characterization is highly misleading, especially when their behavior is compared with that of the U.S. Forest Service.

Currently the federal government owns about one-third the land in the United States, and state and local governments own another nine percent. The rest is privately owned. In 1973, the Forest Service adopted a nondeclining flow policy, that is, selling no more timber today than will be sold in the future. Although claiming to adhere to the policy,

the Forest Service has found that by keeping immense timber inventories, the agency is able to increase its budgets from Congress. In fact, during the Reagan Administration, John Crowell, who was assistant secretary of agriculture responsible for the Forest Service, advocated ignoring the nondeclining flow policy and suggested doubling the allowable cut. This timber "overhang" has created a tremendous negative impact on private sector investments in forestry by reducing the expected value of their timber. This is due to the spector of the "dumping" of federal timber.

But responsible private management can be both positive and productive. Private companies manage their land for marketable products. They do not build extensive road systems into poor quality timber sites or systematically lose money on timber sales as the National Forest Service does. If a private company owns marginal timber land that is de facto wilderness, it is normally in their interest to leave it alone or transfer it to a conservation group such as The Nature Conservancy. Alternatively, they may manage it for its most highly valued use, for wildlife habitat or recreation when they can capture benefits from doing so.

However, if they own a high quality timber site, it will be logged and managed in such a way to maximize discounted returns. While they of course engage in political favor seeking, private timber companies do not act primarily to placate Congress. They are more interested in generating profits via market exchange. Self interest leads private timber companies to behave in a more economically responsible manner than does the Forest Service. Often they do less environmental damage.

Integrating Wildlife and Timber Management

A good example of private management benefiting wildlife and timber management involves the Champion International forest lands of western Washington. In the late 1970's Champion International and the Washington Department of

Wildlife began acooperative management program to increase the quality of their forest lands for deer. Champion limited the size of their new clear cuts and distributed them across the forest in order to maximize deer habitat potential.

However, initially, the forest management activities did not produce the desired effect for Champion. There was an explosion of the deer population which resulted in widespread deer damage to conifer seedlings. Also, because of the high deer densities, the reproductive rates of the does had declined, and survival of fawns was low. The public blamed Champion's clear cut logging for the decline.

In response to these negative results, the Washington Department of Wildlife agreed to alter the management of the deer herd on Champion lands by designing special hunting seasons to reduce the deer herd. This in turn lessened the deer damage to seedlings, and allowed increased fawn production. In return, Champion continued their cooperation in timber harvesting activities, and agreed to fund a deer population monitoring program.

In 1987, Champion began a fee-access program. Hunters were charged a modest fee for the right to hunt on Champion lands. Not only was the the response of hunters greater than expected, but nearly one- third of the access permits in the first two years were purchased by other recreationists, including mushroom and berry pickers, hikers, mountain bike-riders, fisherman, and others.

The cooperative deer management program on Champion lands benefited all parties. The combination of sensitive forest management and balanced hunting season has made the Champion lands the most productive deer habitat in western Washington. In 1988 the Champion tree farm had the highest hunter success rate of any forest lands in the state. And for Champion, the deer were converted from an impediment to forest management to an economic resource.[xl]

The Armey Strategy in the Forest: Cost Savings and the Public Interest

Let us see what military reforms may have to do with our national forests. Almost since the beginning of the Republic, inefficient and obsolete military bases have been burdening the taxpayers, adding to the federal budget and weakening national defense by wasting military appropriations. For example, Utah's Fort Douglas was built in 1862 to protect stage coach routes from Indian attack, and to keep a watchful eye on the Mormons settling in what was then the Utah Territory. Also, Fort Sheridan in Chicago was built in 1887 at the request of local business men fearful of looting after the Chicago Fire. It is now known for its 18 hole golf course along the shore of Lake Michigan.

Last spring a House resolution to prevent the closure of 86 military bases failed by a vote of 381-43, a welcome victory for common sense and economic efficiency. The closings are projected to save taxpayers $5.6 billion over the next twenty years. Yet, of even greater importance, the strategy used to bring about the closings can be expanded to effect cost savings in other areas of government spending.

The political forces opposing the closure of obsolete military bases have spawned economic waste and compromised military security for decades. Over the past twelve years, not one base was closed. When a base was identified for possible closure, the community in which it operated would demand theat local politicians defend “their” base against a loss of jobs and income. Moreover, legislation passed in 1977, sponsored by then Congressman William Cohen of Maine and by Tip O’Neill, required comprehensive and costly environmental impact studies (EIS) before a base could be closed.

Congressman Dick Armey (R-Texas) helped turn this situation around by applying the economic logic of self-interest to the political process. Recognizing that political obstacles were costing

the public billions of dollars, Armey devised a strategy that would waive the restrictions of O'Neill-Cohen and force Congress to confront closure decisions. Under his plan, a commission studied and assembled a list of bases which could be closed without harming our nation's security. Congress then had to accept the bases as a package, closing all of them or none at all.

The National Forest System and national defense system have many characteristics in common. They both:

1. provide highly visible jobs in the communities where they operate;
2. have units widely dispersed throughout the country;
3. have some units (national forests and military bases) producing a public good and others producing "public bads";
4. have political constituencies and economic ramifications that make it difficult to shut down individual units.

We have seen that many of the national forests not only lose significant amounts of money, but they also engage in environmentally costly behavior. This results in "public bads"; the loss of money strains the resources of the taxpayer; the environmentally costly behavior results in the loss of wildlife habitat, gene pools of fauna and flora, wilderness and scenic areas.

I suggest' that we apply the Armey strategy to the national forests, to close down commercial timber management in those ranger districts of national forests that consistently lose money. First, as happened in the closing of the military bases, a commission composed of individuals with broad experience in business, government, and in this case, conservation and forestry, would be created. With such a diverse commission, environmental quality and economic efficiency are likely to be recognized and our foremost objective realized: to halt below-cost timber sales, ease the burden of the taxpayer, and protect environmental values.

The commission's first task would be to identify ranger districts that do not engage in profitable timber activity and recommend them for closure. These lands of course produce a wide range of other benefits such as wildlife habitat, watershed protection, and recreation which can be protected and expanded. As we saw above, under present institutional arrangements, the Forest Service puts these valuable commodities second even to unprofitable timber management.

This first step is intended to stop the Forest Service from losing money and needlessly reducing environmental quality. Our next step goes beyond the Armey plan and advocates the transfer of profitable ranger districts to parties that will manage them better. The best managers of timber lands are private timber companies, and institu

tional investors with long time horizons, such as pension funds and insurance companies. They however, must have incentives to protect habitat and other values.

The second task for the commission would be to identify profitable sites and prepare them for auction. Successful bidders would have to accept constraints on herbicide and pesticide use, restrictions on the cutting of old growth timber, recreational easements, and protective buffers along watercourses.

Summary

Only the Forest Service's distorted bureaucratic logic sees clearcuts and erosive logging roads as enhancing aesthetics, wildlife habitat, and watershed protection. Instead of maximizing the value of the commodities they manage, the Forest Service maximizes its budget. While the gross sales receipts go to the federal treasury and local government, the Forest Service receives a lump sum per thousand board feet regardless of profit or loss from the sale. Thus they have strong incentives to maximize volume of timber cut, not value. In the process, millions of dollars are wasted

and environmental damage occurs from logging non-commercial timber.

Insulated from market forces, the Forest Service is directly accountable to no one and unnecessarily logs environmentally sensitive areas at taxpayers' expense. Forest Service decisions need not pass the reality checks of economic efficiency, and often show little sensitivity to environmental amenities. This behavior is not the result of evil, stupid, or incompetent people, but is the consequence of institutions which can be changed. The public choice inspired Armey model provides an effective method for doing so.

[xxxvii] Stewart. Fred. "Assumptions for Tolan Creek Economic Analysis", Mis-soula, Montana: USDA Forest Service, 1985, p.5.

[xxxviii] *America's Vanishing Rain Forest*, The Wilderness Society, pp. 108, 112.

[xxxix] O'Toole, Randal. *Reforming the Forest Service*, Island Press, Washington, DC, 1988. p. 61.

[xl] Raedeke, Ken. "Integrating Deer and Timber Management," Conference paper from Business and the Environment: Applying Science to Environmental Policy in Canada and the United States, Lone Mountain Ranch, Big Sky, Mon-tana, June 3-6, 1989.

The Political and Economic Implications of Valdez

On the anniversary of the Valdez spill of March 24, 1989, it is time to assess the damage. We note that in early 1989, U.S. energy policy was in a state of transition. There was increasing concern about our growing dependence on imported oil, the greenhouse effect, and the proposed Clean Air Act amendments. Among the positive developments for the oil and gas industry, America was poised to encourage the use of natural gas as an environmentally superior fuel and to open the Arctic National Wildlife Refuge (ANWR) to oil exploration and development.

However, on March 24, 1989, the picture suddenly changed. The Exxon Valdez ran aground on Bligh Reef, spilling nearly 250,000 barrels of oil into Prince William Sound. The oil spread over 1000 square miles, dirtying not only beaches and wildlife, but public opinion

as well. Exxon's disaster has cast an image of the company and an industry as uncaring and irresponsible. As a consequence, prospects for opening up additional federal lands and waters for exploration were greatly reduced.

There is uncertainty surrounding the long term impact of the oil spill on Alaska's environment and wildlife. The spill also raises important political questions about the future of domestic oil production and energy supplies, as well as the U.S. balance of payments. The Alaskan spill gave environmentalists ammunition for policy changes that may adversely affect the energy industry and the American economy. Exxon's alleged deceptions and irresponsible erosion of vigilance, whatever the merits of the charges, will have serious consequences.

Locking Up America's Lands and Waters?

More than any other oil spill or blowout in U.S. history, the grounding of the Exxon Valdez has immense public policy implications. It again raised

important questions about the compatibility of petroleum and the environment. Some of these questions echo from the battle for the trans-Alaska pipeline in the late 1960's and early 1970's. Critics have questioned the safety of tanker transport, the importance the oil industry places on environmental protection, and the credibility of the industry to honor its commitments.

The result has been proposed changes in existing regulations dealing with oil transportation, exploration and development, as well as demand for new and stronger public policy to protect the environment. Not only the oil industry, but non-oil companies as well, are being pressured to accept a code of conduct demonstrating their environmental responsibility. Increasingly, environmental politics have become an important feature of the national political scene.

U.S. lawmakers are considering laws to tighten regulation of oil tankers and the oil industry. The legislation is aimed at reforming tanker accident liability requirements, tightening federal regulation of tankers and crews, and restricting tanker operations in Prince William Sound and off the coasts of several states.

Several bills require additional personnel, random testing for alcohol, contingency plans for prevention, containment, and cleanup of spills, and structural changes of tankers.[xli] In addition, a federal court has ruled that companies responsible for oil spills and other pollution must pay the full costs of restoring the environment to its original condition, not just the value of the damaged natural resources.[xlii]

Perhaps the most significant development from the Exxon disaster is the pressure from environmental groups and their allies in Congress and elsewhere to place a moratorium on onshore and offshore exploration and development in Alaska and the Lower 48. The oil spill is being cited as justification to block drilling.[xliii]

A yearlong moratorium on oil and gas leasing in Alaska's Bristol Bay has been approved. The moratorium covers 84 million acres of tracts on the Outer Continental Shelf (OCS). The legislation extended moratoriums to Georges Bank off the New England coast, as well as a buffer zone within 50 miles of the Rhode Island, Connecticut, New York, New Jersey, Delaware and Maryland coasts.[xliv] In addition, oil and gas leasing off the California coast has been delayed for at least one year.[xlv]

Members of the House and Senate appropriations committees said they will move next year to block leasing off the Northwest coast. The state of Washington has already enacted a six-year moratorium on oil and gas exploration along its coast.[xlvi] In sum, almost all OCS leasing, except in the Western Gulf of Mexico, has been halted for at least one year.[xlvii] Ironically, the result will be to push the nation toward increased oil imports via tanker transport.

The Exxon spill has also created some unimagined indirect costs for the industry in Alaska and elsewhere. In May, Alaska enacted a tax increase on oil from the North Slope. This tax will cost oil companies more than $2 billion over the next twenty years. The bill (which changed the Economic Limit Factor-ELF) had repeatedly been rejected but received a favorable vote in response to constituents' outrage over the Exxon spill. Governor Cowper said, "There's no doubt about the fact that the spill made the political atmosphere different from what it was before." "The pivotal votes that joined the majority wouldn't have done so without the spill," said Senator Mike Szymanski.8[xlviii]

The Conservation and Public Finance Implications of Changing Alaska's Economic Limit Factor (ELF)

Increasing the state's severance tax has been a recurrent issue in the Alaskan legislature. Proposed changes to modify the ELF were consistently defeated. However, shortly after the Exxon Valdez

ran aground on March 24, the legislature passed a bill raising the severance taxes on two major North Slope fields, Prudhoe Bay and Kuparuk River. The increased tax on production from those fields is retroactive to January 1, 1989. Estimates of the additional costs for these two fields are two billion dollars. Many blame the spill and resultant strong anti-industry sentiment for the bill's narrow victory. Exxon will suffer less than several of its competitors for only a small proportion of its oil is from Alaska. The payment of these taxes will go into Alaska's general revenue fund.

Already, the ELF changes threaten billions of dollars in explo-ration and development on Alaska's North Slope. Citing the increase in taxes, British Petroleum (BP) has cancelled its marginal Hurl State development project near Prudhoe Bay and ARCO Alaska Inc. dropped its plans to add an additional rig to its Kuparuk River field and cancelled its production test program on its West Sak field.[xlix] Alaska's severance tax changes also threaten the U.S.'s largest oil discovery in recent years, ARCO's Point McIntyre. As ARCO Alaska president Bill Wade said, "If the state increases the cost of doing business, then less business will be done."10

The state of Alaska, which faces budget deficits, derives 85% of its revenues from taxes levied on the oil industry. The changes in ELF, which effectively increase the oil industry's costs of production and reduce revenue going to the state, coupled with falling petroleum prices, threaten to worsen the state's financial situation. By adversely affecting the industry's incentives to develop Alaska's oil, both the state and the industry suffer.

Alaska's legislators and politicians hope to alleviate their budget deficit by increasing the severance taxes paid by the oil industry. However, as production and revenues from the Production Tax decline, the states budgetary strain will worsen. Barring massive new sources of revenue, the state will have to reduce its expenditures. However, it is

extraordinarily difficult for politicians to cut programs that constituents have come to view as entitlements.

Legislators and politicians have used oil revenues to fund extraordinary state spending. Alaska leads the nation in per capita state spending. For example, it is two-and-a-half times per capita expenditures in Wyoming and almost five times the U.S. average. According to economists Steve Jackstadt and Dwight Lee, "fiscal restraint is an alien concept to Alaskan politicians." "When faced with constituent pressures to increase spending, politicians in Juneau have seen little reason to resist."

In a recent paper entitled "The Alaskan Oil Spill That Continues Unnoticed"(a portion of which appeared in The Wall Street Journal on September 20, 1989), Steve Jackstadt and Dwight Lee argue that Alaska's tax revenues are best considered "common property." Because those revenues are largely paid by consumers and investors outside the state, there is little incentive for taxpayers in Alaska to resist expansion of government programs. And, because no well defined property rights exist to government revenues, the situation encourages a "wasteful special interest race for more government spending now, with little thought given to its long-run consequences." In brief, Alaskans have become addicted to large and often wasteful government programs.

The result of this "race" is profligate spending. A number of wasteful programs and projects have been started and shelved, costing the state hundreds of millions of dollars. Jackstadt and Lee provide several good examples of these "budgetary black holes." For example, in 1978 the state began a program to promote barley growing. The state spent over $50 million dollars in loans to farmers, building roads and elevators, and purchasing railroad cars for transport. However, most of the projected barley was never grown. At the same time farmers were taking money from the state to

grow barley, they were taking money from the federal government not to.

Faced with a budget deficit, falling oil revenues and declining oil field production, will Alaska's legislators and special interests reduce their demands to maintain current rates of spending? It is not likely. Because of the nature of common property resources (the state budget in this case), users do not face the full costs of their individual actions. It is like two small children sharing an ice cream soda. The incentive is to drink as much as possible, as soon as possible, for whatever is conserved may be taken by the other.

Because the money appears to come from elsewhere, politicians and special interests have little incentive to spend responsibly. There is no effective mechanism, such as the threat of being voted out of office by out-of-state taxpayers, to constrain their behavior. Given the state's deficit and further declining revenues, we ask the key political economy questions: Will politicians continue to promise their constituents endless benefits? Will the wealth that Alaska has received from its oil resources continue to be wasted? Unless we increase our recognition of the problem and follow-up with institutional refonns, the answer is probably yes.

Inhibiting the Industry

This may only be the beginning. Legislation is being considered in Alaska and elsewhere that would increase not only cleanup costs, but the costs of conducting business in the U.S. We will see expanded federal authority to penalize companies in the event of oil spills and prohibit oil companies from deducting from federal taxes money spent on cleanups.

A recent development may have even more serious consequences for Exxon's and other non-oil corporation's earnings. Responding to pressure from institutional investors holding over one- billion in the company's stock, Exxon recently placed an environmental scientist. Dr. John H. Steele, Senior

Scientist at the Woodshole Oceanographic Institution, on its board of trustees."[l] If this addition to the Board anticipates environmental costs and takes appropriate action, it is a useful reform.

Environmentalists and investor groups, encouraged by Exxon's acquiescence, have drafted a proposal, termed the "Valdez Principles," designed to "exert economic pressure, possibly including consumer boycotts, on companies that fail to address their concerns."[li] The ten principles are analogous to the Sullivan Principles aimed at discouraging corporate investments in South Africa.

The Valdez principles require an annual, independent environ-mental audit of each corporations worldwide operations and public disclosure of the findings. In addition, companies would be required to disclose any environmental or human risks from production methods or products and any accidents or hazards. Such disclosures may lead to increased litigation against some companies and increased costs of doing business. As outlined, the Valdez Principles are broad and sweeping in their objectives. However, they are also extremely vague. One of the consequences of these new policy proposals is that the future of oil and non-oil firms operating in the U.S. is even more uncertain.

One reason why it is so difficult to predict the flow of policy is that unique events sometimes radically change the political economy surrounding the issue. Thus, the Santa Barbara blowout of 1969 colored a generation's perception of the risks of offshore oil development. As a result, the giant field off Santa Barbara's Coal Oil Point is held hostage to emotional seeds planted a generation ago. The Valdez spill, the worst in U.S. history, could have even greater impacts on the future of America's oil industry and public policy.

Oil in Santa Barbara and Policy in Washington

On January 28, 1969, Union Oil's Platform "A" off Santa Barbara, California, blew out, releasing three

million gallons of oil into the Santa Barbara Channel. The blowout and subsequent environmental damage pitted an apparently careless industry against environmental quality and protection. Union Oil's poor public relations provided prime fodder for radical environmentalists who equated capitalism with environmental mayhem, boorish insensitivity, and a myopic focus on profits at the expense of the environment.

The Santa Barbara spill conditioned an entire generation's response to the prospect of offshore oil and gas development. The message — "oil and ecology don't mix" — became an article of faith. Despite recent safety advances, the oil and gas industry, and hence consumers, are still paying the price of Union's spill.

When something like the Valdez spill occurs, opportunistic politicians are sure to exploit it to win points with environmentalists by exaggerating legitimate concerns regarding offshore oil and gas devel-opment. Like the 20-year-old errors of Union Oil in Santa Barbara, Exxon's errors will have a lengthy half-life.

Manufacturing the News in Valdez and Santa Barbara

When there is an oil spill, a blowout, or a rupture, there is often a conflict between what industry representatives experience and what the media reports. This was evident in the Santa Barbara blowout of 1969, and several other major spills (t.g.Jorrey Canyon. Platform Charlie, Amoco Cadiz, lxtoc /). This was also true in the Valdez situation where, for example, the media took the opportunity to quote

New York Judge Kenneth Rohl's comparison of the spill in Prince William Sound with the destruction at Hiroshima. However overstated Judge Rohl's claim, it captures one's attention.

This lack of understanding between the oil industry and the public has a variety of causes with roots in America's political culture. Especially since the Progressive Era, the public has been highly

skeptical of big business in general, and the oil industry in particular. This has affected the oil industry's relations with the media. In part this is due to the fact that those who report the news are understandably reluctant to report their errors, no matter how misleading. For example, let's return to 1969 and examine The Wall Street Journal's treatment of Union Oil Company.

Most Americans "know" that after the blowout of Union Oil's platform "A," Fred Hartley, the Chairman, walked out to the beach, held up a few sodden birds and said "I'm amazed at the publicity for the loss of a few dead ducks." When asked about the Santa Barbara spill, many people interested in environmental policy recall that incident. They may not remember the specific company, or the name of its crusty CEO, but they remember some insensitive S.O.B. representing big oil saying, in effect, "What the hell, it's no big deal. Who cares except a few wacko ecologists?"

However, that's not what Mr. Hartley really said. A New York Times reporter, not actually at the scene, said it, and The Wall Street Journal reported it as a direct quote. This was not the National Enquirer, The Star, or even Time Magazine. It was The Wall Street Journal, the paper of record for the business world. By treating the story as they did, they established a version of the truth nearly universally accepted by the policy elite. A probable consequence of this chain of events, is that nearly all Congressmen and Senators were conditioned by this erroneous perception of Fred Hartley's alleged insensitivity.

In July of 1989, The Wall Street Journal published a front page feature on the culpability of Alyeska and the Consortium in an article by Charles McCoy entitled "Broken Promises: Alyeska Record

Shows How Big Oil Neglected Alaskan Environment." Some startling allegations include:

- fabricated environmental records
- failure to install pollution controls

- failure to honor a spill contingency plan

These accusations are being used in lawsuits against Alyeska.

During a briefing of journalists at Valdez in late August, Alyeska claimed to have refuted these allegations in a fourteen page rebuttal. Of those at the briefing, only one, the representative of the Oil and Gas Journal. had even heard of Alyeska's rejoinder. While the study was not made available to the group, executive summaries were provided upon request. It is difficult to account for Alyeska and Exxon's weak response at this meeting; however, it is clear that the lines of authority and responsibility were muddled.

These discrepancies in interpretation often lead to a polarization between the media and the oil industry. Sensationalizing by the media and lack of communication skills by industry tends to embitter both groups as they claim and counterclaim. An erosion of credibility follows. As a consequence, industry's efforts at remedial actions are discounted by the media.

Exxon: A Case of Bad P.R.?

Almost 20 years after the Santa Barbara blowout, the Exxon Valdez ran aground, causing the most widely covered environmental disaster in U.S. history. What Santa Barbara was to the educated and wealthy of California, Valdez is to the ecologically sensitive of the United States. When we look at the Valdez disaster in perspective, we will see that Exxon conducted a textbook case of recurrent and protracted public relations screw-ups.

Joseph Hazelwood has been called "the architect of an American tragedy," and the damage from the spill was compared to the destruction of Hiroshima.[lii] He was portrayed as America's No. 1 environmental enemy. However, a number of factors besides negligence contributed to the grounding, including personnel cutbacks, fatigue, and unclear Coast Guard regulations. Time said,

“As the ship's captain, Hazelwood bears the ultimate responsibility for the wreck of the Exxon Valdez. But his actions were not the only factors that contributed to the disaster.”

For example, politicians and industry officials successfully opposed suggestions to study the feasibility of a safer, but far more expensive, trans-Canada pipeline. They promised that tankers carrying North Slope crude would meet new, more stringent standards governing tanker transport. These promises were interpreted to mean that tankers would be equipped with double bottoms and other structural safety features. However, because of a series of political and economic decisions, these standards eroded and increased the environmental risk of oil transport. In retrospect, these risks appear to be unacceptable.

Exxon and the Alyeska Pipeline Service Company (Alyeska) have come under increased criticism from environmental groups for their response to the spill. Critics have charged that both industry and government are unprepared and lack experience for the consequences of the spill. They claim cleanup efforts are inadequate, badly managed and characterized by considerable confusion. This criticism strengthens opposition to efforts to open the Arctic National Wildlife Refuge (ANWR) and Bristol Bay to oil exploration and development.

Much hysteria has been directed at Exxon. Credit cards were cut up and sent to the company, a boycott of Exxon was called for, and claims have been made that it used the spill to raise gasoline prices. “From the hysteria, one would think that Exxon had deliberately spilled 180,000 barrels of oil off Prince William Sound. 14 It is frequently overlooked that tankers have safely negotiated those waters since 1977, completing over 8,000 successful trips.

No matter what Exxon did, it was deemed too little, too late. Environmentalists, congressmen and others, skeptical about their progress, spent a

great deal of time debating the meaning "treated" and "cleaned." Exxon's promise to "clean" the beaches was replaced with a term implying less effort. In addition, Exxon has been accused of obscuring the progress of the cleanup with meaningless numbers.[liii]

Whatever Exxon's progress, it appears that the spill could not be cleaned up in the sense that a spill of Wesson Oil on the kitchen floor could be. A lot of oil is captured beneath rocks and in beach sediments where it is impossible to clean. This oil escaped with each tide and reoiled beaches that had been treated. In those areas, continued treatment reached a point of diminishing effectiveness and the washing efforts had to be shifted to other areas. Efforts by Exxon to speed cleanup (the use of surfactants on beaches and the use of two large incinerators) were not allowed. Thus, tons of solid, oily wastes remain for nature to process.

Exxon has spent nearly two billion dollars on cleanup operations and the end is not in sight. Members of Congress have urged Interior Secretary Manuel Lujan to sue Exxon to recover the full costs of the damage to wildlife and federal lands caused by the spill. In addition, about 150 lawsuits have been filed against Exxon. The cost to Exxon could run into the several billions. The political externalities, or backlash, will probably cost stockholders and consumers at least $20 billion.

Politically more important than Exxon's financial and public relations woes, however, are the difficulties experienced by oil interests in their efforts to obtain a hearing for their side of the story. As experience with the Santa Barbara spill suggests, this is hardly a new phenomenon. The oil companies' skills at finding reserves, managing reservoirs, refining products, and marketing, do not carry over into the communications arena.

Not all industry members have handled such misfortune so poorly or been treated by the media so badly. When disasters strike a large corporation,

there are many that take public responsibility. Unlike the case of Exxon, many environmental and industry representatives have volunteered that they are struck by the difference between Exxon's "bungling and evasions" and Ashland Oil's open and forthright response to their spill in the Ohio River. Rather than hedging and dodging responsibility, Ashland's Chairman John R. Hall took the first step in cleaning up the spill and taking actions to ensure full recovery of the area.

Valdez: The Best Thing to Happen to The Environmental Movement Since James Watt

It takes the right combination of issues and opportunities to create anger and outrage. Oil spills provide the perfect opportunities for environmental groups. Referring to the Santa Barbara blowout as "an ecological Bay of Pigs," the grounding of the Exxon Valdez as "America's Chernobyl," or the Arctic National Wildlife Refuge as "the Yellowstone Park of the 21st Century," works toward that goal. "Images of oil in the pristine, scenic area of Prince William Sound are repeatedly shown as cause for locking up vast new areas of wilderness and thereby making more lands unavailable for multiple use and oil exploration,". . . and creating anger and outrage to get people involved.[liv]

In 1969, residents of Santa Barbara organized into groups. The first was GOO! (Get Oil Out). GOO! took a militant stance against oil exploration and development, calling for a halt to all drilling in the Santa Barbara Channel. At the national level, the Center for Law and Social Policy was created. The Center was established to specifically fight proposed oil leasing development. In general, environmental organizations benefited from Union Oil's disaster. One member was quoted in Newsweek as saying, "That mess did us more good than a million words in Congressional testimony,"[lv]

At the time. Sierra Club and others called for a moratorium on offshore drilling in the Channel and elsewhere. After the Valdez accident, environmental groups held a news conference to

chastise not only industry's response to the spill, but governments' as well. The sentiments expressed at the conference and throughout the press have strengthened opposition to further leasing, exploration and develop

ment in Alaska and elsewhere. In fact, these groups are calling for a ban on any further oil exploration and development in Alaska, particularly in the Arctic National Wildlife Refuge, Bristol Bay and offshore in the Chukchi Sea.

The Sierra Club Legal Defense Fund and the Trustees for Alaska are suing Exxon and the Alyeska Pipeline Company on behalf of a coalition of environmental groups. The purpose is to require industry to clean up Prince William Sound and to improve their ability to respond to, and handle, spills.[lvi] Robert Young, an official in Exxon's Exploration, Land and Regulatory Affairs Department, has voiced a concern that can be traced back to the Santa Barbara blowout, when he said, "The spill is being used by environmental groups in an increasingly aggressive phase of wilderness politics."19 The sentiment of this statement and the pending litigation evidence trends within environmental politics that have been developing over the last twenty years.

At the national level, environmental groups have become large, professional organizations/corporations. For example, the Wilderness Society has grown from 37,000 members in 1981 to

295,0members in 1989. The Sierra Club and the Natural Resources Defense Council have also grown considerably, from 181,773 and 29,600 members in 1980 to 500,000 and 90.000 members, respectively, in 1989. For these three organizations alone, the increase in memberships has been well over 120%. This is evidenced by the multimillion dollar budgets of the largest organizations (the "Group of Ten") and their cadres of executives composed of lobbyists, litigators and experts.

Gone are the days when the environmental movement was largely a movement of "nature lovers who joined in the National Audubon Society's Christmas bird count, hiked with the Sierra Club, or fished with the Izaak Walton League.[lvii] Increasingly, environmental groups are playing a political game: lobbying, publishing and attracting public attention.

William Proxmire, the former Democratic senator from Wis-consin, called the environmental lobby "the most effective one in Washington."[lviii] This movement from grass roots environmentalism reflects the push toward national action in the political arena. This move was encouraged by the Reagan administration's policies towards the environment. In particular, the appointments of James Watt as Secretary of the Interior and Anne Gorsuch-Burford as head of the EPA helped environmental groups funding and membership campaigns.

Watt's appointment came when most people were becoming more aware of the environment and the consequences of man's careless activities on environmental quality. As the archfiend who would "sell-it-all-before-the-millennium," Watt was the strongest argument for environmental activism.[lix]

Watt's apparent lack of concern for the environment was a boon to environmental organizations, in some instances more than doubling membership. As Lucy Blake, the executive director of the California League of Conservation Voters, said, "you need to create anger and outrage to get people involved."[lx] Apparently she was right. However, after Watt's resignation in 1983, some membership totals began to drop off. In fact, most organizations lose members, some with an annual drop-off rate of as much as 30%. This means that new members have to be recruited just to stay in the same place. Since most are funded through membership dues and contributions, recruiting is very important. Therefore, to sustain their budgets, they must be sensitive to marketing opportunities.

Environmentalists have used the recent accident in Prince William Sound to polarize feelings about oil exploration and development in Alaska, and elsewhere in the United States. "Some environmental groups see publicity about the accident and sluggish clean-up efforts as a chance to spur an environmental renaissance.[lxi] The conflict between environmental groups and the energy industry has fueled one of the most intense debates in the last few years. In the past, the efforts of environmental groups have focused primarily on lobbying Congress to expand the powers and funding of EPA, in the fight against oil and gas, they have retained their faith in federal regulation.

At the national level, one of the most outspoken opponents of oil and gas leasing and development in Alaska, particularly in ANWR, has been the National Audubon Society. The National Wildlife Federation, the nation's largest conservation group, also strongly opposes oil and gas development in Alaska. Together with the Natural Resources Defense Council and the Trustees for Alaska, the National Wildlife Federation published a study on the effects of oil development on Alaska's North Slope on wildlife and the environment. The study accuses the industry of creating an alarming number of environmental problems and of violating environmental laws and regulations. The public understands that money is far more important to the oil companies than is environmental quality. The conclusion of this group of environmental organizations is that development in sensitive areas of the Arctic is inappropriate.

The Sierra Club has actively lobbied to influence decisions about oil and gas leasing, not only in Santa Barbara, but Alaska as well. The Club is adamantly opposed to any development in ANWR and is currently filing suit with the Trustees for Alaska against Exxon for the Valdez spill. Michael McCloskey, president of the Club, said the spill "has damaged the credibility of the oil industry in its claim that the prudent development of oil resources

in sensitive and delicate environments is possible.[lxii] Like most other national environmental organizations, the Sierra Club has relied upon and strongly advocates increased government regulation to solve environmental problems.

The Wilderness Society has also actively opposed opening AN WR to oil and gas development. They cite a U.S. Fish and Wildlife Service report that documents the release of large amounts of drilling fluids and reserve pit wastes into the arctic wetlands, endangering wildlife and the ecosystem.[lxiii] As one group put it, "the report confirms that oil development has resulted in serious damage to wildlife and habitat on Alaska's North Slope."[lxiv] George Frampton Jr., President of the Wilderness Society, believes that oil conservation, not development of wildlife preserves, should be the focus of energy policy.

Oil in the Arctic

A recent report by the Trustees for Alaska, the Natural Resources Defense Council and the National Wildlife Federation, entitled Oil in the Arctic: The Environmental Record of Oil Development on Alaska's North Slope (NRDC, Inc., 1988) accuses the oil industry of failure tocomply with environmental laws and regulations. The report and the recent oil spill in Prince William Sound support the environmentalist's goal of damaging the public's perception of the oil industry's environmental record in Alaska and elsewhere. As a result, it has become increasingly difficult for even carefully managed oil exploration and development to take place in areas viewed as important for their environmental values.

For the foreseeable future, the United States will depend largely on oil and gas resources, whether imported or domestically produced. Oil and gas do have a potential for environmental damage. However, despite "warnings" by environmental groups that environmental damage is inherent to oil exploration and development, many experts

agree that oil development and environmental quality can and do coexist.

Nearly 6 billion barrels of oil have been produced on the North Slope without significant harm to the environment. While there have been violations of environmental standards, the majority have been quite minor. Government statistics indicate that about 45% of the oil spilled into the oceans comes from transportation and less than 2% comes from offshore production.[lxv] In fact, the public's perception of environmental damage and pollution results from oil transportation accidents over the last 20 years.

The oil industry has been operating in the Arctic for more than twenty years. Before the Exxon disaster, they could point to their North Slope operations as exemplifying oil development without significant harm to wildlife and ecology. While the accident involved oil transportation and not production, the distinction is blurred in the public's mind. Nevertheless, twenty years of exploration and production, in which over 6 billion barrels of oil were delivered without major environmental mishaps, is a reasonable record. More importantly, it represents twenty years of learning how to develop energy resources in fragile environments. It is this record that the oil industry points to when they seek admission to ANWR and other environmentally sensitive areas.

The alternative to "wreck and ruin" development is careful, environmentally sensitive exploration and development. If done deliberately, oil and gas can be extracted with little environmental impact. As the Audubon Society has shown with energy production on its wildlife refuges, oil and ecology do mix—careful exploration, production and transportation can occur while maintaining and even enhancing environmental quality.

Exploration and Production in Environmentally Sensitive Areas

The National Audubon Society's (NAS) Rainey Preserve in Louisiana shows how well oil and the environment can coexist. Since the mid-1950's, oil

companies have run profitable gas wells on the preserve, while maintaining and even enhancing the environment. The fees and royalties they pay are used by the Society to purchase additional land, fund habitat improvement and environmental education.

The NAS's Corkscrew Swamp Sanctuary in Florida provides another example. The Sanctuary, home to many endangered plants and animals, is also home to carefully managed oil development. Clearly, the Audubon Society saw exploration and production as being not only compatible with a sound environment if managed correctly, but also in their best financial interest. The Michigan Chapter of the Audubon Society has had similar success with production in a highly sensitive marsh.

Exploration and production activities have also been permitted in other Florida wetlands and wildlife refuges in Alaska. The oil industry has been allowed to operate in the Big Cypress National Preserve in Southern Florida for over 30 years. Through responsible exploration and production, this development has taken place without harming the ecology or the wildlife of the area. As another example, oil and gas have been produced for more than 25 years in the Swanson River Field which lies within the Kenai National Wildlife Refuge. This development has also taken place without significant adverse environmental impacts.

The Arctic National Wildlife Refuge

In December 1960, the 8.9 million-acre Arctic National Wildlife Range was created for "the purpose of preserving unique wildlife, wilderness, and recreational values ..(PLO 22141). In 1980. with passage of the Alaska National Interest Lands Conservation Act (ANILCA), Congress more than doubled the size of the Range to 19 million-acres and redesignated it as the Arctic National Wildlife Refuge (ANWR). In addition, it created 35 other Alaskan parks, forests and wildlife reserves.

ANWR lies in the northeast comer of Alaska. It is bordered on the north by the Beaufort Sea and to

the south by the Brooks Range. The western boundary is formed by the Canning River and to the east lies the Canadian border. The Refuge is thought to represent the most complete arctic ecosystem and provides habitat to a wide variety of wildlife, including polar bears, Dali sheep, grizzly bears, moose, wolves, foxes, caribou, muskoxen, snow geese, predatory birds, migratory birds and many others.[lxvi]

Eight million acres of the Refuge were designated as wilderness and not subject to resource evaluation, however, 1.5 million acres were identified as potential oil and gas lands. This 1.5 million acres comprises the coastal plain, an area 30 miles wide and 100 miles long, which biologists consider the critical area of the Refuge because it provides the calving grounds for thousands of the Porcupine caribou herd. It is also the area that oil interests and the Department of the Interior are urging Congress to lease for oil and gas exploration and production. While limited geologic and geophysical surveys were undertaken in 1984-1985, no further development is permitted without explicit Congressional approval (Arctic Slope Consulting Engineers).

While only limited data exist on the potential of the coastal plain, it is considered to be the best prospect for significant oil and gas resources in the United States. The Department of the Interior has identified 26 promising structures and estimated that there is a 19 % chance of finding economically recoverable oil. If oil is found, the average recovery is estimated to be 3.2 billion barrels which would require 10 to 15 years to explore and develop.

Industry officials, the Department of the Interior and other energy interests feel that opening ANWR to energy exploration and development is vital to America’s energy future. As Prudhoe Bay production falls off in the 1990's, the United States is expected to dramatically increase its foreign imports. By the mid-1990’s, the Department of Energy estimates that oil imports will be 57% of

domestic demand and by the year 2000, it will have increased to nearly 60%.[lxvii] The industry contends that if production is to be sustained, it has to come from "more intensive development of existing fields, discovered but undeveloped fields, or from undiscovered reserves."[lxviii] To that end, 21 congressional hearings were held on the possibility of allowing exploration of the coastal plain in 1987.[lxix]

An Environmental Catch-22

Industry's attempt to attain permission to explore ANWR seemed to be making progress until the Exxon Valdez ran aground in Prince William Sound. The result has been an incredible political backlash. The image of the industry as insensitive and uncaring has given environmentalists and others foundation to believe that oil exploration and production cannot take place in an environmentally sensitive manner. Already, a yearlong moratorium has been placed on oil and gas exploration along the U.S. coast, with the promise of further bans in the future. The debate to open the coastal plain will probably go on for years. The result of these developments could be an environmental "Catch-22."

The U.S. already imports 50% of the oil it consumes from foreign countries, particularly the volatile Middle East. If, as a consequence of the Exxon spill, new production is successfully blocked, the amount we import will increase dramatically—with little reduction in the risks associated with tanker transport.

This will not only increase America's vulnerability to outside events, it will increase the environmental risk of impetuous action to open up federal lands if foreign oil is cut off. This would surely lead to greater environmental destruction. Under these circumstances, if foreign oil is cutoff as it was during the embargo of 1973, we are likely to enter ANWR and other areas in haste. Development under these conditions is likely to take place with little regard for environmental impacts or ecological

consequences—the very situation that environmentalists and others seek to avoid by blocking new and existing exploration and development.

Energy resources can be developed in an environmentally sensitive manner. This has been shown in Florida, Michigan, Louisiana and elsewhere where oil companies have been given the incentives to do so. America need not sacrifice its environment or energy security in the face of oil shortages. Rather than prohibiting any and all development, we should provide the incentives to the oil industry to carefully explore and inventory our energy resources and allocate some of the revenue to wildlife habitat preservation. Once we determine the amount of energy reserves available, we can devise a plan to prudently develop these resources should, in the event of an emergency, their value override legitimate environmental concern. If conservation and alternative energy sources become commercially viable, areas such as ANWR, Bristol Bay, and other environmentally sensitive areas need never be developed.

Until conservation and alternative energy is more fully developed, however, we should ensure that exploration and development proceeds with prudence and environmental sensitivity. ANWR will probably be developed, the question is under what terms. The key is to link economic forces with incentives for maintaining ecological integrity.

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Part III

We know that ecological sensitivity is linked to economic well-being. Poor people seldom sacrifice the promise of plenty for long term environmental quality. The challenge we face is to harmonize liberty and ecology with the drive for economic well-being.

The following three sections confront this task. First, we address the question in an article from the Wall Street Journal. Next, we consider one means of bringing environmentalists into the corporate board room. Finally, we offer a program for teaching future business leaders how to constructively deal with increasing environmental concern.

The stakes are high: ecology, economy and liberty. America faces the danger of sacrificing liberty and the advantages of free enterprise on the altar of ecology. Reliance on a politically directed command and control approach will surely cost us both liberty and entrepreneurship without giving us ecological integrity.

This Green Blueprint offers an approach that preserves these three values. The goals of liberty, ecological integrity and economic progress motivate FREE's work. We appreciate your consideration and support in this most important task.

Business and the Environment: An MBA and Executive Development Program

Introduction

Environmental public policy in North America and Europe increasingly affects business decisions. There are several reasons for this trend. First, events which are perceived as harming the environment, such as the Exxon Valdez spill, the Love Canal seepage, and the Three Mile Island accident, erode public trust in businesses' responsibility for the environment. As a result, politicians respond to public concern about the environment by promoting regulations over business activities. This is evident in the agriculture, forestry and mineral industries of the Northwest.

Second, these environmental catastrophes fuel powerful cam-paigns for more stringent environmental controls. Unfortunately, these controls often require inefficient means toward sound environmental ends. To an organized environmental group, accidents

with implications for environmental quality offer excellent marketing opportunities in the drive for members and contributions. Environmental groups have learned to exploit these problems to promote their political agenda. Friends in policy positions with environmental groups tell me that Valdez is the best thing to happen to their group since James Watt.

Other factors contribute to the growth of concern about the environment in North America and Europe. Like gourmet food and foreign travel, environmental appreciation has many of the attributes of a luxury good; it is strongly correlated with increased income and education. As more people become sensitive to environmental values, scientific understanding of man's interdependence with ecological systems has also improved. As a result of increased knowledge, actions previously thought to be environmentally benign are now

justifiably restricted due to adverse second order consequences (e.g., spraying DDT to control spruce budworm in the Gallatin National Forest in the late 1950's injured the fish, otter, and eagles in that system for many years).

This increased awareness and scientific understanding of man's impact on the environment has strong economic implications throughout Europe and North America. Businesses perceived as harming the environment, and as being politically vulnerable, are constrained and/ or required to mitigate the environmental effects of their actions. Private and governmental organizations increasingly monitor actions expected to have adverse environmental impacts. They often mobilize in anticipation of or in response to environmental disturbances. This is especially obvious in the old growth forest of the Northwest (Forest Service Regions 1 & 6).

Those with the background to understand the environmental policy process do not find this spiralling of environmental concern surprising. People in business are often frustrated by environmental politics and often fail to see how economic progress can be reconciled with ecological integrity. This is not surprising for few business people claim to understand the causes and patterns of environmental action. Further, benefits to human welfare resulting from some environmental regulations are small or absent and the costs are often far higher than need be. At this time there is no program to provide such understanding.

Businesses must demonstrate environmental concent in their daily decision-making. Barring a truly major catastrophe, such as depression or war, these ecological considerations will continue to influence business operations. Yet businesses will systematically engage in environmentally beneficial behavior that consumes real resources only when it is in their interest to do so. We should expect them to pass off environmental costs as

externalities when easy to do so. To expect otherwise would be naive. The key to responsible reform of environmental policy lies in the recognition that institutional change is required to align the incentives faced by the firm's decision makers with the integrity of the ecological system.

People in businesses could benefit greatly—economically, psychologically, and in terms of their ecological stewardship—if their leaders better understood how the environmental policy process operates. Unfortunately, no executive business program effectively prepares them to do so. The rationale for and core elements of an executive environmental program (or an option for an MBA or MPA) are presented below.

Rationale for an Environmental Program in Business

Until recently, many business people and academics in business schools seemed to believe that environmentalism was a fad meriting little attention. Business schools have not responded decisively to the long-term presence of environmental concern for the benefits of dealing effectively with these concerns have not been widely recognized. This is reflected in business program curricula. I have worked in the area for 20 years and know of no strong environment program in the major business schools. For example, when recognized as a proper "business" subject, pollution is covered as a case study in business ethics or in business regulation.

We can understand why business academics have avoided this new and vexing area. Environmental matters consistently have two attributes: they are technically complex and highly emotional. Further, most academics in environmental fields distrust business. They believe business will sacrifice the environment in favor of profits, but often fail to understand how perverse policy incentives foster this outcome. And, among environmental activists, business school academics are usually viewed with suspicion if not hostility. It is no wonder there is so little communication between the fields.

There is an excellent opportunity for a business-and-environ- ment executive or MBA program. It could follow the MBA core in the same way that real estate or advertising does now, or it could be designed as a separate program for executives. Because the topic has not been covered in the traditional business school curriculum, few business school faculty or administrators have the academic background, (and few claim an empathic understanding of environmentalism) to design and implement such a program. As a director of environmental and business programs in several universities, I found that the business faculty seldom exchanges ideas with their colleagues in system ecology (let alone in the philosophically radical "deep ecology") and they rarely consort with environmental activists. Most of those who are comfortable with this area have come from natural resource areas such as forestry or energy economics and policy analysis.

With my academic experience working in business schools, as the head of environmental studies programs, and as President of the Foundation for Research on Economics and the Environment (FREE), I suggest the following Business and Environment Program for Executives. It could also be developed as an option for MBA and MPA programs.

Core Elements of a Business and Environment Program

To provide a strong foundation for understanding environmental policy, the program's core includes the following four courses:

* History of Environmental and Natural Resource Policy

* Environmental and Natural Resource Economics

* Environmental Ethics and Philosophy

* The Political Economy of Environmental Policy

We all know that environmentalism did not begin twenty years ago with Earth Day, but few are familiar with the evolution of the movement. To understand the current environmental debate a historical perspective is very important. The course, The History of Environmental and Natural Resource Policy, reviews the development of American environmental policy since the land acts of the 18(X)s and the Progressive Era reforms, which created the federal land

management agencies, such as the U.S. Forest Service. The legislation following America's great environmental awakening, which began with the publication of Rachel Carson's Silent Spring in 1962 and reached a peak in 1970, led directly to today's environmental policy battles. There is a substantial body of literature dealing with this topic.

Environmental and Natural Resource Economics is a standard course in departments of economics. Only a small proportion of vice presidents of environmental and governmental affairs in America's major corporations understand this subject. The course applies price theory and welfare economics to the vexing problems inherent to the management of valuable but unowned resources such as air and rivers. The economic logic behind efficient pollution control and the management of publicly owned resources ceases to be a mystery when the analytic leverage of economic theory, especially public choice, law and economics, and the Austrian perspective, is applied to these real- world problems. There are at least six standard texts on this topic and there are a dozen supplemental readers and monographs.

The course Environmental Ethics and Philosophy traces the evolutionary path of contemporary environmental philosophies. The primary goal of this course is to present the shifting conceptions of man's place in nature. This path begins with Rousseau, moves to the American transcendentalists, and then to the competing Progressive philosophies of John Muir and Gifford

Pinchot. It culminates with today's contending environmental philosophies. The material will show how, after one hundred years of experience, the Progressive Era's "scientific management" suffers the fate of centralized planning everywhere. The present-day "deep ecologists," bioregionalists, and the Greens in Europe and Earth First! in the U.S. present one alternative for future policy. The New Resource Economics, developed by my colleagues and me in a series of a dozen books and numerous articles and based on the classical liberalism of Adam Smith, offers another alternative. While there is no standard text on this topic, there is a vast body of literature covered in a series of books, e.g., Samuel Hayes, Conservation and the Gospel of Efficiency.

The capstone course of the series is The Political Economy of Environmental Policy. This course examines the outcomes, often unintended, of governmental management of valuable resources. The problems of concentrated interests and of diffused and hidden economic and environmental costs are examined. The potential for creative policy reforms that reconcile increasing demands for ecological integrity with those for economic efficiency and the liberty required for successful free enterprise is emphasized. There is a growing number of books and monographs on this topic by both environmental professionals (such as Randy O'Toole's Reforming the Forest Service) and by academics (including four by John Baden).

At the moment there is a vacant niche in the MBA academic environment. The costs to the business community of remaining unprepared are very high. We can also be sure that the corporate foundations will monitor this educational development and look for places to invest. The first school to implement a successful program will perform a great service to the economy and the ecology, and the program will surely be emulated.

The Environment and Corporate Profits: Environmentalists as Outside Directors?

Importance of Intentions in Ecological Politics

Having worked at the intersection of ecology and economics for twenty years, I have acquired a few hard-learned principles. Of most importance is that, when making proposals on environmental policy, environmentalists need to know how much you care before they'll care how much you know. This has serious implications for your business.

It is unfortunate that when entering the environmental policy arena, intentions, not the quality of an argument, matter most. When dealing with public perceptions, for-profit businesses are at a severe disadvantage up against environmentalists who are perceived as "champions of the public interest". Even when these environmentalists have six-figure incomes, chauffeurs, expense account soirees to exotic ecological sites, and other condiments of luxury, their corporate

counterparts are easily portrayed as venal, self-interested exploiters of Mother Earth. This is simply a given in the game of environmental politics and should just be accepted. The question becomes what is an honorable and effective way for a company to deal with this unavoidable perception?

You are probably familiar with the Valdez Principles. The name alone implies an admission of guilt for the corporate world. There is no case where the public perceives more corporate arrogance, incompetence, duplicity and hypocrisy than with the Alaskan oil spill. To an environmentalist, Exxon represents the classic corporate double-cross of the decade.

Few major international companies have signed the Valdez Accord and there are excellent reasons for not doing so: most notably because it gives outside groups license to audit a company. Yet, I urge

business to seriously consider adopting the Accord's proposal to appoint a brand-name, well-credentialed environmentalist or environmental scientist as an outside member to its board of directors.

To be effective, an environmentalist director must be more than a figure-head. The environmentalist or environmental scientist invited to join the board should be selected with more care than normally given an average outside director. The following paragraphs suggest guidelines for choosing this person. First, let's consider some political realities of the environmental movement.

Like gourmet food and foreign travel, the value of a clean environment is very similar to that of a luxury good. The importance of having abundant, unspoiled natural beauty increases with income, education, and political awareness. Hence, businesses perceived as harming the environment are particularly vulnerable because they offend those constituents who are usually most affluent and politically capable.

An indication of this is the growing number of private and governmental organizations that are monitoring environmentally harmful business practices and mobilizing against them. This is obvious in the drive to stop logging in the tropical rainforests of the Amazon and drilling for oil offshore California.

Few environmentalists or business people are able to see how economic progress, and profits, can be reconciled with ecological integrity. Businesses undertake costly, environmentally beneficial behavior only when it pays to do so. But more often, they are able to pass off environmental costs to others. Why? Because there is little accurate information available to identify and hold businesses accountable for these ecological costs. Not surprisingly, when businesses must face the true costs of their actions, they have clear incentives to act in more environmentally conscious ways. To expect businesses to behave altruistically

is naive. In business, altruism is a pleasant surprise. An environmentalist director needs to understand that costs and positive incentives provide the economic principles of sound environmental management.

Realignment of Incentives

The keys to improving current environmental policy lie in:

1. expecting companies to face the real costs of environmental damage, and

2. giving them bottom-line incentives to act with more eco-logical responsibility. This requires environmental and public-affairs managers who understand both the economic and ecological conse-

qlienees of business decisions. They should enter the policy arena as advocates of environmental policies that recognize business realities.

Not All Environmentalists Are the Same Shade of Green

Some environmentalists follow the European Green party and are bright pink. To some, profit is a four-letter word and private property is evil. They may care passionately about environmental beauty and the ecosystem, but be indifferent to the tremendous personal tragedies and hardships caused by the closing of plants and factories that cause such pollution. Others in the United States, like those who work with The Nature Conservancy, Ducks Unlimited and the Environmental Defense Fund, appreciate the importance of incentives and the constructive role of property rights as tools of environmental policy. A good Board member must understand how private property rights and market incentives can contribute to environmental goals.

Searching for Outside Directors

There are several general guidelines for a firm seeking an environmentalist as an outside Director.

1. The firm’s search committee should understand that envi-ronmentalists differ

tremendously in their regard toward civil and economic liberties. Those who call for an ecology "czar" are outside the mainstream of the Western heritage of respect for free and responsible individuals. For to them czar implies being above the rule of law.

2. The candidate must understand fundamental economic principles. These include the concepts of opportunity costs and

tradeoffs. The environmentalist must recognize as legitimate such questions as: "What will Guatemala have to give up to produce something in a more environmentally-sensitive manner?" Tradeoffs of this sort are necessary. It is ethically and intellectually irresponsible to ignore them.

3. To be most effective on a corporate board, the environmen-talist must realize that markets are best understood as decentralized information and incentive systems. When undistorted by political favoritism, markets efficiently coordinate the wants, needs and values of consumers and producers. The obvious goal should be to attach the growing desire for a better environment with these powerful market forces. The economically sophisticated environmentalist understands that subsidizing the development of a natural resource when a market will not support that development is economically inefficient and ethically suspect at best.

The environmentalist will be able to explain to the board why ecologically important areas that people are willing to support with timely attention or money are valuable even if they currently produce no commodities and generate no cash flow. The current experiment with Costa Rica's national park system's effort to blend preservation with production merits special attention.

This environmentalist knows that not all values are tangible. Thousands of Americans contribute to the preservation of habitat for hawks, owls and other birds of prey from the Arctic Circle to Central

America. These animals are appreciated for their intrinsic, symbolic values—not for their price-per-pound value in a store.

4. The prospective environmental Board member should have sufficient political sophistication to realize that a simple reliance on

regulations and laws will most likely produce a rigid, formalistic approach to environmental management. Experience strongly indicates that a bureaucratic command-and-control approach fails to protect the health of people, their wealth, or their environment.

The environmentalist board member must be credible in the environmental and intellectual communities. Most important, inde-pendence of judgment and the willingness to take a stand are essential. The environmentalist or policy analyst who, with wetted finger in the air, seeks the wishes of the Chairman, asking only "what position do you want me to take?" serves neither camp.

In sum, when seeking an environmentalist as an outside Director, companies need individuals with ecological and economical understanding and the character that makes him willing to speak truth to power. This principle is equally applicable to all companies operating in the Americas.

Save the Environment Without Destroying Your Profits

Environmental fervor has grown to the point where top corporate management must consider the environment as a major, unavoidable factor in bottom-line costs. Americans tell pollsters that they want to clean up the environment regardless of costs, and President Bush says he has put cleaning the environment at the top of his agenda. Even the Oil and Gas Journal has suggested oil companies elect environmentalists to their boards.

In the wake of Exxon's Valdez disaster, many companies feel themselves hostage to environmental concerns and some may find it tempting to pay conscience money to environmentalists who view business as the enemy. While such environmentalist's conceivably destructive influence on company policy may be dismissed as marginal at the moment, that may change as environmental issues play an ever greater role in your company's strategic planning.

But mangers can successfully integrate environmental concerns into their companies' financial and developmental policies. Executives from Burlington Northern Inc. and Burlington Resources are particularly aware of this issue. Burlington Resources has major holdings in natural gas. oil. minerals, and agricultural, forest and urban land. The top management at Burlington's operations is highly sensitive to public evaluations of the company's environmental stewardship. "Firms that destroy the integrity of an ecological system are viewed in the same way as individuals who make cash withdrawals from a 7-Eleven with a shotgun," says Burlington Resources CEO Tom O'Leary.

Burlington Northern and Burlington Resources have had to learn their environmental lessons the hard way. Many once perfectly normal activities—for example, treating railroad ties with preservatives, spills at fuel stops on the railroad, and the use of

solvents for normal maintenance—are now unconscionable.

Chris Bayley, chairman of Burlington Environmental Inc. (a subsidiary of Burlington Resources specializing in waste management), says that a niche will develop for firms that audit companies' environmental liabilities as is now done for financial exposures. For example, a large firm preparing to dispose of real estate should know if it is buying or selling a potential Superfund site that may carry massive liabilities.

This problem is likely to become more acute given amendments to the Comprehensive Environmental Response, Compensation and Liability act. Under this act, parties responsible for the pollution of a site may be required to implement remedial actions judged necessary by the Environmental Protection Agency to protect human health or the environment. This would also pertain to high-tech industries that use PCBs and other toxic chemicals in their production process.

But to whom can businesses turn for help? Not to the Euro- pean-style "green" ecologists, who believe that the market is inherently dangerous to the environment. Fortunately, leaders of several major environmental groups are coming to recognize market incentives and property rights as tools for ecological stewardship. The Environmental Defense Fund and the Wilderness Society both employ professional economists. Many companies find it profitable and productive to design programs in cooperation with the economic policy staffs of these groups.

The Audubon Society works with Mobil and other energy companies to develop wells on its 28,000 acre Rainey Preserve in Louisiana. Exxon and other major companies have had similar success in Audubon's Corkscrew Swamp Sanctuary and the Big Cypress Preserve in Florida.

Florida Power & Light Co. won the Florida Audubon Society's award for its innovation in wildlife

management. It employs thermal "pollution" to warm the waters around its Turkey Point plant, making it one of the three areas in the U.S. to have breeding populations of crocodiles. The endangered manatees also seek out these warm waters in the winter months, and the power company once kept its Fort Myers plant operating for 11 extra days to protect the 100 manatees gathered there. Although the crocodile program alone cost several million dollars, Florida Power & Light believes it was a good investment—if only to repel litigation.

In Maine, Champion International Corporation, a forest-products company, initiated a plan to provide improved habitat for the

wood duck, a beautiful species that is recovering from near extinction. In Washington state, Champion is working with sportsmen to manage vigorous and healthy populations of deer to profitably control destruction of new seedlings.

Beyond joint ventures with environmental groups, managers must begin to develop their own expertise. Unfortunately, no executive business or MBA program effectively prepares management to make discriminating choices on environmental matters. Perhaps a "Business and Environment Program" could be offered to executives or developed as an option for MBA programs. Sample courses could include:

•A history of environmental and natural resource policy, describing the evolution of environmentalism and the legislation that followed America's environmental awakening;

•Environmental and natural resource economics, in which students would learn how economic theory applies to problems such as pollution control;

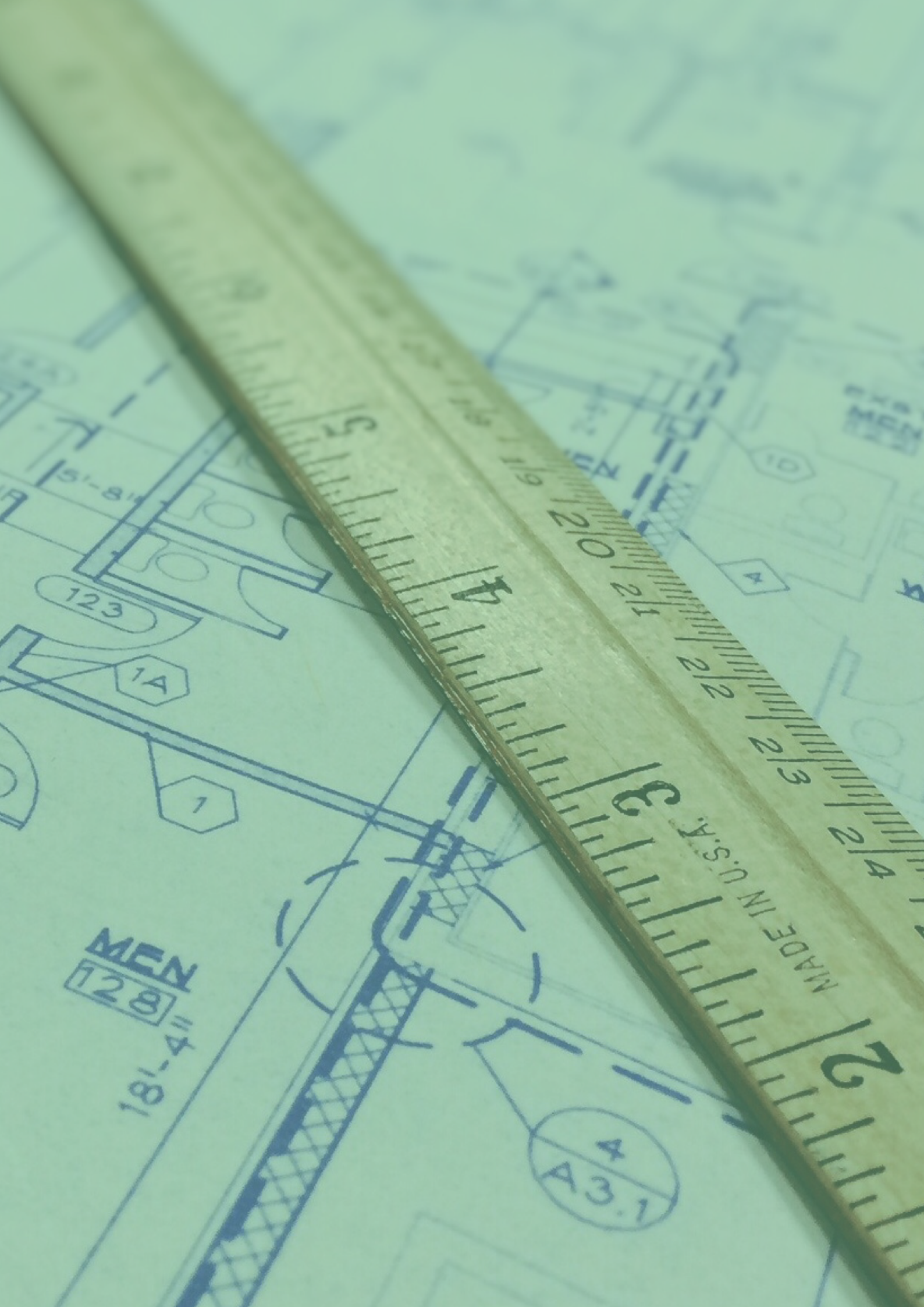
•Environmental ethics and philosophy, which would trace the evolutionary path of contemporary environmental philosophies;

•Political economy of environmental policy, which would examine government management of

valuable resources and the problems of special interest and of diffused and hidden economic and environmental costs.

The primary goal would be to explore the potential for policy reforms that reconcile increasing demands for environmental integrity with economic and managerial efficiency.

The costs of pollution to society are well-enough known. But the costs to the business community of remaining unprepared to integrate environmental costs into their business plans—thus leaving these increasingly critical decisions in the hands of outsiders—are unacceptably high. It is time to bring business and the environment together.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