Chapter 1: The Problem

Of Policies, Premises, and Prohibition

Policies intended to provide solutions must be founded on a correct understanding of the problem. If policy is based on conclusions drawn from false premises, outcomes will be faulty and costly. When based on an incorrect understanding of the environment it is intended to change, a policy will fail to produce the intended outcome and produce other harmful outcomes. An example was the early twentieth century policy of Prohibition.

Prohibition made the sale and production of alcohol illegal in the United States. The premise was that if consumption and production were made illegal, respect for the rule of law and fear of the consequences would be enough to eliminate the alcohol trade. The purpose was an attempt to decrease the societal harms that alcohol consumption caused. Everyone knows the conclusion to this ill-fated social experiment: an underground black market developed in liquor sales, and consumption of alcohol was not affected. Prohibition failed because the premises were not based on a correct vision of the world. Policymakers failed to take into account the ease of producing alcohol from home, the role that alcohol played in our culture, and the incentives underlying the alcohol industry.

The example of Prohibition shows us the importance of understanding the world as it is, including economic structures and incentives. Policies founded on false premises and failing to take into account variables lead to suboptimal outcomes. This is especially true when it comes to political ecology. Environmental policies have broad economic impacts; nearly every form of economic activity requires interaction with the environment. Because they have such broad impacts, environmental policies must be based on correct premises in order to be efficient and avoid costly mistakes.

For example, imagine the economic impacts of the greater sage grouse being listed as endangered under the Endangered Species Act (ESA). The greater sage grouse is a bird that lives in the

"sage brush sea" areas in Montana, Wyoming, Idaho, Utah, Colorado, and Nevada. Many environmental groups have sued for its protection under the ESA. While its preservation is a noble cause, if the sage grouse is listed as endangered, regulations stipulated by the ESA will "severely impede mining, and oil, gas, and wind energy development in the West." (Utah to craft sage grouse plan, n.d.). In addition, lands protected for the sage grouse will limit land available for grazing, resulting in large detrimental impacts for agriculture, one of the region's largest industries.

The question we seek to examine is not the normative issue of whether the sage grouse ought to be protected, nor of whether economic activity or environmental preservation is more important, but rather to examine the nature of the policy under which it would be listed. Positive analysis of the ESA, its premises, procedures, and outcomes will reveal whether or not the policy will solve the problem and what the costs will be in the meantime. Many species listed under the ESA, such as the California condor and the whooping crane, have not had significant population increases as a result of listing under the ESA (Smith, 2012; Botkin, 1990, p 126). Like Prohibition, if the policy is founded on faulty premises it will lead to faulty and costly outcomes, while simultaneously failing to solve the problem.

The proposition of this book is that past national environmental policies, such as the Endangered Species Act, have been based on a flawed understanding of ecology. The results have been failure to solve the intended environmental problems, and the added burden of economic and political costs. Like the authors of the Prohibition movement, many leaders of the environmental movement have failed to understand real nature of the problems they seek to solve. They have not adequately examined the incentive structures, and thus policies have resulted in negative outcomes.

The way we view the natural world determines the way we interact with it. Different views, therefore, create radically different policy approaches. If nature is seen, for example, as a fearsome stable power that is resilient and at odds with humanity then policy approaches will generally be geared towards exploitation and exercising dominion. If nature is seen as stable and in balance, but fragile and

susceptible to negative human influence, then humanity will be seen as its caretakers and guardians whose policy objectives should be oriented to conservation of wild lands from human influence (WIENER).

The Premises

In 1864, George Perkins Marsh published *Man and Nature,* in which he laid out what has been the dominant view of the natural world for the past century, and even extended before him to the time of Aristotle. This view has been labeled the "balance of nature" approach. To Marsh, nature is seen as having evolved into a changeless state of balance which, if undisturbed by human beings, will continue indefinitely onward.

> Nature, left undisturbed, so fashions her territory as to give it almost unchanging permanence of form, outline, and proportion, except when shattered by geologic convulsions; and in these comparatively rare cases of derangement, she sets herself at once to repair the superficial damage, and to restore, as nearly as practicable, the former aspect of her dominion (Marsh, 1864, p 29).

The balance of nature view sees humanity as exterior to nature, and as disturbers of its balance. Many past ecologists have tried to show that ecosystems move towards a "climax equilibrium" where, after much evolution, the ecosystem reaches a state of complete balance that will only change if disrupted by outside forces. Proponents of this view see the role of policy as rectifying the negative impacts humans have had on the natural world, and restoring it to its previous state of balance and order. Policies that have been based on a balance of nature understanding of the environment include the Wilderness Act, the Endangered Species Act, the Clean Water Act, and many more.

An example of the prevalence of the balance of nature view of the natural world in policy making is the Florida Everglades Protection Act of 1995 (FEPA). Increased introduction of toxins into the

water was seen to be damaging the Florida everglades ecosystem. FEPA regulates the exposure of phosphates to the everglades to circumvent "imbalance in the natural populations of aquatic flora or fauna" (Wiener, 1996). FEPA is trying to maintain a balance within the everglades ecosystem, which is assumed to have existed before human intervention. The authors of FEPA and proponents of the "balance of nature" argument assume that the chemicals within the everglades were constant before human intervention. FEPA's premise is that human influence is a disturber to the everglade balance, and so it dictates action accordingly.

The problem with the balance of nature viewpoint as a policy premise is that nature has never been "in balance." Proponents of the balance of nature world see humans as interferers in the "natural" order of things. Ecologist Jonathon Wiener, however, has declared that "'nature' and 'natural' are no longer useful legal fictions" and that they "may no longer be useful scientific terms either" (Wiener, 1996). In the last twenty years, the findings of ecologists have increasingly shown nature to be stochastic rather than static, and in a state of flux rather than one of balance. To call one state natural and another unnatural is to assume the untruth of nature in stasis.

Influential ecologist Daniel Botkin laid down his argument against the "balance of nature" view in his book "Discordant Harmonies: A New Ecology for the Twenty-first Century." Commenting on his work, Wiener said that as "Darwin killed dualism," so "Botkin killed balance" (Wiener, 1996). Botkin shows decisively that throughout the history of the planet climates have been in a constant state of flux, and not merely because of Marsh's "geological convulsions." Life itself is constantly in flux. The Earth has gone through periods of cooling and periods of warming. Deserts were once forests. Dry land was once covered by sea. Many areas of forest were once tundra, or covered in ice. Botkin poses the question of which of states were natural, and provides the resounding answer that they all were.

The problem with many policies that try to return nature to its supposed state of balance is that they beg the question of to which state nature ought to be returned. Should FEPA, for example, regulate

the everglades in a way that restores the chemical balance as it was a hundred years ago? Two hundred years ago? Three hundred years ago? Should the sage grouse be returned to the levels of its population fifty years ago, or as they were before the colonization of the West? Or even further, should they be returned to population levels experienced before humans crossed the Bering Strait millennia ago? The constant changes taking place in nature disallow for such a perspective. The premise of these policies is false, and so their outcomes are faulty, costly, and detrimental. As Jonathon Wiener wrote, "change is inevitable, and what matters is not the false choice of preservation versus change, but the real choice of which changes are benign and which are adverse," because even "preservation inescapably entails modification" (Wiener 1996).

We will go on in this chapter to explore more of the basic dimensions and implications of balance of nature as a policy premise. We will briefly overview subsequent chapters, which will explain the balance of nature and the history of the environmental movement in the United States in further detail. Doing so will deepen the reader's understanding of this faulty premise and its implications for policymaking. Later chapters will each be a case study of individual environmental policies that have been put into place in the last century. In this chapter, we will present a brief introduction of these policies and their history. Throughout this book we will show how the premise of the balance of nature has led to negative outcomes, and that policies should instead be founded on a correct view of the natural world as dynamic rather than static.

Darwin Killed Dualism

The works of Charles Darwin changed the world of ecology. Influential ecologist John Kricher divides the history of ecology as a study into two periods: BC (Before Charles) and AD (After Darwin) (Kricher, 2009). One of his enduring contributions to our view of the natural world was showing humans

as a part of nature rather than as exterior to it, hence the phrase “Darwin killed dualism.” In the Darwinian perspective, humans are a part and product of the natural world.

The Darwinian view stands diametrically opposed to the “balance of nature” view. Marsh and his followers see humans as exterior to nature, and even as interfering. Policies using Marsh’s conclusion as premise therefore see humans as exterior to nature as well. This explains why so many of the policies fail to create advantageous incentive structures and beneficial systems for the economy.

If humans are a part of nature, then the study of political economy and the incentives that drive the economic world are as important to ecology as the natural world is to the economy. In this book, therefore, we pay special attention to the way environmental policies shape and create incentives. Each of the policy chapters will have a section on incentives, and a conclusion on its impacts. Policies must not only be viewed in the lens of their intended outcome in the ecosystem; as a part of nature, human economic incentives must also be considered and weighed into the equation.

The Endangered Species Act (ESA) is a relevant example of the ways in which policies have ignored economic incentives to their own detriment. The red-cockaded woodpecker was one of the first animals to be listed under the act after its passing in 1969. “Colonies” or “clans” of the red-cockaded woodpecker are largely found in “southern pine” ecosystems in the South Eastern United States. Under ESA incentive structures, private land development and usage is much more difficult if a species or species habitat such as that of the red-cockaded woodpecker is found on the land. There have been many documented instances where, to avoid the regulations, farmers and other land owners have prevented or destroyed habitat growth on their land to avoid these regulations (Lueck & Michael, 2003).

A famous case that demonstrates this odd incentive structure is that of Ben Cone, a landowner in North Carolina. In 1991 the Fish and Wildlife Service restricted Cone from harvesting timber on 1,500 acres of his land where twelve colonies of red-cockaded woodpeckers had been reported to be living. After doing some research, Cone learned that the trees on the regulated portion of his land were worth

two million dollars. 7,500 acres of his land were still unregulated, and so he proceeded to clear-cut the areas that were potential woodpecker habitats to prevent future restrictions. Similar cases have been reported in areas that regulate habitat protection for the golden-cheeked warbler, black capped vireo, and northern spotted owl (Michael, 2000). When policies are created under the lens of dualism, they fail to take into account human economic incentives, such as those that drove Ben Cone to destroy potential habitat to avoid regulations. Policies created without consideration for incentives are ineffective and create outcomes contrary to their aims.

The Policies

The policies that we will discuss in this book are the Endangered Species Act, the Wilderness Act, the Federal Land Policy Management Act, the Clean Air Act, and the Clean Water Act. These policies are a product of the environmental movement, whose history will be discussed in detail in chapter three. Each of these policies has had a great economic impact, and so it is necessary to evaluate their ecological impact. In chapters four through eight we will show how these policies have been based on the balance of nature perspective, and the ways that this perspective shapes the policy outcomes. Each chapter will include a case study, an analysis of the incentive structures created by the policy and the ways they are shown through the case study, as well as an analysis on the results of the policy. We will briefly introduce each of these policies and their significance in our overall argument.

The Endangered Species Act

The Wilderness Act

After eight years of debate and sixty-six revisions, the Wilderness Act was passed into law on September 3, 1964. The Wilderness Act offered a clarifying definition of “wilderness” as an area where “the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain" and ensured that 9.1 million acres of land within the United States be categorized as

wilderness, protecting them from significant human incursion such as vehicles and permanent structures (The Wilderness Society). In its own words, the act "assure[s] that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition." The Act instructed that the Secretary of the Interior review every road-less area of 5,000 acres or more and every road-less island, making recommendations to the President of which areas should be set aside within the wilderness preservation system. Final decisions were to be made by Congress (U.S. Fish and Wildlife Service). It is important to note that the Wilderness Act shifted not only the decision making process, but also management authority, from agencies such as the Forest Service into the hands of Congress (Forest History Society).

The definition of protection under the Wilderness Act obviously excludes energy production in protected areas; however, controversy exists over what can and cannot be done in areas recommended for protection, but which have not yet been designated by Congress for preservation. In early 2010, seventy two Congressional Democrats sent a letter to the Forest Service recommending that the recommended areas be kept from overuse by motorized vehicles adversely affecting the areas wilderness qualities. Responding to the letter, House Republicans sent a message to the Chief of the Forest Service in April of the same year arguing that doing so would turn areas into "de-facto wilderness" and prohibit positive development, such as energy production (Ring, 2010).

The Federal Land Policy and Management Act

It is often called the "BLM Organic Act", and governs the way the Bureau of Land Management manages public land. FLPMA declared that public domain lands would be retained under federal ownership unless disposal of a particular parcel served the national interest, but did not exclude private interests from developing and using the resources on public lands. It also specified that the US

government should receive fair market value for use of public land. Finally, it requires the agency to manage for "multiple use and sustained yield". In 2000 and 2010, the legislation was modified (a la P.L. 106-248) so that the BLM can now sell land and use the revenue to purchase inholdings and other lands from willing sellers.

Any green v. green controversy that involved the Bureau of Land Management would, by extension, have roots in FLPMA. However, like most of these regulations, there isn't an abundance of green v. green controversy. In 2006, George Bush proposed shifting 70% of BLM revenue into the Treasury to reduce the federal deficit, which was quite controversial, but not green v. green. Most useful conflict directly results from wilderness management and withdrawal authority-- prior to FLPMA, the president could withdraw public lands for specific uses or from sale to prevent speculation, or the development of conservation areas. FLPMA narrowed that authority, which could theoretically result in green v. green conflict. For example, on December 5th, 2008, the BLM declared illegal (I guess they can do that?) a FLPMA provision that allowed a single Congressional committee to block an emergency withdrawal in response to the House Natural Resource Committee attempt to block uranium mining near the Grand Canyon. Nuclear power sort of invites GvG conflict because both sides support and protest it. Finally, a significant amount of controversy originates from how the provision allows for wilderness management (The Bureau of Land Management, n.d.).

The Clean Air Act

The Clean Air Act (CCA) was passed into law on December 31, 1970, and subsequently amended in 1977 and 1990. CCA gives authority to the Environmental Protection Agency (EPA) to develop and enforce regulations to maintain air quality nationwide. The goal was to set state-specific standards and implementation plans in order to reduce the amount of pollutants and contaminants in the air. The 1977 and 1990 amendments were primarily designed to set new time frames and standards for the states in

achieving their goals, because many areas had failed to meet deadlines for pollution reduction (US EPA). EPA's enforcement of CAA on large stationary polluters, such as manufacturers, producers, refiners, and utilities, focuses on mandating specific output limitations. Reduction is achieved by the installation of pollution control equipment. Pollution reduction on mobile sources is achieved by regulation of fuel composition, mandating of fuel standards, and requiring emission-control components on vehicles (USA EPA, 2010). On its official website, EPA predicts that CAA will save over 230,000 early deaths by 2020 (US Environmental Protection Agency).

Environmental activist groups have brought up much litigation under the CAAs, generally aimed at dirty energy producers and polluters. However, Rep. Ed Whitfield of Kentucky points out that these lawsuits serve to "encourage environmental lawsuits and aid environmental groups with fund raising," which, in turn, has led to an increase of law suits. These lawsuits are increasingly, and ironically, aimed at renewable energy projects (Rossomando, 2011). In an exhaustive research project, Bill Kovacs, Senior Vice President for Environment, Technology and Regulatory Affairs at the U.S. Chamber of Commerce, shows over 330 such energy projects that have been shot down by environmental groups in litigation over laws such as the Clean Air Act.

The Clean Water Act

The Clean Water Act (CWA) is the primary federal law governing water pollution. It establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Originally the Federal Water Pollution Control Act, it was reorganized and expanded in 1972 and 1977. Through the CWA, the Environmental Protection Agency regulates wastewater standards for industry and water quality standards for all contaminants in surface waters.

The CWA is involved in quite a bit of regulation and case law against industrial pollution, and is (albeit rarely) involved in green vs. green conflict, usually in hydroelectric regulation conflicts. A primary example can be found in the case S.D. Warren Co. v. Maine Board of Environmental Protection. SD Warren Co. operates several hydroelectric dams in Maine, and they sued over being required by the Federal Energy Regulatory Commission to receive approval from the Maine Board of Environmental Protection. Two similar examples include State of Alaska v. Southeast Alaska Conservation Council and Coeur Alaska, Inc. v. Southeast Alaska Conservation Council (Jones, 2008).

The Clean Water Act has also attracted criticism from the conservation biology spectrum: sediment is classified as a pollutant under the CWA, but high amounts of sediment are crucial in some rivers because of the geological formations they create, and because they create and maintain deltas and wetlands, where a variety of endangered species live.

Many green organizations also don't like the text of the regulation. In particular, Section 404 of the CWA requires a permit from the Army Corps of Engineers in order to release fill or dredge material in waterways, and includes wetlands into the definition of waterway. While landowners consider this an invasion of private property rights, environmentalists strongly dislike the fact the dredging wetlands is potentially legal (Legal Information Institute, n.d.).

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