

Who Should Regulate Nature?

An Examination of the Philosophies That Inform U.S. Wilderness Policy

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The ongoing debate over whether the United States government should expend resources to extinguish naturally occurring forest fires provides a forum for studying the ethical paradox that exists in society's relationship with the wilderness.

To reach a consensus on the appropriate role of government in regulating nature, we must first recognize the fundamental philosophical dichotomy regarding our place in nature. Environmentalists and philosophers on one side of the debate hold that we are a part of the greater natural environment, occupying a status equal to other species. Therefore, our influence should be minimal. On the other end of the spectrum are those who believe that humans, as intellectual beings, are superior to other species and separate from the greater ecosystem. Under this position, humans are obligated to manage and improve nature, preserving the ecosystem for nature's sake or society's enjoyment.

These two views occupy opposing positions on a continuum of philosophical views on the role of humans in the natural environment. This paper will introduce several other points along the continuum which are necessary for understanding and rationalizing the ethical challenges presented in the context of managing naturally occurring forest fires. The range of ideas and corresponding policy alternatives seen in today's society reflects the lack of a commonly held view as to society's place in the

greater ecosystem. Policymakers will only achieve consensus on fire policy once they recognize the role of humans as part of the greater ecosystem, obligated to act in a manner that best reflects and benefits the interconnected ecosystem.

For the purposes of this study, approaches for handling naturally occurring forest fires—such as those caused by lightning strikes—will be discussed. Fires ignited by lightning strikes are significant because the amount of affected land is more widespread than that of human-caused fires. According to statistics compiled for 1995 by the Bureau of Land Management (BLM), lightning caused 143 fires in Idaho alone affecting 191,576 acres, compared to 65,335 acres affected by 172 human-caused fires.¹ While lightning strikes are the predominant cause of naturally occurring fires, other causes include sparks caused by falling rocks, spontaneous combustion of biomass materials, and volcanic eruptions.²

Fire: Destructive or Constructive?

Throughout history and literature, fire has been portrayed as demonic and destructive. For example, Satan has been depicted as living in a fiery hell, while Adam and Eve have been represented as living in a beautiful, abundant, and biologically diverse garden. Dante Alighieri captured the power of fiery damnation in his *Divine Comedy* and Wolfgang Amadeus Mozart used flames to engulf Don

Giovanni and lead him to his doom. America has witnessed the use of fire for punishment throughout its history. From the Salem witch trials to Sherman's march on Atlanta and the seasonal fires in California, fire has been seen as a destructive force with which to be reckoned.

Historically, there is another perspective of fire—that it is a beneficial tool for society and the natural environment. In addition to providing heat and being used for energy, fire cleanses and purifies. Some cultures use fire in their sacrificial rituals to their gods while others use fire to cleanse the body of evil. Modern societies have used fire for years to sterilize medical instruments. In nature, botanists, ecologists, and other scientists have come to recognize the importance of fires to the health of the wilderness.

Following the 1988 fires in Yellowstone National Park in Wyoming, Montana and Idaho, M. Rupert Cutler, president of the Defenders of Wildlife, wrote that "the park will be a healthier and infinitely more interesting place because of this exceptional ecological event."³ Cutler's comment was rooted in scientific evidence showing that fires serve to cull the wilderness of older pines, reintroduce nutrients into the soil, and encourage greater biodiversity.

Wildfires allow for the natural succession of vegetation to occur within forests over time. Such succession is dynamic and allows grasses and other plants to prosper. These grasses and lower-level plants play a vital role by providing both food and shelter for many smaller animals. Eventually, new multi-storied forests with conifers and pines are fostered; these forests will develop the characteristics of "old growth" forests.⁴

In reality, fire cannot be characterized as either totally destructive nor totally constructive. As Secretary of Interior Bruce Babbitt recently stated, "Fire is neither good nor evil; it is a part of the natural process of change, a tool, a complex force that can be used to meet restoration goals."⁵ Nevertheless, society's perception of fire as either harmful or beneficial has a significant impact on the policy actions taken to respond to forest fires.

The Evolution of Fire Policy

Lack of consensus on the relationship of humans to the environment, negative perceptions of fire's impact, and a misunderstanding of the scientific benefits of forest fires have contributed to a constant vacillation in the debate and subsequent reversals of the nation's fire policy.

Throughout the first half of the twentieth century, U.S. land managers viewed fire as "the greatest threat against the perpetual scenic wealth of our largest national parks, which... would become haunts only of those interested in the study of desolation."⁶ Arno Cammerer, director of the National Park Service (NPS) in the 1930s, declared that those who caused fires were guilty of "murder."⁷ In this period of negative perception of forest fires, government agencies had a simple fire suppression policy—extinguish fires before they reached 10 acres in size or, at a minimum, control *all* fires by 10:00 a.m. the following morning.⁸ Under this fire policy, naturally occurring fires, such as those caused by lightning strikes, were managed with the same urgency as human-caused fires.

As the Cold War progressed during the 1950s, fire prevention was linked to national security, and the government focused research efforts on technological improvements and increased personnel to meet the 10:00 a.m. policy.⁹

Despite significant federal expenditures to extinguish naturally occurring forest fires in the national parks and forests, not all scientists agreed with this policy. As the body of knowledge about the environment and ecosystems increased, ecologists began to question the utility of this fire-fighting practice. This skepticism of the scientific community led to a reversal in the forest fire policy after the publication of a report in 1963 by an Advisory Board on Wildlife Management in the National Parks, chaired by A. Starker Leopold, the son of noted conservation writer Aldo Leopold. The Board, appointed by Secretary of the Interior Stuart Udall, found that much of the west slope of the Sierra Nevada was a thicket of young growth that was a "direct function of overprotection from natural ground fires."¹⁰ The Board proposed that this overgrowth is a danger not only to the giant sequoias but also to other

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plants and animals in the ecosystem.¹¹ With the Board's findings, the government recognized that natural fires were not only "considered essential for wild lands, but, by analogy, fire of some sort was proclaimed useful for lands of all sorts."¹²

U.S. policy adjusted accordingly. In 1968, the NPS issued policies identifying fire as a "natural phenomenon" and recommended that natural fires in predetermined areas be allowed to "run their course."¹³ The U.S. Forest Service (USFS) implemented a comparable policy a few years later. In 1972, the NPS officially adopted a policy that allowed naturally occurring fires to burn in Yellowstone National Park. Under these policies, the agencies monitored naturally occurring fires to ensure that they did not threaten developed areas, homes, or communities. Only when a naturally occurring fire threatened such an area would the agencies attempt to extinguish or control the fire.¹⁴

Nowhere has the debate over government's proper role in regulating the natural environment been more evident than in Yellowstone National Park and the surrounding national forests. Yellowstone National Park was established in 1872 "as a pleasuring ground for the benefit and enjoyment of the people."¹⁵ Over the ensuing years, the ecosystem within the park's boundaries were "protected" (i.e., regulated) by the federal government. This regulation has varied over the years. From 1972 to 1987, 235 natural fires were permitted to burn in Yellowstone. These fires burned an average of 60.75 hectares per fire and only 15 burned more than 41 hectares.¹⁶ As Varley and Schullery pointed out:

By almost anyone's standards, the natural fire program during that sixteen-year period was considered successful public policy. It restored fire as an ecological force in Yellowstone; it took no human lives, nor did it cause any significant injuries, it destroyed no private property or significant historical or cultural resources; it did no harm to threatened and endangered species; and it was certainly cost effective.¹⁷

In the summer of 1988, the nation witnessed some of the most spectacular and most photographed wildfires in the country's history. The 1988 fires at Yellowstone National Park included some caused by humans and others resulting from naturally occurring events. While only "about .1

percent of the soil had been sterilized,"¹⁸ the fire's effect on the public was enormous. The public and politicians, spurred by media reports about the "threat" to Old Faithful, pressured the USFS and NPS to re-examine their fire prevention policies, specifically the natural fire or "let-burn" policy.

Following the 1988 fires, then-Senator Malcolm Wallop (R-WY) echoed public and political sentiment when he stated, "'Let nature take its course' has damn near destroyed nature in the greater Yellowstone area."¹⁹ Wallop and others believed that the wilderness would be better off if government intervened in the natural process to protect wilderness from fires. Such intervention could include immediately suppressing fires, undertaking prescribed burning, and creating fire blocks.

Obviously, since Wyoming's economy depends greatly on tourism, Wallop's politically-motivated intention was to preserve the wilderness for society's benefit—enjoyment of the scenery and outdoor activities such as hunting, fishing, camping, and hiking. Such a position fails to recognize that the wilderness and natural areas do not exist solely for human society's purposes—economic, recreational, aesthetic, or otherwise—but must be shared with other members of the ecosystem.

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Due to this lack of understanding of the human role, and propelled by a public convinced of the destructive force of unchecked forest fires, the policy pendulum swung back again. Despite scientific evidence to support the "let-burn" policy, this policy was halted following the 1988 Yellowstone fires, as both the USFS and NPS reinstated the wildfire suppression policy for non-prescribed fires.²⁰

It is important to note that the pendulum may now be swinging back to the "let-burn" policy. According to a report by the Congressional Research Service, "the termination of prescribed natural fires may have been an overreaction to the public sentiment."²¹ In addition, the Federal Wildland Fire Policy acknowledges "Wildland fire,

as a critical natural process, must be reintroduced into the ecosystem."²² Nevertheless, the consistent flip-flopping of U.S. policy on naturally occurring forest fires illustrates a critical lack of agreement on the position of humans in the natural world.

Humans as Members of the Larger Natural Environment

As noted earlier, the debate about society's proper relationship to the natural environment has participants whose arguments are drawn from opposing ends of the spectrum. Some members contend human society falls within the realm of the natural environment. Others place humans outside and above the natural environment, endowed with the authority to regulate and intervene in such areas as wilderness management policy.

These views, and the variations found along the spectrum, complicate policy formulation. By unifying around the idea that humans are but one faction in the greater environmental community, the appropriate policy response becomes clear—that is, to let nature regulate itself.

In the debate that exists about society's proper relationship with the natural environment, therefore, the primary point of contention is whether human society falls within or outside the realm of the natural environment. The school of thought born from the former position is based on much of the work of noted early twentieth-century conservation writer Aldo Leopold and naturalist John Muir.

Leopold viewed the community in which humans live as broader than just our fellow *homo sapiens* to include "soils, waters, plants, and animals, or collectively: the land,"²³ thereby denoting a "land ethic." Leopold's land ethic avows the right of all members of the ecosystem to endure. Not unlike human societies or communities in which individuals have certain rights and responsibilities, there are certain responsibilities that humans have in the natural community—respect of, care for, and a relationship with others in the community. In the natural community, as in the human community, individual citizens have rights that cannot be abridged by others. This means, therefore, that humans should not impose their will on nature. Leopold wrote that "a land ethic changes the role of *Homo sapiens*

from conqueror of the land-community to plain member and citizen of it."²⁴

While it has been nearly 50 years since Leopold's work was published, our role within the environment remains undecided. Leopold stated, "Conservation is a state of harmony between man and land,"²⁵ but society has yet to discover this state of harmony. Leopold's harmony is difficult to attain so long as humans view themselves as being superior to other members of the natural environment. This sense of harmony requires that we understand our role as not simply members of the natural environment but also as stewards of the environment. In turn, to protect the environment, we must regulate activities that adversely impact the natural environment. Traditionally, government or society has focused on regulating human activities and removing natural predators from certain ecosystems.

In trying to find the proper harmony, we are now confronted with the issue of whether society should control the natural environment or let nature take its course. Under Leopold's land ethic, humans, as inhabitants of the greater community, must acknowledge that there are forces within the natural environment that we may not fully understand, cannot control, or should simply let be.

As Members of the Natural Environment, Humans Are Not Regulators

Not much farther down the continuum are those individuals who believe that society and government must recognize: (1) the interconnectedness of all members of the natural environment and (2) the potentially adverse impact of our efforts to control the environment. These individuals adhere to the works of John Muir, who wrote that "When we try to pick out anything by itself, we find it hitched to everything else in the Universe."²⁶ In this same tradition, conservationist Barry Commoner has recognized that attempts by humans to influence any one aspect of the natural environment affect other members of the natural environment as well. This belief is reflected in Commoner's "laws of ecology" :

1. Everything is Connected to Everything Else
2. Everything Must Go Somewhere
3. Nature Knows Best
4. There Is No Such Thing as a Free Lunch²⁷

This philosophy recognizes that human beings are members of the natural community, along with plants, animals, the soil, and catastrophic natural events such as fire. Some may question the role of natural events as members of the natural environment. However, they play an important role in shaping the environment and should not be excluded. The advisory board chaired by A. Starker Leopold recognized that "successional communities...were maintained by fires, floods, hurricanes, and other natural forces."²⁸

In addition, this philosophy asserts that nature and its many components do not exist solely for society's pleasure and should not be controlled or regulated by the government. For example, just as removing wolves from the Yellowstone ecosystem has led to an overpopulation of elk, suppressing naturally occurring fires has led to an overgrowth of the nation's forests. According to Edward Grumbine, director of the Sierra Institute, University of California, Santa Cruz:

If one looks at the forest landscapes of North America and includes ecosystem process such as wildfire in one's definition of land health (as [Aldo] Leopold surely would have), the disturbing conclusion is that, because the U.S. Forest Service has actively suppressed fire for almost a century, hundreds of millions of acres need a good clean burn today.²⁹

Environmental philosopher Holmes Rolston of Colorado State University discusses what he calls "The Yellowstone Ethic." The Yellowstone Ethic advises us to let nature take its course³⁰ because *homo sapiens* are just one species within the greater natural environment, as Leopold suggests. Under this ethic, society should not interfere in the natural environment by removing certain predatory animals from their native environment, introducing new species to the ecosystem, or requiring that all fires be extinguished. Instead, society should recognize that certain natural events benefit the greater environment and potentially provide benefits unknown to humankind. Rolston argues that the Yellowstone Ethic appropriately respects life in its ecosystem.³¹

This policy of natural regulation is embedded in Leopold's concept of the broader natural community in which

humans are a part. From this perspective, the nation's wilderness should remain free from human interference and society should not take actions that would make the wilderness artificial. This sentiment was captured by Dan Sholly, the chief ranger at Yellowstone, who wrote that the park "was not meant to be a regulated collection of animals or plants like those in a conservatory or ranch. Instead it was supposed to be more of a preserve, where nature's players could interact undisturbed."³²

As Members of the Natural Environment, Humans Must Consider Their Impact on Other Members of the Natural Environment

The next step along the continuum suggests that since humans have already had an impact on the natural environment, any further human intervention must consider its effect on other members of the community. This philosophy is also rooted in the works of Aldo Leopold and Muir. Leopold captured Muir's thoughts about society's efforts to influence the natural environ-

ment when he wrote "Conservation is paved with good intentions which prove to be futile, or even dangerous, because they are devoid of critical understanding either of the land, or of economic land-use."³³ Like Muir, Leopold grasped that society's realm of understanding of the natural environment and ecosystems is relatively small and biased towards the sphere of influence of humans.

In arguing that *homo sapiens* are members of the larger environment, Leopold indicated that we need to examine the results of our actions. To Leopold, "A

thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."³⁴ This seemingly simple land ethic is actually very difficult to put into action when definitions of integrity, stability, and beauty differ tremendously. Actions that some may view as preserving the "integrity, stability, and beauty" of the natural environment, like removing the predatory wolf from the Yellowstone ecosystem, may in fact harm the environment in the long-run. Other actions, such as allowing fires to

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burn naturally, are viewed by some as being destructive but actually serve to restore vital nutrients, thin overgrown wilderness, and allow ground-level plants to grow. Naturally occurring fires preserve the integrity and long-term stability, although not the current beauty, of the wilderness.

Both Muir and Leopold understood that members of the natural community, including humans, are interconnected and dependent upon one another: if you remove one member, others will be affected as well. This philosophy can be seen in the work of William Cronon, an environmental historian at the University of Wisconsin at Madison, who wrote, "To the extent that biological diversity (indeed, even wilderness itself) is likely to survive in the future only by the most vigilant and self-conscious management of the ecosystems...the ideology of wilderness is potentially in direct conflict with the very thing it encourages us to protect."³⁵ This perspective raises the question of whether government should suppress naturally occurring forest fires as part of the effort to manage the ecosystem or restrain from intervention and let nature take its course.

Those who want to preserve nature for society's self-interest do not have what Aldo Leopold called "respect for his fellow-members, and also respect for the community as such."³⁶ Leopold believed that human society must respect the other members of the broader community, whether they be plants, animals, the soil, or water. In *A Sand County Almanac*, Leopold recognized the interrelationship between members of the natural environment and seasonal changes, such as snow and floods. As such, it is not difficult to expand Leopold's land ethic to include naturally occurring forces that impact the environment—for example, lightning fires—as members of the natural community. "Lightning fires can be considered as a manifestation of climate, no less important than rain, sun, and frost."³⁷ Fire, just like the living and non-living members of the natural community, contributes to the health of the community, fulfills a role in the life cycle of the community, and alters the community through either its presence or absence.

Similarly, Arne Naess's "Eight Points of Deep Ecology" can be interpreted to include the non-living members of the natural community, such as rocks, soil, and naturally

occurring events. Naess, one of the pre-eminent environmental philosophers, writes, "The term 'life' is used here in a more comprehensive non-technical way to refer to what biologists classify as 'non-living': rivers (watersheds), landscapes, ecosystems."³⁸ It is logical, therefore, that the term "life" can be defined to include fires, meteorological events, and geologic catastrophes. To more fully understand Naess's philosophy, it may be useful to identify some of his Eight Points of Deep Ecology:

- Point 1 The well-being and flourishing of human and non-human life on Earth have value in themselves (synonyms: intrinsic value, inherent worth). These values are independent of the usefulness of the non-human world for human purposes.
- Point 3 Humans have no right to reduce this richness and diversity except to satisfy vital needs.
- Point 5 Present human interference with the non-human world is excessive, and the situation is rapidly worsening.³⁹

If we acknowledge that naturally occurring forest fires are part of Naess's non-living or non-human worlds, then we can subsequently determine that even creating fire blocks and setting prescribed fires—let alone extinguishing naturally occurring fires—damage the natural environment in both the short and long term and are thus "excessive" activities. Additionally, society's efforts to suppress naturally occurring fires serve to reduce the "richness and diversity" of the natural environment. This point was not lost to Cutler of the Defenders of Wildlife when he wrote in 1988 that "The fires are not destroying Yellowstone, they're changing it. And in most cases, those changes will promote a greater diversity and abundance of plants and animals."⁴⁰

Those who want society to protect the "home" of wildlife from forest fires treat these fires like household fires. In many ways, nature has a way of taking care of itself—trees adapt, animals migrate, and forest regenerate. Unlike twentieth-century humans, many animals are migratory by nature, some moving seasonally and others moving to find adequate food supplies. Thus, when the fires struck Yellowstone in 1988, numerous animals traversed the terrain to find other, safer areas of the wilderness. Following these fires, rangers reported finding the carcasses of only 243 elk (most of which died as a result of a single incident), five bison, four deer, and two moose within the

perimeters of the fires. When compared to the 5,000 elk out of a herd of 20,000 that died in the winter of 1988-89, these losses are relatively small.⁴¹

In addition, certain species of plants have adapted over time to allow them to survive forest fires. Some trees, for example, have developed thicker bark, while others have evolved sprouting techniques. Some tree species actually require fire to stimulate flowering for reproduction.⁴² This "natural regulation" process, which is reflected by the ability of some members of the natural community to survive massive forest fires, is illuminated by the "survival of the fittest" theory of Charles Darwin. In *The Origin of the Species*, Darwin explained that stronger, more adaptive members of the community are capable of changing to survive in an altered environment, whereas the weaker, less-adaptive members fail to survive.⁴³ In the natural environment, the adaptive quality of living organisms is what culls the weak, sick, and the old.⁴⁴ By suppressing naturally occurring fires, society is interfering with this natural process of regulation, thereby unwittingly altering the development or evolution of plant and animal species.

As Superior Beings, Humans Should Protect the Natural Environment

At the other end of the spectrum are those individuals who advocate the use of society's "managerial skills" to preserve the environment. Many policymakers, environmentalists, and members of the general public fall into this category. These individuals argue that humans should use their ability to reason and our technological developments to protect the Earth's natural resources for future generations.

Gifford Pinchot, Daniel Botkin, and Alston Chase each discussed the use of scientific methods in forest management. However, their goals were very different. Pinchot strove to ensure that the nation's lumber needs were met through selective harvesting and replanting techniques rather than through clear-cutting America's forests.⁴⁵ Botkin sought to ensure that the earth simply be pleasing to society and capable of maintaining life.⁴⁶ And Chase attacked what he viewed as "faulty science" that is the

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basis of natural regulation and instead advocated government intervention in the ecosystem.⁴⁷

As the first director of the USFS, Pinchot advocated the use of scientific methods to manage the nation's forests. Pinchot sought to use science to optimize the timber production of forests, while simultaneously avoiding clear cutting the forests. In his position with the Forest Service, Pinchot worked "to convert the wild, old-growth stands to scientifically managed second-growth."⁴⁸ Pinchot's forest management techniques did not preclude humans from reaping the rewards from

the greater ecosystem, as long as society does not cause long-term, irreversible damage to the ecosystem. Pinchot's efforts recognized that government could play a greater role in managing the natural environment than had been acknowledged previously.

In *Discordant Harmonies*, noted ecologist Daniel Botkin tries to find the balance between technology, the needs of society, and the needs of the natural environment. Botkin criticizes the environmental activists of the 1960s and 1970s for raising our consciousness but failing to provide any solutions as well as for discounting the use of technology for environmental problems.⁴⁹ Botkin argues that change is natural, that, in fact, some change is good. Society needs to acknowledge this fact and take steps to manage change. According to Botkin, by employing our technological advancements, society can bring about "the possibility of constructive management that, if implemented, could achieve long-term uses of natural resources and enhance the environment in a way that could be both pleasing to us and necessary for the survival of life on the Earth."⁵⁰

Under Botkin's perspective, it is the government's role to manage the environment with a certain amount of care and discretion. If society arbitrarily exploits the available natural resources or recklessly and irreversibly alters the environment, the Earth will at some point no longer provide us with a "comfortable home." At the same time, the government needs to ensure that its actions are not overly intrusive. Ultimately, Botkin believes, society must "become the managers and controllers of Nature to provide Nature with order and 'to make the Earth a comfortable home' for human civilization."⁵¹

Botkin recognizes, however, that our past approaches to regulating the natural environment have had adverse effects, using the Mariposa Grove of giant sequoia trees in Yosemite National Park as an example of society's ill-advised efforts to protect the wilderness. According to Botkin, "the Mariposa Grove was managed to protect the forests from all disturbances...The undisturbed forests were no longer as open as they had been, but were becoming crowded with white fir...[and scientists] realized that great sequoias might rely on fire to regenerate."⁵² As such, Botkin argues that there is a place for natural regulation within the realm of society's management of the environment.

In *Playing God in Yellowstone*, Alston Chase argues that Leopold's and Darwin's philosophy of "natural regulation," the idea that nature can take care of itself, is not that simple: "Natural regulation was a triumph of packaging. It was a policy containing nothing artificial...Therefore, the thought that the grass and animals might suffer, that Yellowstone's capacity to sustain life might decline if nature were left to its own devices, was inconceivable."⁵³ According to Chase, the advisory board chaired by A. Starker Leopold and others fell prey to "a fictitious axiom, conceived to satisfy philosophical and mathematical conceptions of symmetry."⁵⁴ Chase has attacked natural regulation because it relies on the ability of the natural environment to self-regulate a wilderness created by human intervention. This view is based on the idea that American wilderness, as we have come to know it, is not untouched by human hands. Instead, through the use of science and human intervention, our government has developed and protects what appears to be a natural environment but is in reality an artificial ecosystem. To Chase and his followers, failing to intervene now "can lead only to further declines in park resources."⁵⁵

Based on his assertions, Chase proposes establishing a "Greater Yellowstone Ecosystem." Ecophilosopher George Sessions has characterized Chase's proposal as requiring the government to adopt a "heavily manipulative scientific wildlife management approach" to conserve the environment in the park and the surrounding forests.⁵⁶

The government would take action to reverse the policies that Chase considers the result of environmentalism based on Leopold's land ethic, which Chase views as having "no foundation at all."⁵⁷ The resulting government policies of "benign neglect," according to Chase, have led to the deterioration of Yellowstone's wildlife and natural environment.⁵⁸ Instead, humans should be more than just a steward of the natural environment and to use the many available resources—thereby adopting a proactive wilderness approach—to improve the natural habitat for wildlife.

In many ways, Chase's philosophy appears to be influenced by Naess's Eight Points of Deep Ecology, particularly the principle that the "[r]ichness and diversity of life forms contribute to the realization of these values and are also values in themselves."⁵⁹

Chase's approach suggests that government must work to make the natural environment a suitable habitat for wildlife but must also protect the habitat from destruction, both

artificial and natural. Followers of Chase would argue that we can create the Greater Yellowstone Ecosystem, and others like it, around the world and that government should protect its investment in the natural environment from destruction by either human or catastrophic forces, such as naturally occurring fires.

The Greater Yellowstone Ecosystem concept, however, overestimates the role that *homo sapiens* should play in the natural environment. It is not appropriate for the government to create what appear to be wilderness areas but are in reality simply human constructs. Nor is it society's role to regulate the natural environment by removing or restricting members of the ecosystem, such as naturally occurring forest fires. Chase's approach ignores the necessity of naturally occurring fires for the health of the ecosystem. The "let burn" policy, on the other hand, protects the integrity and beauty of the ecosystem by allowing natural regulation to maintain both the health and long-term stability of the natural environment.

Many citizens and policymakers are not as concerned with the overall health of the natural environment as they are with society's superficial relationship with nature through

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outdoor recreational activities such as hiking, camping, hunting, and fishing. This perspective is most closely associated with anthropocentric reformists, who believe that humans, through government institutions and policies, can identify and reverse damaging trends, thereby improving the environment. In *Environmental Philosophy*, Michael Zimmerman writes, "According to these reformists, while nature has value only as an instrument for human ends, those ends range from the food provided by plants and animals to the aesthetic pleasure provided by a beautiful wild landscape."⁶⁰

This philosophy was espoused in the early wilderness policies of the USFS. A 1978 USFS document asserts, "Wilderness is for people...The preservation goals established for such areas are designed to provide values and benefits to society...Wilderness is not set aside for the sake of its flora or fauna, but for people."⁶¹

Most citizens and lawmakers thus fall into the anthropocentric reformist category and the influence of the historical perception of fire as inherently evil can be seen at play in their attitudes toward forest fire policy. They believe that forest fires represent evil or destructive forces, much like a foreign invader. Not unlike public sentiment during the Cold War, most of the general public believes that the nation should combat and defeat this enemy. Additionally, the anthropocentric reformist tendencies of policymakers and the public is exacerbated by media sensationalism. Every evening during the Yellowstone fires in the summer of 1988, average citizens and Washington policymakers saw the media report the fires as "destroying" some of the nation's most pristine and beautiful landscape. Since all forest fires look similar, it was difficult for the media or the viewers to differentiate between human-caused and naturally occurring fires. This led many constituents and legislators to conclude that the government needed to take appropriate actions to extinguish all of these fires, regardless of their cause.

Although this position has been adopted by many philosophers and most legislators, the belief that humans are superior to the other members of the natural community is misdirected and has resulted in flawed public policy.

Conclusion

While humans could attempt to preserve the natural habitat for biodiversity or aesthetic purposes, Leopold warns "that man-made changes are of a different order than evolutionary changes, and have effects more comprehensive than is intended or foreseen."⁶² Leopold echoed the concern of Muir in suggesting that, whether it be the removal of wolves from the ecosystem or the suppression of natural fires, when the government intervenes in natural environmental processes, we threaten to cause greater changes than would have otherwise occurred by letting nature take its course. These sentiments were recently echoed by Secretary of Interior Bruce Babbitt who, on February 11, 1997, stated that "at the same time we eradicated the wolf, we also excluded that flame. And now we see the dangers of doing so. To restore the health, character and structure to our forests, then, the obvious first step is to bring back their own ancient predator: wildland fire."⁶³ Fire is, after all, naturally occurring, and "helped create the ecosystem...[I]ts absence meant an unnatural system."⁶⁴ Policymakers, the media, and the public must recognize that human beings are members of the greater ecosystem and that our intelligence requires us to consider the impact of our actions on the other members of the ecosystem.

Far too often, scientific progress is viewed as always positive for the betterment of the earth. This is not always the case. While the government has successfully pursued scientific advancements in firefighting that have increased our ability to efficiently extinguish wildfires, and at the same time place the lives of firefighters in less danger, these advancements have created other significant problems. Wilderness areas are no longer able to follow the natural life cycle, plants and animals fail to evolve through adaptation, and a "tinderbox" is created making future fires even more difficult to combat. As such, the U.S. government should pursue a policy that balances the needs of humans with the needs of the greater ecosystem. Any such policy should reflect the following:

1. Human society is part of the greater, interconnected ecosystem that includes plants, animals, the soil, *and* naturally occurring events.

2. Any action taken to control or otherwise regulate some members of the greater ecosystem or naturally occurring events will affect other members of the ecosystem.
3. Humans have a responsibility to serve as stewards for the greater ecosystem.
4. As stewards for the greater ecosystem, we must ensure that our actions, except those needed to satisfy vital needs, benefit the greater ecosystem.

5. Human society is limited and not all naturally occurring events can or should be controlled.

Adopting these five fundamental points within the public policy process will ensure that the harmony between *homo sapiens* and the natural environment is restored and maintained.

Notes

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¹ "BLM Fire Statistics," [cited February 7, 1997]; available from <http://www.primenet.com/~blmida.stats.html>; INTERNET.

² James Agee, *Fire Ecology of Pacific Northwest Forests* (Washington, DC: Island Press, 1993), 25-26.

³ M. Rupert Cutler, "Fire in Yellowstone, Hot Air in D.C.," *New York Times*, 11 September 1997, E31.

⁴ James Proctor, "Whose Nature? The Contested Moral Terrain of Ancient Forests," in *Uncommon Ground: Toward Reinventing Nature*, ed. William Cronon (New York: W.W. Norton & Co., 1995), 275-276.

⁵ Bruce Babbitt, "A Coordinated Campaign: Fight Fire With Fire," (remarks at Boise State University, Idaho, 11 February 1997 [cited 24 February 1997]); available from <http://www.doi.gov>; INTERNET.

⁶ Stephen J. Pyne, *Fire in America: A Cultural History of Wildland and Rural Fire* (Princeton, N.J.: Princeton University Press, 1982), 299.

⁷ *Ibid.*

⁸ Ross W. Gorte, "Forest Fires and Forest Health," Congressional Research Service Report to Congress, No. 95-511 ENR, (14 July, 1995, [cited 7 February 1997]); available from <http://www.cnle.org/nle/for-5.html>; INTERNET.

⁹ Pyne, *Fire in America*, 287.

¹⁰ United States Department of Interior, *Wildlife Management in National Parks*, Report by Advisory Board on Wildlife Management, A.S. Leopold, Chairman, S.A. Cain, C.M. Cottam, I.N. Gabrielson and T.L. Kimball, 4 March 1963, 6.

¹¹ *Ibid.*

¹² Pyne, *Fire in America*, 16.

¹³ *Ibid.*, 303.

¹⁴ Alston Chase, *Playing God in Yellowstone* (Boston: Atlantic Monthly Press, 1986), 70.

¹⁵ *Yellowstone National Park Protection Act*, ch.72,28 stat. 73 (7 May 1894).

¹⁶ John D. Varley and Paul Schullery, "Reality and Opportunity in the Yellowstone Fires of 1988," in *The Greater Yellowstone Ecosystem: Refining America's Wilderness Heritage* (New Haven: Yale University Press, 1991), 109.

¹⁷ *Ibid.*

¹⁸ Jim Carrier, *Summer of Fire* (Salt Lake City, Utah: Gibbs Smith Publisher, 1989), 98.

¹⁹ MacNeil /Lehrer NewsHour, 7 September 1988, cited in *Media and Apocalypse*, Conrad Smith (New York: Greenwood Press, 1992), 37.

²⁰ Mike Apicello, Federal Wildland Fire Policy, U.S. Forest Service (Boise, ID [cited 11 February 1997]); available from <http://www.fs.fed.us/land/wdfire2.htm>; INTERNET

²¹ Gorte, "Forest Fire and Forest Health," 2.

²² Apicello, Federal Wildland Fire Policy; INTERNET.

²³ Aldo Leopold, *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1987), 204.

²⁴ *Ibid.*

²⁵ *Ibid.*, 207.

²⁶ John Muir, *My First Summer in Sierra* (Boston: Houghton Mifflin, 1911), 110.

²⁷ Barry Commoner, *The Closing Circle: Nature, Man and Technology* (New York: Alfred A. Knopf, 1971), 33-48.

²⁸ United States Department of Interior, *Wildlife Management in National Parks*, 8.

²⁹ Edward Grumbine, "Forest Fires and Forest Health," in *Deep Ecology for the 21st Century*, ed. George Sessions (Boston: Shambhala, 1995), 384.

³⁰ Holmes Rolston, "Challenges in Environmental Ethics," in *Environmental Philosophy*, ed. Michael Zimmerman (Englewood Cliffs, New Jersey: Prentice Hall, 1993), 149-150.

³¹ *Ibid.*, 150.

³² Dan Sholly, *Guardians of Yellowstone* (New York: Morrow, 1991) cited in Micah Morrison, *Fire in Paradise* (New York: Harper Collins, 1991), 6.

³³ Leopold, *A Sand County Almanac*, 225.

³⁴ *Ibid.*, 224-225.

³⁵ William Cronon, "The Trouble with Wilderness; or Getting Back to the Wrong Nature," in *Uncommon Ground: Toward Reinventing Nature*, ed. William Cronon (New York: W.W. Norton & Co., 1995), 81-82.

³⁶ Leopold, *A Sand County Almanac*, 204.

³⁷ Pyne, *Fire in America*, 3.

³⁸ Arne Naess, "The Deep Ecological Movement: Some Philosophical Aspects," in *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael Zimmerman (Englewood Cliffs, New Jersey: Prentice Hall, 1993), 197-198.

³⁹ *Ibid.*, 197.

⁴⁰ Cutler, "Fire in Yellowstone," E31.

⁴¹ Micah Morrison, *Fire in Paradise* (New York: Harper Collins, 1991), 208.

⁴² J. Boone Kauffman, "Ecological Relationships of Vegetation and Fire in Pacific Northwest Forests," in *Natural and Prescribed Fire in Pacific Northwest Forests*, ed. John Walstad, et al. (Corvallis: Oregon State University Press), 41.

⁴³ Charles Darwin, *Darwin*, ed. Philip Appleman (New York: W.W. Norton, 1979), 53-87.

⁴⁴ Morrison, *Fire in Paradise*, 208.

⁴⁵ Charles F. Wilkinson and H. Michael Anderson, "Land and Resource Planning in the National Forests," *Oregon Law Review* 64 (1985), 134.

⁴⁶ Daniel B. Botkin, *Discordant Harmonies: A New Ecology for the Twenty-first Century* (New York: Oxford University Press, 1990), 4.

⁴⁷ Chase, *Playing God in Yellowstone*, 318-319.

⁴⁸ Wilkinson and Anderson, "Land and Resource Planning in National Forests," 134.

⁴⁹ Botkin, *Discordant Harmonies*, 5-6.

⁵⁰ *Ibid.*, 4.

⁵¹ George Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," in *Deep Ecology for the 21st Century*, ed. George Sessions (Boston: Shambhala, 1995), 412.

⁵² Botkin, *Discordant Harmonies*, 154.

⁵³ Chase, *Playing God in Yellowstone*, 70.

⁵⁴ *Ibid.*, 319.

⁵⁵ Dennis H. Knight, "The Yellowstone Controversy" in *The Greater Yellowstone Ecosystem: Refining America's Wilderness Heritage*, ed. Robert B. Keiter and Mark S. Boyce (New Haven: Yale University Press, 1991), 97.

⁵⁶ Sessions, "Ecocentrism, Wilderness, and Global Ecosystem Protection," 357.

⁵⁷ Chase, *Playing God in Yellowstone*, 325.

⁵⁸ *Ibid.*, 70.

⁵⁹ Naess, "The Deep Ecological Movement," 197.

⁶⁰ Michael Zimmerman, "General Information," in *Environmental Philosophy From Animal Rights to Radical Ecology*, ed. Michael Zimmerman (Englewood Cliffs, New Jersey: Prentice Hall, 1993), viii.

⁶¹ U.S. Forest Service, Miscellaneous Publication No. 1365, *Wilderness Management*, [John C. Hendee, George H. Stankey and Robert C. Lucas] Wilderness Management, U.S. Forest Service, Misc. Pub. No. 13 (1978), 140-141.

⁶² Leopold, *A Sand County Almanac*, 218.

⁶³ Babbitt, "A Coordinated Campaign"; INTERNET.

⁶⁴ Carrier, *Summer of Fire*, 28.

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