

Like We Were Never There:  
How Leave No Trace Works as an Individual and Institutional  
Environmental Solution

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## Abstract

Nearly every outdoor enthusiast can list and explain the seven principles of Leave No Trace. These principles dictate visitor behavior in wilderness areas, and are increasingly being implemented in more front country settings such as state and city parks. Leave No Trace represents a win-win, zero consequence environmental solution both for individuals and the four agencies in charge of managing wilderness areas in the United States. Individuals follow Leave No Trace because doing so preserves wilderness areas in their current state, thus allowing these individuals to come back to the same pristine nature. The Forest Service, the National Park Service, the Fish and Wildlife Service, and the Bureau of Land Management all encourage their visitors to follow Leave No Trace because doing so benefits the agencies in several ways. Each agency maintains a good public image for supporting such a noncontroversial, good environmental solution; following Leave No Trace encourages more people to visit because they can do so in a non-impactful fashion; and encouraging visitors to follow Leave No Trace shifts the responsibility of wilderness purity from the land management agencies to the visitors themselves, allowing the agencies to pursue their own agendas.

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## Introduction

### Seven Easy Steps to a Healthier Planet

A prominent narrative in modern American environmentalism holds that people are bad for the planet. The American environmental movement was kickstarted by Rachel Carson's book *Silent Spring*, a work that condemns the use of artificial chemicals and pesticides in agriculture as evil.<sup>1</sup> Several years later, Paul Ehrlich's work, entitled *The Population Bomb*, warned that the earth was rapidly approaching its limits for sustaining human life.<sup>2</sup> Environmental activists have put forth some rather lofty and unattainable goals to save the world (take, for example, Paul Ehrlich's call to bring the world population growth rate to zero), but they have also produced relatively easy individual actions that are geared toward lessening human impact on the planet. "Reduce, reuse, recycle" has become a common household mantra in an effort to lessen the impact of consumption. Countless self-help books now help you *and* the environment: a search on a local bookstore's website for "save the planet" might yield results such as *The Kind Diet: A Simple Guide to Feeling Great, Losing Weight, and Saving the Planet*, or *The Zero Footprint Baby: How to Save the Planet While Raising a Healthy Baby*. The popular notion that individual actions can rescue the earth from its impending, human-generated demise is a product of American environmental politics in the 1980s. The ceaseless American optimism that we can have our cake and eat it too manifests itself in the "win-win" environmental solutions that promise to save the earth through easy, individualized actions while allowing everyday life to go virtually unchanged.<sup>3</sup> This zero-consequence attitude toward solving environmental problems reveals an important underlying assumption of the American identity: people act upon the planet more than the planet acts upon us. People are, in effect, separate from nature.

Once upon a time, this separation from nature was desired and actively pursued. The natural world, the uncivilized world, was a place of "moral confusion and despair."<sup>4</sup> This terror of the wild and the uncivilized is primarily an Old World, Christian relic. In hundreds of Biblical references, the wilderness is made equivalent to a "desert" or a "waste." In eighteenth century

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<sup>1</sup> Rachel Carson. 1962. *Silent Spring*. Boston: Houghton Mifflin ; Cambridge, Mass.

<sup>2</sup> Paul R. Ehrlich. 1975. *The Population Bomb*. Rev.. Rivercity, Mass: Rivercity Press.

<sup>3</sup> Maniates, Michael F. 2001. "Individualization: Plant a Tree, Buy a Bike, Save the World?" *Global Environmental Politics* 1 (3). doi:10.1162/152638001316881395.

<sup>4</sup> Cronon, William. 1996. "The Trouble with Wilderness: Or, Getting Back to the Wrong Nature." *Environmental History* 1 (1): 7–28. doi:10.2307/3985059.

England, Samuel Johnson defined the wilderness as “a tract of solitude and savageness” while writing the *Dictionary of the English Language*.<sup>5</sup> Roderick Nash, a professor of history and environmental studies, argues that wilderness “was instinctively understood as something alien to man—an insecure and uncomfortable environment against which civilization had waged an unceasing struggle.”<sup>6</sup>

In the United States, that struggle was won in 1893, when Frederick Jackson Turner declared the frontier to be closed.<sup>7</sup> Anglo-Saxons had populated America from coast to coast, and the wilderness was tamed. Civilization grew, and with it came overcrowding, pollution, disease, and dozens of other environmentally undesirable qualities. Some people began to crave the simplicity nature promised: few people or distractions, clean air and water, and pure beauty. Henry David Thoreau, one of the first American proponents of wilderness, wrote that he “went to the woods because [he] wished to live deliberately, to front only the essential facts of life.”<sup>8</sup> William Cronon, a prominent environmental historian, credits the about-face on wild places to two sources. First, instead of a place where devils and darkness resided, wilderness came to be evidence of the sublime, of God’s terrible and awesome power. Second, the desires to prove the superiority of the body and the mind against the uncontrolled elements of the wild derived from Old World desires to conquer wilderness.<sup>9</sup> Wilderness, centuries ago and now, is a place where nature is in its rawest form. Centuries ago, it was to be feared, but now, it is to be idealized. Nature exists untouched by humans; flora, fauna, and microbes function without our help or hindrance. Cronon describes wilderness as “the best antidote to our human selves.”<sup>10</sup> Wilderness, as a place separate from human influence, simultaneously draws us in and challenges us to keep ourselves out.

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<sup>5</sup> Roderick Nash. 1982. *Wilderness and the American Mind*. 3rd ed.. New Haven, Conn: Yale University Press.

<sup>6</sup> Ibid.

<sup>7</sup> Frederick Jackson Turner. 1966. *The Significance of the Frontier in American History*. Ann Arbor, University Microfilms.

<sup>8</sup> Henry David Thoreau. 1971. *Walden*. Princeton, NJ, Princeton University Press.

<sup>9</sup> Cronon, William. 1996. “The Trouble with Wilderness: Or, Getting Back to the Wrong Nature.” *Environmental History* 1 (1): 7–28. doi:10.2307/3985059.

<sup>10</sup> Cronon, William. 1996. “The Trouble with Wilderness: Or, Getting Back to the Wrong Nature.” *Environmental History* 1 (1): 7–28. doi:10.2307/3985059.

There are many questions about the nature of wilderness: whether it is a social construction; if it truly exists at all; if it does exist, what the real definition is. This paper is not about the semantics, real or imagined, of wilderness. As of 1964, “wilderness” in the United States became a legal form of land use with specific characteristics and defining qualities. Wilderness was created for conflicting purposes: to save unique areas from human influence, but also to preserve these areas for the use and enjoyment of the American people. Balancing these opposing mandates is something the public land management agencies have struggled with since the passage of the Wilderness Act. This paper follows the political history of wilderness in the United States and examines how view of wilderness and wilderness management have shaped and have been shaped by underlying beliefs about the environment.

One tool that has been particularly effective for wilderness management is the Leave No Trace ethic. For the past two and a half decades, federal land managers, outdoor outfitters and guide companies, and wilderness visitors themselves have espoused the catchphrase “Leave No Trace.” The Leave No Trace program is a set of seven principles designed to minimize wilderness visitor impacts on the land. The seven principles are found in Figure 1.

### **Leave No Trace Principles**

- #1: Plan Ahead and Prepare
- #2: Travel and Camp on Durable Surfaces
- #3: Dispose of Waste Properly
- #4: Leave What you Find
- #5: Reduce Campfire Impacts
- #6 Respect Wildlife
- #7: Be Considerate of Other visitors

**Figure 1 - Leave No Trace Principles**

At its most basic level, Leave No Trace (also referred to as LNT) is these seven principles.<sup>11</sup> They are taught to people entering backcountry areas in an effort to keep these areas pristine. The idea of a person “leaving no trace” is counterintuitive, however, and virtually impossible in most settings. Remnants of human presence are everywhere, even in wilderness areas, where trails, campsites, and inevitable bits of

microtrash all indicate that someone was there before you were.

Still, the philosophy of the campaign essentially promotes cleaning up after yourself, and the principles seem like a reasonable way to communicate the desired behaviors. Leave No Trace sounds like another nature-themed self help book: *Seven Easy Steps to Protecting the Wilderness by Hiking*. It is a win-win environmental solution. Outdoor recreationists can enjoy the wilderness and simultaneously ensure that the wilderness is preserved for years to come.

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<sup>11</sup> McGivney, Annette. 1998. *Leave No Trace: A Practical Guide to the New Wilderness Ethic*. Seattle: Mountaineers.



Even though Leave No Trace targets individuals and small groups traveling in the wilderness, it can be appropriated to larger organizations and institutions. The institutions in charge of wilderness designation and management in the United States are the four federal land management agencies: the Forest Service, the National Park Service, the Fish and Wildlife Service, and the Bureau of Land Management. Each agency has its own unique history and political agenda, but each is responsible for managing its lands in the interest of the public, and all have committed to promoting Leave No Trace. Again, Leave No Trace exhibits itself as a win-win, zero consequence form of action for the agencies. LNT is a cheap, apolitical way for the agencies to put the responsibility of maintaining wilderness quality in the hands of enthusiastic visitors, and it is an easy solution to the opposing mandates of wilderness protection. The principles encourage visitors in ever-greater numbers; they are safe in the knowledge that their visit will do no harm to the places they love. Ultimately, the federal land management agencies are responsible for pursuing the interests above the public above all else. Leave No Trace allows the agencies to ensure the protection of a desired public good—wilderness—by placing the responsibility of protection on those who wish to see it protected.

This essay first examines the history of wilderness, wilderness management, and Leave No Trace as a wilderness visitor management tool. The four public land management agencies are historically analyzed to explore the reasons and motivations behind the creation and adoption of the Leave No Trace principles. Next, the agencies' current knowledge and use of Leave No Trace is analyzed via an online survey and multiple website analyses. Finally, the essay concludes with the argument that the agencies have adopted Leave No Trace because doing so shifts the responsibility of wilderness purity from the agencies to the individuals who visit wilderness areas.

# Chapter One

## Wilderness in the United States

### **A Brief History of the Wilderness Act of 1964**

The quest for federally protected wilderness was a long time in the making. Frederick Law Olmstead first spoke about designating the Yosemite Valley as a national park in 1864,<sup>12</sup> but the Wilderness Act was not passed into law until one hundred years later. At the beginning of the twentieth century, change was in motion and ideas of conservation and preservation began to gain momentum among the American public. With the advancement of technology and the general improvement in quality of life for many people, Allin writes:

Wilderness was no longer a significant physical menace. By the turn of the century most Americans were largely shielded from the elements. For them wilderness was associated with vacations rather than survival. The 1890 census had noted the closing of the frontier; its demise presaged new meanings for wilderness. The transcendentalists, literati, and other early appreciators of nature had not been men who were forced to struggle with nature for existence...By the turn of the century...many more Americans found themselves possessed of significant economic security and free time. They responded...with a sense of appreciation for the American wilderness.<sup>13</sup>

During the 1920s and 1930s, the idea of legal wilderness preservation began to grow stronger. Both the conservation and preservation movements saw merit in wilderness protection, though they supported it for different reasons. Conservation is a utilitarian belief that land should be used to its maximum efficiency, while preservation protects the land in its “natural” state. This difference is not widely articulated today, but it did play a big role in the competition between the Forest Service and the National Park Service when wilderness areas first began to be recognized.

The Forest Service is a conservation department; the National Park Service a preservation-oriented one. In the 1920s, the Forest Service began setting aside its first wilderness areas for protection.<sup>14</sup> The number of national parks also steadily increased during this time, and the Park Service worked actively to maintain their monopoly on preservation for recreation. Steven Mather, the first director the Park Service, went so far as to intervene in federal funding

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<sup>12</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>13</sup> Ibid.

<sup>14</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

processes to ensure that the Forest Service was cut out of funds for recreational development.<sup>15</sup> This competition between the two agencies continued to play out after the Wilderness Act passed, while each agency sought to have its own version of wilderness passed off as the true meaning of the word.

During World War II, wilderness protection was downplayed, and the wilderness areas was put on hold. It would have been difficult to lobby for protecting wild areas in a wartime atmosphere; protecting valuable resources like timber and minerals likely would have been regarded as “unpatriotic and selfish.”<sup>16</sup> While little progress was made, wilderness advocates did not lose much ground, either. On the whole, any movement toward wilderness legislation was simply put on hold until the end of the war.

In 1955, Howard Zahniser, a primary author of the future Wilderness Act, delivered a speech at the National Citizen’s Planning Conference on Parks and Open Spaces for the American People. In the speech, he outlined the skeleton of what would later become the National Wilderness Preservation System. Inspired by Zahniser’s ideas, Senator Hubert Humphrey of Minnesota declared that he would “submit wilderness legislation along the lines of the Zahniser proposal as soon as possible.”<sup>17</sup> Thus began the nearly decade-long fight for the Wilderness Act.

The years between Zahniser’s speech and the passage of the Wilderness Act were marked with countless new bills and ongoing opposition from various parties. In the beginning, wilderness advocates faced opposition from both public land management agencies (notably the Forest Service and the National Park Service) and those involved in natural resource development industries like mining and logging. The Forest Service and the National Park Service were afraid of relinquishing control over their lands; they did not want to be told what to do. Furthermore, the agencies did not want lands added or subtracted from their holdings by an unknown third party. Resource development industries did not want to permanently lose access to large tracts of land containing potentially marketable resources. Early on, wilderness activists made the decision to cater to the land management agencies over commodity groups, reasoning that the government could help appease any unhappy industries. Wilderness advocates placated

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<sup>15</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.

the Forest Service and the National Park Service by declaring that all new wilderness areas would be created from existing public lands, and that those lands would remain under the control of the agency already administering them.<sup>18</sup> This largely allayed the fears of the agencies.

The Wilderness Act, after many years of revisions, was finally agreed upon by both the House and the Senate during the Eighty-eighth Congress on August 20, 1964. It was signed into law by President Johnson on September 3, 1964.<sup>19</sup> The law established the National Wilderness Preservation System and created a legal definition of “wilderness.” The definition and uses of wilderness areas have been grounds for much dissent among the federal land management agencies since the passage of the act. The definition, stated in Section 2(c), is as follows:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprints of man’s work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other feature of scientific, educational, scenic, or historical value.<sup>20</sup>

A careful reading of this definition shows many areas where creative interpretation can be applied. The only criterion that must absolutely be met is that the wilderness area is “an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation.”<sup>21</sup> The numbered specifications in the definition all contain ambiguous words such as “generally,” “substantially,” “may also,” and so on. All of those guidelines have room for interpretation, of which the agencies took full advantage.<sup>22</sup>

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<sup>18</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>19</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>20</sup> *The Wilderness Act of 1964*.

<sup>21</sup> Ibid.

<sup>22</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

The Act charged the Forest Service, the National Park Service, and the Fish and Wildlife Service to review all lands in their jurisdictions and to propose appropriate wilderness areas within ten years. The Bureau of Land Management was not part of the original Wilderness Act, but was added to the National Wilderness Preservation System later, in 1976.<sup>23</sup> In addition to providing a definition, the Wilderness Act also provided a legal guideline for the land management agencies to begin surveying and recommending wilderness areas in their holdings. It did little to dictate, however, how and what those agencies could classify as actual wilderness. As a result, the three agencies originally included in the Wilderness Act all created slightly different definitions of what could be called “wilderness” and how such land would be managed.

When the Wilderness Act passed in 1964, 54 areas were created, totaling 9.1 million acres in 13 states. As of 2014, 758 wilderness areas exist in the United States and total over 109 million acres in 44 states.<sup>24</sup> This large increase in wilderness acreage reflects the continued popularity of wilderness among the American people. Despite the idea of wilderness as land isolated from human influence, the increasing number of visitors and their impacts soon made the need for some sort of management clear.

### **Wilderness Management: An Oxymoron?**

For most activists, the passage of the Wilderness Act increased the incentive to lobby for more wilderness protection, rather than to manage and maintain existing wilderness areas. Some debate arose over even attempting to manage wilderness was wrong, because “managing” implied control over something that was supposed to be freed from people.<sup>25</sup>

The need for some sort of management or regulation, however, quickly became clear. Post-World War II, Americans began flocking to outdoor recreation destinations in numbers that grew with each passing year.<sup>26</sup> This jump in outdoor recreation arose from several changing factors of the postwar era. New roads were under construction all over the country, including

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<sup>23</sup> *Federal Land Policy and Management Act of 1976.*

<sup>24</sup> “The Beginnings of the National Wilderness Preservation System.” 2014. *Wilderness.net*. March 20.  
<http://www.wilderness.net/NWPS/fastfacts>.

<sup>25</sup> Hendee, John C., George H. Stankey, and Robert C. Lucas. 1978. *Wilderness Management*. Miscellaneous Publications 1365. U.S. Department of Agriculture Forest Service.

<sup>26</sup> Cordell, H.K., and Super, Gregory R. 2000. “Trends in Americans’ Outdoor Recreation.” In *Trends in Outdoor Recreation, Leisure and Tourism*, 133–44. CABI.

new interstate highways. More families had cars to drive on those roads, too, and more time to vacation. Technologies developed during the war were brought home and transformed into new vehicles of recreation: military men from units such as the 10th Mountain Division brought back a love of skiing and a wealth of supplies, while others used surplus life rafts to navigate thrilling and challenging rivers.<sup>27</sup> Most outdoor activities, including skiing, camping, bicycling, swimming, boating, and fishing “grew at rates faster than population growth between...1960 and 1983.”<sup>28</sup> The jump in visitor days—defined as a visitor’s stay over a twelve-hour period<sup>29</sup>—quickly increased strain on every agency as each struggled to accommodate the masses. The high volume of people began to show in the reports of litter, water pollution, and overcrowding in backcountry areas. The overuse of wilderness by so many outdoor enthusiasts led land managers to fear that irreparable damage was being done to their lands.<sup>30</sup> The American people as a whole were so enthusiastic about the new wilderness reserves, they seemed to forget that one of the original arguments for protecting the land was to allow it to flourish without human interference. To curb degradation that had already appeared, or seemed inevitable, each agency developed and refined its visitor management strategies.

Visitor management strategies are actions that encourage certain visitor behaviors while on public lands. Strategies to control visitor use typically fall into two categories: direct and indirect.<sup>31</sup> These categories can also be referred to as regulatory and manipulative, respectively.<sup>32</sup> Robert Lucas aptly sums up the two approaches:

Direct approaches seek to modify visitor use and behaviour by limiting visitors’ freedom of choice: management is explicit and obvious to visitors. Indirect approaches seek to

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<sup>27</sup> George Siehl. 2000. “US Recreation Policies Since World War II.” In *Trends in Outdoor Recreation, Leisure and Tourism*, 1st ed., 91–101. CABI.

<sup>28</sup> Cordell, H.K., and Super, Gregory R. 2000. “Trends in Americans’ Outdoor Recreation.” In *Trends in Outdoor Recreation, Leisure and Tourism*, 133–44. CABI.

<sup>29</sup> Hampton, Bruce. 2003. *NOLS Soft Paths : How to Enjoy the Wilderness without Harming It*. 3rd ed.. Mechanicsburg, PA: Stackpole Books.

<sup>30</sup> Marion, Jeffrey L., and Scott E. Reid. 2007. “Minimising Visitor Impacts to Protected Areas: The Efficacy of Low-Impact Education Programmes.” *Journal of Sustainable Tourism* 15 (1): 5–27.

<sup>31</sup> Lucas, Robert C. 1983. “The Role of Regulations in Recreation Management.” *Western Wildlands* 9 (2): 6–10.

<sup>32</sup> C. Ben Fish, and Richard L. Bury. 1981. “Wilderness Visitor Management: Diversity and Agency Policies.” *Journal of Forestry* 79 (9): 608–12.

modify decision factors but leave final decisions to visitors; management is usually subtle and not obvious to visitors.<sup>33</sup>

Direct approaches might include mandating that visitors register for campsites before they depart on their trip, or requiring the possession of a bear canister to protect food from bears and other wildlife while in certain areas. Indirect management techniques might include publicizing times during the season when traffic is the heaviest, so that visitors have the choice to make their trip during non-peak times, or educating visitors about appropriate behaviors while on federal lands. Each agency has different management goals, so each manages wilderness in a different way. All, however, encourage their visitors to follow the Leave No Trace principles.

### **Leave No Trace**

In the 1980s, the Forest Service began to recognize that most degradation caused by visitors was not “from malicious acts, [but] from an insensitivity to the consequences of [individual] actions.”<sup>34</sup> They reasoned that education, an indirect visitor management strategy, could be more effective in protecting wilderness quality than rules mandated by agency. This plan was supported by the first-ever National Wilderness Management Workshop, hosted by the University of Idaho in 1983. One of the recommended courses of action that came from the workshop was to “develop a list of wilderness and no-trace camping education materials offered by all agencies and involved publics.”<sup>35</sup> Shortly thereafter, the Forest Service, in conjunction with the National Park Service and the Bureau of Land Management, began circulating materials that promoted minimum-impact or “no-trace” camping.

For help in developing a national education program, the Forest Service turned to the National Outdoor Leadership School (NOLS), an outdoor education school opened in 1965, that had already begun to develop a specific minimum-impact camping program. Finding that the NOLS curriculum complemented its own, the Forest Service proposed an arrangement between the two parties: NOLS would provide the curriculum and materials necessary to promote the Forest Service’s new message, and in return the Forest Service would make the curriculum, titled

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<sup>33</sup> Lucas, Robert C. 1983. “The Role of Regulations in Recreation Management.” *Western Wildlands* 9 (2): 6–10.

<sup>34</sup> Marion, Jeffrey L., and Scott E. Reid. 2001. “Development of the U.S. Leave No Trace Program: An Historical Perspective.” <http://leavenotrace.info/wp-content/files/LNTHistoryPaper.pdf>.

<sup>35</sup> “Wilderness Management - A Five Year Action Plan.” 1984. In Idaho: University of Idaho. <http://wilderness.nps.gov/document/I-18.pdf>.

“Leave No Trace,” the official policy on outdoor recreation ethics.<sup>36</sup> NOLS and the Forest Service signed a Memorandum of Understanding in 1991. The MOU affirmed the federal commitment to LNT, and formalized the exchange of materials and information between the agencies and NOLS. Once LNT, Inc was created as a non-profit organization in 1994, NOLS took on advisory role and stepped back from the partnership.<sup>37</sup> A new MOU was drawn up and signed by the Forest Service, the National Park Service, the Fish and Wildlife Service, the Bureau of Land Management, and LNT, Inc in 1994.<sup>38</sup> Since then, “Leave No Trace” has been the official message of the federal government in wilderness areas.

The mission of the Leave No Trace Center for Outdoor Ethics (formerly LNT, Inc) is to “teach people how to use the outdoors responsibly.”<sup>39</sup> Since its inception, Leave No Trace is said to have “joined the ranks of well-known phrases such as ‘think globally, act locally’ and ‘give a hoot, don’t pollute’ to become one of the most recognizable slogans in American culture.”<sup>40</sup> Multiple studies<sup>41</sup> have shown that LNT is widely recognized and practiced by visitors today.

The principles themselves encourage behaviors to concentrate and minimize impacts in fragile wilderness areas. Typical LNT behaviors include staying on trails; camping on hard surfaces instead of meadows; substituting a stove for a campfire, and packing out all trash. Following these behaviors preserves the land and makes the experience of the next visitors—whether they appear in the next day or the next decade—all the more enjoyable.

Critics of Leave No Trace argue that the principles shift the costs and consequences of living and breathing from wilderness areas to places we have deemed to be less special. They argue that in order to properly Leave No Trace, a visitor must purchase expensive, high-tech

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<sup>36</sup> Marion, Jeffrey L., and Scott E. Reid. 2001. “Development of the U.S. Leave No Trace Program: An Historical Perspective.” <http://leavenotrace.info/wp-content/files/LNTHistoryPaper.pdf>.

<sup>37</sup> Marion, Jeffrey L. 2014. “Interview” Phone.

<sup>38</sup> “Memorandum of Understanding among USDA Forest Service; USDOJ Bureau of Land Management, Fish and Wildlife Service, and National Park Service; USDOD Army Corps of Engineers and Leave No Trace Center for Outdoor Ethics.” 2008.

<sup>39</sup> “Frequently Asked Questions.” 2014. *Leave No Trace Center for Outdoor Ethics*. Accessed May 5. [www.lnt.org](http://www.lnt.org).

<sup>40</sup> Simon, Gregory L., and Peter S. Alagona. 2009. “Beyond Leave No Trace.” *Ethics, Place & Environment* 12 (1): 17–34. doi:10.1080/13668790902753021.

<sup>41</sup> Taff, Brendan. 2012. “Messaging and National Park Visitor Attitudes”. Dissertation, Fort Collins, CO: Colorado State University. and Vagias, Wade M. 2009. “An Examination of the Leave No Trace Visitor Education Program in Two US National Park Service Units”. Dissertation, Clemson University.



equipment that was manufactured, probably in an unsustainable manner, in another place.<sup>42</sup> By minimizing campfire impacts in Yosemite, a backpacker has created a negative impact where his stove was produced. Another critique of Leave No Trace is that it obscures the history of a place by encouraging the idea the wilderness areas always looked the way they do now: untouched, pristine, and empty.<sup>43</sup> These critiques are valid and have been addressed in other bodies of work.<sup>44</sup> By and large, however, the critics of Leave No Trace are few and the supporters are numerous. Outdoor enthusiasts follow Leave No Trace because it is the right thing to do, and because the following the principles has become as normal as putting one foot in front of the other.

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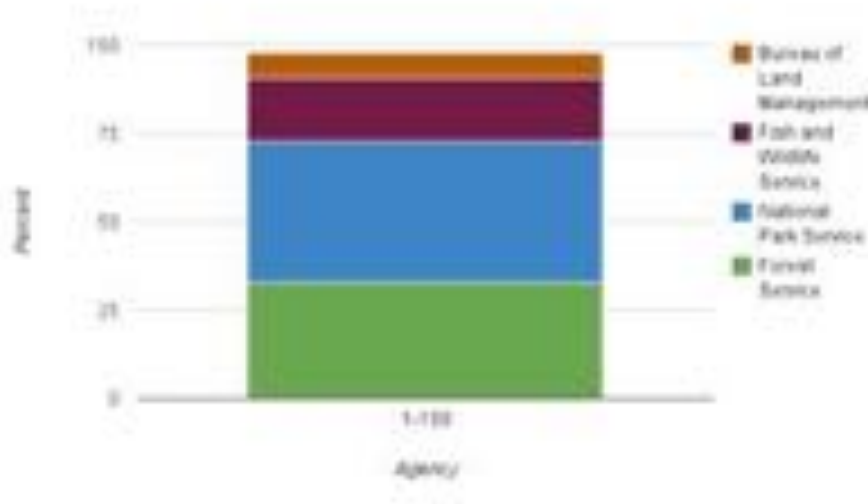
<sup>42</sup> Simon, Gregory L., and Peter S. Alagona. 2009. "Beyond Leave No Trace." *Ethics, Place & Environment* 12 (1): 17–34. doi:10.1080/13668790902753021.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid.

## Chapter Two Pursuing Public Interest in Wilderness

When the Wilderness Act passed, 9.1 million acres were immediately protected as



**Figure 2 - Percent of NWPS Lands Managed per Agency**

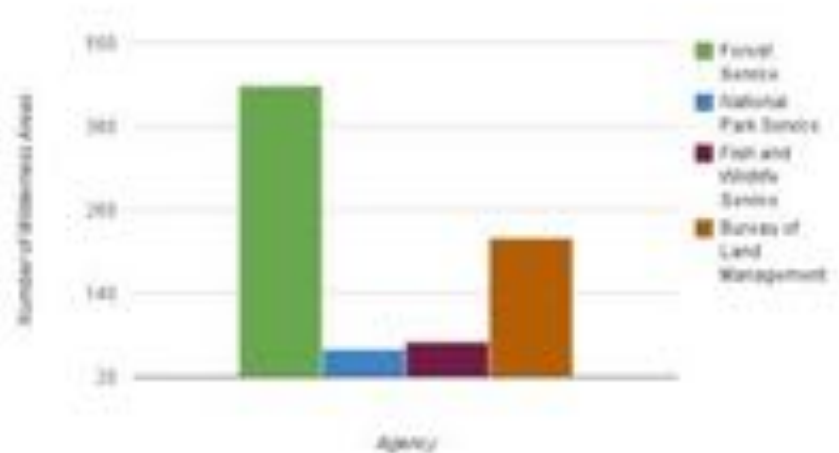
wilderness. In 2014, that number has grown to over 109 million. Though it seems large, that number represents only about 5% of land in the United States, and just under half of that 5% is located in Alaska.<sup>45</sup> Figure 2 is a

breakdown of the percentage of

designated wilderness managed by each agency. The Forest Service manages 33% of National Wilderness Preservation System lands; the National Park Service, 40%; the Fish and Wildlife Service, 18%; and the

Bureau of Land Management is responsible for the remaining seven percent. Figure 3

demonstrates the number of wilderness areas per agency. Though the National Park Service manages the most wilderness acreage, it has the



**Figure 3 - Number of Wilderness Areas per Agency**

<sup>45</sup> "The Beginnings of the National Wilderness Preservation System." 2014. *Wilderness.net*. March 20. <http://www.wilderness.net/NWPS/fastfacts>.

fewest wilderness areas at 61. The Forest Service manages the highest number of areas, at 439.

To demonstrate how each agency came to manage wilderness and why they adopted the Leave No Trace principles, an analysis of the history and politics of each agency was conducted.

### **The Forest Service**

The Forest Service was created in 1905 by President Theodore Roosevelt, who put all federal forest reserves under the control of Chief Forester Gifford Pinchot, of the United States Department of Agriculture. Roosevelt and Pinchot were avid conservationists: they believed in using the land to its maximum efficiency. This meant allocating land for different uses, including, but not limited to, timber, mining, grazing, and recreation. As early as the 1920s, the Forest Service recognized that some lands under their jurisdiction warranted more protection than others, so they designated a limited number of wilderness areas that would be closed (although not indefinitely) to commercial activities.<sup>46</sup>

When the wilderness debate began to heat up in the 1950s, the Forest Service was reluctant to support it. Although many employees believed in preservation and the protection of certain areas, they were unwilling to give up their authority to choose and protect what lands they deemed worthy of the name “wilderness.” Above all, they were concerned that any wilderness act would distract the service from its multiple-use doctrine. Allin writes, “The Forest Service was not uninterested in wilderness preservation, but it has a multitude of competing interests to balance, and every legislative enactment restricts its management options, increasing the pressure under which it must operate.”<sup>47</sup> In 1960, the Multiple-Use Sustained Yield Act reaffirmed the Forest Service’s commitment to multiple-use. The service is not supposed to concentrate its efforts and resources on one use of national forests; it must delegate the best uses for each forest. When the Wilderness Act passed four years after the Multiple-Use Sustained Yield Act, it demanded that the service devote more time and resources to one use—wilderness—interfering with the multiple-use doctrine and upsetting many employees in the service. The actions required of the service by the Wilderness Act meant that the service had less

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<sup>46</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>47</sup> Ibid.

time to focus on other potential uses of forests. Because of this, the agency sought to manipulate the law to suit its own purposes.<sup>48</sup>

The Wilderness Act called for more immediate action on the part of the Forest Service than from the National Park Service or from the Fish and Wildlife Service. In addition to creating guidelines for designating new wilderness areas, the 54 areas created with the Act were all under the jurisdiction of the Forest Service.<sup>49</sup> Thus, the Forest Service had the task of developing a management program for its new wilderness areas, in addition to reviewing the rest of its holdings for wilderness recommendations. Protocol for reviewing potential wilderness areas included some stipulations that were not necessarily favored by most in the Forest Service. A good example is the required participation of the public during the reviewing and recommending process. While evaluating a potential wilderness area, each agency was required to solicit public commentary and to submit those comments to Congress in addition to the service's own recommendations. In many cases, wilderness advocates and locals were far more enthusiastic about the reviews than the Forest Service. Local groups, sometimes sponsored by national organizations like the Wilderness Society, often completed a more thorough and detailed review of a wilderness area than did the Forest Service.<sup>50</sup> The public comments sometimes contradicted the service's assessment, but the service was still required to submit all opinions. While the Forest Service was committed to a multiple-use doctrine and had other interested parties to please, the public was clamoring for wilderness, and as much of it as possible. Public opinion and ideas were taken into account alongside the service's in Congress. To regain control and influence the recommendations of the public, the Forest Service created what became known as the "purity policies."<sup>51</sup>

The purity policies significantly restricted the acreage of land the Forest Service could consider for wilderness designation by imposing high standards of quality for the land. To consider an area for wilderness protection, the service began to use Section 4 of the Wilderness Act, instead of Section 2(c), where wilderness is actually defined. Section 4(c) states that "there

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<sup>48</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>49</sup> Ibid.

<sup>50</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>51</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

shall be no commercial enterprise and no permanent road within any wilderness area...no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.”<sup>52</sup> This allowed the service to consider only areas where no sign of human presence existed, severely limiting the acreage they could recommend for protection. This outraged the public and the Forest Service was accused of creating the purity policies in order to appease the timber industry. James Turner, a wilderness historian, writes, “Indeed, the agency’s purity policies did align neatly with the agency’s institutional commitment to logging—protecting a ‘pristine’ wilderness system also meant keeping the wilderness system small.”<sup>53</sup> The purity policies were eventually abandoned in the 1970s and 1980s, but the spirit of purity may still remain within the agency.

Like the desire to maintain tight control over wilderness recommendations via the purity policies, the Forest Service originally sought to manage visitors to its wilderness areas with strict regulatory controls. These controls were designed to limit recreational access to wilderness areas in order to maintain the pure state for which they had been protected. The controls included mandatory permits, limiting the number of nights visitors could stay, and dictating where people could camp, among other things.<sup>54</sup> Many criticized the strict regulations, insisting that “so-called ‘wilderness preserves’ [would] turn into artificially maintained museum-pieces with ‘do not touch’ signs all over them.”<sup>55</sup> Over the following years, the Forest Service transitioned to more indirect management strategies. A 1978 survey of visitor management policies among the agencies found that the Forest Service was increasingly likely to use manipulative strategies like “educating users to care of the environment” and “advertising patterns of use” to control visitor behavior.<sup>56</sup>

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<sup>52</sup> *The Wilderness Act of 1964*.

<sup>53</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>54</sup> Turner, J. M. 2002. “From Woodcraft to ‘Leave No Trace’: Wilderness, Consumerism, and Environmentalism in Twentieth-Century America.” *Environmental History*. 7 (3): 462–84.

<sup>55</sup> Ibid.

<sup>56</sup> C. Ben Fish, and Richard L. Bury. 1981. “Wilderness Visitor Management: Diversity and Agency Policies.” *Journal of Forestry* 79 (9): 608–12.

The Forest Service has been characterized as a “reluctant wilderness manager.”<sup>57</sup> This stems partly from the service’s legacy of conservation and commitment to multiple-use.<sup>58</sup> Wilderness is one of many priorities within the Forest Service, so it is reasonable to assume that it gets overlooked from time to time. The reluctance many also be a remnant of the purity policies that called for minimal human influence in wilderness areas. Just as the service is unwilling to install a bridge in a wilderness unless it is absolutely necessary, so too are they like to adopt a hands-off management style until a problem is reported. This approach differs greatly from that of the National Park Service, which has been described as more controlling in their wilderness management strategies.

### **The National Park Service**

The idea for the National Park Service first germinated in the latter half of the 1800s, when John Muir and others began to travel into the wild to experience nature in all its glory. Gradually, the government and the people came to recognize that some natural and cultural areas were fantastic enough to warrant federal protection, so that people could enjoy them for years, decades, and centuries to come. A slew of national parks were created in the late 1890s and early 1900s, including Mount Rainier National Park (1899), Crater Lake National Park (1902), and Glacier National Park (1910).<sup>59</sup> The National Park Service of today was legally created with the National Park Service Act of 1916, with the intent to “conserve the scenery and the natural and historic objects and the wild life therein, and to provide for the enjoyment for the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations.”<sup>60</sup>

From the beginning, the National Park Service has existed to sell itself to traveling tourists. It is no coincidence that the parks grew in size and popularity with the rise of cars and

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<sup>57</sup> Allin, Craig W. 1987. “Park Service v. Forest Service: Exploring the Differences in Wilderness Management.” *Policy Studies Review* 7 (2): 385–94.

<sup>58</sup> Watson, Alan E. 2014. “Wilderness Visitor Management Practices: A Benchmark and an Assessment of Progress” 052. Accessed April 28. <http://www.treesearch.fs.fed.us/pubs/23610>.

<sup>59</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>60</sup> Ibid.

road trip vacations. The service aims to attract as many tourists as possible, and that means building amenities like roads, hotels, bathrooms, and trails to make the parks more accessible.<sup>61</sup>

The land the National Park Service oversees enjoys quite a lot of protection, even without the Wilderness Act. Thus, when the act was first proposed, the National Park Service was unwilling to support it because it feared the legislation would “cramp their style.”<sup>62</sup> Park Service lands already benefit from protections specified in the National Park Service Act, and the Wilderness Act would inhibit the service’s ability to build and develop the parks to attract a bigger clientele. Thus, when the Park Service began its wilderness reviews, it followed what has been coined a “swiss cheese” doctrine: it carved out areas from potential wilderness acreage that it identified as having a strong potential for development,<sup>63</sup> leaving wilderness areas riddled with developable holes. On the cooperation of the Park Service during the wilderness reviews, Craig Allin writes:

The Park Service was required by law to review and recommend. The evidence suggests that it went about the task of in a fashion that was designed to minimize its loss of administrative discretion and to protect large areas for possible intensive development in the future. Such a policy guaranteed that the Service would be able to respond to the demands of its auto-tourist clientele. Doing so meant that wilderness recommendations would be modest compared to the desires of the preservation lobby.<sup>64</sup>

Like the Forest Service, the National Park Service was trying to serve competing interests. Though the public was not altogether satisfied with the total acreage the Park Service recommended for wilderness, it had to make do with what it was given. National parks remained vastly popular, and continued to expand for the remainder of the twentieth century and into the twenty-first.

The high volume and variation of national park visitors calls for a more active management style than the one favored by the Forest Service. Much of the service’s management style comes from the first governing body to control the national parks: the Department of the

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<sup>61</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>62</sup> Allin, Craig W. 1982. *The Politics of Wilderness Preservation*. Westport, Conn.: Greenwood Press.

<sup>63</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>64</sup> Allin, Craig W. 1987. “Park Service v. Forest Service: Exploring the Differences in Wilderness Management.” *Policy Studies Review* 7 (2): 385–94.

Army (1886-1916). Where the Forest Service has been called “reluctant,” the National Park Service is decidedly more eager. Allin writes:

When the new National Park Service took over management of the park system, the mutually supportive efforts of Cavalry and Engineers provided a model for reconciling preservation and use. Aggressive law enforcement, in the tradition of the Cavalry, would assure that visitors followed rules; good engineering would assure maximum visitation with minimum damage to the biophysical resource.<sup>65</sup>

The Park Service took the preventive approach to stop problems before they could occur. In 1978, Fish and Bury noted that the Park Service policy contained a “thorough discussion” of direct control initiatives while almost ignoring indirect management strategies.”<sup>66</sup> The National Park Service is more proactive in their visitor management policies than perhaps any of the other agencies.

### **The Fish and Wildlife Service**

The Fish and Wildlife Service, officially created in 1940, was the product of evolving management that had overseen a growing network of wildlife refuges since the early 1900s, when wildlife refuges were first created.<sup>67</sup> The agency is primarily concerned with managing land for the protection of wildlife, but it allows human recreation when these activities fall in line with its management goals.<sup>68</sup> Of all of the agencies, the Fish and Wildlife Service was originally the most amenable to the Wilderness Act, even welcoming the extra management the Act would provide.<sup>69</sup> Nathaniel Reed, the former Assistant Secretary of the U.S. Fish and Wildlife Service, describes the extra protections the Wilderness Act offered, such as “enhancing the legal status of individual refuges and statutorily closing at least part of them to mining and mineral leasing.”<sup>70</sup>

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<sup>65</sup> Allin, Craig W. 1987. “Park Service v. Forest Service: Exploring the Differences in Wilderness Management.” *Policy Studies Review* 7 (2): 385–94.

<sup>66</sup> C. Ben Fish, and Richard L. Bury. 1981. “Wilderness Visitor Management: Diversity and Agency Policies.” *Journal of Forestry* 79 (9): 608–12.

<sup>67</sup> Nathaniel P. Reed (Nathaniel Pryor). 1984. *The United States Fish and Wildlife Service*. Boulder, Colo: Westview Press.

<sup>68</sup> Ibid.

<sup>69</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>70</sup> Nathaniel P. Reed (Nathaniel Pryor). 1984. *The United States Fish and Wildlife Service*. Boulder, Colo: Westview Press.



The service appeared enthusiastic about the opportunities the Wilderness Act gave it to focus more on endangered species, instead of managing the refuges almost exclusively for huntable animals. At the outset, the Fish and Wildlife Service identified 113 units and 29 million acres as suitable for wilderness protection.<sup>71</sup> After the initial show of enthusiasm, however, the Fish and Wildlife Service did not pursue wilderness protection for most of the land it originally identified. One possible explanation is that refuge managers came to realize that they needed to manage certain areas in ways contradictory to the Wilderness Act. Certain refuges and species require extensive manipulation of the environment for protection or monitoring, including the use of equipment prohibited in wilderness areas.<sup>72</sup> As a result, the Fish and Wildlife Service has many fewer wilderness areas than it first proposed.

The dedication to its original mandate of protecting wildlife is evident in the Fish and Wildlife Service's visitor management strategies. All uses and management practices for a refuge must align with the original purpose of the refuge. In its wilderness management policy, the service states: "We initially determine what needs to be accomplished to meet refuge purposes, then ensure that these activities comply with the Wilderness Act."<sup>73</sup> In other words, the Wilderness Act is low on the service's list of priorities.

Though for the first several decades of the existence of the National Wildlife Refuge System the primary managerial concern was for the wildlife, the Fish and Wildlife Service began to feel increasing pressure to become a more multiple-use resource, and especially to permit recreation. The service resisted for quite some time, not wanting to risk endangering wildlife. Eventually, though, recreation became an inevitable use of the wildlife refuges, including hunting. A 1958 inter-departmental memo states: "[We] can no longer afford to evade a positive stand on recreational use of our refuges. We are definitely in the recreation business."<sup>74</sup> So while the Fish and Wildlife Service does manage wilderness areas, it manages its visitors to protect

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<sup>71</sup> Hendee, John C., George H. Stankey, and Robert C. Lucas. 1978. *Wilderness Management*. Miscellaneous Publications 1365. U.S. Department of Agriculture Forest Service.

<sup>72</sup> Ibid.

<sup>73</sup> "Natural and Cultural Resources Management Part 610: Wilderness Stewardship." 2014. U.S. Fish and Wildlife Service. Accessed May 4.  
<http://www.wilderness.net/NWPS/documents/FWS/FWS%20Wilderness%20Policy%20610%20FW%201-5.pdf>.

<sup>74</sup> Curtin, Charles G. 1993. "The Evolution of the U.S. National Wildlife Refuge System and the Doctrine of Compatibility." *Conservation Biology* 7 (1): 29–38.

wildlife first and wilderness second. This tension in management goals can also be seen in the Bureau of Land Management, which is closely tied to local interests and politics.

### **The Bureau of Land Management**

The Bureau of Land Management was established in 1946 as a sort of melting pot for all federal lands not belonging to the other agencies. The lands the agency manages have been described as “lands no one knows,”<sup>75</sup> and exist primarily in the empty American west. These lands have a strong history of multiple uses by locals, including timber, grazing, and mining.<sup>76</sup>

The BLM oversees more public land than the other three agencies put together.<sup>77</sup> Despite this large cache of potential wilderness acreage, the Bureau was not included in the original Wilderness Act. Because the lands were so closely tied to many varied local interests, wilderness activists were unwilling to put up a fight against those who used the land for everything but recreation and solitude.<sup>78</sup>

In 1976, the Federal Land Policy and Management Act brought the BLM into the National Wilderness Preservation System. Mirroring the mandates of the Wilderness Act in the previous decade, the Act “instructs the Secretary of the Interior to review those roadless lands of 5,000 acres or more and the roadless islands of the public lands administered by BLM and to make recommendations regarding the suitability or unsuitability of these areas for wilderness designation.”<sup>79</sup> In addition to inducting the BLM in the National Wilderness Preservation System, the Federal Land Policy and Management Act helped to clean up the governance of the Bureau. It repealed over 300 contradictory management laws, mostly related to mining and

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<sup>75</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>76</sup> Ibid.

<sup>77</sup> Hendee, John C., George H. Stankey, and Robert C. Lucas. 1978. *Wilderness Management*. Miscellaneous Publications 1365. U.S. Department of Agriculture Forest Service.

<sup>78</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>79</sup> Hendee, John C., George H. Stankey, and Robert C. Lucas. 1978. *Wilderness Management*. Miscellaneous Publications 1365. U.S. Department of Agriculture Forest Service.

grazing policies.<sup>80</sup> This helped to strengthen the BLM, though it was still weak and decentralized compared to the other land management agencies.

The Bureau of Land Management was given fifteen years for its reviewing and recommending process due to the amount of acreage it had to cover. Like the National Park Service, the BLM was sluggish in starting its reviews, and “showed little enthusiasm for extensive wilderness designations that would restrict its management prerogatives.”<sup>81</sup> In addition, the public did not seem to care as much about designating BLM lands as wilderness as they had in the national forests and parks. The dry, empty deserts of the BLM did not evoke the same wilderness passion that drove campaigns for wilderness in Alaska and other spots of renowned natural beauty.

Since the passage of the Federal Land Policy and Management Act in 1976, the BLM has largely been run like the Forest Service, albeit with far more land, far less funding, and fewer staff. The management is similar, too, in that both agencies are committed to multiple-use doctrines. Wilderness is but one of many uses of Bureau of Land Management lands, and it is one that does not often find favor with the locals.

Each agency has a unique history, a unique picture of wilderness, and unique visitor management strategies. Together, they manage their lands according to the desires of the public. They have welcomed Leave No Trace and have used the philosophy to their fullest advantage.

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<sup>80</sup> Turner, James Morton. 2012. *The Promise of Wilderness: American Environmental Politics since 1964*. Seattle, Wash: University of Washington.

<sup>81</sup> Ibid.

## Chapter 3

### Institutionalizing Leave No Trace

#### **Wilderness Visitor Management Practices Survey**

##### *Goals of Survey*

The survey was designed to elucidate the motivations for wilderness visitor management practices in each of the land management agencies. More specifically, the survey attempted to elicit information about Leave No Trace, and whether and to what extent wilderness areas use Leave No Trace as a visitor management strategy. It has been argued in this paper that Leave No Trace is a win-win management tool that the agencies have every reason to take advantage of, and the goal of this survey is to figure to what extent they are using it.

The survey participants were drawn from the existing population of federal wilderness managers in each of the agencies. The participants are currently involved in managing one or more wilderness areas.

The survey consisted of eleven questions concerning visitor management practices, the employee's knowledge of the Leave No Trace principles, and the use of Leave No Trace principles in the employee's wilderness area(s). The questions related to general visitor management practices were taken from a 1978 study done by Ben Fish and Richard Bury.<sup>82</sup> The purpose of that study was to "examine interagency differences in wilderness management styles as illustrated by agencies' controls on the intensity and character of wilderness recreation use."<sup>83</sup> The authors then asked the primary reason for using visitor management controls, and what controls administrators used with the greatest frequency. Several of the survey questions mirror Fish and Bury's questions exactly, so as to compare how visitor management controls and the reasons for them have changed over time.

The latter questions in the survey concern the use of a specific manipulative or indirect control--education--and the Leave No Trace principles. These questions are to determine who knows about Leave No Trace, who is certified in Leave No Trace, and how Leave No Trace is implemented in specific wilderness areas. For the complete survey, please see Appendix A.

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<sup>82</sup> C. Ben Fish, and Richard L. Bury. 1981. "Wilderness Visitor Management: Diversity and Agency Policies." *Journal of Forestry* 79 (9): 608–12.

<sup>83</sup> Ibid.

### Selecting Participants and Administering the Survey

The wilderness area managers were selected from a database on [www.wilderness.net](http://www.wilderness.net), a website that maintains current information for all wilderness areas in the United States. Using a random generator in Microsoft Excel, 120 wilderness areas were chosen, or 30 per agency. The database did not offer contact names, but it did offer the phone number of the local management branch for each wilderness area. Each branch was contacted by telephone to gauge interest in participating in the survey, and to obtain email addresses for those interested. In some cases—mostly for the Fish and Wildlife Service and the Bureau of Land Management—email addresses were provided on the website. If the email address was available, the survey was sent with a more descriptive email and no phone call was made due to time constraints.

The survey was created via SurveyMonkey, an online survey generator. Once a participant agreed to take the survey over the phone, the link to the survey was sent via email. Email addresses and IP addresses were not linked to participant responses.

### Results

In total, 84 surveys were sent out. Over 150 offices were telephoned or emailed, but only 84 could be reached. 54 surveys were returned, for a response rate of 62%. Figure 4 documents

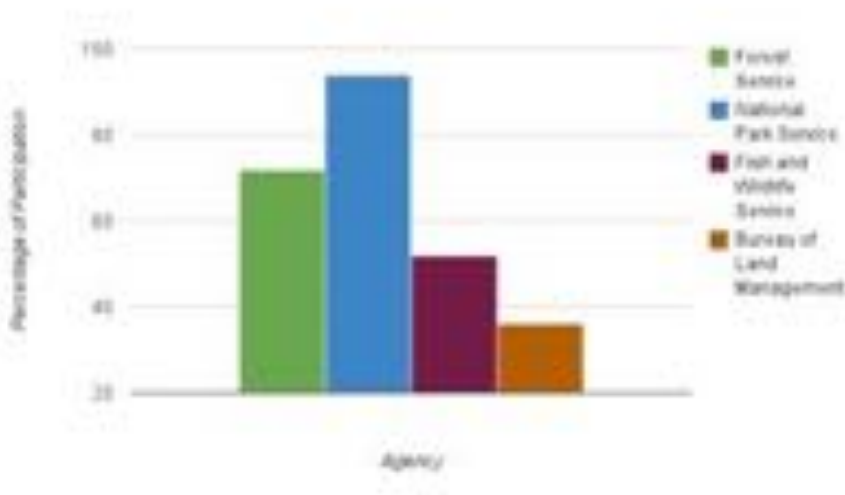


Figure 2 - Survey Response Rate by Agency

the response rate of each agency. The National Park Service had the highest response rate, and the Bureau of Land Management the lowest. The low response rate of the Bureau of Land Management and of the Fish and Wildlife Service may be accounted for because

these participants were not contacted by phone before the survey was sent to them. The Bureau of Land Management had such a low response rate that its data cannot be taken to represent the whole of the Bureau, but it is included for comparison to the other land management agencies.

Each agency had a consistently clear primary reason for implementing visitor controls (Figure 5), and the results were unsurprising given the history of each agency. Of the Forest

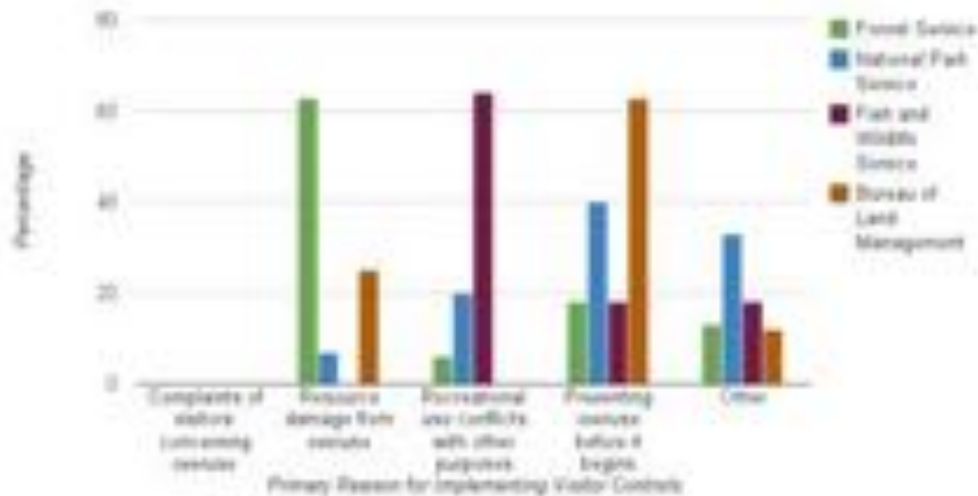


Figure 3 - Primary Reason for Implementing Visitor Controls (2014)

Service respondents, several stated that they had no visitor control program, and were therefore not counted in

this part of the survey. In general, the Forest Service’s primary reason for regulating visitor use was to “repair resource damage from overuse.” This answer has gone largely unchanged since Fish and Bury’s study in 1978 (Figure 6). The National Park Service was in favor of preventing overuse before it begins, consistent with the earlier analysis that their management style is “aggressive.”

Wilderness managers in the Park Service seemed far less concerned with “resource damage from overuse” than there were in 1978, but “recreational use conflicting with other purposes” has grown very popular as a reason for implementing visitor controls. This could be because as the national parks continue to rise in popularity, the service is finding it more difficult to balance the dual nature of their mandate: to preserve pristine areas while opening as much as possible to visitors. Concern for visitor safety and enjoyment was strongly emphasized by the Park Service respondents in the open-ended comments of this section.

The Fish and Wildlife Service stated that “recreational use conflicting with other purposes” was their primary reason for visitor controls. This agency has seen the most dramatic shift since the Fish and Bury study in 1978, when “preventing overuse before it begins” was just

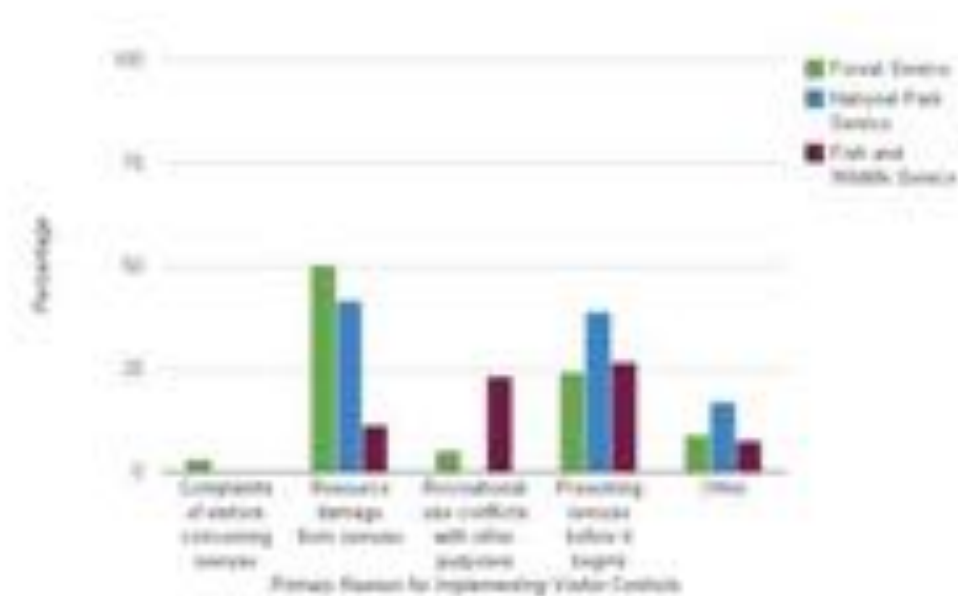


Figure 4 - Primary Reason for Implementing Visitor Controls (1978)

as important to wilderness managers as was “recreational use conflicts with other purposes.” Several respondents specified in their comments that recreational use is most problematic for protecting

certain nesting birds and their habitats.

Fish and Bury did not study the Bureau of Land Management in 1978 because they were only brought into the National Wilderness Preservation System in 1976. Results from 2014, however, show that “preventing overuse before it begins” is the most important reason for the BLM to implement visitor controls.

The following tables (Figures 7 and 8) document the most frequently used visitor controls by agency. These controls are divided between regulatory controls and manipulative controls. Survey participants were allowed to choose as many controls as they thought necessary.

In 1978, the frequency at which different controls were used was distributed more evenly than it is in 2013, particularly in the cases of the National Park Service and the Fish and Wildlife Service. In 2014, the agencies are more likely to favor one or two control types over multiple strategies.

The Forest Service has remained consistent throughout the years. Wilderness managers in that agency are most likely to “limit size of parties” and “educate users to care of the environment.” In 2014 they are also more likely to “restrict campfire building,” possibly due to the increased use of their wilderness areas, or the potential for wildfires in many regions during the summer months.

Control	Forest Service (%)	National Park Service (%)	Fish and Wildlife Service (%)	Bureau of Land Management (%)
<b>Regulatory</b>				
Prohibit recreational use	1	1	18	1
Increase surveillance of area	1	1	11	1
Regulate dates for specific use	4	1	1	1
Restrict campfire building	11	14	18	1
Impose fees	1	1	4	1
Prohibit overnight use	1	1	14	1
Limit size of parties	11	11	6	14
Limit camping to designated sites	1	18	1	1
Assign campfires to specific areas	4	1	1	1
Require reservations	1	1	6	1
Limit length of stay	11	14	1	14
<b>Management</b>				
Advise patterns of use	1	1	1	1
Educate users to care of the environment	11	11	4	11
Identify opportunities in surrounding areas	1	1	6	14
Make trail more (or less) difficult	1	1	6	1

Figure 5 - Visitor Controls Implemented with the Greatest Frequency (2014)

The National Park Service has seen a decrease in many of the methods used in 1978. During that time, controls favored included “increase surveillance of an area,” “restrict campfire building,” “limit camping to designated sites,” “advertise patterns of use,” and “educate users to care of the environment.” Today, the Park Service appears to promote restricting campfire building and educating users to care of the environment over other strategies.

The Fish and Wildlife Service has also seen a reduction in multiple

strategies to control visitor use. Where in 1978 they promoted “prohibiting recreational use,” “increased surveillance of an area,” and “regulating dates for specific uses,” in 2014 they mostly favor prohibiting recreational use.

Like the previous questions, there are no data to compare the Bureau of Land Management to its practices in 1978. Today, however, the BLM seems to fall largely in line with the Forest Service and the Park Service.



Control	Forest Service (%)	National Park Service (%)	Fish and Wildlife Service (%)
<b>Regulatory</b>			
Prohibit recreational use	0	1	18
Increase surveillance of area	21	33	18
Require dates for specific use	0	4	18
Restrict campfire building	11	30	18
Impose fees	4	12	12
Prohibit overnight use	0	0	18
Limit size of parties	44	40	2
Limit camping to designated sites	4	31	2
Assign campsites on travel routes	2	20	0
Require reservations	1	18	8
Limit length of stay	13	18	6
<b>Manipulative</b>			
Advocate patterns of use	20	8	0
Educate users in use of the environment	44	38	20
Identify opportunities in surrounding areas	23	6	2
Make trails more (or less) difficult	18	6	2

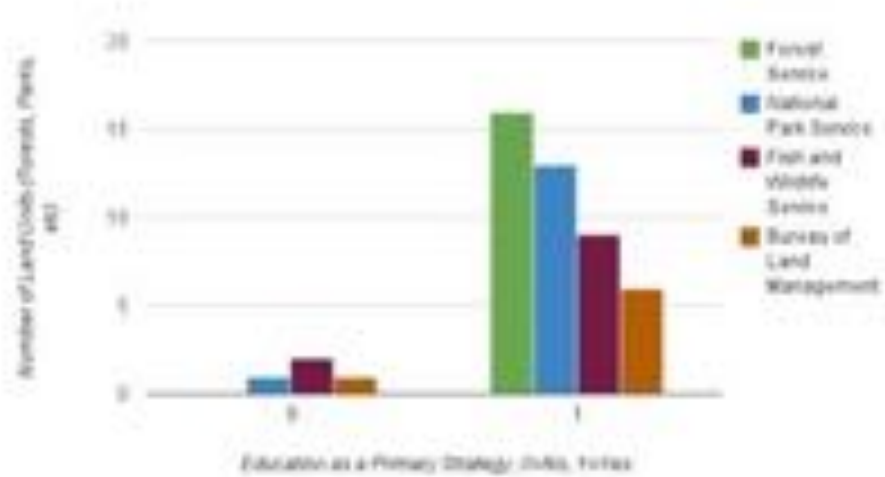
**Figure 6 - Visitor Controls Implemented with the Greatest Frequency (1978)**

The next portion of the survey dealt with a specific manipulative control: education (Figure 9). First, every respondent was asked whether education was a primary visitor management strategy. The participants were then asked about their knowledge of and use of the Leave No Trace principles in controlling their visitors.

Consistent with Forest Service history, education is a very important component of their visitor management strategy. Every single respondent from the Forest Service identified education as a primary control when asked directly (as opposed to the previous question, when respondents were asked to choose the two or three most important controls from a list). When asked to describe the nature of their curriculum, 65% identified Leave No Trace as an important piece of their educational materials. In open-ended

comments, most participants discussed educating visitors about traveling and camping in a minimum-impact manner in wilderness areas, and tended to focus on educating younger populations (ranging from elementary school to college students). Several respondents expressed frustration at the lack of funding for educational opportunities in their wilderness areas.

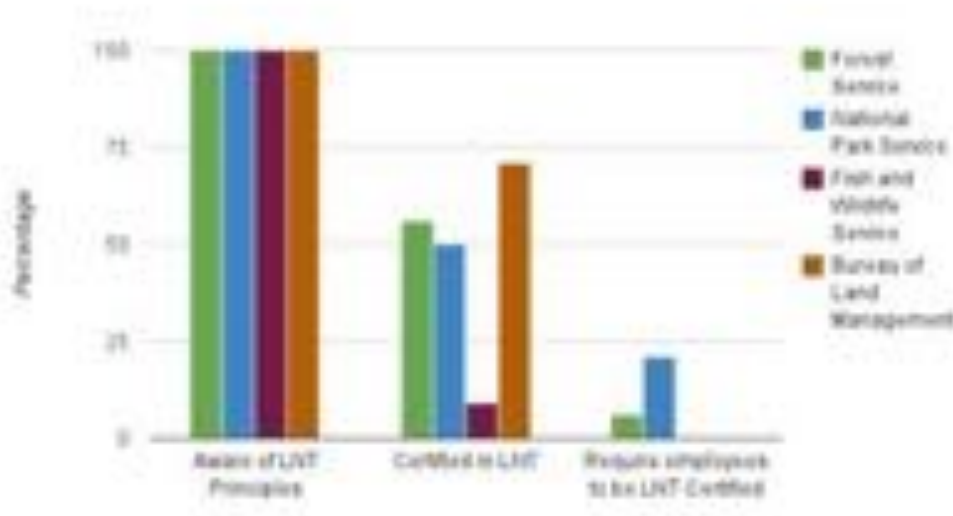
Unlike the Forest Service, visitor education offered by the National Park Service seems to be more structured and possibly more formal. Respondents wrote about LNT DVDS, mandatory “LNT orientations” prior to backcountry use, and formal classroom visits. One respondent stated that partnerships are often formed with NOLS to teach Leave No Trace classes in the park. Informal one-on-one conversations with visitors were also mentioned, as was the widespread use



**Figure 7 - Education as a Primary Visitor Management Strategy**

of social media and the Internet to educate visitors. Many survey participants seemed equally interested in teaching both minimum-impact camping techniques and information about the local natural and cultural history of the park.

Education was not a high priority with the Fish and Wildlife Service; Leave No Trace even less so. Only one respondent mentioned LNT when asked what sorts of educational material was taught to visitors. Most respondents emphasized education on local flora and fauna and endangered species via brochures and displays at local refuge sites. Several participants commented that their refuges are closed to the public, so education does not factor into their management goals.



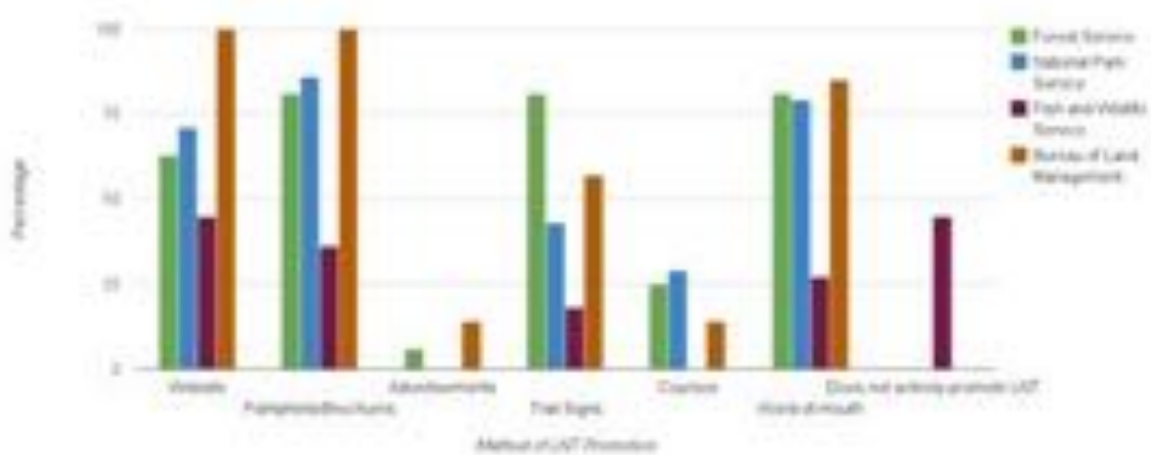
**Figure 8 - Knowledge of Leave No Trace**

The Bureau of Land Management also overwhelmingly favored education as a primary visitor management strategy. 60% of respondents mentioned teaching Leave No Trace principles. Other respondents

mentioned where their educative materials could be found, including trailheads, information kiosks, and public contacts like campground hosts.

Every respondent had heard of Leave No Trace prior to the survey (Figure 10). Roughly half of Forest Service, National Park Service, and Bureau of Land Management respondents were certified Leave No Trace Trainers or Master Educators, though very few Fish and Wildlife Service respondents were. Fewer respondents required their employees to be certified in Leave No Trace.

Survey participants were asked to identify the primary method through which they



**Figure 9 - Methods of LNT Promotion**

promoted Leave No Trace, if they promoted it at all (Figure 11). The Forest Service, the National Park Service, and the Bureau of Land Management use a variety of communication methods; both the Forest Service and the Bureau of Land Management selected every option available. The Fish and Wildlife Service was the only agency to say that it did not actively promote Leave No Trace in some areas. The survey revealed that visitor management controls have shifted and have become more consolidated since the late 1970s, though the agencies have largely remained consistent with their management philosophies. Visitor education in particular, including education on Leave No Trace, has grown in popularity as a visitor management strategy. The one exception to this is the Fish and Wildlife Service, who may be moving away from recreation in order to focus more on wildlife protection. Each agency appears to promote Leave No trace via a variety of methods to reach a wider audience. To examine the Leave No Trace message being sent to arguably the agencies’ largest audience—the Internet—a website analysis was conducted.

## Land Management Agency Website Analysis

### *Goals of the Website Analysis*

This study is loosely based off of a 2004 study done by Carole Griffin, at that time associated with Grand Valley State University in Michigan.<sup>84</sup> In her study, Griffin analyzed over 55,000 web pages of National Park websites and coded them for the words “Leave No Trace” or “LNT.” In those 55,000 web pages, representing 45 national parks, she found that Leave No Trace was only mentioned 850 times. This suggests that, despite Leave No Trace being the official ethic of the National Park Service, the seven principles were not all that widely promoted in 2004.<sup>85</sup> Ten years have passed since that study was completed, and much has changed. Due to time constraints, Ms. Griffin’s study could not be replicated, but a similar methodology was devised to yield comparable results.

A smaller selection of wilderness areas chosen to participate in the survey was randomly selected via a Microsoft Excel random number generator. 13 National Forests, 5 National Parks, and 6 National Wildlife Refuges were chosen for analysis. The numbers are 10% of the number of branches within each agency that manage a wilderness area. A whole national forest, for example, was studied for an individual wilderness area for two reasons. First, individual wilderness areas are usually just one page within a larger website, and second, Leave No Trace is promoted by the entirety of each agency, not just by those who administer wilderness areas within each agency.

To analyze each national forest, park, or refuge, each web page and link was carefully read for mention of Leave No Trace. The times “Leave No Trace” or “LNT” were mentioned was tallied, as was if the phrase was linked to [www.lnt.org](http://www.lnt.org). The location of the phrase within the website was noted as well; for example, “LNT” might be found under “Plan Your Visit” on a national park web page, or “Special Places” on a national forest web page. Finally, the context in which the phrase was mentioned was also described.

The Bureau of Land Management websites were not analyzed in the same manner as the other agency websites. Unlike the Forest Service, National Park Service, and Fish and Wildlife

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<sup>84</sup> Griffin, Carol. 2004. “Leave No Trace and National Park Wilderness Areas.” In *Proceedings of the 2004 Northeastern Recreation Research Symposium*, 152–57. Bolton Landing, NY. <http://ws3.ntcu.edu.tw/hcwu/7/11.pdf#page=160>.

<sup>85</sup> Ibid.

Service, the Bureau of Land Management websites are not separated by unit (National Forest, National Park, or National Wildlife Refuge). Instead, BLM websites are divided by state. State websites were considered too large to code, due to time constraints. Instead, a cursory search for “Leave No Trace” was done on the national Bureau of Land Management website and the results were informally noted.

### Results

Contrary to Griffin’s 2004 study, nearly every website analyzed mentioned Leave No Trace or LNT at least once. Figure 12 demonstrates that majority. The only agency that did not mention Leave No Trace (absent from approximately half of their websites) was the Fish and Wildlife Service.

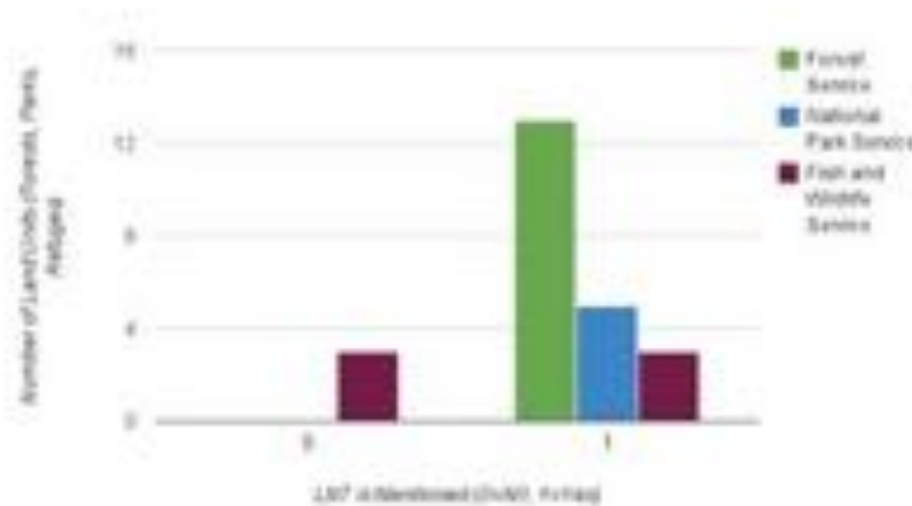


Figure 10 - LNT is Mentioned (Yes/No)

Figure 13 shows the number of times that “Leave No Trace” or “LNT” was actually mentioned on the website. The majority of websites mentioned LNT between 0 and 20 times. The two outliers on this graph, one

belonging to the National Park Service and one to the Forest Service, were due to special PDF brochures dedicated to low-impact camping. Most websites did not have a brochure dedicated to this subject.

Though most websites mentioned the phrase “Leave No Trace” at least once, not all described the meaning of Leave No trace, or mentioned the principles. In some cases, the phrase would be linked to [www.lnt.org](http://www.lnt.org) to direct website visitors to further information. The number of time LNT is linked by each agency is noted in Figure 14.

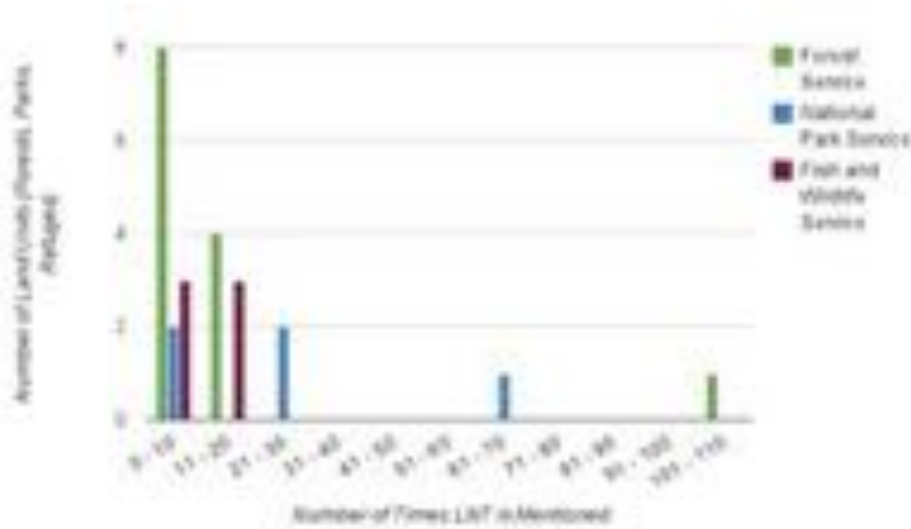


Figure 12 - Times LNT is Mentioned per Website

Website structure was fairly uniform within each agency, and trends developed as to where Leave No Trace was typically found. Each National Forest website, for example, had the same sidebar menu. Typically, mentions of LNT would be found under “Special Places,” “Recreation,” and “Learning Center.” “Special Places” usually mentioned the wilderness areas located within the forest, though this was not always accompanied with a mention of Leave No Trace. By far, the most common place to find LNT on a National Forest website was under “Learning Center” > “Outdoor Safety & Ethics.” This page usually combined tips for traveling safety in the national forests with Leave No Trace and other low-impact travel techniques. Another common place LNT could be found came under “Recreation” > “Camping and Cabins” > “Dispersed Camping.” Surprisingly, very few websites mentioned LNT under “Recreation” > “Hiking,” which the outdoor activity most commonly associated with Leave No Trace. Even if Leave No Trace was not mentioned by

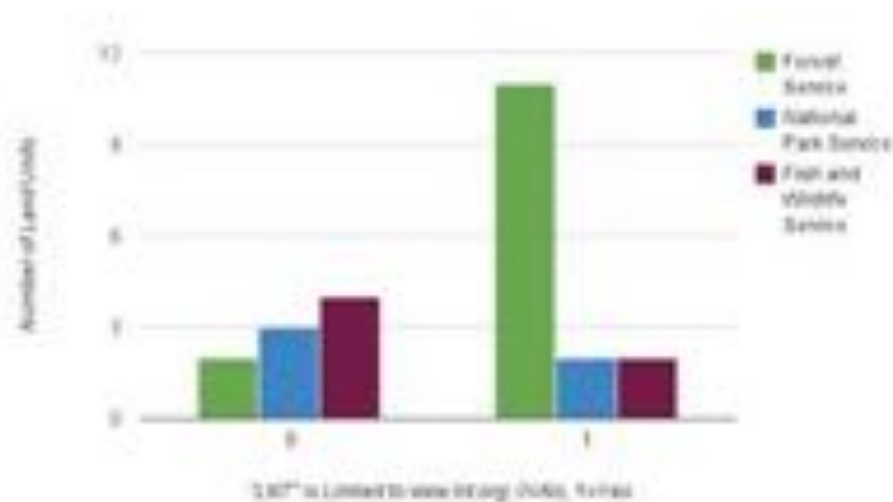


Figure 11 - LNT is Linked to Int.org

name, a majority of the Forest Service websites offered tips and advice for traveling and camping in a way that minimized impact on the land.

The National Parks also formatted each park website in the same general manner, although more variation was found here than in National Forest websites. Though the sidebar menu remained the same throughout each park, the subtitles underneath the unchanging headings were usually different from park to park. LNT was typically found somewhere under “Plan Your Visit,” but was not relegated to a select few sections of the website as it was with the Forest Service. Each National Park website mentioned Leave No Trace and at least named, if not described, each principle of Leave No Trace. Many parks tended to emphasize the fourth principle, “Leave what you find.” Presumably, this is the principle that many visitors have the most trouble with.

The Fish and Wildlife Service websites all followed the same theme, but structure varied from refuge to refuge. These websites were typically much smaller than either Forest Service or National Park Service websites. Most pages were concerned with local flora and fauna, and current refuge projects. Very little of each website was devoted to recreation, and only half of the wildlife refuges mentioned Leave No Trace.

The Bureau of Land Management appears to promote Leave No Trace thoroughly. A search for “Leave No Trace” on the national BLM website yielded over 15,000 results. Within the first three pages of the search, the principles were listed multiple times, across multiple state websites. The Bureau of Land Management appears to be very active in its promotion of Leave No Trace.

The analysis of multiple agency websites reveals that Leave No Trace is widely promoted by the agencies on the Internet. The Internet is likely to be the widest audience the agencies can reach, so the promotion of Leave No Trace via websites is an important method to communicate the Leave No Trace principles.

The survey and the website analysis reveal that Leave No Trace is still an important visitor management strategy, at least among the Forest Service, the National Park Service, and the Bureau of Land Management. The Fish and Wildlife Service does not appear to be overly enthusiastic in its promotion of Leave No Trace. Overall, Leave No Trace is firmly ingrained within the agencies as a visitor management strategy.

## Chapter 4

### Shifting Responsibilities

The purpose of this paper has been to demonstrate the utility of Leave No Trace for the agencies. This set of seven simple principles has been transformed from an individual behavior code into an effective, widespread environmental solution to wilderness overuse and degradation problems. The upsurge in visitor days in the years and decades after the passage of the Wilderness Act resulted in damaged pristine areas, managed by agencies that were not equipped to handle the problem with previously relied-upon management strategies. Leave No Trace presented itself as a simple, apolitical, relatively cheap solution to wilderness management problems.

This shift to manipulative wilderness management strategies over regulatory ones has proved to be a lasting change. Since the late 1970s, reasons for implementing visitor controls have largely remained the same within each agency, but visitor controls themselves have subtly shifted. Almost all of the agencies, with the exception of the Fish and Wildlife Service, put their time and resources into educating visitors as a management strategy, rather than relying on strict regulations. The most commonly used regulatory strategies—limiting the size and scope of visitor parties—complement educative messages like Leave No Trace by restricting the initial amount of impact a party can cause.

Not only has visitor behavior education become more popular with the agencies, but the vehicles of education have increased and spread. The accessibility of Leave No Trace via the Internet and possibly through other forms of social media has improved greatly since Ms. Griffin's 2004 study. The Leave No Trace message is now widely available to audiences even beyond outdoor enthusiasts.

#### **The Agencies as a Vehicle, but Not a Driver**

In his essay *Individualization: Plant a Tree, Buy a Bike, Save the World?*, author Michael Maniates argues that the political atmosphere of the 1980s shifted environmental problems and solutions “from government [and] corporations...to individual consumers and their decisions in



the marketplace.”<sup>86</sup> In other words, the responsibility (and the blame) for environmental issues was shifted to the individual, rather than the institution. For Maniates, this was problematic because, as he argues, individuals are not able to see that their consumer decisions are still guided, informed, and limited by institutions. Individuals have the illusion of choice rather than the power to make a difference.

Leave No Trace is similar, but not identical, to the individual consumer choice Maniates criticizes. Leave No Trace teaches individual wilderness visitors how to live and travel responsibly in the outdoors. They are given control over their own behavior in wilderness areas and are congratulated for preserving the wilderness for generations to come. Maniates might argue that individuals are given the illusion of choice or action through the Leave No Trace principles, but that the land management agencies still hold the power. And he might be right: by promoting Leave No Trace, the agencies shift the responsibility of wilderness quality and maintenance from themselves to their visitors. Wilderness was created for the use and enjoyment of the American people, and the agencies are the vehicle, but not the driver. They provide the wilderness and minimal guidelines, but we are responsible for maintaining it. We have embraced that task wholeheartedly:

Even with minimal enforcement, many people who enter wilderness areas after being exposed to LNT programs show a greater respect for the land. They do so because they have become educated. They do so in order to avoid appearing irresponsible, and to set a good example for others. They do so in order to maintain access to wild areas, and to protect their well-being. They do so because practicing LNT has become a part of their identity as an educated outdoor enthusiast. They do so because LNT has become an essential part of the American wilderness culture and experience. They do so because they have seen—or perhaps feel responsible for—the degradation of beautiful places that occurred in a less enlightened time.<sup>87</sup>

For many individuals, following the Leave No Trace principles has become akin to taking out the recycling and buying energy efficient light bulbs. We have internalized the responsibility for wilderness purity, and in doing so have allowed the land management agencies to pursue other goals and agendas.

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<sup>86</sup> Maniates, Michael F. 2001. “Individualization: Plant a Tree, Buy a Bike, Save the World?” *Global Environmental Politics* 1 (3). doi:10.1162/152638001316881395.

<sup>87</sup> Simon, Gregory L., and Peter S. Alagona. 2009. “Beyond Leave No Trace.” *Ethics, Place & Environment* 12 (1): 17–34. doi:10.1080/13668790902753021.

## Appendix A

### Wilderness Visitor Management Survey

1. What agency do you work for?
  - a. Forest Service
  - b. National Park Service
  - c. Fish and Wildlife Service
  - d. Bureau of Land Management
2. What is your primary reason for implementing controls on visitor use in your wilderness area? Pick one.
  - a. Complaints of visitors concerning overuse
  - b. Resource damage from overuse
  - c. Recreational use conflicts with other purposes
  - d. Preventing overuse before it begins
  - e. Other (please specify)
3. What visitor use controls do you implement with the greatest frequency? Choose all that apply.
  - a. Prohibit recreational use
  - b. Increase surveillance of area
  - c. Regulate dates for specific uses
  - d. Restrict campfire building
  - e. Impose fines
  - f. Prohibit overnight use
  - g. Limit size of parties
  - h. Limit camping to designated sites
  - i. Assign campsites or travel routes
  - j. Require reservations
  - k. Limit length of stay
  - l. Advertise patterns of use
  - m. Educate users to care of the environment
  - n. Identify opportunities in surrounding areas
  - o. Make trails more (or less) difficult
  - p. Other (please specify)
4. Please explain your top two or three choices from the question above.
5. Is educating users to the care of the environment one of your primary visitor management strategies?
  - a. Yes
  - b. No
6. If yes, what do you teach? What are your primary education methods?
7. Are you aware of the Leave No Trace principles?
  - a. Yes
  - b. No
8. Do you actively promote the seven Leave No Trace principles in your wilderness area via one or more of the methods below? Choose all that apply.
  - a. Website
  - b. Pamphlets/brochures

- c. Advertisements
  - d. Trail signs
  - e. Courses
  - f. Word-of-mouth
  - g. My wilderness area does not promote Leave No Trace
9. Have you participated in a Leave No Trace Trainer Course or a Leave No Trace Master Educator Course?
- a. Yes
  - b. No
10. Are your employees required to participate in a Leave No Trace Trainer Course or a Leave No Trace Master Educator Course?
- a. Yes
  - b. No

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