

The Origins of the Federal Wilderness System

Forest Service wilderness reservation policy in western states may have been sincerely inaugurated to meet preservation sentiment which began developing over one hundred years ago. . . . However, the application of the policy in many cases developed into political maneuvers to thwart the Department of the Interior and the National Park Service. . . . The policy was not the result of a “grass roots” movement. . . . It was never intended to reserve specified areas permanently from development.

—James P. Gilligan (1953, 221–222).

Introduction

The Wilderness Act of 1964 established a system of preserving federal land that has outstanding natural and scenic characteristics by placing certain public lands off-limits for road building, commodity use (logging, grazing, mining), and motorized vehicle use. Although it is not surprising that wilderness designations generate considerable opposition, the degree to which the system has proliferated is impressive. The 1964 statute designated 9.1 million wilderness acres. Since then the system has grown to 46.8 million acres of wilderness in the continental United States, and more than 100 million acres

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overall (a total area approximately the size of California).¹ In addition, another 30 million acres are currently being considered for inclusion in the federal wilderness system.

It is tempting to attribute the origins of the wilderness system to a response to public pressures to preserve remote and scenic areas. After all, the environmental movement came to prominence during the 1960s, and the Wilderness Act was one of many federal environmental laws enacted between 1964 and 1972.² Such a story would also be consistent with the often accepted notion that environmental policies develop in response to public demands and grass-roots activism.

The wilderness system, however, did not emerge in response to constituent demands. Rather, the idea of a public land wilderness system originated from within the U.S. Forest Service shortly after World War I, which is surprising because there was little public or Forest Service interest in wilderness preservation at that time. Instead, the Forest Service was an agency committed to the prudent utilization of public land resources through scientific management practices.³ Accordingly, preservation for preservation's sake was not a popular notion within the agency. Even so, in 1929 and again in 1939 the Forest Service established an administrative wilderness system that included more than eleven million acres by 1953. These regulations provided the template for the federal wilderness system created out of Forest Service land in 1964.

What accounts for the Forest Service's interest in wilderness preservation? Certainly, the efforts of wilderness advocates within the agency, such as Arthur Carhart, Aldo Leopold, and Bob Mar-

1. Even wilderness advocates did not foresee (or even hope for) such a vast system. For instance, the conservation director of the Sierra Club believed that the system could expand to as much as 48 million acres (McCloskey 1966, 289).

2. Elliott, Ackerman, and Millian (1985) examine the development of federal environmental law.

3. See Nelson 1995, Chapter 2.

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shall, deserve much of the credit for advancing the preservation cause. Their efforts, however, do not account for the whole story, as these men were not positioned to create such a system nor did they represent the views of most Forest Service personnel.

This chapter examines the role of competition between administrative agencies in the development of the federal wilderness system.⁴ Although the General Land Office within the Department of Interior was the principal federal land agency throughout the nineteenth century, in 1905 Congress moved the national forests from Interior to the Department of Agriculture.⁵ Soon after this transfer, Interior and Agriculture began competing for administrative control of the vast federal estate in the West. After Congress established the National Park Service within the Department of Interior in 1916, the national forests became targets for Park Service expansion. The Forest Service (within the Department of Agriculture) responded by designating administrative wilderness areas as an alternative to large-scale transfers of its properties to the Park Service.

There were substantial differences between these early designations and the current wilderness system. Prior to the statutory restrictions written into the Wilderness Act, the Forest Service generally allowed some form of development—logging, grazing, and its own road building—within the boundaries of its wilderness areas. Changes in these areas did not have to be approved by Congress. By keeping the land within its jurisdiction, the Forest Service could rescind any designations that interfered with its other development plans, thus maintaining discretion over management of and development options for these lands. Statutory wilderness designations curtail this

4. See Peffer (1951), Gilligan (1953), Dana and Fairfax (1980), Libecap (1981; 1984), and Allin (1982; 1987) for discussions of the interjurisdictional feud between the Forest Service and the agencies within the Department of Interior.

5. The General Land Office and the Grazing Service were consolidated as the Bureau of Land Management (BLM) in 1946. BLM continues to be a principal land-management agency today.

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administrative discretion. Consequently, the agency opposed versions of wilderness legislation first introduced in 1956.

The evidence presented in this chapter suggests that the Forest Service's early commitment to wilderness was a means to forward the agency mission. Although the Forest Service was no great champion of the preservation cause, its political maneuvers helped to develop the modern wilderness concept. The present-day statutory protection of wilderness owes a debt to the Forest Service's lip service to preservation between 1929 and 1964.

The Economics of Bureaucracy and Bureau Competition

Congress has the constitutional authority to manage the public lands, but the design and implementation of federal land policy is often left to the federal land agencies. As a result, these agencies often have some degree of autonomy over the development and implementation of federal land policy. At the same time, however, the agencies often have to balance competing pressures, such as appeasing important client interests and convincing Congress to reauthorize funding.

The economic theory of bureaucracy begins with the assumption that agencies act in their self-interest. Models with variations on the budget-maximization hypothesis of Niskanen (1971) are often the starting points for this analysis. These models argue that agencies are free to pursue their own self-interests because congressional oversight is generally handled by the legislators with the highest demand for the agency's output. Even when this is not the case, it is argued that congressional review is often limited, and the information for such reviews is often provided and controlled by the agencies. Thus, agency monopoly power is seen as a critical component in determining output, budget, and costs. In general, these models find

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that bureaus with a monopoly position will produce too much output at too high of a cost.⁶

Although the empirical validity of the monopoly position and budget maximization has been questioned,⁷ it is reasonable to assume that agencies have some degree of autonomy, without strictly adhering to the budget-maximization hypothesis. The operating assumption of agency self-interest has been used to explain the development and growth of federal land agencies. For instance, Libecap (1981) finds that centralized control of federal lands was a source of bureaucratic growth for the Department of Interior, and Johnson (1985) argues that Forest Service behavior has been consistent with the budget-maximization hypothesis.⁸

Self-interested behavior appears to have been important in the development of early federal wilderness policy, as the Forest Service and the Department of Interior actively competed for control of the federal estate. The resultant policies did not always originate from demands by Congress, the executive branch, or client interests, but rather flowed from within federal land bureaucracies.

The effects of introducing competition into the model of bureau behavior, however, are not clear. Some argue that government agencies should be subject to the same competitive pressures as private entities are. In other words, competition would discipline bureaus to perform more efficiently and also to offer a greater range of

6. McCubbins, Noll, and Weingast (1987) provide an alternative perspective that examines the effect of administrative rules on agency behavior.

7. Carroll (1989) shows that federal agencies generally do not maintain monopoly positions, and the edited volume by Blais and Dion (1991) finds little support for the budget-maximization hypothesis.

8. In Johnson and Libecap (1994), the authors refine their views of bureaucratic behavior. In particular, they argue that the fundamental problem of bureaucracy is found in crafting an institutional setting that will ensure accountability and maintain the productivity over bureaucratic behavior. Their review of the economic literature on bureaucracy is in chapter 7.

goods and services. Higgins, Shughart, and Tollison (1989), for instance, construct a duopoly model for the provision of government services. In the absence of collusion, their model predicts that competition will discipline agency costs.

A central assumption of the duopoly model is that the quality of each agency's output is constant and fixed. It is argued that state, rather than private, production might be desirable in cases where cost reductions come at the expense of the quality of output (Shleifer 1998, 136–141).⁹ In fact, concerns about the deteriorating quality of the public domain helped motivate the move toward centralized control of much of the western United States (Nelson 1995, chapters 1 and 2).¹⁰ Introducing public-sector competition had the potential to undermine the motivation for state ownership in the first place.

Government and market competition also differ in that bureaucracies are generally not subject to the same penalties as firms in the private sector. Even in cases of monumental cost overruns or of the agency outliving its purported mission, the dismantling of the agency rarely occurs.¹¹ Thus, there is considerable question whether agency competition will introduce fiscal discipline.

Consequently, the theoretical implications that stem from introducing competition into the model of bureaucracy are sensitive to the underlying assumptions of the model. In practice, the effects

9. This is a highly qualified statement. According to Shleifer (1998), "The modern case for government ownership can often be seen from precisely this perspective. Advocates of such ownership want to have state prisons so as to avoid untrained low-wage guards, state water utilities to force investment in purification, and state car makers to make them invest in environmentally friendly products. As it turns out, however, this case for state ownership must be made carefully, and even in most of the situations where cost reduction has adverse consequences for noncontractible quality, private ownership is still superior" (139).

10. Whether these concerns were valid and their remedies were appropriate is another matter. Nelson (1995) discusses these topics extensively.

11. An excellent example of bureau longevity and renewal is the Bureau of Indian Affairs. See McChesney (1990).

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of competition will depend on the type of output being produced. Predictably, the empirical evidence shows that agency competition can have mixed results.

Trends in Public Land Management, 1865–1916

Federal land policy following the Civil War was designed to transfer the public lands to individuals, states, and the railroads.¹² These transfers were made through land sales, scrip locations, cessions to state and local governments, railroad land grants, and disposal to settlers through laws such as the Homestead Act. During this period, the General Land Office within the Department of Interior facilitated these land-disposal tasks. The agency budget depended on the number of claims processed and total acreage transferred, and officials earned commissions by validating and processing these claims. Therefore, for the General Land Office, “budgets, salaries, and long-term employment depended on the piecemeal disposal of federal land” (Libecap 1981, 9–10).

As abuses of the public land laws began to attract national attention in the late nineteenth century, the emerging conservation movement began to challenge the land-disposal paradigm. The conservation program called for the scientific management of land resources retained in public ownership (this did not include land suitable for cultivation by single-family crop farms).¹³ The first major piece of conservation legislation was the General Revision Act in

12. Gates (1968) is the standard source for the history of federal land policy, and Nelson (1995) provides a recent treatment.

13. Although the distinction is often lost today, the conservationists differ from preservationists such as John Muir. The major shift brought about by the conservation movement was the scientific management of lands retained in federal stewardship—not the preservation of these lands for their aesthetic values (Nelson 1995, 44–50). Even so, preservation was not absent from public land policy during this period. An executive order in 1902 created the National Wildlife Refuges, and the Antiquities Act in 1906 gave the executive branch power to designate national

1891. The statute gave the president the authority to create forest reserves on the public domain. These reserves were removed from disposal under the various land laws, and timber harvesting and grazing within the reserves became subject to the consent of the General Land Office officials. In practice, however, Congress did not appropriate funding for these tasks until it enacted the National Forest Organic Act in 1897 (Gates 1968, 573). Thus, the degrees of administrative control provided for by these laws were pervasive changes in the status quo, especially for an agency that earned its keep surveying, validating, and processing land claims.¹⁴

The Organic Act came about partly as a product of recommendations from the National Forestry Committee. A member of the committee, Gifford Pinchot, was the rising star of the conservation movement. He was the self-described first American professional forester and the foremost advocate of the scientific-management principles. Pinchot and the conservation movement each gained considerable momentum when Theodore Roosevelt became president in 1901. At the urging of Pinchot and with the support of the commissioner of the General Land Office and the secretary of the interior, the forest reserves were transferred from the Department of Interior to the Department of Agriculture in 1905. Legislation in 1907 changed the name of the reserves to the national forests.

The fact that officials in the General Land Office and the Department of Interior supported the transfer seems incongruent with the hypothesis that agencies act in their self-interest. Gates (1968, 571), for instance, argues that the General Land Office should have

monuments. Early designations included Devil's Tower in Wyoming, the Grand Canyon in Arizona, and most recently the Grand Staircase Escalante in Utah. The national parks also began to flourish. In 1872, Yellowstone became the world's first national park, and by 1916 there were fifteen national parks containing almost five million acres.

14. Interestingly, this provision was attached as a rider. It is not clear whether Congress was aware of the withdrawal privileges for the president. Ise (1972, 109–118) discusses the “peculiar circumstances” of the legislative history.

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known that its funding would decrease following the transfer. There are a number of reasons to question this assertion. First, the source of General Land Office funding was land disposal, not administration, and the agency also recognized that hands-on administration of the reserves was completely outside its area of expertise (Department of Interior 1904, 50).

Second, Congress was often reluctant to fund and staff the General Land Office. Thus, it is not surprising that Interior was eager to wash its hands of responsibility of the reserves. Administration of the reserves looked to be an expensive endeavor, and the General Land Office was short of funding. In the year prior to the transfer, the General Land Office commissioner pleaded for additional staff and additional space, on the basis that “there is more business now pending before this office than it will be possible to perform during the next year with the present force” (Department of Interior 1904, 67).

Moreover, the amount of land and funding at stake were probably not clear at the time of the transfer. Figure 1 illustrates the rapid growth of the reserves following the transfer. In 1904, the reserves contained 62.6 million acres, and expanded to 194.5 million acres during the presidency of Theodore Roosevelt.¹⁵ The expansion of budget appropriations and staffing was equally remarkable. When the transfer occurred in 1905, the Forest Service budget was \$439,000. By 1908, however, the budget had ballooned to almost \$3.6 million,¹⁶ while the number of Forest Service personnel had nearly tripled from 939 to 2,753. By 1909 the Forest Service budget exceeded that of the General Land Office.

15. Pinchot's zeal for Forest Service expansion was not limited to the national forests. He also had an interest in nationalizing all of the nation's forests, including privately held lands (Dana and Fairfax 1980, 124–125). In addition, the Forest Service and the Department of Interior also battled for the public grazing lands, until Congress awarded the spoils to the Department of Interior through the Taylor Grazing Act in 1934.

16. The increase in wholesale prices for this period was just under 5 percent.

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FIGURE 1 National Forest Acreage, 1891–1919

The Forest Service illustrated that centralized control of public land resources could provide a significant source of congressional funding, and Interior officials began to reevaluate their stance toward management of the national forests. The result was the commencement of an ongoing dispute between Interior and the Forest Service for control of public lands. In 1911 the secretary of the interior tried to initiate the transfer of the national forests back to Interior. Between 1916 and 1923, there were a number of bills introduced seeking a unification of land-management agencies (Gorte and Cody 1995). Nevertheless, control of the land did not revert back to Interior, and the Forest Service budget and staff continued to grow.

The degree to which the tide had turned on public land disposal was quite remarkable. To illustrate, the Forest Homestead Act of 1906 gave the secretary of agriculture the discretion to open to disposal reserves that were valuable for agriculture and not needed for public purposes. By 1910, only 632,412 of the 194,505,325 acres of

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national forests (0.3 percent) had been opened up under the Forest Homestead Act (Dana and Fairfax 1980, 89–90).¹⁷

Forest Service Wilderness Policy, 1916–1939

Interior failed to regain the national forests, but it did manage to obtain control of the National Park Service in 1916. The parks were in the custodial care of the army, but pressure was mounting for a unified system of park management. Although Pinchot began lobbying for the national parks in 1905, Interior cosponsored several conferences with the American Civic Association—a group concerned with park planning. The support of this constituency helped the Department of Interior to win the parks (Peffer 1951, 175–176).

The wilderness system developed within the context of the emerging debate over national recreation policy. In 1919 a Forest Service employee, Arthur Carhart, went to Trappers Lake, Colorado, to formulate a Forest Service development plan for the area. Instead of providing such a plan, Carhart convinced his superior to leave the area alone. This was quite a departure from Forest Service policy. At about the same time, Aldo Leopold began pressing for the preservation of many large roadless tracts.

These ideas might not have made their way into Forest Service policy had it not been for expanding public demands for recreation coupled with competitive pressures from the Department of Interior.

Stephen T. Mather, Director of the National Park Service had made his ideas of park expansion at the expense of the national forest system increasingly apparent to the Forest Service. He had generated

17. Despite the limited effect of the legislation, the authors argue that “the homesteader mystique was so powerful that, even during the heyday of Pinchot’s administration, it proved an unstoppable threat to the forests” (Dana and Fairfax 1980, 89, 90).

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such support for the park system that there was at least a fair chance of many large areas in the forests being transferred to the Park Service. (Gilligan 1953, 92)

Table 1 illustrates that there were a number of requests and transfers of national forest lands into the Park Service between 1920 and 1928. Mather lobbied against congressional funding for any Forest Service recreation programs, and in 1922 “Congress refused to appropriate recreation funds for the Forest Service, claiming that the Park Service was in charge of recreation on federal lands and that Forest Service involvement in recreation amounted to a duplication of services” (Wilkinson and Anderson 1987, 316).

Between 1917 and 1924, the number of travelers over forest roads increased from three million to more than eleven million (Gilligan 1953, 95). If recreational uses of the public lands continued to

TABLE 1 Major Park Service Expansion Requests, 1920–1928

<i>National Forest Areas</i>	<i>Acreage Requested by Park Service</i>	<i>Acreage Transferred</i>
Grand Teton and Jackson Hole, Wyoming	850,000	300,000
King and Kern Rivers and Mt. Whitney, California	1,000,000	225,000
Devil Postpile, Red Meadows, and Minarets Country, California	60,000	0
Mt. Rainier, Washington	4,480	4,000
Diamond Lake and Mt. McLoughlin, Oregon	100,000	0
Rocky Mountain, Colorado	65,000	16,000
Mount Evans, Colorado	101,000	0
Grand Canyon (area north), Arizona	154,000	45,000
Grand Canyon (area south), Arizona	12,000	2,000
Total	2,346,480	592,000

SOURCE: Gilligan (1953, 121).

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expand and the Park Service was to be the sole provider of recreation services, the Forest Service stood to lose control of substantial portions of its holdings to the Park Service. In 1927, for instance, 323,365 acres were transferred to Sequoia and Grand Canyon national parks; and in 1929, another 162,649 acres went to Grand Teton, Lassen, Bryce Canyon, and Yellowstone national parks.

By 1926 Chief Forester William Greeley began “seeking some way to swing preservationist support to the Forest Service—and away from the increasing movement for national parks” (Gilligan 1953, 101). Greeley requested an appraisal of roadless areas that revealed seventy-four roadless tracts larger than 230,000 acres—totaling 55 million acres. He instructed his district foresters to designate lands in an administrative wilderness system. In 1929 the Forest Service promulgated its first formal wilderness policy, the L-20 regulations, and by 1933, the agency had classified sixty-three areas containing 8.4 million acres.

Although the original wilderness system was now in place, the Forest Service wilderness policy was not overly restrictive:

It is not proposed unduly to curtail timber cutting, grazing, water development, mining, or other forms of economic utilization within such areas, but rather to guard against their unnecessary invasion by roads, resorts, summer-home communities, or other forms of use incompatible with the public enjoyment of their major values. (Department of Agriculture 1928, 38–39)

Of the sixty-three areas designated by 1933, logging plans had been approved in twenty-three, and grazing operations in fifty-three (Gilligan 1953, 133–135). Similarly, in 1937 there were seventy-two primitive areas containing 13.5 million acres, but only four of these areas, containing a total of 297,221 acres, had prohibitions on logging, grazing, and road construction. Overall, fifty-nine of the seventy-two areas had logging planned, and sixty-two had approved grazing operations (Gilligan 1953, 193).

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So why did the Forest Service bother with these administrative wilderness designations? Certainly the anecdotal evidence suggests that bureau competition was a factor in the early designations:

At a Congressional hearing at which Greeley was testifying, the subject of wilderness area establishment on national forests was mentioned. One veteran Congressman leaned forward and shook his finger at Greeley, saying, "I know why you set up these wilderness areas, Greeley. Just to keep them out of Steve Mather's hands!" (Gilligan 1953, 108)¹⁸

But by maintaining control of the land, the Forest Service preserved an option on future management decisions. These decisions were potential sources of present and future congressional funding.

Although client interests did not directly support wilderness designations, they likely preferred Forest Service to Park Service management. For instance, Peffer (1951, 242–243) discusses local opposition of transfers of Forest Service holdings to the Park Service, including protests from lumber, mining, and grazing interests. The evidence suggests that the early designations did little to hinder grazing, logging, or road building.

Empirical Analysis of Wilderness Designations

The remainder of this chapter examines the determinants of individual designations in the western states. There were 125 national forests in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. The dependent variable is one if the Forest Service had established an administrative wilderness area within a national forest by July 1933 and zero otherwise.¹⁹

18. The author cites a 1953 interview with William Greeley.

19. These are taken from Gilligan (1953, Appendix B).

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A number of binary explanatory variables capture elements of the competition between Interior and the Forest Service. *National park* is set equal to one if the national forest is on the boundary of a national park. Beginning in 1917, the Park Service expansion efforts included attempts to harness control of the national monuments (Dana and Fairfax 1980, 152). *Monument* equals one if there was a national monument within the boundaries of the national forest.²⁰ If there were Park Service requests for a transfer of land from a given national forest, *Recommendation* is set equal to one.²¹ Overall there were 27 forests adjacent to a national park, 14 national monuments within park boundaries, and 27 areas recommended for transfer from the Forest Service to the Park Service. Of the 125 national forests examined, 46 forests had at least one *Recommendation*, *National park*, or *National monument*.

The management of wilderness areas in the 1930s was quite different from contemporary wilderness management, mainly because there were very few areas where logging, grazing, and road building were absolutely prohibited. Even if there was a prohibition, however, the Forest Service maintained discretion to make administrative changes without approval from outside the Department of Agriculture. Thus, if wilderness areas were strategically designated to maintain an option on future development, agency interest and constituent interest variables could play an important role.

The data for these variables are available at the state level. The first two variables measure the Forest Service's road budgets. *Road, 1930* contains the Forest Service road-building expenditures for that

20. The monuments and their acreage are listed in U.S. Department of Agriculture (1929, 1044).

21. The recommendations are found in a number of sources. Gilligan (1953, 93–94) cites the 1924 President's Committee on Outdoor Recreation of a Coordinating Committee on National Parks and Forests. Gilligan (1953, 136) references recommendations made in 1925 and in 1932. Finally, the Forest Service's *Report of the Forester* (Department of Agriculture 1930/1931) discusses national forests requested by the Park Service.

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year, and *Road, cumulative* contains cumulative road-building expenditures on Forest Service roads for the period from 1917 to 1930. In each case, these variables are dollars spent per acre. The expected coefficients are positive if the building and maintenance of roads is desirable for maintenance and expansion of the Forest Service budget. The expected coefficients are negative if areas with roads reduce the quality of the wilderness and thus reduce the likelihood of a wilderness designation.

Two variables attempt to capture constituent interest characteristics. *Logging* is the value of timber cut per acre of national forest within the state. *Grazing* is the number of cattle per acre of national forest. The expected coefficients for these variables are negative if wilderness designations are likely to reduce commercial logging and grazing. Alternatively, there should be positive coefficient estimates if the Forest Service offered wilderness designations to commercial interests as a superior alternative to Park Service expansion. This fact may have been especially important before 1934, because the Forest Service and Interior were competing for control of the federal rangelands.

Finally, the total acreage of each forest, *Acre*s, is included. With all else constant, larger forests should be more likely to contain wilderness areas because the opportunity cost of the set-aside should be lower and because the larger areas are more likely to contain areas deemed worthy of a wilderness designation.

The dependent variable is binary, and several logit models are estimated. The results are reported in table 2.²² The first set of estimates contains only the interagency competition variables. Each of the variables significantly increased the probability of having a designation. These coefficient estimates remain reasonably stable as the other explanatory variables are added.

22. The baseline for the comparison is seventy-three correct predictions. This can be obtained by guessing that no wilderness designations are made.

The Origins of the Federal Wilderness System 227**TABLE 2** Logit Estimates for Wilderness Designations
(standard errors in parentheses)

Dependent variable = wilderness designation within national forest through 1933.

	Model 1	Model 2	Model 3
Recommendation	0.29 ¹ (0.13)	0.34 ¹ (0.14)	0.41 ² (0.15)
National park	0.34 ¹ (0.13)	0.43 ¹ (0.17)	0.26 ³ (0.15)
National monument	0.36 ¹ (0.16)	0.33 ¹ (0.14)	0.38 ¹ (0.19)
Acres	0.06 (0.05)	0.01 (0.01)	0.01 (0.01)
Road, 1930		0.31 ¹ (0.15)	0.56 ² (0.19)
Road, cumulative		3.94 ¹ (1.69)	6.54 ² (2.06)
Grazing			25.99 ¹ (11.98)
Logging			-0.46 (0.39)
Constant	-0.41 ² (0.14)	-0.87 ² (0.23)	-1.48 ² (0.34)
N = 125			
Predicted Correctly ⁴	93(74%)	91(73%)	96(77%)

¹Significant at 5 percent level²Significant at 1 percent level³Significant at 10 percent level⁴Guessing 0 (no designation) correctly predicts 73 of 125 observations (58%).

The addition of the agency interest and constituent interest variables gives seemingly perverse results. *Road, 1930* and *Road, cumulative* each show positive and significant effects on the probability of a designation, suggesting that areas with higher road budgets, both in the current period and historically, were more likely to be assigned to administrative wilderness. If the designations were a maneuver to

avert transfers to the Park Service, the agency was protecting lands where its road-building expenditures were largest. This is a reasonable interpretation if the Park Service saw greater opportunities for control in those areas where wilderness (meaning roadless areas) was more scarce.

The number of cattle per acre within a state increased the likelihood of a designation. A possible explanation for this phenomenon is that the Forest Service was using wilderness as a means to foment support from this important client base, especially as Congress was debating whether centralized control of the federal rangelands would be placed within Interior or Agriculture (Libecap 1981, 41–42). In contrast, the value of timber cut per acre within the state did not provide any explanatory power. The latter result may be attributed to the fact that the Forest Service was not competing with another agency for control of timber as it was with grazing.

The evidence is consistent with the hypothesis that agency self-interest played a role in the designation process. In particular, the variables measuring interagency competition suggest that the early designations were closely related to areas likely to be coveted by the Park Service. The constituent interest and agency interest variables also lend support to the hypothesis, though these variables should be viewed with caution because they are aggregated at the state level.

Public Land Management after the Taylor Grazing Act of 1934

With the election of Franklin Roosevelt, the Department of Interior renewed its predatory behavior toward Forest Service lands. The main proponent of consolidation was Secretary of the Interior Harold Ickes. Under Ickes, Interior acquired control of the federal grazing lands under the Taylor Grazing Act in 1934 and effectively

The Origins of the Federal Wilderness System 229**TABLE 3** Transfers from National Forests to National Park Service, 1927–1939

<i>Year</i>	<i>From National Forest</i>	<i>To National Park</i>	<i>Acres</i>
1939	Tongass	Glacier Bay	505,600
1938	Olympic		648,000
	Coronado	Chiricahua	6,408
1933	Sierra	Yosemite	8,785
	Absaroka	Yellowstone	6,360
	National Monuments		384,833
1932	Santa Fe	Bandelier	26,026
	Crater	Crater Lake	973
1931	Arapaho	Rocky Mountain	14,597
	Powell	Bryce Canyon	19,424
	Rainier	Mt. Rainier	34,000
	Harney	Wind Cave	880
1930	Stanislaus	Yosemite	7,726
1929	Teton	Grand Teton	95,185
	Absaroka	Yellowstone	3,072
	Gallatin	Yellowstone	27,008

SOURCE: USDA Forest Service, *Report to the Chief*, various years.

ended the era of large-scale land disposal.²³ Although Interior managed to win several major victories, Ickes fell short of his goal of consolidating public land management into a new Department of Conservation. In the absence of the full-scale absorption of the Forest Service, Ickes began piecemeal acquisition of the national forests.

Table 3 shows that the Park Service successfully acquired more than 1.5 million acres of national forests between 1933 and 1939. These transfers were initiated in a number of ways. An executive

23. Despite a downward trend in land disposal, between 1920 and 1934 homestead acreage ranged from 2.7 million to 13.4 million acres. Total homestead acres were less than 100,000 for each year after 1937.

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order authorizing a Park Service reorganization in 1933 gave the Park Service jurisdiction over all the national monuments, including sixteen located on Forest Service land. Not only did the national monuments contain 384,833 acres, they also provided the Park Service with inroads to several national forests. In 1934 the National Resources Board (chaired by Ickes) recommended the transfer of ten of the national forests to the Park Service, in addition to the creation of four new national parks out of Forest Service land. Other pressure was applied in 1936, when the Park Service again tried to establish itself as the sole government recreation planning organization. Ultimately, Congress gave the president power to authorize the Department of Conservation in 1939, but Ickes could not persuade the president to make the transfer (Libecap 1981, 47).

As Interior applied pressure, the Forest Service continued to add acreage to its wilderness areas. Part of this expansion came through the tireless efforts of Bob Marshall, who pressed for massive additions to the wilderness system.²⁴ Even so, Park Service expansion appears to have been the central reason for Forest Service wilderness expansion:

[Marshall's] total acreage recommendation to the Forest Service for primitive classification was almost three times more than the Service was willing or able to set aside. Areas in which the Park Service had shown a special interest, however, were almost all formally classified as primitive areas—even those under 100,000 acres in the West which were not of special interest to Marshall. (Gilligan 1953, 199)

Thus, in 1939 the Forest Service was a stroke of a pen away from being absorbed into Interior and was also witnessing a systematic

24. Marshall, one of the founders of the Wilderness Society, worked in the Forest Service before becoming the director of forestry within the Bureau of Indian Affairs within the Department of Interior. In 1937 he moved back to the Forest Service as chief of the Recreation and Lands Division. He died at the age of thirty-eight in 1939.

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raid of its land base. In addition, there was some internal agency pressure (especially from Bob Marshall) to implement preservation of some of the national forests. These factors led to stricter wilderness regulations in September 1939. The new U-1 (wilderness) and U-2 (wild) regulations were for areas larger than 100,000 acres and between 5,000 and 100,000 acres, respectively.²⁵ Timber harvesting, road construction, special-use permits, and mechanized access were prohibited in these areas.²⁶ What remained to be seen was how the Forest Service would implement this policy.

With the U regulations, the Forest Service planned to review each of the seventy-six existing primitive areas. Progress was not rapid. By the start of World War II, the Forest Service had established three areas as wilderness, six as wild, and consolidated three into the Bob Marshall Wilderness Area in Montana (Hendee, Stankey, and Lucas 1990, 101–102). The Forest Service did no evaluations during the war and, by the late 1940s, had only established two million acres as wilderness.

Although the new regulations were not particularly popular within the agency, Forest Service officials attempted to hide this fact from the public:

Since regional and staff foresters were unable to prevent the creation in 1939 of the more restrictive U-1 and U-2 Regulations, . . . they nullified the intent of the new regulations by refusing to reclassify most of the primitive areas. This passive resistance . . . was approved by the Washington office with a camouflaging directive which stated that all primitive areas would be managed just as though they were under the new regulations, but not indicating to the public the great probability of future boundary changes. (Gilligan 1953, 221–222)

25. U-3 regulations were also established for roadless areas larger than 100,000 acres, which were applied to three areas in Minnesota.

26. On the other hand, mineral exploration and development, under the Mining Law of 1872 and the Mineral Leasing Act of 1920, and grazing and water development were allowed.

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As a result, many of the areas that were thought to have protected status did not. For instance, the designation within the Gila National Forest came partly from the efforts of Aldo Leopold, and the area gained wilderness status in the 1920s. Although Leopold is now revered in environmental circles for his commitment to the wilderness cause, in 1950 the Forest Service approved a plan for commercial timber harvesting of 75,000 acres of the Gila Primitive Area in New Mexico—Leopold's first wilderness recommendation. This was not an isolated incident. For instance, in 1953 the Department of Agriculture approved a project that removed 53,000 acres of old-growth forest from the Three Sisters Primitive Area in Oregon. These proposals affected 20 to 25 percent of the wilderness areas (Wilkinson and Anderson 1987, 342–343).

By the 1950s there was organized opposition to these projects on supposedly protected lands from a growing preservation lobby. This opposition and the Forest Service development plans set the wheels in motion for wilderness legislation. The first bill to develop a wilderness preservation system was introduced in Congress in 1956. The Forest Service opposed these efforts to implement statutory wilderness for a number of reasons. As we have seen, by averting land transfers to the Park Service, the early wilderness designations allowed the Forest Service to maintain an option on the future development plans for the land. Statutory wilderness protection would strip the agency of this discretionary authority. The Wilderness Act upgraded wilderness protection from administrative caveat to statutory mandate.

Once the Wilderness Act was in place in 1964, the Forest Service adopted a very conservative view of what should be classified as wilderness. One explanation for this conservative view is that the agency believed that the congressional intent with the Wilderness Act was for a high-quality wilderness system. This so-called purity

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principle served to minimize the areas that the agency recommended for inclusion as wilderness. A more plausible explanation for the adherence to purity is that the Forest Service did not want to lose its administrative discretion over large areas of its land (Department of Agriculture 1984, 5–10).

Implications of Bureau Competition

The theoretical implications of agency competition are not clear. It is conceivable that agencies subject to competitive pressures might perform more efficiently or foster policy innovations. Consider this assessment of the origins of the wilderness system:

It is strange how often we decry in government the same competitive forces that are essential and revered components of the American free enterprise system. . . . In the case of recreation policy and wilderness preservation, however, we see a clear instance of creative competition. The Forest Service was motivated in part by the fear of land transfers to develop and implement a far-reaching program in land preservation. (Dana and Fairfax 1980, 158)

This is a fairly charitable view of the early Forest Service wilderness program. Grazing, timber harvesting, and road development were commonplace within most of the early wilderness designations, and the Forest Service had no intention of reserving lands permanently from development. Thus, there is little evidence that Forest Service wilderness provided superior preservation than would have come about if the land had been transferred to the Park Service.

The benefits of agency competition become even more dubious when viewed in the context of the larger feud between Interior and the Forest Service over the public rangelands. The same authors

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who herald the government competition that led to the federal wilderness system hold a less favorable view of bureau competition in this instance:

The Forest Service estimated that the cost of administering the proposed program on 80 to 160 million acres would be at least \$1.5 to \$2 million. Ickes alleged Interior could do the job for about \$150,000 annually. The low estimate would ensure both low grazing fees and a very weak agency to collect them. (Dana and Fairfax 1980, 161)²⁷

As noted at the outset, a possible justification for government ownership exists in cases where competition to reduce costs can lead to deterioration of the quality of the output produced. In the case of Interior's management of the federal range, it seems likely that bureau competition contributed significantly to the deterioration of the quality of the public lands.

A recent commentary by Joseph Stiglitz recognizes this problem and the potential downside of introducing competition to the public sector:

Destructive competition is most prevalent in zero-sum games where the gains of one are at the expense of another. Political games, with position to be won or lost, are particularly prone to this kind of behavior. Competition in political markets is far from perfect, and the scope for destructive competition is therefore all the greater. (Stiglitz 1998, 13)

Conclusions

The origins of the federal wilderness system are not derived from public demands for preservation. Although internal pressures from Forest Service personnel provided the wilderness idea, the threat of Park

27. Libecap (1981, 46–47) also examines how bureau competition strengthened the ranchers' interests relative to the Department of Interior.

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Service expansion motivated the Forest Service's early "commitment" to wilderness preservation. The empirical analysis is consistent with the hypothesis that these wilderness designations were systematic adjustments to pressures from a rival agency, a finding consistent with findings of Johnson (1985) and Libecap (1981) regarding the role of self-interest in agency management of federal lands.

The implication from this chapter is that the bureaucratic land grab may be much more far-reaching than previous studies suggest. A number of reasons are typically forwarded to explain why half of the West remains in federal stewardship. For instance, it is argued that these are often arid lands that were not worth homesteading; that federal retention came in response to the general wasteful nature of resource exploitation of public lands; and that the public demanded retention because of the general aversion to monopoly acquisition of public land resources. Although these elements are all part of the story, a more thorough exploration of the issue should include the paramount role of the land-management bureaucracies. Testing this possibility will require a more encompassing theory of bureaucracy that incorporates competition of administrative agencies. The data on early wilderness designations suggest that bureaucratic interests matter.

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