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”The Forest Must Come First:” Gifford Pinchot’s Conservation Ethic and the Gifford Pinchot National Forest- The Ideal and The Reality

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**"THE FOREST MUST COME FIRST:"
GIFFORD PINCHOT'S CONSERVATION
ETHIC AND THE GIFFORD PINCHOT
NATIONAL FOREST—THE IDEAL AND THE
REALITY**

*Susan Jane M. Brown**

INTRODUCTION

Gifford Pinchot is the father of the United States Forest Service.¹ He was its first Chief Forester and, by all accounts, Pinchot was perfect for the job:² he was well-connected within the government, wealthy, highly-regarded,³ and trained in Europe in the "science and art of forestry."⁴ He was one of the founders of the conservation movement, coupling resource extraction with resource management and preservation.⁵

Pinchot was a man of vision. He believed that the forests should be used to suit the needs of a growing

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1. See Robert E. Wolf, *National Forest Timber Sales and the Legacy of Gifford Pinchot: Managing a Forest and Making it Pay*, 60 U. COLO. L. REV. 1037, 1045 (1989).

2. See Frederico Cheever, *The United States Forest Service and National Park Service: Paradoxical Mandates, Powerful Founders, and the Rise and Fall of Agency Discretion*, 74 DENV. U. L. REV. 625, 628 (1997).

3. See *id.* at 631.

4. GOVERNMENT PRINTING OFFICE, YEARBOOK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, PROGRESS OF FORESTRY IN THE UNITED STATES 301 (Gifford Pinchot, 1899) [hereinafter YEARBOOK].

5. See Cheever, *supra* note 2, at 629.

United States population. He was a utilitarian who maintained that the greatest good for the greatest number of people for the longest period of time was the best policy, including in terms of resource development. However, he had seen unbridled development deplete the forests of the eastern United States, and sought to find a way to preserve western forests. Pinchot believed that "conservative forestry" was the answer.⁶

In 1891, Congress passed the Creative Act,⁷ establishing the Forest Reserve System. Three years later, President Cleveland added the Pacific Forest Reserve – a vast stretch of forestland in southwest Washington State – to the new system.⁸ President Theodore Roosevelt issued Executive Order 820 on June 18, 1908, designating the reserve as the Columbia National Forest.⁹ On June 15, 1949, in honor of the first Chief Forester, President Truman renamed the Columbia National Forest the Gifford Pinchot National Forest ("GPNF").¹⁰ Consequently, the GPNF is one of the oldest national forests in the United States; it contains 1,372,000 acres and is home to the 110,000-acre Mount St. Helens National Volcanic Monument, as well as caves, trails, waterfalls, and a multitude of endangered and threatened species of plants and animals.¹¹

In addition to its abundant wildlife and natural beauty, the GPNF was also one of the Pacific Northwest's most prolific timber producers in the 1970s and

6. See YEARBOOK, *supra* note 4, at 301.

7. General Revision Act of 1891, 16 U.S.C. § 471 (1994), repealed by Pub. L. 94-579, § 704(a), 90 Stat. 2792 (repealed 1976).

8. See U.S. Department of Agriculture, *Introduction and General Description – Gifford Pinchot National Forest* (visited April 9, 1999) <<http://svinet2.fs.fed.us/gpnf/>> [hereinafter *General Description*].

9. See U.S. FOREST SERV., PACIFIC NORTHWEST REGION, U.S. DEP'T OF AGRIC., *A FEW FOREST FACTS: GIFFORD PINCHOT NATIONAL FOREST, WASHINGTON* (unpaginated) (1949) [hereinafter *FOREST FACTS*].

10. See *id.*

11. See *General Description*, *supra* note 8.

1980s.¹² In 1970 alone, the forest produced more than 600 million board feet,¹³ or 120,000 truckloads of timber.¹⁴ In recent years, however, the amount of timber produced by the GPNF has dropped dramatically.¹⁵ Some claim that this is due to President Clinton's Northwest Forest Plan ("NWFP") and the spotted owl litigation.¹⁶

The GPNF has failed to live up to the vision of its namesake, Gifford Pinchot. In spite of the advent of the NWFP, the GPNF has continued to offer timber sales that degrade both the habitat the NWFP was designed to protect and the resources Gifford Pinchot sought to retain for the practical use of future generations. The requirements of the National Environmental Policy Act ("NEPA"),¹⁷ the National Forest Management Act ("NFMA"),¹⁸ the Clean Water Act ("CWA"),¹⁹ the Adminis-

12. See U.S. FOREST SERV., U.S. DEPT OF AGRIC., *Volume and Average Stumpage (Sold) Price of Selected Species, Gifford Pinchot National Forest, Pacific Northwest Region, 1985-96* in STUMPAGE PRICES, VOLUME SOLD, AND VOLUMES HARVESTED FROM THE NATIONAL FORESTS OF THE PACIFIC NORTHWEST REGION, 1984 TO 1996 32-33 (1998) [hereinafter STUMPAGE PRICES].

13. See GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., GIFFORD PINCHOT NAT'L FOREST FORESTWIDE LATE-SUCCESSIONAL RESERVE ASSESSMENT 2-6 (1997) [hereinafter LSR ASSESSMENT]. Thousand Board Feet is abbreviated as MBF, Million Board Feet as MMbf, Billion Board Feet as BBF, and Cubic Board Feet as CBF.

14. See SUISLAW NAT'L FOREST, U.S. DEPT OF AGRIC., TIMBER APPRAISAL HANDBOOK, WESTSIDE TRUCKING GUIDE, SUISLAW LOG TRUCKING COST GUIDE SUPPLEMENTAL DATA tbl. 415.53b (1998).

15. See STUMPAGE PRICES, *supra* note 12, at 32-33.

16. See generally Chris Carrel, *A Patchwork Peace Unravels*, HIGH COUNTRY NEWS, Nov. 23, 1998, at 1 (highlighting some of the shortcomings of the implementation of the Northwest Forest Plan, originally heralded as a compromise between timber and environmental interests).

17. National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321-4370d (1994 & Supp. II 1996).

18. National Forest Management Act of 1976, 16 U.S.C. §§ 1600-1614 (1994 & Supp. III 1997) (amending Forest and Rangeland Renewable Resources Planning Act of 1974, Pub. L. No. 93-378, 88 Stat. 476).

trative Procedure Act ("APA")²⁰ and the Endangered Species Act ("ESA")²¹ have not posed any obstacle to the continuation of timber production in the GPNF.

This Note compares the beliefs of Gifford Pinchot to the management of the national forest named in his honor. Part I explains the forest management philosophy of Gifford Pinchot, both from his own perspective and from the hindsight of others. Part II describes the current management of the GPNF, as illustrated by two representative timber sales currently under consideration by the United States Forest Service ("USFS" or "Forest Service"). Part III evaluates the sales not only according to Pinchot's conservation values, but also according to contemporary controlling environmental laws. Finally, Part IV concludes that the GPNF has strayed widely from the goals of responsible forestry espoused by Pinchot, as well as from the parameters established by law. The timber sale program of the GPNF is in desperate and arguably illegal straits. Unless the Forest quickly shifts from its extractive paradigm, either the lack of standing timber or pending litigation will prevent the realization of Pinchot's vision of conservative forestry.

I. THE IDEAL

The story of Gifford Pinchot's rise to prominence in government, especially his rise to the position as the first Chief Forester of the United States Forest Service, has been detailed at length elsewhere.²² However, some background information is useful in order to gain a

19. Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1387 (1994 & Supp. II 1996).

20. Administrative Procedure Act, 5 U.S.C. §§ 551-559, 701-706, 3105, 3344 (1994 & Supp. III 1997).

21. Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (1994).

22. See generally JAMES L. PENICK, JR., *PROGRESSIVE POLITICS AND CONSERVATION: THE BALLINGER-PINCHOT AFFAIR* (1968).

better understanding of one of the founders of the conservation movement. Pinchot was born into a wealthy merchant family on August 11, 1865.²³ His wealth enabled him to attend Yale University, where he developed an affinity for forests and decided to pursue the practice of forestry.²⁴ Since there were no schools in the United States at the time that taught forestry, Pinchot attended the French National School of Forestry in Nancy, France.²⁵ As part of his training, Gifford was exposed to the managed forests in France, Germany, and Switzerland,²⁶ which were treated as having a crop that had a predictable yield and employed a steady workforce.²⁷ In addition, his professors inculcated in him the belief that a forest must be managed so as to make it profitable.²⁸

Upon the completion of his training in 1890, Pinchot returned to the United States and implemented the knowledge he gained while in Europe.²⁹ After a promising start as a forestry consultant with the Department of Interior,³⁰ Pinchot became involved in the battle between

23. See Gerald D Nash, *Introduction* to GIFFORD PINCHOT, *THE FIGHT FOR CONSERVATION* xii (Robert E. Burke ed., University of Washington Press 1967) (1910) [hereinafter *THE FIGHT FOR CONSERVATION*].

24. See *id.* at xiii. No doubt Pinchot's decision was also influenced by frequent trips to Europe's forests as part of family vacations.

25. See *id.*

26. See Cheever, *supra* note 2, at 631.

27. See *id.* at 632.

28. See Wolf, *supra* note 1, at 1037. Indeed, Pinchot noted that "wherever in the world countries had their national forests in reasonable shape they are paying large net revenues, and they will do so in the United States." *Id.* at 1076 n. 219. A bold statement, timber harvest on federal lands has never been profitable for the United States. See *id.* at 1078 (concluding that due to "sleight of hand" and manipulation and exclusion of data, "Gifford Pinchot's unmet challenge - to manage the national forests and make them pay - still haunts the agency"). See *infra* Section III.H.

29. See GIFFORD PINCHOT, *BREAKING NEW GROUND* xiii (1972) [hereinafter *BREAKING NEW GROUND*].

30. See Wolf, *supra* note 1, at 1041-42.

the Department of Agriculture and the Department of Interior over control of the newly created forest reserves.³¹ The reserve system, established in 1891, was "intended to stop unregulated timber harvest on sensitive public lands. . . ."³² Pinchot believed that the reserves – then under the control of the Department of Interior – should be transferred to the Department of Agriculture because Interior was fraught with mismanagement and political infighting.³³

Pinchot maintained that the small Division of Forestry in the Department of Agriculture, which already dispensed advice to private and public timber interests, was best suited to administer the reserves because it would not "bow to political pressure or Big Money."³⁴ He told Congress that "in the administration of the forest reserves it must be clearly borne in mind that all land is to be devoted to its most productive use for the permanent good of the whole people. . . ."³⁵ Congress, increasingly concerned that the reserves would result in the preclusion of all economical use of the nation's forests,³⁶ warmed quickly to Pinchot's message, believing

31. *See id.*

32. Cheever, *supra* note 2, at 634.

33. *See* Wolf, *supra* note 1, at 1042, 1044. Besides, Pinchot explained, the Department of Interior was losing money on federal timber sales. As part of the swap, Pinchot promised to make a profit on timber sales within five years. *See id.* at 1044.

34. BREAKING NEW GROUND, *supra* note 29, at 283-84 (internal quotations omitted). Indeed, one of Pinchot's chief concerns was that

the people of the United States believe that, as a whole, the Senate and the House no longer represent the voters by whom they were elected, but the special interests by whom they are controlled. They believe so because they have so often seen Congress reject what the people desire, and do instead what the interests demand.

THE FIGHT FOR CONSERVATION, *supra* note 23, at 134.

35. BREAKING NEW GROUND, *supra* note 29, at 261.

36. Immediately after the establishment of the reserves, many – including the timber industry – supported establishing the

that he could manage federal forests for timber *and* recreation "without draining the treasury."³⁷

Further, Pinchot was a savvy political player. Prior to his effort to transfer the reserves to the Department of Agriculture, he persuaded Congress to pass the Forest Service Organic Act,³⁸ which created the USFS and gave authority to sell federal timber to whichever agency managed the forests.³⁹ In 1905, Pinchot's hard work paid off: Congress enacted the Transfer Act,⁴⁰ which transferred the national forests from the Department of Interior to the Department of Agriculture.⁴¹ Pinchot was appointed the first Chief Forester of the new USFS,⁴² and the forests were now his. He boldly claimed that "unless the Forest Service has served the people, and is able to accomplish their welfare it has failed in its work and should be abolished."⁴³

reserves and closing them to timber harvest, because timber from the reserves would drive down the value of private timber. See Wolf, *supra* note 1, at 1040. This view changed after World War II, when the reserves were needed to supply the wood to build houses for returning GI's.

37. Cheever, *supra* note 2, at 634.

38. United States Forest Service Organic Act, 16 U.S.C. §§ 471-543(h), 473 (1994). Passed in 1897, the Act establishes conflicting goals for the agency: the Forest Service is required to "improve and protect the forest," but also to maintain a predictable flow of natural resources. See Cheever, *supra* note 2, at 629. Because the Organic Act requires both the preservation and use of forestland, the agency is saddled with the duty to balance the two goals. See *id.* at 638-39. Since the mandate is essentially a double standard, it allows modern environmentalists to honestly believe (rightly or wrongly) that "the agency's] conduct is not only wrong but illegal." *Id.* at 629.

39. See Cheever, *supra* note 2, at 633. Timber harvest on federal land under the Department of Interior began in 1898 and immediately began losing money. See Wolf, *supra* note 1, at 1041.

40. 16 U.S.C. § 472 (1994).

41. See Cheever, *supra* note 2, at 633.

42. See Wolf, *supra* note 1, at 1045.

43. THE FIGHT FOR CONSERVATION, *supra* note 23, at 51.

A. Pinchot's Tenets of Forest Conservation

Settlers historically enacted laws to protect the forest, but preservation was quickly replaced by the wholesale destruction of wooded areas.⁴⁴ The destruction of forests by individuals was later superseded by organized commercial timber harvest.⁴⁵ Concerned about the forestry practices that he was witnessing in the United States, Pinchot believed that the timber industry was exhausting the natural supply of timber for quick, short-term profit without consideration of long-term availability of the resource itself.⁴⁶ Eventually, the loss of the forests led to a renewed interest among Americans in preserving them.⁴⁷

"Conservationists," Pinchot said, "desired no denial of access to nature's riches, but rather their intelligent, rational, and efficient distribution."⁴⁸ He was ultimately concerned with the continued availability of natural resources and the preservation of the American way of life that he believed was directly linked to those resources.⁴⁹ Pinchot stated, "[W]e, the American people, have come into the possession of nearly four million square miles of the richest portion of the earth. It is ours to use and conserve for our descendants, or to destroy. The fundamental question which confronts us is, [w]hat shall

44. See YEARBOOK, *supra* note 4, at 293. Some early laws included the "care and protection" of Massachusettian forests, laws prohibiting fires in forested areas of New Jersey, and reserves of one acre of forest for every five acres purchased from the Commonwealth of Pennsylvania. See *id.* Part of the reason settlers passed laws to protect forests was because this resource had been depleted in Europe, the origin of most immigrants.

45. See generally *id.*

46. See BOB PEPPERMAN TAYLOR, OUR LIMITS TRANSGRESSED: ENVIRONMENTAL POLITICAL THOUGHT IN AMERICA 142 (1992) [hereinafter OUR LIMITS TRANSGRESSED].

47. See YEARBOOK, *supra* note 4, at 293.

48. THE FIGHT FOR CONSERVATION, *supra* note 23, at xxi.

49. See *id.*

we do with it?"⁵⁰ Exploitation of forest resources was one option, but Pinchot instead asked:

Shall we conserve those resources and in our turn transmit them still unexhausted, to our descendants?

Unless we do, those who come after us will have to pay the price of misery, degradation, and failure for the progress and prosperity of our day. When the natural resources of any nation become exhausted, disaster and decay in every department of national life follow as a matter of course. Therefore the conservation of natural resources is the basis, and the only permanent basis, of national success.⁵¹

Answering his own not-so-rhetorical question, Pinchot proposed three tenets to guide the use of natural resources. The first principle was the orderly development of resources:

The first great fact about conservation is that it stands for development. There has been a fundamental misconception that conservation means nothing but the husbanding of resources for future generations. There could be no more serious mistake. Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed. Conservation demands the welfare of this generation first, and afterward of the generations to follow.⁵²

After development of forest resources, "in the second place conservation stands for the prevention of waste."⁵³ The only way to conserve these resources for tomorrow, Pinchot claimed, was to prevent waste today.⁵⁴ He favored the "productive use of natural resources," but not

50. *Id.* at 5.

51. *Id.* at 3-4.

52. *Id.* at 42.

53. *Id.* at 44.

54. *See id.* at 43.

the "unwise or unnecessary exploitation" of them.⁵⁵ Exploitation of the forests resulted in the denudation of the Eastern forests in the United States, and the complete eradication of woodlands in Europe.⁵⁶ Pinchot had no desire to repeat that mistake in the United States, particularly in the West.

In addition to these two principles, Pinchot also believed that

natural resources must be developed and preserved for the benefit of the many and not merely for the profit of the few. We are coming to understand in this country that public benefit has a very much wider field to cover and a much larger part to play than was the case when there were resources enough for everyone.⁵⁷

To summarize, there would not be enough for everyone unless resources were developed thoughtfully and waste was minimized.

Pinchot's three tenets of forest management – development of resources, minimization of waste, and sustainable use for the benefit of the many – illustrated that there was more to resource extraction than simple consumption. In fact, Pinchot considered all aspects of the forest in drafting management options: harvest methods, reforestation, wildlife, economics, and soil and water resources were factors that determined whether or not timber harvest would occur on a parcel of land.⁵⁸ Today, such a comprehensive approach is called "ecosystem management."⁵⁹

55. *Id.* at xxi.

56. In all places, that is, without managed forests.

57. *THE FIGHT FOR CONSERVATION*, *supra* note 23, at 46-47.

58. *See id.* at 47.

59. U.S. FOREST SERV., U.S. DEP'T OF AGRIC., AND BUREAU OF LAND MANAGEMENT, U.S. DEP'T OF THE INTERIOR, RECORD OF DECISION FOR AMENDMENTS TO FOREST SERVICE AND BUREAU OF LAND MANAGEMENT PLANNING DOCUMENTS WITHIN THE RANGE OF THE NORTHERN SPOTTED OWL 5 (1994) [hereinafter *RECORD OF DECISION* or *ROD*]. The *ROD* and the Standards and Guidelines established by

B. *The Father of Ecosystem Management*

Pinchot approached conservation with the idea of providing the greatest good to the greatest number for the longest time.⁶⁰ Some have pointed to this concept and termed Pinchot a progressive utilitarian.⁶¹ While this characterization is partially true, Pinchot also valued the forest for its intrinsic aesthetic value,⁶² something that is often overlooked when he is compared with other conservationists such as John Muir, Henry David Thoreau, and Stephen Mather.⁶³ The problem, Pinchot observed, was that the aesthetic value of nature, while important, has no place in political reality.⁶⁴ Nevertheless, he saw the "preservation of trees not as an end in itself, but as part of a broad conservation effort directly related to water, minerals, and land policies."⁶⁵

Pinchot once told the story of the initial conception of his approach to ecosystem management. The story is worth quoting in its entirety. As he rode his horse, Jim, through the outskirts of rural Washington D.C. on a cold day in 1907, Pinchot contemplated the problems of the young Forest Service:

the ROD are also known collectively as the President's Northwest Forest Plan. For a discussion of ecosystem management, see Robert B. Keiter, *Symposium: "A New Era for the Western Public Lands": Beyond the Boundary Line: Constructing a New Law of Ecosystem Management*, 65 U. COLO. L. REV. 293 (1994).

60. See generally OUR LIMITS TRANSGRESSED, *supra* note 46, at 20-22.

61. See *id.* at 23.

62. See *id.*

63. See generally Cheever, *supra* note 2, at 630-39.

64. See OUR LIMITS TRANSGRESSED, *supra* note 46, at 22. The political reality as Pinchot saw it was "not to stop the ax, but to regulate its use." *Id.* at 22, quoting BREAKING NEW GROUND, *supra* note 29, at 29. Since the only way to effectively and fairly regulate the ax was through central management, Pinchot favored federal control of resources in order to prevent overexploitation and destruction of natural resources. See Michael C. Blumm, *Pinchot, Property Rights and Western Water: (A Response to Gregory Hobbs)* 24 ENVTL. L. 1203, 1204 (1994).

65. THE FIGHT FOR CONSERVATION, *supra* note 23, at xvi.

The forest and its relation to streams and inland navigation, to water power and flood control; to the soil and its erosion; to coal and oil and other minerals; to fish and game; and many another possible use or waste of natural resources – these questions would not let [me] be. What had all these to do with Forestry? And what had Forestry to do with them?

Here were not isolated and separate problems. My work had brought me into touch with all of them. But what was the basic link between them?

Suddenly the idea flashed through my head that there was a unity in this complication – that the relation of one resource to another was not the end of the story. Here were no longer a lot of different, independent, and often antagonistic questions, each on its own separate little island, as we had been in the habit of thinking. In place of them, here was one single question with many parts. Seen in this new light, all these separate questions fitted into and made up the one great central problem of the use of the earth for the good of man.⁶⁶

Pinchot immediately started to formulate how he could translate his epiphany into practice. He began with his three tenets of forest management. Out of these concepts, Pinchot developed a unique brand of conservation, which focused different disciplines – forestry, waterways, irrigation, fish and wildlife – on the same problem of conserving resources.⁶⁷ In addition to an interdisciplinary approach, Pinchot espoused a “conservation paradigm of basinwide, scientific planning by nonpolitical experts, limited private rights, and public ownership of resources.”⁶⁸

66. *BREAKING NEW GROUND*, *supra* note 29, at 322.

67. See Gifford Pinchot, *THE CONSERVATION OF NATURAL RESOURCES* 11 (U.S. Dep't of Agriculture Farmers' Bulletin No. 327, April 30, 1908).

68. Blumm, *supra* note 64, at 1204.

II. THE REALITY

Even for a progressive in the Progressive Era,⁶⁹ Pinchot's ideas were revolutionary. Never before had someone taken such a comprehensive view of development of the forest. Pinchot realized that an ecosystem approach to forest management, even if not termed as such by Pinchot himself, required creative thinking, fine-tuning, and flexibility to change as resource needs changed.⁷⁰ Indeed, as Pinchot noted:

[t]he public welfare cannot be subserved merely by walking blindly in the old ruts. Times change, and the public needs change with them. The man who would serve the public to the level of its needs must look ahead, and one of his most difficult problems will be to make old tools answer new uses – uses, some of which, at least, were never imagined when the tools were made.⁷¹

Unfortunately, as exemplified by the timber sale program on the GPNF, Pinchot's words of advice have largely gone unheeded by the modern USFS.

A. A Benchmark

In honor of the renaming of the GPNF in 1949, the USFS published an illustrated book detailing the state of that forest.⁷² Although the book depicted cheerful campsites and Native Americans picking huckleberries, the USFS was also actively carrying out the federal timber sale program and ignoring the advice of the forest's namesake.⁷³ In 1949, the "allowable sustained yield"⁷⁴

69. For an overview of the Progressive Era, see generally PAGE SMITH, *AMERICA ENTERS THE WORLD: A PEOPLE'S HISTORY OF THE PROGRESSIVE ERA AND WORLD WAR I* (1985).

70. See *THE FIGHT FOR CONSERVATION*, *supra* note 23, at 60.

71. *Id.* at 60-61.

72. See generally *FOREST FACTS*, *supra* note 9, unpaginated.

73. See *id.*

for the forest was 200 million board feet ("MMbf") of timber, although the forest only cut 93 MMbf in 1948.⁷⁵ The USFS estimated the reserves of standing green timber at approximately 16.5 billion board feet ("Bbf").⁷⁶ The book included a picture of a felled Ponderosa Pine nine feet in diameter, and noted by the USFS that:

The Pacific Northwest is noted for its high quality lumber from old-growth forests. When the virgin forests have been cut out, logs like this will be a rarity. However, good forest practices such as selection cutting in the ponderosa pine type will aid in providing future crops of timber which can be made to equal or surpass the present harvest.⁷⁷

"Area selection cutting," as described in the USFS's tribute to the forest, included cutting blocks of trees from 40 to 80 acres in size, leaving a 40 to 80 acre patch of forest, and then cutting another block on the other side of the leave patch.⁷⁸ The cut areas were entirely cleared of all trees, a practice now known as "clear

74. The "allowable sustainable yield" of 1949 is now called the "allowable sale quantity," or "ASQ." 36 C.F.R. § 219.3 (1998). The ASQ is the "quantity of timber that *may* be sold from the area of suitable land . . . for a [specific] time period. . . . This quantity is usually expressed on an annual basis as the 'average annual allowable sale quantity'" (emphasis added). In contrast to the ASQ is the probable sale quantity, or "PSQ," of the same area. The PSQ is the amount of timber that is likely to be sold, as opposed to the amount to timber that the USFS *may* offer for sale. Neither the ASQ nor the PSQ is a required level of timber harvest. See *id.*

75. See FOREST FACTS, *supra* note 9, unpaginated.

76. See *id.*

77. *Id.*

78. See *id.* This practice also involved removing dead standing or down timber, known as snags and coarse woody debris. This "waste often amounted to 40% or 50% of the timber" recovered in a timber sale. *Id.* Today, this material is known to be a valuable component of the forest ecosystem, and the Northwest Forest Plan requires its retention after harvest. See ROD, *supra* note 59, at C-40 to C-43.

cutting."⁷⁹ The USFS showcased one such project in the book, the *Iron Creek Timber Sale* circa 1948, which employed this method of harvesting in the Iron Creek drainage.⁸⁰

While certainly not a complete assessment of the forest, the 1949 book indicates that many of Pinchot's tenets of ecosystem and forest management were not employed by the Forest Service he so loved.⁸¹ There was no mention of such critical factors as basin-wide planning, preservation of aquatic resources, maintenance of soil productivity, or sustainable harvest levels. As the following sections detail, Pinchot's tenets have fared no better in the 1990s. Somewhere between 1905, the date that Pinchot became Chief Forester, and 1999, Pinchot's vision of ecosystem management was lost.

79. See FOREST FACTS, *supra* note 9, unpaginated. Although the USFS today claims that it no longer clear cuts timber, it is the same practice couched in new terms: clear cutting is now called "regeneration harvest" or "even-aged management." 36 C.F.R. § 219.3 (1998).

80. See FOREST FACTS, *supra* note 9, unpaginated. The Iron Creek drainage is a favorite of the USFS. From 1996-98, the USFS proposed a second and third timber harvest there, named the Lower Iron Timber Sale and the Upper Iron Timber Sale. Consequently, the Iron Creek watershed is one of the most degraded in the GPNF. See *generally* GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., UPPER IRON TIMBER SALE ENVIRONMENTAL ASSESSMENT 6 (1998). See also GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., LOWER CISPUS WEST WATERSHED ANALYSIS (1996).

81. See *generally* BREAKING NEW GROUND, *supra* note 29, at 285. Pinchot wrote: "[e]very man and woman in the Service believed in it and its work, and took great pride in belonging to it. And out of this pride grew a strong common interest which made the Service a thoroughly inspiring place to work in." *Id.* The high morale of Pinchot's time has deteriorated. Gifford Pinchot National Forest employees in fact have said that the greatest hurdle the Forest Service faces today is low morale. See Goose Egg Timber Sale Administrative Appeal Resolution Meeting with Mary Gibson, District Ranger, Mt. Adams Ranger District in Carson, Wash. (Nov. 6, 1998) (notes on file with author).

B. *The Modern Reality*

In February and March 1998, the Mount St. Helens National Volcanic Monument⁸² offered two timber sales for public comment pursuant to NEPA.⁸³ The USFS prepared each sale under an environmental assessment ("EA"),⁸⁴ a shorter and less formal version of an environmental impact statement ("EIS"). On June 16 and June 30, 1998, the Mount St. Helens Monument Manager signed the decision notices ("DN") and findings of no significant impact ("FONSI") for the projects.⁸⁵

82. The GPNF is divided into three "Districts." A District Ranger, who is the Responsible Official and decisionmaker, heads each District. The Mount St. Helens National Volcanic Monument is one of three Districts, headed by a Monument Manager; the other two are the Cowlitz Valley Ranger District and the Mt. Adams Ranger District. See GIFFORD PINCHOT NAT'L FOREST, U.S. DEP'T OF AGRIC., MAP: GIFFORD PINCHOT NAT'L FOREST TIMBER SALES (1999) [hereinafter MYLAR MAP].

83. The regulations implementing the National Environmental Policy Act require the agency to solicit public comment on proposed projects, including timber sales. See 40 C.F.R. § 1503.1(a)(4) (1998). In the case of environmental assessments, the public has thirty days to respond to the proposal and submit written or oral comments. See *id.* § 1506.10(b)(2).

84. See 40 C.F.R. § 1508.9 (1998) (defining environmental assessments).

85. See MOUNT ST. HELENS NAT'L VOLCANIC MONUMENT, U.S. DEP'T OF AGRIC., ALPHA TIMBER SALE ENVIRONMENTAL ASSESSMENT DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT 14 (June 30, 1998) [hereinafter ALPHA DN/FONSI]; MOUNT ST. HELENS NAT'L VOLCANIC MONUMENT, U.S. DEP'T OF AGRIC., BETA/OMEGA TIMBER SALE ENVIRONMENTAL ASSESSMENT DECISION NOTICE AND FINDING OF NO SIGNIFICANT IMPACT 14 (June 16, 1998) [hereinafter BETA/OMEGA DN/FONSI]. Both the Alpha and Beta/Omega sales are currently under administrative appeal by several environmental groups. The USFS has forty-five days from the close of the forty-five-day appeal period to make a decision on an administrative appeal. See 36 C.F.R. § 215.13(f)(3) (1998). According to the NFMA appeal regulations, a decision on the Alpha sale was due on October 10, 1998 and on October 1, 1998 for Beta/Omega. As of July 1, 1999, the USFS has not issued a final disposition on either the Alpha or Beta/Omega appeals. It is the position of the Forest Service that if no decision is made within the forty-five day period, the appeal is

The Alpha and Beta/Omega timber sales⁸⁶ are the poster children of poor forest management, and demonstrate the abdication of Gifford Pinchot's conservation ethic. The sales are located at the east of Forest Road 23, north and south of Forest Road 90, and west of Forest Road 88, one of the most heavily-traveled loops by forest visitors in the southern end of the forest. Alpha is immediately north of Beta/Omega, and, standing in Unit 20⁸⁷ of Alpha, Unit 25 of Beta/Omega is clearly visible less than a mile away.⁸⁸ A brief description of the Alpha and Beta/Omega sales is important for an adequate understanding of the way in which the USFS has failed to practice Pinchot's conservative forestry on the GPNF.⁸⁹

deemed denied. See generally Letter from Lisa E. Freedman, Appeal Deciding Officer, Pacific Northwest Region, U.S. Forest Serv., to the author (May 13, 1999) (on file with author).

86. The Biblical reference explicit in the names of these sales has prompted some to remind themselves that it is best not to ask why the Forest Service names timber sales the way that it does: "I am the Alpha and the Omega, the first and the last, the beginning and the end." *Revelations* 22:13 (King James).

87. A "unit" is a small section of forest within a larger "planning area" of a timber sale. The unit is targeted for timber harvest and may range in size anywhere from five acres to several hundred acres. The planning area concept is used by the USFS to analyze the overall effects of the timber sale, and is usually several thousands of acres. Often a planning area is a watershed or subwatershed. See generally MOUNT ST. HELENS NAT'L VOLCANIC MONUMENT, U.S. DEPT OF AGRIC., ALPHA TIMBER SALE ENVIRONMENTAL ASSESSMENT II-6 (1998) [hereinafter ALPHA EA].

88. Composite map of Alpha and Beta/Omega timber sales on file with author (also showing Lock timber sale and Swell timber sale, immediately to the south of Beta/Omega).

89. For additional information regarding the Alpha and Beta/Omega timber sales, see generally Brent Foster, *Watershed Analysis Under the Northwest Forest Plan: Has It Made A Difference In How Forest Management Affects Aquatic Resources? A Case Study of the Gifford Pinchot National Forest*, 5 HASTINGS W.-NORTHWEST J. ENVTL. L. & POL'Y 337 (1999) [hereinafter *Case Study*].

1. Alpha Timber Sale

The Alpha timber sale proposes to harvest 8 MMbf of timber from the Upper Lewis River watershed on approximately 443 acres.⁹⁰ The sale is located in the Pin, Boulder, Big Spring, and Riley Creek drainages of the North Fork of the Lewis River in the Upper Lewis watershed.⁹¹ Of the 443 acres, approximately 200 acres are considered "old growth,"⁹² or timber stands that are at least 180 years old and multi-layered.⁹³ Much of this old growth will be clear-cut or regeneration harvested.⁹⁴ As a result of the placement and harvest retention of the units in Alternative B, the selected alternative, several large "openings"⁹⁵ would be created.⁹⁶

Alpha Alternative B proposes to construct two miles of new road⁹⁷ through a corridor that connects two large unroaded areas.⁹⁸ The timber harvest would adversely affect soil conditions, largely due to compaction, puddling, and displacement of topsoil.⁹⁹ It is unclear whether reforestation within the planning area has been effective in the past, or whether it can be ensured after the Alpha sale.¹⁰⁰ Many of the proposed units are lo-

90. See ALPHA EA, *supra* note 87, at II-6.

91. See *id.* at I-1.

92. *Id.* at II-6.

93. See FOREST MANAGEMENT ASSESSMENT TEAM, FOREST ECOSYSTEM MANAGEMENT: AN ECOLOGICAL, ECONOMIC, AND SOCIAL ASSESSMENT: REPORT OF THE FOREST MANAGEMENT ASSESSMENT TEAM IX-24 (1993).

94. See *id.* See also note 79 for a discussion on "clear cut" versus "regeneration" harvest.

95. On forestland west of the Cascades, an "opening" occurs when silvicultural treatment retains less than forty percent canopy closure. See 36 C.F.R. § 219.27(d)(2) (1998).

96. See ALPHA EA, *supra* note 87, at III-37.

97. See *id.* at II-6.

98. See *id.* at III-17.

99. See *id.* at III-38.

100. See *id.* at III-38 to III-40. NFMA regulations require successful reforestation within five years of timber harvest. See 36 C.F.R. § 219.27(c)(3) (1998).

cated on steep slopes, and erosion and landslides are likely.¹⁰¹

The Alpha EA indicates that the aquatic conditions of the streams in the project area are either unstable or already highly degraded due to past timber harvest. The riparian reserve¹⁰² areas adjacent to the streams are fragmented,¹⁰³ and at risk for increased peak flows, which "in turn, may accelerate bank erosion causing increased sedimentation and increase channel bed scour."¹⁰⁴ Wetlands also exist within the Alpha planning area, but the USFS is unsure of their location.¹⁰⁵ The EA notes that the agency last surveyed the streams in

101. See ALPHA EA, *supra* note 87, at II-9.

102. "Riparian reserves" are a land designation under the Northwest Forest Plan and "are key element[s] of the Aquatic Conservation Strategy." The reserves "provide an area along all streams, wetlands, ponds, lakes, and unstable and potentially unstable areas where riparian [aquatic]-dependant resources receive primary emphasis." ROD, *supra* note 59, at A-5. Riparian reserves are intended to act as buffers between the aquatic source and management activity. See *id.* at B-13. Generally, timber harvest and other management activities are prohibited in riparian reserves. See *id.* at C-31 to C-38. The width of the buffer varies depending on the type of aquatic resource. See *id.* at C-30. The Northwest Forest Plan restricts the types of management that may occur within riparian reserves on the theory that they are integral to "maintaining hydrologic, geomorphic, and ecologic processes" within a watershed. See *id.* at B-13.

103. See ALPHA EA, *supra* note 87, at II-9.

104. *Id.* at I-10. Increased peak flows also adversely affect fish, water quality, and soil stability. See *id.*

105. See *id.* at I-11. NEPA regulations require that "environmental information is available to public officials and citizens before decisions are made and before actions are taken." 40 C.F.R. § 1500.1(b) (1998). Logically, the USFS cannot make a decision about how or whether the project will affect wetlands if it does not know where they are located. For example, if an entire unit in a timber sale is a wetland, the Forest Service cannot assess the impacts to that wetland unless it knows that it is there and the role that it plays within the watershed.

1989, giving most of them a "poor" rating for water quality.¹⁰⁶

Several threatened, endangered, and sensitive species exist within the Alpha planning area, including northern spotted owl, peregrine falcon, gray wolf, bull trout, and steelhead.¹⁰⁷ Larch Mountain and Van Dyke's salamanders, survey and manage species under the NWFP,¹⁰⁸ also exist in the project area.¹⁰⁹ The NWFP requires the USFS to survey for the salamanders, but those surveys were not completed by the time the USFS published the EA.¹¹⁰ The USFS likewise has not conducted surveys for management indicator species, although the NFMA regulations require such surveys.¹¹¹ No current survey

106. See ALPHA EA, *supra* note 87, at III-43. The most common parameters for water quality are temperature, sediment, and turbidity. See *id.* at III-41. The Clean Water Act requires all federal projects to remain consistent with state-established water quality standards. See 33 U.S.C. § 1323(a) (1994). Consequently, a violation of state water quality standards is a violation of the federal Act. See *infra* notes 336-341 and accompanying text for a discussion on Washington state water quality requirements. Although the GPNF has minimal data on water quality monitoring, the statement that water quality is "poor" suggests that the streams in the area are violating state water quality standards.

107. See ALPHA EA, *supra* note 87, at III-4 to III-5.

108. Survey and manage species are "amphibians, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropods that are considered to be bellwethers for the condition of the forest." ROD, *supra* note 59, at C-4. They are also known as "C-3 species" for the table in which they are listed in the ROD. The USFS must conduct certain levels of surveys for survey and manage species in order to collect additional data on the life processes and habitat of these organisms. See *id.* at C-6. Survey and manage species are similar to management indicator species. See ROD, *supra* note 59, at C-59. See also *infra* notes 368-70, and accompanying text; 36 C.F.R. § 219.19(a)(1) (1998).

109. See ALPHA EA, *supra* note 87, at III-4 to III-5.

110. See ROD, *supra* note 59, at C-59.

111. NFMA requires the forest to designate management indicator species, which are indicative of the health of the forest. See 36 C.F.R. § 219.19(a)(1) (1998). Although the NFMA regulations state that decisions regarding management indicator species are to be made "on the basis of available scientific information" - which

data exists for spotted owl, although several pairs are known to reside in the area.¹¹² Little survey data exists for other threatened, endangered, and sensitive species, although the EA acknowledges that the sale would sever a biological corridor.¹¹³

The Alpha EA claims the sale would return a profit to the U.S. Treasury.¹¹⁴ However, there are mathematical errors in the calculations, so it is unclear whether the sale in fact is an above-cost sale.¹¹⁵ Additionally, the EA does not consider in its economic analysis that benefits such as tourism, recreation, and aesthetic enjoyment of the forest would be eliminated as a result of the sale.¹¹⁶

2. Beta/Omega Timber Sale

The Beta/Omega timber sale proposes to harvest 6.2 MMBf of timber in twenty units totaling 432 acres.¹¹⁷ Also located in the Upper Lewis watershed, the

would suggest the USFS may use existing data and is not required to obtain current survey data – the GPNF does not even possess baseline data for these species. Moreover, the Alpha EA never even mentions management indicator species.

112. See ALPHA EA, *supra* note 87, at II-27. Alpha timber sale would harvest a significant portion of critical habitat for the spotted owl as well, but the EA does not address this fact. See *infra* notes 360-67 and accompanying text.

113. See ALPHA EA, *supra* note 87, at III-18.

114. See *id.* at III-64.

115. See *id.* The public frequently raises the issue of “below-cost” timber sales. Though not illegal, below-cost sales occur when the costs of preparing the sale (including sale layout and planning, publication of the environmental assessment, and costs to localities) are more than the USFS receives in bids for the sale. Between 1992 and 1994, the USFS timber sale program lost nearly \$1 billion due to below-cost sales. See generally GENERAL ACCOUNTING OFFICE, GAO/T-RCED/AIMD-98-135, FOREST SERVICE: LACK OF FINANCIAL AND PERFORMANCE ACCOUNTABILITY HAS RESULTED IN INEFFICIENCY AND WASTE (1998) [hereinafter GAO REPORT].

116. See ALPHA EA, *supra* note 87, at I-16.

117. See MOUNT ST. HELENS NAT’L VOLCANIC MONUMENT, U.S. DEPT’ OF AGRIC., BETA/OMEGA TIMBER SALE ENVIRONMENTAL ASSESSMENT II-11(1998) [hereinafter BETA/OMEGA EA].

Beta/Omega sale is situated among several major waterways including Twin Falls, Pass, Swampy, and Upper Frontwall Creeks.¹¹⁸ The Mt. Adams Wilderness is to the northeast, Indian Heaven Wilderness is located to the southwest, and the Lewis River Late-Successional Reserve¹¹⁹ is south of planning area.¹²⁰ The USFS considers all but approximately 100 acres of Beta/Omega to be late-successional or old growth forest.¹²¹ As with Alpha, the USFS proposes to regenerate much of this acreage, creating several large openings.¹²² The remaining old growth in the Beta/Omega planning area, unlike that of Alpha, is highly fragmented due to past clear cuts.¹²³ The USFS made no explicit effort to retain the remaining old growth within the planning area, stating in the EA that "[no] further analysis is needed for old-growth retention."¹²⁴

To reach the Beta/Omega units, the USFS must construct 2.2 miles of new roads.¹²⁵ The increase in road

118. See *id.* at I-1.

119. A Late-Successional Reserve ("LSR") is a designation under the Northwest Forest Plan, the objective of which is "to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth forest related species including the northern spotted owl. Limited stand management is permitted, subject to review by the Regional Ecosystem Office." ROD, *supra* note 59, at A-4. In theory, LSRs set aside habitat that may not currently function as suitable habitat, but due to limited management, will become suitable in the future. In reality, most of the LSRs (at least in the Gifford Pinchot) are in poor condition and do not provide the type of habitat that late-successional dependant species require. See *generally* LSR ASSESSMENT, *supra* note 13.

120. See U.S. GOV'T PRINTING OFFICE, MAP: GIFFORD PINCHOT NATIONAL FOREST (1992).

121. See BETA/OMEGA EA, *supra* note 117, at II-11 to II-12.

122. See *id.* at I-11, II-2.

123. See *id.* at I-12.

124. *Id.* at II-10. When the public raised the lack of analysis in the EA on this issue, the USFS failed to respond. Northwest Environmental Defense Center, Beta/Omega Timber Sale Environmental Assessment Comment (April 14, 1998) (on file with author).

125. See BETA/OMEGA EA, *supra* note 117, at II-11.

density in the area would result in soil degradation,¹²⁶ as could occur in the Alpha sale. The soils in the Beta/Omega timber sale planning area are moderately stable, and the slopes are moderately steep.¹²⁷ Evidence of past logging activity is apparent.¹²⁸ As with Alpha, the area has had difficulty regenerating after timber harvest, and it is uncertain whether successful replanting¹²⁹ will be possible after the Beta/Omega sale.¹³⁰

The current data addressing the risk of increased peak flows in the Beta/Omega area is scarce, but the antiquated data suggests that the Beta/Omega area is at risk for increased peak flows due to extensive historical timber harvest.¹³¹ The sale proposes to commercially thin riparian areas, even though these reserves are already highly fragmented and functioning poorly due to previous management activities.¹³² Although Alpha is immediately to the north and upstream of Beta/Omega, the USFS has not addressed whether the two sales

126. See *id.* at III-2. See also *infra* notes 268-75 and accompanying text.

127. See BETA/OMEGA EA, *supra* note 117, at II-8.

128. See *id.* at III-32.

129. See *supra* note 100.

130. See BETA/OMEGA EA, *supra* note 117, at II-8. It is not surprising that the soil (as well as water and wildlife) conditions and effects are similar between Alpha and Beta/Omega. The two sales are adjacent to each other and therefore share common soil types, hydrology, and biological aspects. In many cases, units from Alpha are closer to units from Beta/Omega than other Alpha units. The same is true for some Beta/Omega units. See *generally id.*

131. See *id.* at I-11, III-20. NFMA regulation 36 C.F.R. § 219.12(d) (1998) states that "[each] Forest Supervisor shall obtain and keep *current* inventory data appropriate for planning and *managing* the resources under his or her administrative jurisdiction. The Supervisor will assure that the interdisciplinary team has access to the best available data. *This may require that special inventories or studies be prepared*" (emphasis added). This suggests that if the data is lacking for a project, the USFS is obligated to obtain it. This would clearly include the duty to obtain water quality information, including data on peak flow. See also discussion of water resources *infra* Part III.F.

132. See BETA/OMEGA EA, *supra* note 117, at II-9, I-12.

would have a synergistic effect on aquatic systems in the Upper Lewis watershed.¹³³ Since the Alpha and Beta/Omega areas are hydrologically connected, it is not surprising that there are many small wetlands in the Beta/Omega planning area.¹³⁴ Although the USFS has not collected current data on water quality in connection with the Beta/Omega sale, the last surveys conducted in 1982 and 1989¹³⁵ indicated that the streams were in "poor" condition.¹³⁶

The Beta/Omega area is a biological corridor between wilderness areas and late-successional reserves, and is home to several threatened, endangered, and sensitive species such as bald eagle, spotted owl, and gray wolf.¹³⁷

133. See *id.* at III-20, mentioning that "the Alpha Timber Sale is adjacent to the Beta/Omega area." This is one of only a few references to the Alpha sale in the Beta/Omega EA. NEPA's regulations, however, requires that a cumulative impact analysis occur in every environmental analysis. See 40 C.F.R. §§ 1502.16, 1508.7 (1998). Such an analysis would include addressing the synergistic effects of the Alpha and Beta/Omega timber sales together, and strongly suggests the necessity of a comprehensive environmental impact statement. See 40 C.F.R. § 1502.4 (1998).

134. See BETA/OMEGA EA, *supra* note 117, at I-17.

135. See *id.* at III-5. Despite the lack of survey data for these streams, the USFS claims that the Beta/Omega sale will "maintain and slightly restore the water quality necessary to support healthy ecosystems through mitigation measures and through implementation of Riparian Reserves." *Id.* at III-27. Mitigation measures include the implementation of best management practices, the use of a fisheries biologist in designing the timber sale, prohibiting ground-based machinery on slopes over thirty percent, and the installation of water bars on disturbed soil. See *id.* at II-29 to II-38.

136. See *id.* at III-8 to III-9. See also *supra* note 106. The Forest Service recommended in the Beta/Omega EA that due to the "hydrological concerns" of the area, additional harvest should be deferred for at least ten years. BETA/OMEGA EA, *supra* note 117, at III-55. Nevertheless, the agency proceeded with the sale. Situations in which the Forest Service recommends one course of action but subsequently rejects its own advice are common in the Alpha and Beta/Omega environmental assessments and supporting documents.

137. See BETA/OMEGA EA, *supra* note 117, at III-29.

The sale would sever this corridor.¹³⁸ Surveys for these species have not been conducted for the Beta/Omega sale,¹³⁹ but there are ten confirmed pairs of spotted owl in the project area.¹⁴⁰ Sightings of gray wolf have also been confirmed.¹⁴¹ Since there are no surveys for the owls and other species, the environmental impact of the sale on this species is unknown.¹⁴² The USFS did not complete surveys for management indicator species or survey and manage species before the agency finished the EA.¹⁴³

The preferred alternative, Alternative B, harvests the most timber of all action alternatives, and "provides the greatest revenue."¹⁴⁴ The USFS premised the Beta/Omega sale on receiving \$136.88 per CBF of timber.¹⁴⁵ On November 17, 1998, the USFS sold the Beta timber sale¹⁴⁶ for \$107.62 per CBF.¹⁴⁷ The difference of

138. *See id.*

139. *See id.* at III-37 to III-42.

140. *See id.* at III-29.

141. *See id.* at III-38.

142. *See* BETA/OMEGA EA, *supra* note 117, at III-37 to III-42.

143. *See id.* at III-44. *See also supra* note 111.

144. BETA/OMEGA EA, *supra* note 117, at III-64.

145. *See id.* at III-63.

146. The USFS split Beta from Omega before it was auctioned. *See* Letter from Ted C. Stubblefield, Forest Supervisor, Gifford Pinchot Nat'l Forest, to the author (Dec. 17, 1998) (on file with author) [hereinafter Bid Price Letter].

147. *See id.* Since the USFS has not yet decided the pending administrative appeals on the Beta/Omega timber sale, NFMA regulations preclude the USFS from "awarding" the sale to the highest bidder. *See* 36 C.F.R. § 211.18(h) (1998) (stay of decision pending appeal). Nevertheless, the USFS may advertise the sale and auction it to the highest bidder before the USFS issues a final disposition on the appeals. As soon as the USFS makes a final decision on the appeals, the sale will be awarded to the highest bidder who can then begin harvesting timber. The USFS also offered for sale the Alpha timber sale, but no bids were received. *See* Bid Price Letter, *supra* note 146. The administrative appeal for Alpha is also still pending. *See* Letter from James Schuler, Regional Appeals Coordinator, Pacific Northwest Region, U.S. Forest Serv., to

\$29.26 per CBF indicates that Beta may in fact be a below-cost timber sale.¹⁴⁸

III. THE IDEAL AND THE REALITY: A COMPARISON

Pinchot wrote prolifically on how ecosystem management should be implemented in the field. His methodology can be divided into eight categories: (1) research and planning; (2) harvest methods; (3) road management; (4) soil resources; (5) reforestation; (6) water resources; (7) wildlife management; and (8) economics. These categories are roughly equivalent to the way in which the modern USFS lays out timber sale EAs, as exemplified in the Alpha and Beta/Omega sales. However, the contemporary USFS has failed to uphold Pinchot's standards, or live up to his vision. Many of Pinchot's principles, while changed somewhat by subsequent scientific discoveries, are largely embodied in contemporary legal standards found in the NFMA, NEPA, ESA, CWA, and the APA.

A. *Research and Planning*

Above all, Pinchot believed that adequate information and analysis were essential to proper management of the national forests.¹⁴⁹ "Scientific conservation of natural resources"¹⁵⁰ was the key to his philosophy, and he employed "the research man" to actually go into the forest and obtain data that foresters required in order to make informed decisions regarding resource management.¹⁵¹ Applying the interdisciplinary team approach,

the author (Dec. 23, 1998) (on file with author) [hereinafter Timber Sale Status Update Letter].

148. See note 115 and accompanying text for a discussion of below-cost timber sales.

149. See *BREAKING NEW GROUND*, *supra* note 29, at 309.

150. *THE FIGHT FOR CONSERVATION*, *supra* note 23, at xix.

151. See *BREAKING NEW GROUND*, *supra* note 29, at 310. While Pinchot favored the "research man", he deplored "office men" engaged in forestry. See *id.* at 275,310. While at the Department

Pinchot sent experts trained in "scientific forestry, dendrology, and lumbering" into the woods to plan timber sales.¹⁵²

The researcher conducted detailed forest studies of water supplies and hydrology, forest fires, reforestation, and grazing.¹⁵³ The resulting studies contributed to the understanding of forest functions, although this new understanding was not without problems: the more the USFS learned about the forest, the more difficult it became to benignly harvest timber.¹⁵⁴ Pinchot himself remarked "that research in the USFS today gives sound and practical results is due to this constant struggle between what is ideally good and what is practically possible."¹⁵⁵

Before the Forest Service could conduct a timber sale, Pinchot required the responsible official, often a ranger or forest supervisor, to conduct an inventory to determine both the effect of the harvest on the soil, water, wildlife, and the ability to reforest the area after harvest.¹⁵⁶ Further, Pinchot recommended that "supervisors . . . study the present and future conditions on their Forests with the greatest care"¹⁵⁷ by conducting site-specific estimates and inventories of the timber to be sold at auction.¹⁵⁸ He also urged rangers to conduct an investigation into timber harvest on private land ad-

of Interior, Pinchot dealt frequently with these individuals, and he considered them inept at forest stewardship.

152. *Id.* at 280.

153. See THE FIGHT FOR CONSERVATION, *supra* note 23, at xv.

154. See generally BREAKING NEW GROUND, *supra* note 29, at 308.

155. *Id.*

156. See *id.* at 274.

157. GIFFORD PINCHOT, U.S. FOREST SERV., U.S. DEPT OF AGRIC., THE USE BOOK: REGULATIONS AND INSTRUCTION FOR THE USE OF THE NATIONAL FORESTS 172 (1908) [hereinafter THE USE BOOK].

158. See *id.* at 94.

jaacent to federal public land and to include the results in the forest-wide assessment.¹⁵⁹

In 1908, *The Use Book*, reading like a covenant on behalf of the USFS to preserve and use the forest resources only in the best interest of the public,¹⁶⁰ directed Forest Officers to

decide whether the timber is mature, and whether, if it is cut, a second growth will replace it, or if the land will become waste, and whether the water supply will be seriously endangered by the cutting, for the permanency and improvement of the forest must always be considered more important than immediate returns.¹⁶¹

Pinchot was concerned that the natural resources of the forest would be exhausted unless the USFS conducted detailed studies. Noting that all timber, whether live or dead, was subject to harvest, he nonetheless cautioned that "[g]reen timber may be sold except where its removal makes a second crop doubtful, reduces the timber supply below the point of safety, or injures the streams."¹⁶² Finally, before a sale could be approved by the Forest Supervisor,

[e]ach sale of live timber required a map of the cutting area, an estimate of the stand upon it, and a description of the forest, with specific recommendations and the reasons for them. These must include the effect upon water flow, possible profit in holding the timber for a higher price, the need for it, the possibility or difficulty of getting it elsewhere, the reli-

159. See generally BREAKING NEW GROUND, *supra* note 29, at 294.

160. See generally *id.* at 266. The Use Book is the historical antecedent to the modern Forest Service Handbook and Forest Service Manual, establishing procedures and practices for managing the forests. See *id.* at 264-65.

161. THE USE BOOK, *supra* note 157, at 90.

162. BREAKING NEW GROUND, *supra* note 29, at 273. Pinchot commented that "[w]e were taking no chances" with the forests of the West. *Id.* at 274.

ability of the applicant, and the price. The latter must be decided by the actual value of the timber as determined by its character, ease of logging, and distance from market, and not by custom or habit. There must be no more sales at half price.¹⁶³

Pinchot clearly valued the benefits of having ample data upon which to base the decision of whether or not to harvest timber. Yet while it often takes the GPNF up to two years to prepare a timber sale, and the corresponding EA may be over 200 pages in length,¹⁶⁴ the result is often a document that is devoid of concrete data and assessments of natural resources. For example, in the Alpha and Beta/Omega sales, the USFS admitted that it had little data on water quality, soil disturbance, wildlife presence and distribution, or stand composition.¹⁶⁵

Regulations implementing both NEPA and NFMA require the USFS to obtain the type of data that is missing

163. *Id.* at 274. A discussion of the economics of historical and current timber sales appears *infra* Section III.H. The procedure described in this passage reflects Pinchot's version of today's watershed analysis process. This process entails collecting scientific data about a watershed and then formulating management recommendations based on the existing and desired future conditions. Such data includes water quality information (including temperature and peak flow rates); vertebrate, invertebrate, and plant population and distribution numbers; and the amount of merchantable timber remaining in the watershed. See ROD, *supra* note 59, at B-20 to B-21. See also *Case Study*, *supra* note 89, at 342.

164. Other environmental documents such as Watershed Analyses or the Land and Resource Management Plans (Forest Plans) may be several hundred pages in length. See generally GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., UPPER LEWIS WATERSHED ANALYSIS (1995) [hereinafter UPPER LEWIS WATERSHED ANALYSIS]. See also GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., LAND AND RESOURCE MANAGEMENT PLAN, AMENDMENT 11, GIFFORD PINCHOT NATIONAL FOREST (1998) [hereinafter GPF or Gifford Pinchot Forest Plan].

165. See ALPHA EA, *supra* note 87, at I-11, III-43, II-27, III-18. BETA/OMEGA EA, *supra* note 117, at I-11, III-20, III-5, III-37 to III-42, III-44.

from the Alpha and Beta/Omega EAs.¹⁶⁶ For example, NEPA requires high quality information¹⁶⁷ and "accurate scientific analysis, expert agency comments, and public scrutiny" in order for the agency to successfully comply with NEPA.¹⁶⁸ The regulations call for informed decision-making and direct the agency to obtain any missing data that it needs in order to make a reasoned decision.¹⁶⁹ If a large amount of data is missing, or there are "substantial questions . . . raised as to whether a project . . . may cause significant degradation of some human environmental factor,"¹⁷⁰ an EIS is required.¹⁷¹ Not only do NEPA regulations require the agency to obtain missing data,¹⁷² but the Ninth Circuit has recently stated that an environmental analysis is inadequate when the USFS fails to conduct detailed studies to support its conclusion that a project will have no significant effects on the environment.¹⁷³

While NEPA is a procedural statute dictating only a particular process and not a particular result,¹⁷⁴ NFMA creates substantive requirements.¹⁷⁵ In many ways, NFMA's regulations reflect Pinchot's own philosophy of forest management, commanding the agency to ensure the continued productivity of the land and its biological

166. See generally 40 C.F.R. § 1500.1; 16 U.S.C. § 1610 (referring to the use of other sources for assessment to avoid duplication of information).

167. See 40 C.F.R. § 1500.1(b) (1998).

168. *Id.*

169. See *id.* §§ 1500.1(c)-1500.2.

170. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1149 (9th Cir. 1998).

171. See 40 C.F.R. § 1508.27 (1998) (defining "significantly").

172. See *id.* § 1502.22(a).

173. See *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213-14 (9th Cir. 1998).

174. The United States Supreme Court has stated that NEPA's goal is reasoned decisionmaking. See *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223 (1980).

175. See 16 U.S.C. § 1604 (1994).

resources in the national forests.¹⁷⁶ In order to accomplish this goal, NFMA's regulations require the USFS to obtain data on wildlife population distribution¹⁷⁷ and trends,¹⁷⁸ biological diversity,¹⁷⁹ different methods for achieving management goals,¹⁸⁰ the ability to reforest after harvest,¹⁸¹ and the quality of the watershed in which the project is sited.¹⁸²

The CWA and the ESA also require the USFS to obtain missing data. The CWA requires the USFS to obtain a permit if it intends to fill a wetland as a consequence of its activities.¹⁸³ While some silvicultural activities are exempt from the requirement of a section 404 permit under the Act, case law suggests that if a change in the use of the wetland occurs (by wildlife, for example), then a permit *is* required.¹⁸⁴ Moreover, the NWFP requires the USFS to survey for and protect wetlands.¹⁸⁵ In spite of explicit direction to survey for wetlands in timber harvest units, the GPNF has no protocol to survey for them.¹⁸⁶ In fact, the agency has made little effort to

176. See *id.* § 1604(g)(3)(E); see also 36 C.F.R. § 219.1 (1998).

177. See 36 C.F.R. § 219.19 (1998).

178. See *id.* § 219.19(a)(6).

179. See *id.* § 219.26.

180. See *id.* § 219.12(f)(2)-(3).

181. See *id.* § 219.27(c)(3).

182. See *id.* § 219.23(e).

183. See 33 U.S.C. § 1344 (1994).

184. See *United States v. Brace*, 41 F.3d 117 (3rd Cir. 1994) (prohibiting a change in use of wetlands, including a change of use due to silvicultural activities that resulted in the destruction of wetlands due to unlawful fill). See also *infra* notes 336-39, and accompanying text.

185. See ROD, *supra* note 59, at B-16 to B-17, C-31.

186. See Letter from Robert Williams, Regional Forester, U.S. Forest Serv., to the author regarding Freedom of Information Act request for wetland survey protocols on the GPNF (Feb. 12, 1999) (on file with author) [hereinafter *Wetlands Letter*]. Although the GPNF does not possess a protocol for wetland delineation, the forest could obtain the definitive delineation manual from the Army Corps of Engineers. See 33 U.S.C. § 1344(e) (1994).

compile information on whether wetlands are present in the Alpha and Beta/Omega planning areas.¹⁸⁷

Likewise, the ESA requires the agency to use the best available scientific and commercial data in assessing the impact on threatened and endangered species.¹⁸⁸ If this information is lacking, as it is on the GPNF, section 7 of the ESA precludes the agency from making a determination that the proposed action will not harm threatened and endangered species.¹⁸⁹ Despite the lack of data, DNs for the Alpha and Beta/Omega sales indicate that the sales are "not likely to adversely affect" listed species.¹⁹⁰

The NWFP also imposes other research and planning requirements on the USFS. For example, the NWFP establishes the watershed analysis process, which is designed to force the agency to obtain the data that is required by other statutes such as NEPA and NFMA.¹⁹¹

187. In fact, the USFS maintains that the tree marking crew will locate wetlands in timber sale units. The crew is untrained in wetland delineation. Lock Timber Sale Administrative Appeal Disposition Meeting with Jon Nakae, Timber Sale Planner, Mt. Adams Ranger District in Carson, Wash. (Oct. 14, 1998) (notes on file with author).

188. See 16 U.S.C. § 1536(a)(2) (1994).

189. See *id.* § 1536.

190. The Alpha and Beta/Omega decision notices use identical language to identify the effects to listed species. The notices state: "the FWS concurs with the biological determination that the proposed sale may affect, but is not likely to adversely affect the gray wolf and grizzly bear. The FWS also agrees with the determination of no effect to the bald eagle and peregrine falcon." ALPHA DN/FONSI, *supra* note 85, at 10; BETA/OMEGA DN/FONSI, *supra* note 85, at 10. Both notices also state that the proposed sales are "not likely to jeopardize the continued existence of the spotted owl." *Id.* Curiously, it seems as though the agencies have "rubber stamped" the effects determination for these sales.

191. See ROD, *supra* note 59, at 2-6. For a general overview of the history of the Northwest Forest Plan and the watershed analysis process, see H. MICHAEL ANDERSON, THE WILDERNESS SOCIETY, CITIZEN GUIDE TO THE NORTHWEST FOREST PLAN (1994). See also *Case Study*, *supra* note 89.

The NWFP amended the GPFPP as well,¹⁹² imposing additional local obligations on the USFS to survey the forest and conduct biological and resource inventories.¹⁹³

However, very little of this data has been collected on the GPNF. Although the GPNF uses the interdisciplinary approach to gather information, the recommendations of the experts are often ignored in the timber sale planning process.¹⁹⁴ Additionally, the Upper Lewis Watershed Analysis, applicable to both the Alpha and Beta/Omega sales, notes extensive gaps in information, including a lack of stream temperature monitoring, data on aquatic organisms, and reserve assessments.¹⁹⁵ The USFS has made only minimal attempts to supply this missing data. Without the proper baseline information, the GPNF cannot make an informed decision regarding the resources at issue in any given management project, particularly timber sales. By issuing DNs and FONSI for the Alpha and Beta/Omega timber sales,¹⁹⁶ the GPNF acted without adequate information. The Ninth Circuit has held that acting without sufficient information is arbitrary and capricious, constitutes a failure to take a "hard look" at the environmental effects of a project, and violates the APA.¹⁹⁷

192. See ROD, *supra* note 59, at 11-12.

193. See generally GPFPP, *supra* note 164. Because the President's Forest Plan amended the GPFPP, the requirements in the local forest plan are enforceable under NFMA's "consistency requirement." See 16 U.S.C. § 1604(i) (1994); 36 C.F.R. § 219.10(e) (1998) (requiring the "Forest Supervisor [to] ensure that . . . all outstanding and future permits, contracts, cooperative agreements, and other instruments . . . are consistent with the [local forest] plan").

194. See Case Study, *supra* note 89, at 343.

195. See UPPER LEWIS WATERSHED ANALYSIS, *supra* note 164, at 76-77.

196. See generally ALPHA DN/FONSI, BETA/OMEGA DN/FONSI, *supra* note 85.

197. See Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998); see also 5 U.S.C. § 706(2)(A) (1994).

B. Harvest Methods

In addition to the collection of extensive data, Gifford Pinchot advocated certain harvest methods on the national forests.¹⁹⁸ Logging methods varied depending on the forest and soil type, erosion potential, and slope gradient.¹⁹⁹ In particular, he advised "[w]hen successive sales are made from the same compartment, the cutting areas should be contiguous."²⁰⁰ This involved placing new harvest units immediately adjacent to old units in a puzzle-piece fashion.²⁰¹ Similarly, Pinchot advocated cutting isolated blocks of forest that were surrounded by harvested areas.²⁰²

According to Pinchot, when the protection of a watershed was paramount, or when the risk of windfall or erosion was high, only a few trees should be removed.²⁰³ He realized that "[i]n some cases only a few trees can be cut safely, to avoid danger from windfall or injury to the watershed."²⁰⁴ Regardless of the type of harvest that occurred, the USFS was to employ mitigation measures to diminish any adverse effects on the land and its resources.²⁰⁵

Many of Pinchot's harvest methods are nominally evident in the Alpha and Beta/Omega sales. The EAs of both sales state that the type of harvest method

198. See generally THE USE BOOK, *supra* note 157, at 92-93.

199. See *id.* at 92.

200. *Id.* at 91. This practice results in less "edge effect," but also creates large openings that have similar adverse effects. Edge effects include blowdown of trees on the edge of harvest units, a seasonal increase or decrease in temperature along the edge of the units, habitat modification or elimination of species dependant on blocks of interior forest, and general soil erosion along unit boundaries. See generally D.B. Tinker et al., *Watershed Analysis of Forest Fragmentation by Clear Cuts and Roads in a Wyoming Forest* 13 LANDSCAPE ECOL. 149 (1998).

201. See generally THE USE BOOK, *supra* note 157, at 91.

202. See *id.* at 91.

203. See *id.* at 99.

204. *Id.* at 91.

205. See *id.* at 92.

(ground-based, skyline, or helicopter)²⁰⁶ was chosen based on the gradient of the area.²⁰⁷ However, the EAs do not indicate what type of soils (for example, hummocky, sand, or ash) are found in the harvest units. Instead, the documents state that certain adverse effects *can* occur as a result of timber harvest, but there is no particularized analysis.²⁰⁸

NFMA's regulations contemplate the site-specific analysis lacking in the EAs.²⁰⁹ NEPA's regulations also indicate that when studying the effects of a particular action, an agency must consider a variety of factors, such as whether a particular logging method was appropriate on a certain gradient on a particular soil type.²¹⁰ Although NFMA's regulations indicate that an action should not go forward unless the effects of such action are verifiable,²¹¹ the Alpha and Beta/Omega EAs do not contain this verifiable information.

As in Pinchot's era, blowdown of trees after harvest is a current concern in the forest.²¹² The Alpha planning

206. Ground-based methods involve tractor logging where trees are felled and loaded directly onto waiting trucks. Tractor logging occurs on relatively flat slopes. Skyline methods involve attaching a cable between the base of one tree at the base of a slope and a machine at the top of the slope. Felled trees are attached to the cable and dragged uphill. This method is used on slopes too steep for tractors. Helicopter logging occurs on very steep slopes. In those cases, trees are felled and loaded onto a grab attached to a helicopter, which takes the logs to trucks waiting a convenient distance away on flat ground.

207. See ALPHA EA, *supra* note 87, at II-6 to II-7; see also BETA/OMEGA EA, *supra* note 117, at II-11 to II-12.

208. See ALPHA EA, *supra* note 87, at III-38 to III-40. The Beta/Omega EA uses identical language to describe possible effects of the proposed sale. See BETA/OMEGA EA, *supra* note 117, at III-2 to III-4.

209. See 36 C.F.R. § 219.10(e) (1998).

210. See 40 C.F.R. § 1502.16 (1998).

211. See 36 C.F.R. § 219.14(a)(2) (1998).

212. See generally Trilby C.E. Dorn, Comment, *The Magnuson Fishery Conservation and Management Act: Retrospect and Prospect, Logging Without Laws: The 1995 Salvage Logging Rider*

area has had problems with blowdown in the past,²¹³ although the Beta/Omega area has not.²¹⁴ The discrepancy is curious, since the areas are adjacent to each other and they would be expected to experience the same degree of windthrow. Regardless, the USFS failed to address the potential of post-harvest blowdown and the effect that it would have on the watershed.

There are no standards on blowdown set forth in NEPA, NFMA, the Gifford Pinchot Forest Plan ("GPPF"), or the NWFP. However, the NWFP addresses the issue as it applies to late-successional reserves ("LSR")²¹⁵. The NWFP was concerned that harvested areas adjacent to LSRs would "damage" the boundaries of the reserves, so the plan suggested management prescriptions to prevent blowdown.²¹⁶ Additionally, biologists believe that blowdown has a significant effect on the ecological function of timber stands.²¹⁷ While there is not yet an enforceable standard, problems with blowdown may become actionable if they interfere with wildlife uses.²¹⁸

The USFS proposed mitigation measures in the Alpha and Beta/Omega EAs.²¹⁹ However, it is often unclear

Radically Changes Policy and the Rule of Law in the Forests, 9 TUL. ENVTL. L.J. 447 (1996).

213. See ALPHA EA, *supra* note 87, at I-15.

214. See BETA/OMEGA EA, *supra* note 117, at I-13.

215. See generally Carell, *supra* note 16, at 8.

216. See ROD, *supra* note 59, at B-8. For example, when timber harvest occurs along the edge of a late-successional reserve and the trees along the border between the two areas blow down, the integrity of the LSR is necessarily infringed.

217. See generally C.J. Peterson & S.T.A. Pickett, *Forest Reorganization: A Case Study in an Old Growth Forest Catastrophic Blowdown*, 76 ECOLOGY 763 (1995).

218. See generally G.S. Miller et al., *Habitat Selection by Spotted Owl During Natal Dispersal in Western Oregon*, 61 J. WILDL. MGMT. 140 (1997).

219. See ALPHA EA, *supra* note 87, II-18 to II-32; see also BETA/OMEGA EA, *supra* note 117, II-29 to II-45. Mitigation measures pertain to soil, water, air, recreation, cultural, visual, and wildlife resources. Generally, these measures are statements of best management practices.

whether the measures will in fact be applied to the project, whether it will be the USFS or the sale purchaser who will implement them, and whether they will be effective.²²⁰ Mitigation measures are used in the NEPA process to define the scope of the environmental analysis,²²¹ as well as to assuage adverse significant project impacts.²²² Mitigation measures also play a role in the formation of alternative courses of action for the project and in the discussion of the consequences of an action.²²³ While the GPNF defines the mitigation measures for the Alpha and Beta/Omega projects as "best management practices,"²²⁴ the NWFP prohibits their use as a substitute for preventing habitat degradation.²²⁵ Further, the courts have stated that it is impermissible to give cursory attention to mitigation measures; instead, mitigation must receive a "reasoned discussion."²²⁶

Unlike mitigation measures proposed in an EIS, which are unenforceable under NEPA, mitigation measures that are proposed in an EA are required if they are relied upon to justify a DN/FONSI.²²⁷ However, the Alpha and Beta/Omega sales rely on funds from the Knutson-Vandenberg Act ("KV funds")²²⁸ to finance mitigation

220. See generally GIFFORD PINCHOT NAT'L FOREST, U.S. DEP'T OF AGRIC., SEVENTH ANNUAL MONITORING AND EVALUATION REPORT, FISCAL YEAR 1997, GIFFORD PINCHOT NATIONAL FOREST (1997).

221. See 40 C.F.R. § 1508.25(b)(3) (1998).

222. See *id.* § 1508.20.

223. See *id.* §§ 1502.14(f), 1502.16(h).

224. See ALPHA EA, *supra* note 87, at II-18; BETA/OMEGA EA, *supra* note 117, at II-29.

225. See ROD, *supra* note 59, at C-37.

226. See, e.g., Northwest Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986).

227. See Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989) (adoption of mitigation measures is optional in an EIS, but implementation is required if it is relied on for an EA/FONSI).

228. Knutson-Vandenberg Act, 16 U.S.C. §§ 576-576(b) (1994).

projects such as road closures.²²⁹ Since the EAs rely on the road closures and associated projects in order to assert that there will be no significant impacts from the sales, allowing the USFS to issue a FONSI, the KV funds must be certain, not tentative.²³⁰ However, KV funds are notoriously speculative, since they are tied to timber sale receipts.²³¹ If the sale is a below-cost sale,²³² or does not call for restoration in the same vicinity as the sale,²³³ then the USFS cannot expend KV dollars.²³⁴ If KV dollars are not expended, mitigation does not occur, and the FONSI is unjustified.²³⁵

While a handful of Pinchot's beliefs remain sound – such as protecting watersheds that are unstable or refraining from harvesting areas with high risks of blow-down and erosion – intervening scientific study has superseded much of his thinking. For example, scientists no longer consider it wise to harvest isolated blocks of forest when it is the only remaining habitat in the

229. See ALPHA EA, *supra* note 87, at II-4; BETA/OMEGA EA, *supra* note 117, at II-8 to II-9.

230. See generally ALPHA EA, *supra* note 87, at II-4; BETA/OMEGA EA, *supra* note 117, at II-8 to II-9.

231. See generally FOREST SERVICE EMPLOYEES FOR ENVIRONMENTAL ETHICS, WHO SAYS MONEY DOESN'T GROW ON TREES? THE KNUTSON-VANDENBERG ACT: HOW THE U.S. FOREST SERVICE MISUSES A LITTLE-KNOWN LAW TO SIPHON MILLIONS OF PUBLIC DOLLARS FROM THE FOREST TO THE BUREAUCRACY (circa 1996) [hereinafter FSEEE ARTICLE].

232. Beta is likely to be a below cost sale. Alpha and Omega have not yet received bids, but may be below cost sales as well. See *supra* note 115 and accompanying text.

233. For example, the USFS may close roads that are not located within the planning area. Since the KV Act requires that restoration projects occur within the planning area of the project, funds will not be expended on projects that take place outside of the project area. See FSEEE ARTICLE, *supra* note 231, at 3.

234. See *id.* at 6.

235. See generally John Stephen Harbison, *Forest Service Planning, Hard Times in the Softwoods: Contract Terms, Performance, and Relational Interests In National Forest Timber Sales*, 21 ENVTL. L. 863 (1991).

area.²³⁶ In addition, it is not always prudent to enter the same stand or "compartment" multiple times and harvest contiguous patches of trees, because entering the same area several times for timber harvest does not allow the soil, water, and natural revegetation to recover.²³⁷ This practice has the net effect of removing riparian cover as well as what may be the only suitable habitat for plants and animals.

The GPNF has implemented Pinchot's principle that it is prudent to place new cuts next to old ones and to harvest isolated stands. Not only are units of Alpha and Beta/Omega themselves near each other, but they are also contiguous to old harvest units.²³⁸ Several of the old units have failed to regenerate, so when Alpha or Beta/Omega units are placed next to them, the combination forms large openings of forty-eight to seventy-one acres.²³⁹

NFMA's regulations set restrictions on the size of allowable openings. On forests west of the Cascade mountain range, such as the Gifford Pinchot, openings may not be larger than forty acres.²⁴⁰ Openings larger than forty acres are permitted after a sixty-day public

236. See generally D. Doak, *Spotted Owl and Old Growth Logging in the Pacific Northwest*, 3 CONSERV. BIOL. 389 (1989). See also Bruce G. Marcot, *Old Forest Remnants, Study on the Cispus Adaptive Management Area, Gifford Pinchot National Forest, Washington* (1999) (unpublished forthcoming study).

237. See generally C.R. Rose & P.S. Muir, *Greentree Retention: Consequences for Timber Production in Forests of the Western Cascades, Oregon*, 7 ECOLOGY APPL. 209 (1997).

238. See MYLAR MAP, *supra* note 82.

239. See ALPHA EA, *supra* note 87, at III-38; see also BETA/OMEGA EA, *supra* note 117, at III-54. Alpha units adjacent to each other create openings of forty-eight, fifty, and seventy-one acres in size. Beta/Omega units form seventy-eight and fifty-nine-acre openings. In conjunction with older cuts, the openings are much larger. No information supplied by the GPNF indicates that old clear cuts around Alpha and Beta/Omega have failed to regenerate to an appropriate height, but this fact is disclosed in field reconnaissance.

240. See 36 C.F.R. § 219.27(d)(2) (1998).

notice and comment, review by the Regional Forester,²⁴¹ and a finding that the opening "will produce a more desirable combination of net public benefits."²⁴² There is little discussion of opening size in the Alpha and Beta/Omega EAs, and the DNs for the sales do not disclose that the sales will create excessively large openings, or that the public was entitled to comment separately on this aspect of the sales.²⁴³ In turn, the failure by the USFS to notify the public that it had the option to comment violated NEPA, a predominately public disclosure and involvement statute.²⁴⁴

In the planning area of both sales - but especially in Alpha - there are several isolated stands of old growth.²⁴⁵ These isolated stands act as biological corridors and dispersal routes for a variety of species; in both Alpha and Beta/Omega, these corridors are the only links between areas of relatively undisturbed habitat.²⁴⁶ Each sale places at least one large regeneration harvest unit in the corridor, severing it from the habitat that it connects.²⁴⁷ Severing the corridor creates islands of forested land that are isolated from populations of species that depend on corridors for survival.²⁴⁸

241. *See id.* § 219.27(d)(2)(ii).

242. *Id.* § 219.27(d)(2)(i).

243. The public comment period for environmental assessments is thirty days. *See* 36 C.F.R. § 215.6 (1998). However, the public comment period for openings is sixty days. *See id.* § 219.27(d)(2)(ii). This suggests two distinct comment periods.

244. *See* 40 C.F.R. §§ 1500.1(b), 1506.6 (1998).

245. *See* ALPHA EA, *supra* note 87, at III-17. The isolated stands connect the Mount Adams Wilderness Area and the Dark Divide Roadless Area. *See id.*

246. *See id.*; BETA/OMEGA EA, *supra* note 117, at III-32. The corridor in Beta/Omega connects the Lewis River Late-Successional Reserve to the Mount Adams Wilderness. *See id.*

247. *See* ALPHA EA, *supra* note 87, at I-9; BETA/OMEGA EA, *supra* note 117, at III-32.

248. *See* ALPHA EA, *supra* note 87, at III-20; MOUNT ST. HELENS NAT'L. VOLCANIC MONUMENT, U.S. DEPT. OF AGRIC., BIOLOGICAL EVALUATION FOR THE BETA/OMEGA TIMBER SALE 14 (1998) [hereinafter BETA/OMEGA BE].

Similar to their lack of blowdown standards, NFMA, NEPA, and the NWFP do not contain standards *per se* regarding biological corridors. However, NFMA's regulations do require the preservation of biological diversity,²⁴⁹ and instruct the USFS to maintain viable populations of fish and wildlife.²⁵⁰ If the USFS severs biological corridors through management activities, thereby preventing genetic exchange and reproduction among species, arguably the agency has failed to comply with NFMA's mandates.²⁵¹ Moreover, since spotted owls and other threatened species use the corridors for habitat and life processes, the ESA affords these species additional protection.²⁵²

The NWFP also sets guidelines regarding retention of old growth forest. It states:

Isolated remnant old-growth patches are ecologically significant in functioning as refugia for a host of old-growth associated species, particularly those with limited dispersal capabilities that are not able to migrate across large landscapes of younger stands. . . . Loss of these old-growth stands may result in local extirpation of an array of species. It is prudent to retain what little remains of those age class within landscape area where it is currently very limited. . . . Landscape areas where little late-successional forest persists should be managed to retain late-successional patches.²⁵³

249. See 36 C.F.R. § 219.26 (1998).

250. See *id.* § 219.19.

251. See *Marble Mountain Audubon Soc'y v. Rice*, 914 F.2d 179, 182 (9th Cir. 1990).

252. See discussion *infra* Part III.G.

253. ROD, *supra* note 59, C-44. The advisement that the USFS retain isolated patches of old growth is made enforceable by NFMA since the NWFP was incorporated into the GPF. See *supra* note 192 and accompanying text. Whether or not this particular mandate is legally compulsory is unknown since there is currently very little case law dealing with specific aspects of the Northwest Forest Plan. However, some cases have addressed specific aspects of the Plan. See *Oregon Natural Resources Council Action, v.*

The NWFP requires the USFS to administer lands so as to "maintain and restore spatial and temporal connectivity within and between watersheds."²⁵⁴ While these standards and guidelines do not use the words "protect biological corridors," it is clearly the intent of the NWFP that the USFS preserve isolated areas of old growth forest and related dispersal corridors.

Gifford Pinchot's implementation of harvest methods was simple: take only the trees that safely could be harvested without harming the watershed.²⁵⁵ However, the management of timber resources on the GPNF departs from this paradigm. The USFS seems to be attempting to test the sustainability of the forest by using harvest methods that are incompatible with the land's ability to heal itself.

C. Road Management

In the early 1900s, when Pinchot was Chief Forester, automobiles were a novelty. However, as the car became a staple of American life, roads became a priority for the USFS.²⁵⁶ Pinchot encouraged the USFS to build more roads into the forests, not only to reach timber stands,²⁵⁷ but also to encourage the public to visit the wilderness.²⁵⁸ Other than the recognized need for more roads, Pinchot's writings did not address the possible ecological consequences of increased access to the forests.

The modern USFS has responded to Pinchot's call for more roads in the national forests. In 1992, the last year that the forest inventoried its road system, the

United States Forest Serv., 59 F. Supp. 2d 1085 (W.D. Wash. 1999) (holding that the USFS and BLM violated the NWFP when the agencies failed to survey for Survey and Manage species).

254. ROD, *supra* note 59, at B-11 (emphasis added).

255. See *generally* THE USE BOOK, *supra* note 157, at 99.

256. See FOREST FACTS, *supra* note 9 (unpaginated).

257. See *id.*

258. See THE USE BOOK, *supra* note 157, at 172.

GPNF had over 4,600 miles of open road.²⁵⁹ This amount does not include spur roads, which are short roads used to access timber stands, or "ghost roads," which are unauthorized roads not found on Forest Service maps.²⁶⁰ Although spur roads are supposed to be temporary roads that are obliterated after timber harvest, often the funds are not available to close them.²⁶¹ Therefore, they remain open, contributing to a variety of problems including extension of the drainage network,²⁶² sediment input to streams,²⁶³ increased peak flows,²⁶⁴ and increased stream temperatures.²⁶⁵

What was once an effort to open the wilderness to development and enjoyment has become a source of environmental degradation.²⁶⁶ In 1998, USFS Chief Michael Dombeck recognized the detrimental effect of roads and stated that:

[t]here are few more irreparable marks we can leave on the land than to build a road. . . . Our overriding objective is to work with local people to provide a forest road system that best serves the management objectives and public uses of national forests and

259. See GIFFORD PINCHOT NAT'L FOREST, U.S. DEP'T OF AGRIC., ACCESS & TRAVEL MANAGEMENT GUIDE A10 (1992).

260. See MOUNT ST. HELENS NAT'L VOLCANIC MONUMENT, U.S. DEP'T OF AGRIC., SNOW TIMBER SALE ENVIRONMENTAL ASSESSMENT IV-3 (1999).

261. See *id.* at IV-4.

262. See BETA/OMEGA EA, *supra* note 117, at III-12.

263. See *id.* at III-5.

264. See *id.* at III-10.

265. See *id.* at III-15.

266. See generally Beverly C. Wemple et al., *Channel Network Extension by Logging Roads in Two Basins, Western Cascades, Oregon*, 32 WATER RES. BUL. 1195 (1996); R. Dennis Harr & Roger A. Nichols, *Stabilizing Forest Roads to Help Restore Fish Habitats: A Northwest Washington Example*, 18 FISHERIES 18 (1993); Bruce Anderson & Donald F. Potts, *Suspended Sediment and Turbidity Following Road Construction and Logging in Western Montana*, 23 WATER RES. BUL. 681 (1987).

grasslands while protecting the health of our watersheds.²⁶⁷

Nevertheless, as exemplified by Alpha and Beta/Omega, the GPNF continues to propose timber sales that require additional destructive roads into sensitive areas.

The Alpha and Beta/Omega sales propose to build new roads to access timber stands. Alpha proposes 2.0 miles of new road,²⁶⁸ and Beta/Omega will build 2.2 miles of new road.²⁶⁹ Although these roads are "temporary," the USFS admits that many temporary roads are not adequately closed upon completion of timber harvest.²⁷⁰ Therefore, long after harvest has been completed, roads remain.

The NWFP establishes strict requirements pertaining to roads. For example, the Plan states that:

[t]he amount of existing system and nonsystem roads within Key Watersheds should be reduced through decommissioning of roads. Road closures with gates or barriers do not qualify as decommissioning or a reduction in road mileage. *If funding is insufficient to implement reductions, there will be no net increase in the amount of roads in Key Watersheds.*²⁷¹

267. USDA Forest Service Office of Communication, *Interim Rule, Background of Forest Roads* (visited March 5, 1999) <<http://www.fs.fed.us/news/roads/>>. Chief Dombeck announced on February 11, 1999 that all road building in roadless areas over 5,000 acres would be prohibited. USDA Forest Service Office of Communication, *Forest Service Limits New Road Construction in Most National Forests* (visited March 5, 1999) <<http://www.fs.fed.us/news/roads/nr.htm>>. However, the road moratorium does not apply to the Gifford Pinchot National Forest because the forest falls within one of the exceptions to the interim rule. *See id.*

268. *See* ALPHA EA, *supra* note 87, at II-7.

269. *See* BETA/OMEGA EA, *supra* note 117, at II-12.

270. *See supra* note 260-65 and accompanying text.

271. ROD, *supra* note 59, at B-19 (emphasis added). Key Watersheds are divided into Tier 1 and Tier 2 Key Watersheds. Tier 1 Key Watersheds are those that "contribut[e] to anadromous sal-

Both Alpha and Beta/Omega are in a Tier 1 Key Watershed.²⁷² Although both sales propose to construct only "temporary" and spur roads, there is an issue of how temporary is "temporary:" these roads may not be closed because closure is dependent on speculative KV funds or because road closures are ineffective.²⁷³ Thus, temporary roads may become permanent roads, violating the NWFP. Since the GPPF incorporates the NWFP and its roads policy by amendment,²⁷⁴ and since NFMA requires site-specific projects to remain consistent with area forest plans,²⁷⁵ the Alpha and Beta/Omega timber sales also violate NFMA because they increase the amount of roads in the watershed.

D. Soil Resources

One of Pinchot's greatest enemies was waste, and one of his greatest fears was that the United States would find itself in the middle of a timber famine²⁷⁶ within a generation.²⁷⁷ He predicted that unless timber harvest practices changed, even the forest reserve system would not be enough to satisfy the country's hunger for timber.²⁷⁸ Gifford Pinchot noted that timber resources were not inexhaustible and that once wasted, timber resources could not be consumed in the future.²⁷⁹ Indeed,

monid and bull trout conservation," and are therefore of the highest quality. *Id.* Tier 2 Key Watersheds are "sources of high quality water and may not contain at-risk fish stocks." *Id.*

272. See ALPHA EA, *supra* note 87, at I-1; BETA/OMEGA EA, *supra* note 117, at I-1.

273. See ALPHA EA, *supra* note 87, at II-8; BETA/OMEGA EA, *supra* note 117, at II-13 to II-15.

274. See GPPF, *supra* note 164, at 2-13 to 2-15.

275. See 16 U.S.C. § 1604(i) (1994); 36 C.F.R. § 219.10(e) (1998).

276. See THE FIGHT FOR CONSERVATION, *supra* note 23, at 18.

277. See *id.* at 14.

278. See *id.* at 18.

279. See *id.* at 16.

he asserted that timber was not as renewable as some claimed.²⁸⁰

As a result of "forest denudation," Pinchot believed that "the waste of soil is among the most dangerous of all wastes now in progress in the United States."²⁸¹ As with other wastes, soil wasted as a result of timber practices "becomes itself a source of damage and expense."²⁸² Such damages and expenses include loss of soil productivity and pollution of the streams.²⁸³ As with other resources he sought to conserve, Pinchot believed that only through wise forest management practices would soil resources remain rich and profitable.

The Alpha and Beta/Omega sales exemplify the cursory treatment that the contemporary USFS now gives to soil issues in timber sales. In addition to failing to describe the types of soils in the planning areas of these sales, the GPNF does not conduct any particularized review of the effects of timber harvest on the present soils. In fact, both EAs inconclusively state that "displacement of topsoil *can* remove nutrients" and that "if eroded soil reaches a stream, it *can* reduce water quality."²⁸⁴ There is no discussion in the EAs of the likelihood that these effects would occur as a result of the Alpha and Beta/Omega sales, or of how the occurrence of these effects would impact upon the corresponding resources.

280. See *id.* at 18.

281. *Id.* at 9.

282. *Id.* at 10.

283. See *id.* at 10-11. Although Pinchot did not mention it in his writings, soil waste also affects wildlife, especially fish. If soil fails to stay on the ground and instead ends up in the stream, fish habitat is directly impacted. See generally Harr & Nichols, *supra* note 266.

284. ALPHA EA, *supra* note 87, at III-38; BETA/OMEGA EA, *supra* note 117, at III-2 (emphasis added). Indeed, much of the "analysis" in the EAs uses identical language.

In addition, both Alpha and Beta/Omega are located within the Twin Buttes Sheep and Goat Allotment.²⁸⁵ The EAs claim that "timber harvest, particularly regeneration cutting, benefits forage production on transitional rangeland with increase light reaching the forest floor," and that "[t]he benefits can last up to 20 years following harvest activities."²⁸⁶ However, there is no analysis in the EAs about the synergistic effect of grazing sheep on recently harvested land, including soil compaction and destruction of microorganisms such as microhorrizae. Instead of addressing the adverse effects of grazing on soil resources already affected by timber harvest, the USFS claims that the only potential conflict will be "between sheep movement and log hauling."²⁸⁷

In spite of the cursory treatment the USFS gave to soil resources in the Alpha and Beta/Omega EAs, several environmental laws include regulations regarding manipulation of soil. Most notably, the NFMA regulations require USFS management activities to conserve soil resources and forbid "significant or permanent impairment of the productivity of the land."²⁸⁸ If technology is not available to insure against damage to soil productivity, the regulations indicate that the proposed action should not go forward.²⁸⁹ The NWFP adds additional re-

285. See ALPHA EA, *supra* note 87, at III-61; BETA/OMEGA EA, *supra* note 117, at III-61. Approximately 1150 head of sheep graze these areas during the months of July and August.

286. ALPHA EA, *supra* note 87, at III-62; BETA/OMEGA EA, *supra* note 117, at III-61.

287. ALPHA EA, *supra* note 87, at III-62; BETA/OMEGA EA, *supra* note 117, at III-61.

288. 36 C.F.R. § 219.27(a)(1) (1998).

289. See *id.* § 219.14(a)(2). This section states that:

During the analysis of the management situation, data on all National Forest System lands within the planning area shall be reviewed, and those lands within any one of the categories described in paragraph (a) (1) through (4) of this section shall be identified as not suited for timber production (2) Technology is not available to ensure timber produc-

strictions on timber harvest, requiring that the USFS minimize "soil and litter disturbance."²⁹⁰

The DNs for the Alpha and Beta/Omega sales state that the timber sales are consistent with "all environmental laws, including the GPF and the NWFP."²⁹¹ However, given the USFS' lack of knowledge about the effects of the sales on soil resources, the FONSI seems ill-supported. Indeed, NFMA requires the USFS to evaluate "existing and potential watershed conditions that will influence soil productivity,"²⁹² and to some degree this has occurred in the watershed analysis process.²⁹³ However, the duty to assess the impact to soil resources is not momentary; it is continuous.²⁹⁴

The GPNF should assess the site-specific effects that the Alpha and Beta/Omega timber sales will have on soil resources. The USFS cannot claim that the sales are consistent with all environmental laws when it does not know what the effects from these sales will be. In a recent case, the Ninth Circuit held that providing general information about the effects of a timber sale is insufficient to satisfy NEPA's "hard look" requirement.²⁹⁵

The DNs and FONSI for the two sales are also suspect under NEPA because the EAs fail to discuss the cumu-

tion from the land without irreversible resource damage to soils productivity, or watershed conditions.

290. ROD, *supra* note 59, at C-44. The GPNF has incorporated the NWFP guidelines into its Forest Plan. See GPF, *supra* note 164, at 6-7.

291. ALPHA DN/FONSI, *supra* note 85, at 8-14; BETA/OMEGA DN/FONSI, *supra* note 85, at 9-14.

292. 36 C.F.R. § 219.23(e) (1998).

293. See UPPER LEWIS WATERSHED ANALYSIS, *supra* note 164, at 15.

294. The NWFP establishes a Monitoring and Evaluation plan that requires the USFS to continuously update the effects of management actions on the forest. See ROD, *supra* note 59, at E-3 to E-10.

295. See *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1378-79 (9th Cir. 1998).

lative impact of grazing and timber harvest on the same parcels of land. NEPA's regulations require the agency to assess the cumulative impacts of "past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."²⁹⁶ This mandate clearly encompasses the duty to assess the effects of grazing and timber harvest, since both actions are present and reasonably anticipated future actions.

Information on soil resources on the GPNF is lacking, although the USFS is bound by the NFMA to obtain it. Without adequate data, it is possible that Pinchot's fear of a timber famine may become a reality.

E. Reforestation

Intimately related to preservation of soil resources is the need to reforest recently cut land. Due to fire and intense logging, many early American forests were rendered unproductive; replanting therefore was very important to avoid Pinchot's predicted timber famine.²⁹⁷ Pinchot believed that "the welfare of the forest must come first," which included the assurance that reforestation would in fact occur post-harvest.²⁹⁸ Indeed, Pinchot recognized that reforestation was an "exceedingly important branch of forestry in the United States."²⁹⁹

Since the USFS knows little about the condition of the soil in the Alpha and Beta/Omega planning areas, it is not surprising that the USFS possesses scant knowledge about the ability to replant these areas after harvest. In the Alpha planning area, for example, there are several old clear cuts that have failed to regenerate or are regenerating at a much slower rate than

296. 40 C.F.R. § 1508.7 (1998) (emphasis added).

297. See THE USE BOOK, *supra* note 157, at 167.

298. See BREAKING NEW GROUND, *supra* note 29, at 276.

299. YEARBOOK, *supra* note 4, at 304.

anticipated.³⁰⁰ Surveys of Beta/Omega units revealed adjacent clear cuts that are over six years old but have yet to regenerate to a height of four and a half feet.³⁰¹

Based on surrounding timber stands, it appears as though the USFS may have difficulty successfully replanting Alpha and Beta/Omega. NFMA's regulations, however, establish temporal requirements for reforestation: "[w]hen trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands within 5 years after final harvest."³⁰² When roads are removed and replanted, successful reforestation on these areas must occur within ten years.³⁰³ Monitoring reports prepared by the GPNF reveal that successful reforestation may take several attempts, and that some areas may never regain productivity.³⁰⁴

Another issue is whether reforestation will even occur, let alone whether it will be effective. Although reforestation is an "essential" KV expenditure,³⁰⁵ the USFS does not know whether there will be enough funding to carry out restoration projects.³⁰⁶ Unless the Alpha and Beta/Omega units are restocked post-harvest, the future of continued timber extraction is uncertain.

300. See ALPHA EA, *supra* note 87, at III-59.

301. See GPFP, *supra* note 164, at 6-18. At four and a half feet, a clear cut is no longer considered an opening. See *id.* Field notes and pictures of Beta/Omega timber sale on file with the author.

302. 36 C.F.R. § 219.27(c)(3) (1998).

303. See *id.* § 219.27(a)(11).

304. See GIFFORD PINCHOT NAT'L FOREST, U.S. DEP'T OF AGRIC., FOURTH ANNUAL MONITORING AND EVALUATION REPORT, FISCAL YEAR 1994, GIFFORD PINCHOT NAT'L FOREST 3 (1994); BETA/OMEGA EA, *supra* note 117, at III-2 to III-4.

305. ALPHA EA, *supra* note 87, at II-29.

306. See *id.*; BETA/OMEGA EA, *supra* note 117, at II-8. KV funds are speculative. See *supra* notes 228-35 and accompanying text.

F. *Water Resources*

A central aspect of Pinchot's approach to ecosystem management was his approach to aquatic resources. He believed that "[e]very river is a unit from its source to its mouth. . . . A river is a unit, but its uses are many, and with our present knowledge there can be no excuse for sacrificing one use to another if both can be subserved."³⁰⁷ Although the rivers and waterways might have many purposes, their well-being was tied to the condition of the forest, "for the destruction of the forests means the loss of the waters as surely as night follows day."³⁰⁸

Due to Pinchot's concern for the condition of the forest and the waters within them, one of the goals of the USFS was to "improve and protect the forest cover of watersheds within National Forests,"³⁰⁹ especially those watersheds "on which adjacent cities and towns are dependant for their water supply."³¹⁰ In fact, the early USFS discouraged timber harvest altogether in watersheds that were the municipal drinking water supplies for local communities.³¹¹ Therefore, so far as there was a "legitimate demand" for timber, and harvest did not adversely affect the streams, all timber was for sale from federal public lands.³¹²

This focus on watershed health has largely been ignored by the GPNF. The watersheds in which the Alpha and Beta/Omega sales are located have been significantly affected as a result of previous timber harvest, rendering riparian reserve areas³¹³ highly fragmented.³¹⁴

307. THE FIGHT FOR CONSERVATION, *supra* note 23, at 54.

308. *Id.* at 17.

309. THE USE BOOK, *supra* note 157, at 34.

310. *Id.*

311. *See id.* at 90.

312. *See id.* at 76.

313. "Riparian reserves" are "key element[s] of the Aquatic Conservation Strategy," and "provide an area along all streams, wetlands, ponds, lakes, and unstable and potentially unstable areas where riparian-dependant resources receive primary empha-

In fact, due to past timber harvest, the USFS recommended in its watershed analysis for the Alpha and Beta/Omega projects that subbasins 23C, 23V, and 23W be deferred for regeneration timber harvest for at least a decade; nevertheless, all units for the Beta/Omega sale are located in these subbasins.³¹⁵

The Alpha and Beta/Omega timber sales threaten to permanently degrade water resources in at least four ways. First, the NWFP obligates the USFS to comply with nine Aquatic Conservation Strategy Objectives ("ACSOs").³¹⁶ These objectives involve the maintenance and restoration of several aspects of aquatic systems, including the: (1) sediment regime; (2) "timing, variability, and duration" of water delivery; (3) distribution of "populations of native plant, invertebrate, and vertebrate riparian-dependant species;" and (4) "water quality necessary to support healthy riparian, aquatic, and wetland ecosystems."³¹⁷ One of the ways to measure compliance with the ACSOs is to measure the peak flow of water delivery into streams after rain or snow accumulation.³¹⁸ An increase in peak flows "may accelerate bank erosion causing increased sedimentation and in-

sis." ROD, *supra* note 59, at A-5. Generally, timber harvest and other management activities are prohibited in riparian reserves. See *id.* at C-31 to C-38.

314. See ALPHA EA, *supra* note 87, at I-9; BETA/OMEGA EA, *supra* note 117, at I-12.

315. See BETA/OMEGA EA, *supra* note 117, at III-55. The advice of biologists, hydrologists, and other scientists who draft the watershed analysis is often disregarded or downplayed by non-scientists at the timber sale design phase. It appears as though scientific counsel may be eschewed when it is inconvenient.

316. See ROD, *supra* note 59, at B-11.

317. *Id.*

318. See generally R. Dennis Harr & F. Michael McCorison, *Initial Effects of Clearcut Logging on Size and Timing of Peak Flows in a Small Watershed in Western Oregon*, 15 WATER RES. RESEARCH 90 (1979).

crease channel bed scour" and adversely affect fish, water quality, and soil stability.³¹⁹

In the Upper Lewis watershed generally, and the sub-watersheds in which Alpha and Beta/Omega are located in particular, there is a high risk for increased peak flows.³²⁰ Based on the condition of the watershed as a whole, it is likely that the two timber sales will contribute to amplified flows. The ACSOs, however, prohibit an increase in peak flow.³²¹ The GPNF incorporated the ACSOs in its Forest Plan, and prohibits activities that do not meet the objectives.³²² Therefore, an increase in peak flow would result in a violation of the ACSOs, which in turn would violate the GPF and NFMA's consistency requirements.³²³

Second, NEPA's regulations clearly require that "[p]roposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement."³²⁴ The regulations also require the consideration of

the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individu-

319. ALPHA EA, *supra* note 87, at I-10; BETA/OMEGA EA, *supra* note 117, at I-11. See also Harr et al., *Streamflow Changes after Logging 130-Year Old Douglas Fir in Two Small Watersheds*, 18 WATER RES. RESEARCH 637 (June 1982) (detailing the effects of increased peak flows).

320. See ALPHA EA, *supra* note 87, at I-10; BETA/OMEGA EA, *supra* note 117, at I-11.

321. See ROD, *supra* note 59, at B-11.

322. See GPFN, *supra* note 164, at 2-13.

323. See 16 U.S.C. § 1604(i) (1994); 36 C.F.R. § 219.10(e) (1998).

324. 40 C.F.R. § 1502.4(a) (1998).

ally minor but collectively significant actions taking place over a period of time.³²⁵

Although the USFS acknowledges that the planning areas for Alpha and Beta/Omega are at a high risk for increased peak flows, the agency failed to conduct a cumulative impacts analysis on peak flow of the synergistic effect of Alpha and Beta/Omega as a whole. The EAs for the sales only admit that the sales are adjacent to one another, but do not address how one sale will affect the other.³²⁶ Without a cumulative impact analysis of peak flow, the Alpha and Beta/Omega EAs do not satisfy NEPA.³²⁷

Third, the Alpha and Beta/Omega timber sales threaten to destroy the numerous wetlands that are present in the planning areas.³²⁸ The USFS has not conducted surveys for wetlands, and in fact possesses no survey protocol to locate them.³²⁹ The NWFP values wetlands highly and gives them extensive protection,³³⁰ but without a systematic method of identifying wetlands, there is no assurance that they will be protected. If wetlands are destroyed during timber harvest, the USFS runs the risk of violating the CWA by filling wetlands without a permit.³³¹

Moreover, the sales may permanently damage aquatic systems because the USFS has not investigated the

325. *Id.* § 1508.7.

326. See BETA/OMEGA EA, *supra* note 117, at III-20.

327. See *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1379 (9th Cir. 1998).

328. See ALPHA EA, *supra* note 87, at I-11, BETA/OMEGA EA, *supra* note 117, at I-17.

329. See *Wetlands Letter*, *supra* note 186.

330. See ROD, *supra* note 59, at B-16 to B-17, C-31 (requiring riparian reserve buffers around, and restricting management activity within wetlands).

331. See 33 U.S.C. § 1344 (1994); see also *supra* note 184 and accompanying text. See also *United States v. Brace*, 41 F.3d 117 (3d Cir. 1994) (prohibiting a change in use of wetlands, including a change of use due to silvicultural activities that resulted in the destruction of wetlands due to unlawful fill).

baseline condition of the water quality in the planning areas. Notably, the streams in the Alpha and Beta/Omega timber sale planning areas are highly degraded.³³² The streams in the planning areas have not been surveyed since 1991, and the majority of the streams were given a "poor" rating at that time.³³³ Although the EAs claim that none of the streams are water quality limited under the CWA,³³⁴ there is no data to confirm this assertion.³³⁵

Finally, both the CWA and NFMA require federal activities to remain consistent with state water quality standards. The State of Washington establishes narrative uses and numerical criteria for all of its waters, including the ones in the Alpha and Beta/Omega planning areas.³³⁶ The State also sets standards for turbidity, temperature, sediment, and fecal coliform.³³⁷ Although there is no current data on turbidity, temperature, sediment, or fecal coliform for the Alpha and Beta/Omega sales, based on other information in the EAs, it seems unreasonable to assert that the proposed sales will actually *benefit* water quality, as the USFS claims.³³⁸ Indeed, since the EAs note that the sales are

332. Although the streams are degraded, this does not relieve the USFS from attempting to preserve the aquatic system. The Second Circuit has held that the agency is prohibited from "writing off" an area that is degraded, because the proposed action may be the one to completely upset the ecological balance already in jeopardy. See *Hanly v. Kleindienst*, 471 F.2d 823 (2d Cir. 1972). Moreover, the CWA forbids a de minimis degradation of water quality. See 33 U.S.C. § 1323 (1994).

333. See ALPHA EA, *supra* note 87, at III-41 to III-43; BETA/OMEGA EA, *supra* note 117, at III-5 to III-9.

334. The Clean Water Act section 303(d) requires the state to identify water quality limited waterbodies and to establish mechanisms to correct the problem. See 33 U.S.C. § 1313(d) (1994).

335. See ALPHA EA, *supra* note 87, at III-54 to III-55; BETA/OMEGA EA, *supra* note 117, at III-27.

336. See WASH. ADMIN. CODE § 173-201A-070 (1998).

337. See *id.* § 173-201A-130 (1998).

338. See ALPHA EA, *supra* note 87, at III-54 to III-55; BETA/OMEGA EA, *supra* note 117, at III-27. In general, timber har-

in areas that are at a high risk for increased peak flow, and an increase in sediment input into streams is likely, it is probable that there would be a water quality violation for turbidity. If an increase in turbidity were to occur as a result of the sales, the USFS would be violating the CWA, which prohibits any violation of state water quality standards.³³⁹ Similarly, NFMA requires the USFS to "[c]onserve soil and water resources and not allow significant or permanent impairment of the productivity of the land,"³⁴⁰ and to "[p]rovide for adequate fish and wildlife habitat to maintain viable populations of existing native vertebrate species. . . ."³⁴¹

Pinchot realized the importance of protecting aquatic resources, since the health of the forest was tied to the quality of the water. Although the watersheds in the Alpha and Beta/Omega sales do not provide municipal drinking water, they are important sources of clean water for fish and wildlife, as well as for other waterbodies further downstream. Based on the lack of data the USFS possesses regarding water quality, it is doubtful that it can meet the requirements of the NFMA, the CWA, and the NWFP.

G. Wildlife Management

Gifford Pinchot gave less attention to the wildlife that dwelled in the forest than he directed towards other sylvan features. For example, the only mention of wildlife in *The Use Book* refers to employing USFS employees as

vest increases stream temperatures and turbidity due to sediment input and canopy removal, increases runoff, and magnifies peak flows. See generally G.E. Grant & A.L. Wolff, *Long-term Patterns of Sediment Transport After Timber Harvest, Western Cascade Mountains, Oregon, USA*, in *SEDIMENT AND STREAM WATER QUALITY IN A CHANGING ENVIRONMENT: TRENDS AND EXPLANATIONS* (PROCEEDINGS OF THE VIENNA SYMPOSIUM, AUGUST 1991) 31 (IAHS Publ. No. 203) (1991).

339. See 33 U.S.C. § 1323(a) (1994).

340. 36 C.F.R. § 219.27(a)(1) (1998).

341. *Id.* § 219.27(a)(6).

game wardens with the ability to destroy predatory animals such as wolves, cougars, coyotes, and bobcats.³⁴² Nevertheless, Pinchot remarked that

[t]he protection of fish and game is less intimately associated with forest matters in the United States than in many other countries. . . . In the future, however, . . . a much closer connection may be expected, in which it is most probable that all the interests will find their profit. The protection of fish and game is a natural function of the forest guard.³⁴³

In recent years, the protection of fish and game has become an important national goal. The ESA, NFMA, and the NWFP all establish protection for a variety of species. However, the USFS has not fulfilled the requirements of these laws, thus jeopardizing the continued existence of many species.

The Alpha and Beta/Omega planning areas support numerous threatened, endangered, and sensitive species listed under the ESA.³⁴⁴ However, the USFS has neither completed nor even commenced comprehensive surveys for gray wolf, grizzly bear, lynx, peregrine falcon, or other listed species.³⁴⁵ Although many of these species are suspected or even documented to exist in the forest, the USFS has never systematically surveyed for them.³⁴⁶ While there is no explicit statutory or regulatory requirement to survey for threatened and endangered species, the USFS cannot assess the impacts of the project on listed species unless it knows what kinds

342. See THE USE BOOK, *supra* note 157, at 148.

343. YEARBOOK, *supra* note 4, at 305-06.

344. See ALPHA EA, *supra* note 87, at III-4 to III-5; BETA/OMEGA EA, *supra* note 117, at III-29.

345. See ALPHA EA, *supra* note 87, at III-4 to III-29; BETA/OMEGA EA, *supra* note 117, at III-29 to III-42.

346. See Letter from Ted C. Stubblefield, Forest Supervisor, Gifford Pinchot Nat'l Forest, to Brent Foster, Northwest Environmental Defense Center (July 6, 1998) (on file with author) (enclosing detailed list of thirty-five sightings of gray wolf or lynx on the GPNF).

of species are present and where they are located within the planning area. Additionally, the ESA arguably requires an agency to survey for threatened and endangered species in order to fulfill its section 7 requirements.³⁴⁷ Without survey data, it is virtually impossible for the agency to assess the effect of timber harvest on these species,³⁴⁸ as required by the ESA.³⁴⁹

Perhaps the only data that the USFS possesses on listed species is for the northern spotted owl. However, the last survey for the owl was conducted in 1996, rendering this data outdated and no longer valid.³⁵⁰ Nevertheless, these spotted owl surveys revealed that there were four spotted owl pairs in the Alpha planning area, and ten pairs in the Beta/Omega planning area.³⁵¹ Due to the vast reduction in habitat as a result of the two sales, the GPNF issued a finding of "may affect, and is likely to adversely affect" the spotted owls in the biological evaluations for the sales.³⁵² Such a finding means that the two sales are likely to adversely affect the continued existence of the spotted owl. Nevertheless, the Fish and Wildlife Service issued a "no jeopardy" deter-

347. See 16 U.S.C. § 1536(b)-(c) (1994).

348. The Inspector General stated that when surveys for threatened, endangered, and sensitive species are not conducted, "there [can be] no assurance that threatened, endangered, and sensitive species or their habitat [has] been located and properly protected." OFFICE OF INSPECTOR GENERAL, U.S. DEPT' OF AGRIC., EVALUATION REPORT NO. 08801-10-AT: FOREST SERVICE TIMBER SALE ENVIRONMENTAL ANALYSIS REQUIREMENTS 18-19 (1999) [hereinafter OIG REPORT].

349. See 16 U.S.C. § 1536(a)(2) (1994).

350. See ALPHA EA, *supra* note 87, at III-8; BETA/OMEGA EA, *supra* note 117, at III-29.

351. See ALPHA EA, *supra* note 87, at III-8; BETA/OMEGA EA, *supra* note 117, at III-29.

352. MOUNT ST. HELENS NAT'L VOLCANIC MONUMENT, U.S. DEPT' OF AGRIC., ALPHA TIMBER SALE BIOLOGICAL EVALUATION 1 (1998) [hereinafter ALPHA BE]. See also BETA/OMEGA BE, *supra* note 248, at 1.

mination in its Biological Opinion for Alpha and Beta/Omega.³⁵³

The agencies' findings regarding the spotted owl are problematic for several reasons. Notably, the ESA requires the use of the "best scientific and commercial data available" in determining the proposed action's effect on a listed species.³⁵⁴ The ESA also requires agencies to use their authority to conserve threatened and endangered species.³⁵⁵ The determination of the USFS and Fish and Wildlife Service that the Alpha and Beta/Omega timber sales will not jeopardize the spotted owl's continued existence must be supported by evidence in the record.³⁵⁶

In this case, there is little data that the agencies can point to regarding these sales' effects on spotted owls in the planning areas: there is no current survey data, even though both the USFS and the Fish and Wildlife Service could readily obtain this information. Although the ESA does not explicitly require surveys for listed species, it does require the USFS to consult with either the Fish and Wildlife Service or the National Marine Fisheries Service on the impacts of the proposed action.³⁵⁷ In order to do so, the USFS must know whether or not this species is present in the area. In timber sales such as Alpha and Beta/Omega, the only way to know whether the species is present is to look for them.³⁵⁸ The failure to do so is arbitrary and capricious,

353. A joint Biological Opinion was prepared for both sales. U.S. FISH AND WILDLIFE SERV., U.S. DEPT OF THE INTERIOR, BIOLOGICAL OPINION FOR THE ALPHA AND BETA/OMEGA TIMBER SALES 9 (1998) [hereinafter ALPHA/BETA/OMEGA BO].

354. See 16 U.S.C. § 1536(a)(2) (1994).

355. See *id.* § 1536.

356. See *id.* § 1536(b)-(c).

357. See *id.* § 1536(a)(2)-(3).

358. See OIG REPORT, *supra* note 348, at 19.

and therefore violates the APA's requirement of reasoned decisionmaking.³⁵⁹

Another troublesome aspect of the Alpha sale is that a majority of the planning area is within designated critical habitat for the spotted owl.³⁶⁰ The EA notes that the function of Critical Habitat Unit ("CHU") WA-38 "is being met by the LSR,"³⁶¹ but conducts no further analysis on the effect clear-cutting a portion of the critical habitat would have on the spotted owl. In fact, the Lewis LSR, the LSR at issue in the Alpha sale, is currently not functioning as suitable late-successional old growth habitat.³⁶² Moreover, the Fish and Wildlife Service's Biological Opinion does not indicate whether the sale will destroy or adversely modify CHU WA-38, as required by the ESA.³⁶³ NFMA likewise requires the USFS to protect "[h]abitat determined to be critical for threatened and endangered species."³⁶⁴ There is no indication in the Alpha EA that the USFS intends to protect critical habitat by implementing the sale, even though the ESA and NFMA establish comprehensive protection for designated critical habitat.

The USFS completely ignored the fact that the Alpha timber sale will destroy and/or adversely modify federally protected habitat. Notably, the EA does not address the cumulative impacts of several sales, including Alpha, that would contemporaneously harvest timber from the same critical habitat unit. In addition to Alpha, at least two other timber sales³⁶⁵ offered in fiscal year 1998

359. See 5 U.S.C. § 706(2)(A) (1994). See also *Inland Empire Pub. Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9th Cir. 1996) (holding that although the USFS can satisfy NFMA by surveying for habitat rather than populations of species, the agency must actually conduct such surveys).

360. See ALPHA EA, *supra* note 87, at III-9.

361. *Id.* at III-10.

362. See LSR ASSESSMENT, *supra* note 13, at 4-5.

363. See 16 U.S.C. §§ 1536(b)(3)(A), 1536(a)(2) (1994).

364. 36 C.F.R. § 219.19(a)(7) (1998).

365. The other timber sales are Upper Iron and Upper Greenhorn.

will remove suitable habitat from CHU WA-38, resulting in the loss of approximately 1,600 acres of suitable spotted owl habitat.³⁶⁶ However, the Alpha EA never mentioned these other sales, or the cumulative impact to the CHU or the spotted owl that use CHU WA-38. This is contrary to NEPA's regulations, which require such an analysis.³⁶⁷

In addition to the effects on sensitive, threatened, and endangered species as a result of timber harvest, the USFS must also consider the effects to management indicator species, as well as survey and manage species. NFMA requires the USFS to designate "certain vertebrate and/or invertebrate species present in the area . . . as management indicator species."³⁶⁸ In theory, by monitoring these species and their habitat, it is possible to ascertain the effect of management activities on the health of the forest.³⁶⁹ The NWFP requires the USFS to designate and monitor survey and manage species.³⁷⁰

366. See ALPHA BE, *supra* note 352, at 3, 11. See also RANDLE RANGER DISTRICT, U.S. DEPT' OF AGRIC., BIOLOGICAL ASSESSMENT FOR THE UPPER IRON TIMBER SALE 7, 9 (1998); COWLITZ VALLEY RANGER DISTRICT, U.S. DEPT' OF AGRIC., BIOLOGICAL ASSESSMENT FOR THE UPPER GREENHORN TIMBER SALE 7, 8-9 (1998)

367. See generally 40 C.F.R. § 1508.7 (1998).

368. 36 C.F.R. § 219.19(a)(1) (1998).

369. See *id.*

370. See ROD, *supra* note 59, at C-4 to C-7. The courts have held that the USFS may use habitat surveys as a proxy for population surveys. See generally *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9th Cir. 1996). Nevertheless, the agency is still required to survey for such habitat. See generally *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146 (9th Cir. 1998). Although these cases dealt with surveys for management indicator and not survey and manage species, it is reasonable to expect a court to enforce at least a requirement for habitat surveys, if not full population surveys, due to the similarities between the two groups. See generally *Inland Empire Public Lands Council*, 88 F.3d at 760. This issue was recently addressed at the district court level. See generally *Oregon Natural Resources Council Action v. United States Forest Serv.*, 59 F. Supp. 2d 1085 (W.D. Wash. 1999). The Oregon Natural Resources Council Action

The USFS did not conduct any survey for management indicator species in either the Alpha or the Beta/Omega sales. In fact, the EAs do not even mention management indicator species. Surveys for survey and manage species were not completed until after the EAs were published, which prevented the public from commenting on the presence, distribution, and condition of survey and manage species.³⁷¹ When the USFS finally completed surveys for two survey and manage amphibian species, the survey protocol used by the agency was neither approved nor supported by the Regional Ecosystem Office, the body responsible for approving survey protocols for survey and manage species,³⁷² or by the Fish and Wildlife Service.³⁷³

Taken together, the lack of surveys for sensitive, threatened, and endangered species, as well as management indicator and survey and manage species, suggests that the GPNF does not have an adequate baseline from which to assess the impact of timber harvest on forest species. NFMA regulations require such a baseline.³⁷⁴ The lack of data also suggests that the Alpha and Beta/Omega timber sales will violate NFMA, the ESA, and the NWFP if implemented as planned because

court held that the USFS and BLM violated the NWFP when the agencies failed to survey for Survey and Manage species).

371. See ALPHA EA, *supra* note 87, at III-31; BETA/OMEGA EA, *supra* note 117, at III-44.

372. See Letter from Deanna H. Olson, Lead Research Ecologist for the Amphibian Subgroup, U.S. Forest Serv., to Survey and Manage Core Team, U.S. Forest Serv. (Feb. 10, 1998) (on file with author) (expressing nonsupport for the abbreviated protocol of the GPNF).

373. See Letter from Nancy J. Gloman, Acting Supervisor, North Pacific Coast Ecoregion, Fish and Wildlife Serv., U.S. Dep't of the Interior, to Ted Stubblefield, Forest Supervisor, Gifford Pinchot Nat'l Forest (Jan. 20, 1998) (on file with author) (expressing nonsupport for the abbreviated protocol of the GPNF).

374. See 36 C.F.R. § 219.12(e)(1) (1998) ("As a minimum, the analysis of the management situation shall include the following: (1) benchmark analyses to define the range within which alternatives can be constructed. Budgets shall not be a constraint . . .").

the USFS has not obtained the information or performed the analysis required by these laws in order to make an informed decision on the sales. Despite Gifford Pinchot's hope that future managers of the national forests would direct more energy toward the protection of forest fish and game, the reality is that the GPNF has fallen far short of that goal.

H. *Economics*

Pinchot wanted to transfer the forest reserves to the Department of Agriculture partly because the Department of Interior had failed to make a profit on federal timber sales.³⁷⁵ Pinchot boasted before Congress that the USFS possessed "a very careful cost-keeping system and can tell you exactly what any part of the work actually costs and how cost compares with actual work."³⁷⁶ He claimed that "[w]e recommend no cutting that does not pay for itself,"³⁷⁷ and asserted that timber was not sold unless full market price was obtained for it.³⁷⁸ Market price was based on the actual value of the timber and not on custom, as was done by the Department of Interior.³⁷⁹

As a practical matter, Pinchot thought that all costs associated with the logging process should be taken into account when setting the price of timber.³⁸⁰ However, he also believed that "future nonmonetary benefits were to be excluded in measuring the profitability of a forest; he considered only current receipts and costs."³⁸¹ Consequently, he did not count the cost of aesthetics, recreation, or other intangibles when determining the value of a timber harvest. Today, according to the USFS, the

375. See *supra* note 33.

376. Wolf, *supra* note 1, at 1045 n.47.

377. *Id.* at 1046 n.51.

378. See THE USE BOOK, *supra* note 154, at 92.

379. See *id.* at 91.

380. See *id.* at 92.

381. Wolf, *supra* note 1, at 1038.

costs to the taxpayer in terms of holding, managing, and reforesting standing timber are not calculated in the economic analysis for timber sales.³⁸²

Some commentators have claimed that the USFS manipulated receipts and costs so as to show a profit, and has never returned money to the U.S. Treasury from selling federal timber.³⁸³ In 1915, the USFS indicated that the Columbia National Forest – which became the GPNF in 1949 – was not covering timber sale operating costs, although it was expected to turn a profit by 1916.³⁸⁴ Between the years of 1991 and 1997, the last year for which a monitoring report is available, the GPNF spent more money than was allocated by Congress.³⁸⁵

382. See *id.* at 1041 n.22 (“The valuation of standing timber for sale by the Forest Service does not now reflect, and never has reflected, the cost the taxpayers must foot to cover Forest Service costs to hold and manage the timber and to secure a new crop after cutting.”)

383. See *id.* This statement is more than a simple allegation. In 1998, the Government Accounting Office released a report that referred to the “lack of detailed records to substantiate amounts that the [Forest Service] owes or is owed by others.” GAO REPORT, *supra* note 115, at 8. Neither could the Forest Service account for “\$215 million of its \$3.4 billion in operating and program funds.” *Id.* at 6.

384. See Wolf, *supra* note 1, at 1054-55.

385. See generally GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., FIRST THROUGH SEVENTH ANNUAL MONITORING AND EVALUATION REPORTS, FISCAL YEARS 1991-1997, GIFFORD PINCHOT NATIONAL FOREST (1991-97). The GPNF expended more money than it was allocated for years 1991-1994. In 1995, however, the GPNF changed the format of the “Budgetary Effects” chapter of the monitoring report to show only expenditures. See *id.* It is also interesting to note that subsequent monitoring reports sometimes alter the budgetary figures for the preceding years. Cf. GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., FIRST ANNUAL MONITORING AND EVALUATION REPORTS, FISCAL YEAR 1991, GIFFORD PINCHOT NATIONAL FOREST III-43 (1991) *with* GIFFORD PINCHOT NAT'L FOREST, U.S. DEPT OF AGRIC., SECOND ANNUAL MONITORING AND EVALUATION REPORTS, FISCAL YEAR 1992, GIFFORD PINCHOT NATIONAL FOREST 41 (1992). While this information indicates that the Gifford

NFMA regulations forbid implementing an alternative simply because it would return the greatest amount of money to the U.S. Treasury.³⁸⁶ Nevertheless, the GPNF frequently chooses this course. NFMA's regulatory prohibition is largely illusory, however, since most, if not all of the sales on the GPNF may not make a profit,³⁸⁷ even if they do in fact result in the greatest dollar return or the greatest output of timber.³⁸⁸

In the present situation, the USFS predicated the Alpha timber sale on receiving \$129.43 per CBF in order to make a profit;³⁸⁹ Beta/Omega is based on \$136.88 per CBF.³⁹⁰ If the USFS receives less than this amount as the minimum bid price, it will have cost more money to prepare and offer the sale than the USFS will receive in revenue for the timber. Alpha has not yet been advertised for sale, but the USFS advertised Beta, which was split from Omega after the signing of the DN³⁹¹ on September 30, 1998.³⁹² The high bid accepted for Beta was \$107.62, which means that the cost of preparing the sale, reforestation, required mitigation, payments to the county, and similar necessary expenditures exceeds the profit that the USFS can expect to receive. Since the

Pinchot National Forest is operating at a loss, it does not necessarily mean that all timber sales offered by the Forest are below cost.

386. See 36 C.F.R. § 219.27(b)(3) (1998).

387. The price for national forest timber of the Douglas Fir type has dropped from \$453.54/MBF in fiscal 1995 to \$254.22/MBF in fiscal 1998. See REGION SIX, U.S. FOREST SERV., U.S. DEPT OF AGRIC., TIMBER CUT AND SOLD CONVERTIBLE PRODUCT REPORTS FOR FISCAL YEARS 1995-1998 (1998). Because the Gifford Pinchot timber sales are predicated on a relatively stable price per thousand board foot of timber, if the sale price is less than the amount on which the EA was predicated, the timber sale may cost more to sell than the USFS will receive from the purchaser.

388. See *id.*

389. See ALPHA EA, *supra* note 87, at III-64.

390. See BETA/OMEGA EA, *supra* note 117, at III-63.

391. See *generally* BETA/OMEGA DN/FONSI, *supra* note 85.

392. See Letter from Ted Stubblefield, Forest Supervisor, Gifford Pinchot Nat'l Forest, to the author (Dec. 17, 1998) (on file with author).

value of timber has decreased and foreign supply has increased, the sale probably will be below-cost and is unlikely to return money to the Treasury.³⁹³

IV. THE FUTURE OF THE GIFFORD PINCHOT NATIONAL FOREST

Gifford Pinchot believed that no decision could be made without adequate scientific knowledge gathered by competent specialists.³⁹⁴ Once gathered, data should be used to determine the effects of timber harvest on soil, water, and wildlife. Based on the results of this analysis, logging methods and reforestation efforts should be tailored to the specific aspects of the land to be harvested. The economics of a timber sale must also make sense too, since to sell timber that did not make a profit was wasteful.

The GPNF is largely lacking baseline data for wildlife, water, and soil resources. Since there is very little reliable data, the USFS must speculate regarding the effects of timber harvest in a particular area. Perhaps the greatest flaw in the agency's analysis of the GPNF is its failure to consider the cumulative impacts of the Alpha and Beta/Omega timber sales. These two sales are adjacent to each other and share common geology, hydrology, biology, and past management effects. Yet the EAs for the sales mention each other only three times.³⁹⁵

NEPA requires the USFS to consider in an EIS the cumulative effect of "[p]roposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action"³⁹⁶ It also requires the agency to address the effects of past, present, and

393. See generally *id.*

394. See *supra* notes 149-52 and accompanying text.

395. See ALPHA EA, *supra* note 87, at I-10, III-50; BETA/OMEGA EA, *supra* note 117, at III-20. See also notes 296, 325-327, 365-67, and 395-98 and accompanying text for a discussion of cumulative impacts.

396. See 40 C.F.R. § 1502.4(a) (1998). See also *id.* § 1508.25 (defining the "scope" of a project).

reasonably foreseeable future actions by federal and non-federal actors.³⁹⁷ In this case, there are grazing permits, existing road problems, and several other timber sales adjacent to and within the Alpha and Beta/Omega planning areas.³⁹⁸ In addition, NEPA case law suggests that because of unsecured funding, the USFS cannot rely on mitigation measures in order to obtain a FONSI.³⁹⁹

By basing its decisions on theories rather than empirical knowledge, the USFS runs the risk of acting illegally in implementing the Alpha and Beta/Omega timber sales. NFMA requires the USFS to collect species population and trend information through management indicator species, ensure the productivity of the soil and water, protect biological diversity, and verify the effects of a project while remaining consistent with area forest plans.⁴⁰⁰ The CWA sets strict standards relating to the protection of water quality, and requires the agency to obtain a permit if wetlands are filled and result in a change in use.⁴⁰¹ In addition, the ESA compels the USFS to rely on scientific data when it makes management decisions, arguably requiring surveys of the planning area to determine whether or not a listed species resides in the planning area.⁴⁰² The Act requires the agency to conserve critical habitat, of which the Alpha timber sale is entirely composed.⁴⁰³ Finally, the NWFP and GPFM establish standards and guidelines regarding

397. See *id.* § 1508.7 (defining "cumulative impact").

398. For example, the Lock and the Swell timber sales are immediately to the southwest of the Alpha/Beta/Omega complex. See MYLAR MAP, *supra* note 82.

399. See *supra* notes 227-35 and accompanying text.

400. See *supra* notes 176-82, 209-11, 249-52, 288-89, 292-94, 302-03, and 368-69 and accompanying text.

401. See *supra* notes 179-82, and 328-41 and accompanying text.

402. See *supra* notes 188-90, 344-55 and accompanying text.

403. See *supra* notes 360-70 and accompanying text.

the use of the national forests, such as conducting biological and resource inventories, guarding against blow-down, and meeting the ACSOs.⁴⁰⁴

While some of these standards may be open to agency interpretation, the requirements to preserve water quality, protect threatened and endangered species and their critical habitat,⁴⁰⁵ and assess the cumulative impacts of the sales⁴⁰⁶ are not. Recently, the Ninth Circuit held that proceeding with timber sales without adequate data and analysis is arbitrary and capricious, and contravenes the APA.⁴⁰⁷ Similarly, the USFS may have exposed itself to the risk of litigation by offering the Alpha and Beta/Omega timber sales without the requisite factual inquiry.

The result of past management activities and the attitude that "getting the cut out" is the paramount goal of the United States Forest Service has led to the degradation of the Gifford Pinchot National Forest. The current management of the forest shows no sign of returning to Gifford Pinchot's guiding principle that "the forest must come first."⁴⁰⁸ Instead, the USFS has eschewed responsible forestry, and has forgotten that "[t]he public welfare cannot be subserved merely by walking blindly in the old ruts."⁴⁰⁹ The travesty is that the tenets of Gifford

404. See *supra* notes 289, 300-01, and 316-323 and accompanying text.

405. When the ESA states that an agency shall not destroy or adversely modify critical habitat, but the Alpha timber sale will regenerate approximately 100 acres of premium old growth and designated critical habitat, there is clearly no room for agency discretion. See generally ALPHA EA, *supra* note 87, at III-9.

406. See *supra* notes 296, 325-27, and 396-99 and accompanying text.

407. See generally *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372 (9th Cir. 1998); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146 (9th Cir. 1998); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998).

408. BREAKING NEW GROUND, *supra* note 29, at 276.

409. THE FIGHT FOR CONSERVATION, *supra* note 23, at 60.

Pinchot, the father of conservation, have been largely betrayed in the forest that bears his name.

