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Book Review-Playing God in Yellowstone: The Destruction of America's First National Park. By Alston Chase

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PLAYING GOD IN YELLOWSTONE: THE DESTRUCTION OF AMERICA'S FIRST NATIONAL PARK by Alston Chase. Boston and New York: The Atlantic Monthly Press, 1986. Pp. xiv, 446. \$24.95.

*Reviewed by Donald C. Baur**

The title of Alston Chase's book, *Playing God in Yellowstone*, reverberates from cover to cover, careening into episodes of alleged mismanagement by the National Park Service (NPS), infiltrating the philosophical underpinnings of the contemporary environmental movement, and pushing facts into cubbyholes. Chase's thesis is that NPS has damaged Yellowstone National Park immeasurably by following a management policy of "natural regulation" or noninterference with nature. To develop this argument and make the book's dramatic title ring true, Chase summons an impressive body of research. In presenting this information, however, he misinterprets facts, applies data selectively, and relies on strained and unsupported conclusions. As a result, the valid observations and criticisms that Chase has to offer are lost in a misleading array of allegations and innuendo.

"Playing God," according to Chase, is what NPS has been doing in Yellowstone National Park since the agency was established in 1916.¹ The results of this practice, he asserts, have been disastrous. If one accepts

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1. It is difficult to follow Chase's application of the "playing God" concept throughout the book. On the one hand, he argues, NPS acted as a self-proclaimed deity when, during the early decades of the twentieth century, it intervened in natural processes to remove predators from the Park. On the other hand, when NPS abandoned this practice and adopted the policy of non-interference, the agency was still "playing God." Though Chase never clearly identifies the management approach that he believes NPS should follow, it is ironic that the measures he seems to favor—scientific assessment and manipulation of the natural balance—call for the deification of resource managers to a greater degree than any of NPS practices in Yellowstone.

his account, the Park is “dying” as a wildlife refuge;² its bear population has been “decimated;”³ the habitat of its elk herd is becoming “less pristine day by day;”⁴ and the Park itself has been transformed into “a giant game farm, a breeding ground for the victims of hunters.”⁵ In telling his tale of how these conditions supposedly have come to pass, Chase leads the reader through a rambling, angry discourse recounting incident after incident of NPS managerial bungling. In league with NPS, or at least contributing to its delinquency, Chase declares, are most of the mainstream environmental organizations, several Federal agencies, and a host of ecologists and environmental philosophers.⁶

Chase’s attack on NPS and its policy of natural regulation takes place in three arenas. The first two hundred pages of *Playing God* focus on the effects that NPS management practices have had on Yellowstone wildlife and its habitat. Principal attention is given to the Yellowstone elk, wolf, and grizzly bear populations, as well as the Park’s rangeland habitat. The next portion of the book scrutinizes NPS’ organizational infrastructure and its program for providing visitor services. The final section deals with the philosophical movement that, in Chase’s opinion, originated and perpetuates the concept of natural regulation.

The perils of natural regulation, Chase maintains, are most apparent in the area of wildlife management. As his first example, Chase discusses the status of the Park’s elk population. He argues that, by allowing the elk population to “regulate” itself through food availability, predation, and habitat limitations, NPS has caused the herd to exceed the carrying capacity of its range. Overpopulation has, in turn, either caused or at least contributed to soil erosion, the loss of browse for elk and other species, the growth of exotic vegetation, and the decline of populations of antelope, beaver, bighorn sheep, moose, and mule-deer.

Chase asserts that the problem with the Park’s wolf and grizzly bear populations is of a different order. In both cases, he claims, NPS has followed policies that either have caused or will lead to the eradication of those species within the Park.

With respect to wolves, he repeats the frequently told story of NPS’ program of predator control within the Park.⁷ Due to the belief prevalent among wildlife managers during the early 1900s that predators such as

2. A. CHASE, *PLAYING GOD IN YELLOWSTONE, THE DESTRUCTION OF AMERICA’S FIRST NATIONAL PARK* 6 (1986) [hereinafter *PLAYING GOD*].

3. *Id.* at 193.

4. *Id.* at 29.

5. *Id.* at 140.

6. *See infra* note 17.

7. Although Chase claims that NPS has attempted to coverup its predator control policy, several accounts of the program are contained in NPS publications. *See, e.g.*, G. WRIGHT, J. DIXON & B. THOMPSON, *FAUNA OF THE NATIONAL PARKS OF THE UNITED STATES, A PRELIMINARY SURVEY OF FAUNAL RELATIONSHIPS IN NATIONAL PARKS* 47-49, 117 (1932) (published as part of the NPS Fauna series) [hereinafter *FAUNA OF THE NATIONAL PARKS*]; A. MURIE, *ECOLOGY OF THE COYOTE IN YELLOWSTONE* 11-18 (1940) (published as part of the NPS Fauna series); J. WEAVER, *THE WOLVES OF YELLOWSTONE* (1978) (published as part of the NPS Natural Resources Report series).

coyotes, mountain lions, and wolves were causing the decline of "more desirable" game species and livestock, NPS sought to remove the blacklisted species from the Park. Unfortunately, NPS was successful in this effort, with only the Park's coyote population surviving in significant numbers. Against this historical backdrop, Chase develops a tale of intrigue which suggests, based on scant evidence, that NPS sought to cover-up the consequences of its predator control policy by smuggling wolves back into the Park during the 1960's. This undertaking was abandoned, he claims, only after NPS determined that wolves were not necessary to vindicate the policy of natural regulation by controlling the elk population through predation.

Chase presents the grizzly bear problem in simplistic terms. By deciding to adhere strictly to the policy of natural regulation and closing the Park garbage dumps that served as supplemental food sources for grizzly bears for many years, he claims, NPS has virtually doomed the Park population to extinction. Relying almost exclusively on the data that support his argument, Chase claims that: the bear population has steadily decreased; individual bears weigh less and must therefore be starving; the now "hungry" bears have interacted more frequently with humans, and these interactions have caused NPS to undertake bear control more frequently, including the destruction of individual animals. In making these assertions, however, he fails to account fully for the complexities of grizzly bear census estimates, provides a one-sided account of the scientific debate over bear management alternatives, and reduces a complex problem, which involves numerous threats to the Yellowstone bear population, to the principal issue of NPS' decision to close the dumps.⁸

Chase believes that NPS' policy of natural regulation and its associated directive to manage parks as self-regulating ecosystems are the common threads shared among these wildlife management failures. Natural regulation, he asserts, made its way into the NPS management lexicon and the hearts of the environmentalists during the 1960s. He tracks its origin to the report, entitled "Wildlife Management in the National Parks," issued in 1963 by Secretary Udall's Advisory Board on Wildlife Management. The Advisory Board recommended a conceptual approach to wildlife management that called for NPS to "recognize the enormous complexity of ecologic communities and the diversity of management procedures required to preserve them."⁹ In addition, the Board emphasized the importance of managing "native plants and animals," called for the elimination of "observable artificiality in any form," and advised that research

8. Among the numerous threats to the Yellowstone grizzly bear population are the following: habitat destruction and encroachment, illegal hunting, accidental killings, human displacement, and competition for food supplies. See FISH AND WILDLIFE SERV., U.S. DEPT OF THE INTERIOR, GRIZZLY BEAR RECOVERY PLAN 22-24, 39-46 (1982).

9. ADVISORY BD. ON WILDLIFE MANAGEMENT, WILDLIFE MANAGEMENT IN UNITS OF THE NATIONAL PARK SYSTEM (Mar. 4, 1963) reprinted in NATIONAL PARK SERV., U.S. DEPT OF THE INTERIOR, ADMINISTRATIVE POLICIES 103 (1970) [hereinafter WILDLIFE MANAGEMENT]. The Board was chaired by A. Starker Leopold, hence the popular name for the report—the "Leopold Report."

"must form the basis of all management programs."¹⁰ These recommendations were designed to advance the Board's ultimate objective: that conditions within parks should "be maintained, or where necessary recreated, as nearly as possible in the conditions that prevailed when the area was first visited by the white man. A national park should represent a vignette of primitive America."¹¹

These policies, Chase claims, were "born in the heat of enthusiasm for the new environmental awareness of the 1960's."¹² As management tools, he argues, they are unrealistic and unsound because Yellowstone does not represent an intact ecosystem, NPS is incapable of either defining or restoring primitive conditions, and nature, if left unchecked, will produce undesirable results.¹³ Chase also objects to natural regulation on philosophical grounds, claiming that it has "no place for humanity"¹⁴ and requires "minimizing the influence of people in the park."¹⁵

The second portion of *Playing God* focuses on NPS' internal organization and its policies for providing visitor services. Here Chase makes a valid argument that scientists should be provided with a more active role in certain aspects of NPS management. His criticism of NPS' emphasis on providing interpretive services to visitors, however, is surprisingly inconsistent with his contention that "humanity" should be incorporated into the ecology of the parks.¹⁶

As his case in point on how NPS has ignored science in its attempt to cater to the "politics of tourism," Chase chronicles the development of the Grant Village visitor complex located on the south shore of Yellowstone Lake. Though the Grant Village concept of establishing a large commercial complex in Yellowstone is the subject of controversy and criticism, the rationale for Chase's opposition is unconvincing. Relentlessly pursuing his critique of natural regulation, he maintains that Grant Village is further evidence of this policy's failure. This "artificial" community, he argues, was designed by NPS to compartmentalize visitors and nature,

10. *Id.* at 103-04.

11. *Id.* at 101.

12. *PLAYING GOD*, *supra* note 2, at 113.

13. Chase is critical of the aspiration to present in units of the National Park System representative samples of "primitive America." Though his observation that "[w]e can never know just what Yellowstone was like before the white man came" is valid, *id.* at 115, he misses the point of the Leopold Report by suggesting that NPS adheres strictly to the "primitive America" standard. By defining the presentation of a "vignette of primitive America" as a "primary goal," the authors of the Leopold Report sought to establish a general point of reference for unit management. "Restoring the primitive scene is not done easily," they noted, "nor can it be done completely." *WILDLIFE MANAGEMENT*, *supra* note 9, at 102. Though the goal cannot be fully achieved, they explained, NPS should make an effort to restore "an illusion of primitive America." *Id.* Thus, according to the Leopold Report, NPS' goal is to approximate, not duplicate, original conditions.

14. *PLAYING GOD*, *supra* note 2, at 115.

15. *Id.* at 208.

16. The principle objectives of the NPS interpretation program are outlined by Freeman Tilden in his book *Interpreting Our Heritage*. The concept of interpretation, as defined by Tilden, calls for educational efforts to "reveal meanings and relationships through the use of original objects, by *firsthand experience*, and by illustrative media . . ." F. TILDEN, *INTERPRETING OUR HERITAGE* 8 (3d ed. 1977) (emphasis added).

keeping humanity apart from the wild resources of the Park and making it possible for environmental forces to operate unimpeded. Chase advances this view even though the Village, should it be completed, will inject restaurants, 700 lodging units, shops, parking lots, pubs, a marina, and other visitor facilities into the heart of Yellowstone.

In the final portion of *Playing God*, Chase unleashes a philosophical attack on the proponents of natural regulation. Demonstrating his ability to turn a phrase, he dubs the intellectual activists of contemporary environmentalism as "the new pantheists," "the hubris commandos," and "the California cosmologists." Identified as heirs to the "back to nature" advocacy of nineteenth century transcendentalism, the philosophers, scientists, humanists, and politicians at which Chase takes aim in the final chapters of *Playing God* share the common view that "nature is sacred," cannot be improved upon, and should be left alone.¹⁷ The concept of "ecosystem," in which all things are interconnected, has emerged, he believes, as the "quasi-mystical" focal point of this environmental ideology. Under this philosophy, he explains, humanity is but one aspect of this interconnectedness and not "the center of life on the planet."¹⁸

Articulate, occasionally pedantic, in describing how eastern religions, transcendentalism, gnosticism, and pantheism have merged to form the ideological base for the new environmentalism, Chase is elusive and recondite when it comes to setting forth his philosophical alternative. It is clear that he rejects the ideas of the new order of "cosmologists," but only the faintest outline of Chase's personal environmental philosophy (which appears to call for some kind of scientifically applied humanism) can be extracted from *Playing God*. The reader is intrigued by his critique of contemporary environmental ideologies, but left ultimately to dangle in a philosophical void.

To sustain his attack on NPS and prove that Yellowstone management has been misguided and sometimes scandalous, Chase must support his allegations with facts. On the surface, he appears successful. Upon closer scrutiny, however, his factual presentation is biased, inconsistent, incomplete, and designed to support his thesis rather than provide a balanced picture of Yellowstone's status. Though it is beyond the scope of this review to provide a detailed account of the problems with Chase's factual presentation,¹⁹ the following examples are illustrative:

17. Chase's list of contributors to the emerging environmental order is long and surprisingly eclectic. Included in the roll call are: Ansel Adams, Cecil Andrus, David Brower, Fritjof Capra, Rachel Carson, William Devall, William O. Douglas, Paul Ehrlich, Ralph Waldo Emerson, Joseph Wood Krutch, Charles Lindbergh, John Muir, Sigurd Olson, Richard Nixon, Russell Peterson, Nathaniel Reed, Jeremy Rivkin, Theodore Rosak, Theodore Roosevelt, George Sessions, Gary Snyder, and Henry David Thoreau. *PLAYING GOD*, *supra* note 2, at chs. 16, 18, 19.

18. *PLAYING GOD*, *supra* note 2, at 359. Chase quotes Greenpeace for this phrase.

19. The chapter from *Playing God* entitled "The Grizzly and the Juggernaut" was published, in modified form, in *Outside* magazine in January, 1986. Chase, *The Grizzly and the Juggernaut*, *OUTSIDE* 2, 29 (Jan. 1986). In response to his 12-page article, NPS issued a 27-page response to address what it considered to be Chase's factual misrepresentations. Letter from Robert D. Barbee, Superintendent of Yellowstone National Park, to Concerned Citizens (Mar. 24, 1986).

1. To demonstrate the evils of natural regulation, Chase describes an incident in which a sow grizzly and her three cubs apparently walked across the frozen Yellowstone Lake to an island in the "spring of 1984."²⁰ These bears, Chase speculates, became stranded, exhausted their food supply, and began to starve. By juxtaposing dates, he leads the reader to believe that NPS rangers were aware of this situation for a long time (as long as five months, it is implied), decided to "let the situation develop naturally" (Chase's implication is that the bears would be left to starve), and did not remove the animals until July when it was "too late" for the smallest cub.

NPS' record of the incident presents a different picture.²¹ No one knows when the bears arrived on the island. NPS detected the first sign of bear on June 20 and did not sight the bears until June 26. After considering whether to allow the situation to "develop naturally," that is, to wait for the bears to swim to shore, NPS intervened on June 29 and began efforts to remove the animals. NPS trapped the bears on July 5 and removed them from the island. Assuming NPS' account is accurate, Chase has taken a routine bear removal incident and turned it into an extreme example of the evils of natural regulation.

2. Chase also argues that, once the decision was made to close the garbage dumps, NPS needed authorization to "systematically" kill endangered grizzlies. He asserts that killing endangered animals was illegal in 1969 under the Endangered Species Act (ESA) and that, in March 1969, the U.S. Fish and Wildlife Service removed the grizzly from the endangered species list. The species was "delisted," he implies, in order for "the wheels [to be] greased for the Park Service to take on the bears."²²

Chase's presentation of the decision to delist the grizzly is revealing in two respects. First, it illustrates his tendency to assert conclusions without factual support. In this case, he presents no evidence to support his suggestion that the grizzly was delisted so that NPS could kill bears. Second, it is an example of factual misrepresentation. Prior to amendments enacted in 1973, the ESA did not prohibit the killing or "taking" of a listed species.²³ Though the 1969 Act required the Secretary of the Interior to list species "threatened with worldwide extinction,"²⁴ the only regulatory consequence of being on the list was to prohibit importation;²⁵ killing, for any purpose, was not prohibited.

3. In describing predator control in Yellowstone, Chase portrays NPS as the moving force behind the Yellowstone predator extermination program. To support this claim, he asserts that during its administration of

20. PLAYING GOD, *supra* note 2, at 170.

21. NATIONAL PARK SERV., U.S. DEP'T OF THE INTERIOR, CASE INCIDENT REPORT NO. 843601 (Aug. 8, 1984).

22. PLAYING GOD, *supra* note 2, at 154.

23. Endangered Species Conservation Act of 1969, Pub. L. No. 91-135, 83 Stat. 275 (1969). For a detailed account of the Endangered Species Act revisions from 1966 through 1973, see M. BEAN, THE EVOLUTION OF NATIONAL WILDLIFE LAW 319-329 (1983).

24. Pub. L. No. 91-135, *supra* note 23, § 3(a).

25. *Id.* § 2.

the Park before NPS was established, the U.S. Cavalry "often resisted demands" to kill predators and that, in any event, all killing of animals in the Park was prohibited by an 1894 law.²⁶ Chase claims that this situation changed in 1911, when the U.S. Biological Survey pressured the Cavalry into destroying predators in Yellowstone.²⁷ The next step came in 1916 when NPS was established. As part of the new agency's management authority, Chase states, NPS was granted "a license to kill"²⁸ under section 3 of the NPS Organic Act, which authorizes "the destruction . . . of such animals and of such plant life as may be detrimental to the use of said parks, monuments or reservations."²⁹ Without providing support for his conclusion, Chase alleges that section 3 was viewed by NPS as an "opportunity to grow" by gaining the political support of farmers and the public by eradicating coyotes, lions, and wolves.³⁰

In his account, Chase overlooks documentation in several Yellowstone Annual Reports that the U.S. Cavalry carried out an extensive program of coyote and mountain lion control before 1911.³¹ Similarly, in describing the 1894 legislation as an absolute prohibition on killing animals, he fails to mention that the legislative history for that statute authorized the destruction of wildlife "to prevent the unnecessary increase of such animals as may be dangerous or a detriment to uses of the park."³² Finally, Chase incorrectly classifies section 3 of the 1916 Organic Act as "a license to kill." This authority, which is virtually identical to that established by the 1894 statute and its legislative history, is narrowly construed by NPS and invoked only in limited situations when humans, property, or other park resources are clearly at risk.³³

26. The 1984 statute amended the Yellowstone enabling legislation to provide that, "[a]ll hunting, or the killing, wounding or capturing at any time of any bird or wild animal, except dangerous animals, when it is necessary to prevent them from destroying human life or inflicting an injury, is prohibited within the limits of said park . . ." Act of May 7, 1984, ch. 72, § 4, 28 Stat. 73 (codified as amended at 16 U.S.C. § 26 (1982)).

27. *PLAYING GOD*, *supra* note 2, at 121.

28. *Id.* at 122.

29. Act of Aug. 25, 1916, ch. 408, § 3, 39 Stat. 535 (codified as amended at 16 U.S.C. § 3 (1982)).

30. *PLAYING GOD*, *supra* note 2, 120.

31. See, e.g., 1907 ANNUAL REPORT OF THE SUPERINTENDENT OF THE YELLOWSTONE NATIONAL PARK TO THE SECRETARY OF THE INTERIOR 14 [hereinafter ANNUAL REPORT]; 1908 ANNUAL REPORT 10, 11; 1909 ANNUAL REPORT 11; 1910 ANNUAL REPORT 10. The wolf reduction program also was initiated prior to NPS administration of the Park. See J. WEAVER, *supra* note 7, at 9-11, app. 2. Adolph Murie reports that the Park administration undertook coyote reduction programs as early as 1899. A. MURIE, *supra* note 7, at 14. Between 1904 and 1916, Murie estimates, 82 mountain lions and 1,106 coyotes were destroyed in the Park. *Id.* at 15.

32. H.R. REP. NO. 658, 53d Cong., 2d Sess. 1-2 (1984).

33. The NPS management policies handbook, for example, provides that wildlife may be removed, destroyed, harassed, or harmed only when: hunting or fishing is authorized by law; control of specific populations is required to maintain a healthy park ecosystem; or human life or safety is in danger. It also states that "[t]he need for, and results of, regulating animal populations . . . shall be documented and evaluated by research studies." NATIONAL PARK SERV., U.S. DEP'T OF THE INTERIOR, PRESERVING OUR HERITAGE, MANAGEMENT POLICIES OF THE NATIONAL PARK SERVICE IV-6 to IV-7 (1978) [hereinafter PRESERVING OUR HERITAGE].

Chase's failure to present an objective, factually accurate account of NPS' management practices in Yellowstone is a serious flaw. In addition, his critique of natural regulation suffers from four fundamental shortcomings.

First, *Playing God* belies the longstanding nature of the natural regulation policy by portraying it and the objective of presenting a "vignette of primitive America" as policies which emerged in the 1960s. A cursory review of NPS literature reveals these policies' historical roots.

Though it is difficult to identify when NPS first articulated the policy of natural regulation, Yellowstone superintendent Horace Albright foreshadowed the language of the Leopold Report by stating in 1927 that the objective of wildlife management in the Park was "to keep the place as near a place of old America as we can."³⁴ This theme was repeated in 1932 in NPS' first comprehensive statement on wildlife management, *Fauna of the National Parks of the United States*. This report states that NPS wildlife management must be governed by the "creed" that "one function of the national parks shall be to preserve the flora and fauna in the primitive state"³⁵ In reporting the findings of the 1932 report to Congress, NPS Director Arno Cammerer explained that the agency's "prime objective" was to save "superlative bits of nature unmodified for future generations"³⁶ Similarly, in 1952, Director Conrad Wirth reported to Congress that, in certain units of the National Park System, "natural processes are permitted to function with the least possible control or manipulation"³⁷ As a result of NPS' adherence to this policy, he continued, "Americans find it thrilling to know that what they are seeing is a segment of their country as it was before the first European landed on its shores."³⁸

Rather than being a policy that was concocted, as Chase argues, during the "emotional" 1960's and simmered and savored in the "redwood think tanks of California,"³⁹ natural regulation has been a part of NPS management philosophy throughout the agency's existence.

Second, Chase inaccurately portrays natural regulation as an inviolate shibboleth of NPS resource management. After reading *Playing God*, one is left with the impression that NPS is bent on pursuing natural regulation at all costs, even if it means sacrificing the continued existence of a native species.⁴⁰ To the contrary, NPS management policies recognize the need for flexible application of this principle.

The Leopold Report, for example, acknowledges the need for active management. The process of protecting and restoring the resources of Na-

34. S. REP. NO. 1625, 69th Cong., 2d Sess. 4 (1927).

35. FAUNA OF THE NATIONAL PARKS, *supra* note 7, at 147.

36. *Hearings before the House Special Comm. of Conservation of Wildlife*, 73d Cong., 2d Sess. 124 (1934) (statement of Arno Cammerer).

37. *Hearings before the House Comm. on Interior and Insular Affairs*, 83d Cong., 1st Sess. 3 (1952) (statement of Conrad Wirth).

38. *Id.*

39. *PLAYING GOD*, *supra* note 2, at 373.

40. *See, e.g., id.* at 40-41.

tional Park System units, it notes, "will not be done by passive protection alone."⁴¹ In the case of managing "such climax associations as arctic-alpine heath, the rain forests of the Olympic peninsula, or the Joshua trees and saguaros of southwestern deserts," the Report states, "a simple formula of protection" may be appropriate.⁴² In other situations, however, the authors of the Report felt that manipulation would be necessary. As the Report states, "[r]eluctance to undertake biotic management can never lead to a realistic presentation of primitive America . . ."⁴³

The NPS management policies handbook also recognizes the need for flexibility in dealing with resource management problems that cannot be addressed through natural regulation. This flexibility is evident in the general policy statement that, "[i]n all parks it is necessary for the Service to consciously plan for and carry out the management for the priceless heritage entrusted to its care *in the manner best designed to perpetuate that heritage now and in the future.*"⁴⁴ In situations where NPS' resource protection mission cannot be accomplished through a policy of noninterference with nature, this statement indicates that active management is appropriate.⁴⁵

Third, *Playing God* fails to distinguish between National Park System units such as Yellowstone, where natural regulation is pursued vigorously, and numerous other units where such a policy is inappropriate. Consisting of 337 units, the National Park System represents a continuum of nationally-significant cultural, historical, natural, and recreational resources. Ranging from large parks recognized for their wilderness values such as Everglades, Glacier, Yellowstone, and the Alaska parks, to units established for the recreation opportunities they provide to urban areas, such as the Gateway National Recreation Area in New York Harbor and the Golden Gate National Recreation Area in San Francisco, to historic sites and battleground monuments such as Abraham Lincoln's Birthplace and the Antietam Battlefield, effective management of the National Park System defies simple formulas or standard responses.

The management implications of the National Park System's diversity were recognized in 1978 when Congress amended the NPS Organic Act to clarify that, though all units of the System are "united through their inter-related purposes and resources . . . as cumulative expressions of our national heritage," the "protection, management and administration" of

41. WILDLIFE MANAGEMENT, *supra* note 9, at 107.

42. *Id.* at 103.

43. *Id.* A question worth exploring is how effective NPS has been in identifying and responding to resource problems that require active management.

44. PRESERVING OUR HERITAGE, *supra* note 33, at IV-2 (emphasis added).

45. For example, the management policies handbook states that, with respect to species listed under the Endangered Species Act, it is NPS' policy that "[a]ctive management programs, where necessary, may be carried out to perpetuate the natural distribution and abundance of threatened and endangered species and the ecosystem on which they depend" *Id.* at IV-11. Similarly, though native insects and naturally-caused diseases are recognized as part of the natural conditions of Park System units, NPS' policies authorize control actions in a number of situations, including preventing the loss of host or host-dependent species and to conserve unique plant specimens or communities. *Id.* at IV-12.

each unit shall be guided by "the values and purposes" for which the area was established.⁴⁶ Under the 1978 amendment, the management directives derived from the unit's enumerated values and purposes may be deviated from only when "directly and specifically provided by Congress."⁴⁷

Representing one of the System's largest and most remote parks, Yellowstone unquestionably falls into the category of units to be managed, to the maximum extent prudent, in accordance with the concept of natural regulation. Only in units such as Yellowstone, where expansive areas of relatively undisturbed wilderness are set aside, is it possible to pursue large-scale management programs that allow natural processes to operate more-or-less unimpeded.⁴⁸ In these areas, natural regulation is a management objective, not merely a management tool. Should NPS abandon natural regulation in these areas, as Chase advocates, a vital aspect of the diversity of the National Park System would be lost. Consequently, it no longer would be possible to declare, as Congress did in 1978, that the National Park System represents a "cumulative expression of a single national heritage"⁴⁹

Finally, Chase fails to discuss the legal basis for management by natural regulation. Neither Congress, nor the courts, have expressly declared that natural regulation must be pursued as a general management approach. However, the thrust of relevant legal pronouncements is that National Park System units should be managed in accordance with that approach.

46. 16 U.S.C. § 1a-1 (1982). The "values and purposes" for each unit derive from the NPS Organic Act, 16 U.S.C. § 1. Section 1 of the Organic Act directs that the fundamental purposes of Park System units are to "conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

47. *Id.* § 1a-1. For example, hunting has been determined by Congress to be contrary to the values and purposes for which Park System units are established. It therefore is allowed only in those units for which Congress has expressly authorized that activity. See *National Rifle Ass'n v. Potter*, 628 F. Supp. 903, 912 (D.D.C. 1986) (regulation prohibiting hunting and trapping in National Park System units unless expressly authorized by the enabling legislation for that unit is consistent with NPS Organic Act). A similar analysis was applied in *Organized Fishermen of Florida v. Watt*, 590 F. Supp. 805, 814 (S.D. Fla. 1984), *aff'd sub nom. Organized Fishermen of Florida v. Hodel*, 795 F.2d 1544 (11th Cir. 1985), where a regulation prohibiting commercial fishing in Everglades National Park was upheld on the grounds that commercial exploitation of natural resources is not a purpose for which the Park was established.

48. Professor Joseph L. Sax highlights the value of separating the goals to be fulfilled by different areas found within the National Park System in his book *Mountains Without Handrails*. Based on the premise that visitors place different demands on natural areas, ranging from comfortable resort-oriented experiences to wilderness encounters, Professor Sax argues that NPS-administered areas should be devoted, to the extent possible, to promoting the type of intensive contemplative and physical experience that can be derived from a pristine natural landscape. Our national parks, he maintains, are "more valuable as artifacts of culture than as commodity resources" SAX, *MOUNTAINS WITHOUT HANDRAILS, REFLECTIONS ON THE NATIONAL PARKS* 108 (1980). As such, their constituent resources should not be manipulated to cater to the expectations of all classes of visitors, but rather should be managed to present nature "on its own terms" and promote the values of independence, self-reliance and self-restraint. *Id.* at 15.

49. 16 U.S.C. § 1a-1 (1982).

In the 1916 Organic Act's legislative history, for example, Congress distinguished national forests, which are established to advance multiple use purposes, from units of the National Park System, which are established to address "the question of *the preservation of nature as it exists . . .*"⁵⁰ Secretary Work interpreted this mandate in 1925 to mean that National Park System units "must be maintained untouched by the inroads of modern civilization in order that unspoiled bits of native America may be preserved . . ."⁵¹ Accordingly, on numerous occasions in the decades that followed, NPS officials testified to Congress, to its apparent approval, that a general policy of natural regulation was being pursued.⁵² Congressional affirmation of this approach is evident in the legislative history of the 1978 amendment to the Organic Act, where it was stated the "highest standard of protection and care" should be extended to National Park System units.⁵³

Any question concerning Congressional acceptance of the natural regulation concept is dispelled by the legislative history of the 1980 Alaska National Interest Lands Conservation Act,⁵⁴ where it is stated that:

It is contrary to the National Park Service concept to manipulate habitat or populations to achieve maximum utilization of natural resources. Rather, the National Park System concept requires implementation of management policies which strive to maintain the natural abundance, behavior, diversity, and ecological integrity of native animals as part of their ecosystem, and the Committee intends that that concept be retained.⁵⁵

These references indicate that natural regulation is not merely the wishful thinking of contemporary environmental advocates. It is, instead, a longstanding principle of Park System management that has been endorsed by Congress. To follow a different course, as Chase suggests, therefore requires a change in the emphasis Congress has placed on pursuing a course of noninterference with nature, as well as the rejection of a management philosophy that is at least as old as NPS.

Playing God in Yellowstone represents a lost opportunity. Chase is well-versed in his subject matter. He presents forceful arguments and occasionally offers valid insights. In his fervor to debunk what he perceives to be the myth of the self-regulating Yellowstone ecosystem and under-

50. S. REP. NO. 700, 64th Cong., 1st Sess. 3 (1916) (emphasis added). This legislative history was cited in *National Rifle Association v. Potter* to support the court's conclusion that a strong "protectionist" policy governs the management of indigenous wildlife in units of the National Park System. *National Rifle Ass'n v. Potter*, 628 F. Supp. at 905, 910.

51. Letter from Secretary Work to the Director of NPS (Mar. 11, 1925).

52. See *supra* text accompanying notes 34-38.

53. H.R. REP. NO. 581, 95th Cong., 1st Sess. 21 (1977).

54. The Alaska National Interest Lands Conservation Act greatly expanded the National Park System in Alaska. The act also expanded other national conservation systems such as the National Wildlife Refuge System, the National Wild and Scenic Rivers System, the National Wilderness Preservation System, and the National Forest System. Pub. L. No. 96-487, 94 Stat. 2371 (1980) (codified in scattered sections of the United States Code).

55. S. REP. NO. 413, 96th Cong., 2d Sess. 171 (1979).

mine the credibility of certain elements of the contemporary environmental movement, however, he sacrifices objectivity and factual accuracy. As a consequence, *Playing God* is not a balanced critique of NPS management practices or the concept of natural regulation. The book identifies the principal management controversies confronting resource managers in and around Yellowstone National Park, but it does not provide reliable proof of the cause of those problems or identify useful solutions.

Though *Playing God* does not achieve its author's objectives, it is useful in making the case for increasing the emphasis on solving the problems presented by external threats to Yellowstone and other National Park System units.⁵⁶ Natural regulation, as a management objective in Yellowstone, should be taken as a given. If Mr. Chase is correct that Yellowstone cannot function as a self-regulating unit, the solution is not to abandon natural regulation but rather to implement measures that will contribute to its success.⁵⁷ Hopefully, the debate over Yellowstone's future will focus on how to fulfill its longstanding management goals, not on how to reformulate its values and purposes.

56. At numerous points in his book, Chase points out that the resource management problems he discusses are linked to, or caused by, conditions outside the Park. See, e.g., *PLAYING GOD*, *supra* note 2, at 135 (wolves killed by ranchers outside the Park); *id.* at 166 (bear problem is outside the Park where NPS has no management authority); *id.* at 184 (bears shot outside the Park on Forest Service land leased for sheep grazing, at town garbage dumps, and by poachers; bear habitat outside the Park reduced). Unfortunately, he does not discuss whether the resource problems he identifies could be addressed effectively by implementing a management program that extends beyond Park boundaries. Instead, he criticizes a management program that extends beyond Park boundaries. Instead, he criticizes "bioregional" land management because, in his opinion, it is based on an effort to address "political issues surrounding the park, not biological problems within," *id.* at 365, and incorporates the philosophy of "keeping people away from nature," *id.* at 367.

57. Analysis of alternative approaches to addressing the external threats issue is beyond the scope of this Book Review. Among the approaches that have been considered for this purpose are: cooperative management agreements with surrounding land managers and property owners; legislation to provide NPS with management or regulatory authority over certain types of activities on adjacent lands; incentive programs, for example favorable tax treatment, to encourage utilization of adjacent lands in a manner that advances the objectives of the affected unit; expansion of unit boundaries; and legal actions to eliminate nonconforming or incompatible uses based on common law nuisance remedies or federal authority under the property clause of the U.S. Constitution. See, e.g., Keiter, *On Protecting The National Parks From the External Threats Dilemma*, XX *LAND & WATER L. REV.* 355 (1985); Comment, *Protecting National Parks from Developments Beyond their Borders*, 132 *U. PA. L. REV.* 1189 (1984); Bleiweiss, *Environmental Regulation and the Common Law of Nuisance: A Proposed Standard of Preemption*, 7 *HARV. ENVTL. L. REV.* 41 (1983). See also *Special Focus: Protecting the National Parks From External Threats*, XXII *LAND & WATER L. REV.* 1-48 (1987).