

The Rise, Fall, and Legacy of *Part Two of the National Park System Plan: Natural History*

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THIS REVIEW AND ESSAY WILL TRACE THE HISTORY AND USE of a little-known National Park Service (NPS) document entitled *Part Two of the National Park System Plan: Natural History* (NPS 1972). (Part One of the plan, also published in 1972, covered historic sites.) *Part Two's* purpose was to guide the growth of the natural area component of the US national park system in a systematic fashion. The author was one of three NPS professional staff in the 1970s who were responsible for *Part Two*, which encountered political opposition before the decade ended. This discussion focuses on just one park selection criterion, representation, as required by Secretary of the Interior Franklin K. Lane in his famous “Lane Letter,” written in 1918 to the first NPS director, Stephen Mather, and which stands as the first statement of standards for which areas should qualify for national park status (NPS 1970: 71). Much of the information in the present paper is taken from two earlier publications by the author (Shafer 1999, 2004), which are longer and broader discussions. Some key points, references, illustrations, and tables from these papers are repeated here along with added or updated information.

Themes and a system plan

Systematic reserve planning is an ideal. When new park opportunities are taken as they arise, this approach is called “ad hoc.” For example, there may be no “system plan” or the ranking of potential new sites using selection factors. To avoid ad hoc growth of the national park system, beginning in the late 1950s NPS began discussions of potential additions around the concept of themes. Themes were a way to organize natural and cultural phenomena into categories. For geology, examples of themes include such things as aeolian landforms and Jurassic fossils. For ecology, themes might include wetlands and prairies. By 1960, some early

The George Wright Forum, vol. 33, no. 1, pp. 29–46 (2016).

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themes were developed by NPS geologists and The Nature Conservancy (Masland 1960; Seaton 1960). By October 1965, the secretary of the interior's Advisory Board on National Parks, Historic Sites, Buildings and Monuments approved the concept of using themes in planning (NPS 1965). Later, in April 1966, the Advisory Board endorsed a specific list of themes (NPS 1966a: 84) (Figure 1). The thinking behind theme creation was provided in NPS 1966b:

... natural history [is] polydimensional and difficult to resolve into a generally acceptable rational system of categories of a nature that would be useful for evaluation and selection of representative natural areas. The only apparently reasonable alternative is a system of themes.... These themes involve not only entities and processes but also the aspects from which they are viewed. By their very nature, themes intersect and overlap. Because of this, no single area is characterized solely by a single theme, although a single theme may be of overwhelming importance.

These themes, both ecological and geological, sought to capture the same thing that some conservation biologists are proposing today: “conserving nature’s stage” (Lawler et al. 2015: 618). This illustrates that the need to preserve geological diversity has been a late recognition for some biologists. For example, IUCN changed their definition of “natural area” and replaced it with the broader concept of “conservation of nature” (Dudley et al. 2014) to accommodate geology.

The notion that a “system plan” should guide the growth of the US national park system, based on natural feature gaps, was also mentioned in the 1960s (Masland 1960; Seaton 1960). One champion of a system plan, Secretary of the Interior Stewart L. Udall, said in 1963 that the national park system should be “rounded out” in the following three decades (Udall 1963: 181). During FY1962, NPS began asking Congress for funds to implement such a plan.

A system plan for natural areas, based on themes and natural regions (i.e., physiographic provinces modified from Fenneman 1928; Figure 2), was developed in draft by January 1967. Other countries were moving in a similar direction. Drawing from *Part Two*, Canada developed a park system plan in 1970 that was approved in 1971 (Parks Canada 1971, 1977). By FY1971, NPS was being funded to implement a National Natural Landmarks (NNL) Program, which, as we shall see, was used as a tool to guide the systematic growth of the national park system.

In June 1969, Secretary of the Interior Walter Hickel promulgated the following policy: “There are serious gaps and inadequacies which must be remedied while opportunities still exist.... You should continue your studies to identify gaps in the System and recommend to me areas that would fill them” (NPS 1972, preface). *Part Two* was finished in 1970, although not published until 1972. It was endorsed by the Advisory Board that same year as “valuable guidelines for the further evolution of the National Park System Plan and a useful framework within which to present plans and priorities to the Bureau of the Budget and the Committees of the Congress for expansion of the National Park System” (*Federal Register*, August 15,

GEOLOGICAL AND ECOLOGICAL CATEGORIES

Theme I. Landforms of the Present

- Subthemes:
1. Plains, plateaus and mesas
 2. Cuestas and hogbacks
 3. Mountain systems
 4. The works of volcanism
 5. Hot water phenomena
 6. Sculpture of the land
 7. Eolian landforms
 8. River systems and lakes
 9. The works of glaciers
 10. Seashores, lakeshores, and islands
 11. Coral islands, reefs, and atolls
 12. Phenomena associated with earthquakes
 13. Caves and springs
 14. Meteor impact sites

Theme II. The Geologic History of the Earth

- Subthemes:
1. The morning of life (Precambrian Period)
 2. The age of primitive invertebrates (Cambrian, Ordovician, and Early Silurian Periods)
 3. The rise of vertebrates and the first forests (Late Silurian and Devonian Periods)
 4. The great development of land life and changes in marine life (Mississippian, Pennsylvanian, Permian, and Triassic Periods)
 5. The age of reptiles (Permian, Triassic, Jurassic, and Cretaceous Periods)
 6. The emerging dominance of mammals (Tertiary Period: Paleocene and Eocene Epochs)
 7. The golden age of mammals (Tertiary Period: Oligocene, Miocene, and Pliocene Epochs; Quaternary Period: Pleistocene Epochs)
 8. The age of man (Quaternary Period: Pleistocene and Recent Epochs)

Theme III. Land Communities of Plants and Animals

- Subthemes:
1. Tundra
 2. Boreal forests
 3. Pacific forest
 4. Dry coniferous forest and woodland
 5. Eastern deciduous forest
 6. Grassland (steppe)
 7. Chaparral
 8. Deserts
 9. Tropical region
 - a. Lowland rain forest
 - b. Summer-deciduous forest
 - c. Woodland and scrub formations
 - d. Swamp and mangrove formations
 - e. Savanna
 - f. Montane rain forest
 - g. Alpine vegetation

10. Special land communities of plants and animals

11. Land plants or animals of special interest

Theme IV. Aquatic Ecosystems

- Subthemes:
1. Marine environments
 - a. Exposed coastline with rocky substrate
 - b. Exposed coastline with unconsolidated sediment
 - c. Coral reefs
 - d. Protected coastline with rocky substrate
 - e. Protected coastline with unconsolidated sediment
 - f. Lagoons
 - g. Tidal salt marshes
 - h. Mangrove swamps
 - i. Areas with extensive kelp beds
 2. Habitats of marine species of special interest
 3. Estuaries
 4. Streams
 - a. Rapidly flowing streams
 - b. Slow meandering streams
 - c. Deltas (both at seashore and at lakeshore)
 - d. Springs
 - e. Thermal waters
 5. Underground waters with distinctive animal life
 6. Lakes and ponds
 - a. Large deep lakes
 - b. Large shallow lakes
 - c. Lakes of complex shapes
 - d. Crater lakes
 - e. Kettle lakes and potholes
 - f. Oxbow lakes
 - g. Dune lakes
 - h. Sphagnum-bog lakes
 - i. Saline lakes
 - j. Lakes fed by thermal streams
 - k. Tundra lakes and ponds
 - l. Swamps and marshy areas
 - m. Sinkhole lakes
 - n. Unusually productive lakes
 - o. Lakes of low productivity and high clarity
 7. Habitats of fresh water aquatic species of special interest

Figure 1. The natural region themes. This version represents a slight expansion on the 1966 themes.

1970). The coupling of themes with natural regions may seem like everyday thinking today, but it was a major innovation at that time (Shafer 1999).

As just noted, *Part Two* was published in 1972 (Figure 3). Its official purpose was to identify the best new natural areas for potential addition to the system. Its unofficial but critical co-purpose was to fend off inappropriate potential additions being pushed by Congress, or what Everhart (1972: 137) called congressional “dead cats.” Using *Part Two* to evaluate new additions was adopted as official agency policy in 1975 (NPS 1975). Importantly, *Part Two* only identified *gaps* in theme representation if they occurred in an identified *natural*

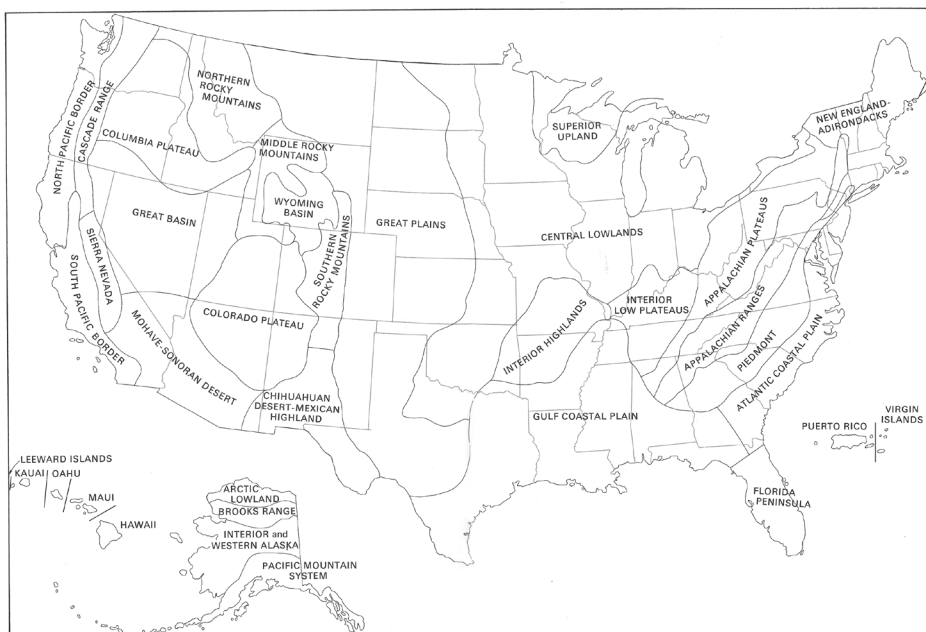


Figure 2. Fenneman's (1928) physiographic provinces were modified slightly by NPS. NPS called these provinces "natural regions."

region. It did not identify specific *sites* to fill those gaps. That step would be the role of subsequent natural region theme studies.

Natural region theme studies

As a result of the *Part Two* and the NPS responsibility to continue to administer the NNL Program, the Park Service commissioned 70 natural area inventories between 1968 and 1986 to identify potential NNLs. The early studies—e.g., an inventory of one theme, like limestone caverns and springs over the entire country—were a learning experience, while the studies that followed were different and much more costly (i.e., an inventory of all themes within one physiographic province). These later studies, called "natural region theme studies," described a particular physiographic province, developed a classification scheme for its geological or ecological features (or both), and then described and prioritized those sites that best represented each theme and subtheme. Typically they were conducted by the best university plant ecologists and geomorphologists knowledgeable about a particular natural region in the country. This theme approach was a very coarse method to sort or categorize natural features. These ecological themes were the primary component of what The Nature Conservancy (TNC) called "elements of ecological diversity (Jenkins 1978) but lacked the "fine filter" that their State Heritage Programs used to capture, for example, the presence of rare and endemic

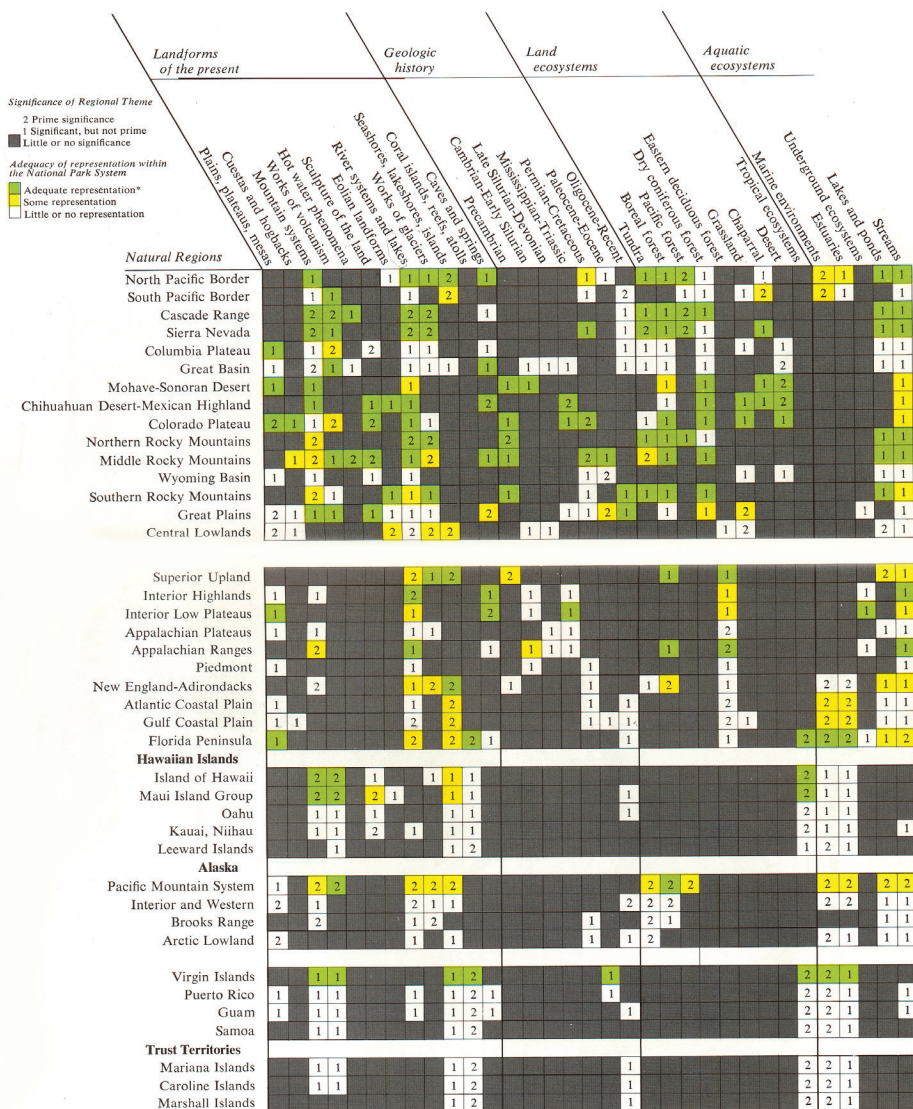


Figure 3. A chart from Part Two (NPS 1972).

species. Study teams were given the freedom to use the themes or develop their own refined natural feature classification scheme for geological and ecological features.

One can argue that a *process* approach for the classification of geology is better than a *features* approach (Spicer 1987). Regardless, more than half a century after the first geological themes were developed in the 1960s, modern conservation biologists are now beginning

to appreciate the importance of preserving what is now called “geodiversity” (Comer et al. 2015; Hjort et al. 2015), the term itself surfacing around 1999 and used in NPS starting around 2005 (Gray 2005).

New park recommendations

In a separate letter of transmittal (which was not part from the theme study itself), the NPS-contracted natural region theme study team was asked to recommend a few potential new units to add to the national park system. The team was asked first and foremost to consider whether the sites would fill *gaps* in representation in the national park system or whether they were *unique*. Information about *threats* to their integrity was welcome. The selection criteria the teams used would, decades later, come to be known as “complementarity,” “representativeness,” “irreplaceability,” and “vulnerability” (e.g., Margules and Pressey 2000). The early recommendations were too broad—some teams recommended 50 or more sites—but with more guidance NPS got what it wanted: a list of one to four sites. These theme studies represented a public investment of around \$2 million. They identified approximately 3,000 potential sites that are currently part of an NPS electronic database, and many were added to the National Registry of National Natural Landmarks, which today totals 597.

Congressional support for federal land inventories

The Public Land Law Review Commission was created in September 1964 and its report, *One Third of the Nation's Land* (Aspinall 1970), was completed in June 1970. It consisted of “policy guidelines for the retention and management or disposition of Federal lands...” (p. iii). The report consisted of 137 recommendations. One recommendation (no. 78) said agencies should identify and protect “unique” natural areas on federal land. Another (no. 27) recommended that Congress assist in the creation of a natural-area system for scientific and educational purposes. In the text, it endorsed inventories of US Forest Service and Bureau of Land Management (BLM) property for sites that qualify as national parks and monuments. But such enthusiasm for new natural areas and national parks was short-lived. By 1975, the Ford administration was opposing legislation to authorize most new units of the national park system (Duddleson 1975). However, not every member of Congress agreed with this “no new parks” policy.

Section 8

Some in Congress wanted to afford NPS the opportunity to freely offer new park recommendations without being muzzled by political and budgetary considerations. This opportunity became law in 1976. Section 8, a 1976 amendment to the General Authorities Act of 1970 (84 Stat. 825), stated:

The Secretary of the Interior is directed to investigate, study and continually monitor the welfare of areas whose resources exhibit qualities of national significance and which may have potential for inclusion in the National Park System.... [T]he Secretary shall transmit ... comprehensive reports on each of those areas upon

which studies have been completed. *On the same date ... the Secretary shall transmit a listing ... of not less than twelve such areas which appear to be of national significance and which may have potential for inclusion in the National Park System* (emphasis added).

The new park recommendations sent to Congress from 1977 to 1980 did rely heavily on those of the contracted theme study scientists. One private conservation organization gave the 1978 recommendations visibility (NPCA 1978). Of the sites sent to Congress from 1977 to 1980 primarily for their natural values, 11 were recommended as potential parks by the theme studies and 4 were NNLs that appeared on the Section 8 “threatened and damaged list,” a related Section 8 requirement that directed the secretary of the interior to:

transmit annually [to Congress] ... a complete and current list of all areas included on the Registry of Natural Landmarks ... which areas exhibit known or anticipated damage or threats to the integrity of their resources, along with notations as to the nature and severity of such damage or threats.

Some of these potential new park sites were not unknown to NPS; some were even already on one version or another of an agency priority list. Examples include Channel Islands, Valles Caldera, a Great Basin national park, a prairie national park, and Congaree Swamp. Such priority lists go back to at least 1960, when Masland named about 70 sites that had been identified by NPS as worthy of further examination as potential new parks (Masland 1960).

More funding to allow studies of new parks and for supporting the NNL Program arrived in 1978. The National Parks and Recreation Act of that year (92 Stat. 3467) amended Section 8 to allow up to \$1 million annually for studying and monitoring potential new national parks, and \$1.5 million annually for monitoring NNLs. An earlier draft of this amendment required that the National Park System Plan be updated annually, but the requirement was subsequently struck out. Then, in 1980, Congress amended Section 8 again (94 Stat 1133), requiring that the “list of 12” submissions include an analysis of the condition of previously submitted sites based on careful monitoring.

Political opposition to park additions and park system planning

With fiscal conservatives gaining ascendancy in Congress as the 1970s came to a close, having a national park system plan became a political liability. But not all members of Congress saw things that way. Some, such as Keith Sebelius (R) of Kansas, wanted to update *Part Two*. NPS did so and the product was at the printing press, literally, until NPS Director Russell Dickinson (who served in that role from 1980 to 1985) was forced by political appointees in the Reagan administration to stop its publication. NPS then had to convince these appointees who were opposed to having a plan to expand the national park system that no such plan existed. The plan and its data were forced to go into hiding.

To be certain that NPS would not be involved in studies for new parks, some members

of Congress arranged the following: funding for new area studies was slashed; the staff of six professionals in the NPS Washington Office of New Area Studies was reduced to two; and a gentlemen's agreement was struck between the Department of the Interior and Congress that, after 1981, NPS would no longer need to submit to Congress the annual "list of 12 potential new parks" required by the 1976 Section 8 mandate. Congress essentially eviscerated any activity NPS might conduct for planning new parks.

In fact, even the NNL Program narrowly escaped abolishment in 1980. The Heritage Foundation, a think tank with close ties to the Reagan administration, placed it on their list of unfavored programs, essentially a "hit list" of programs to get rid of. The issue of park system expansion remained a sensitive one throughout most of the Reagan administration (1981–1989). For example, within months of Secretary of the Interior James Watt's appointment in 1981, there was a moratorium on park acquisitions using the Land and Water Conservation Fund and a policy of no new park additions. After Donald Hodel became the new secretary of the interior in 1985, he vowed to send legislation to Congress to end the "list of 12" aspect of Section 8. *Part Two* and its recommendations derived from the natural region theme studies were relegated to being occasionally pulled out of the drawer to answer questions such as Congressional requests for new parks.

By 1986, the Sierra Club asked NPS to revise *Part Two*. NPS wanted to do so but the views of the Sagebrush Rebellion and its supporters (Davis 2001) prevailed. Instead, NPS produced *Natural History in the National Park System and on the National Registry of Natural Landmarks* (NPS 1990). The booklet said it was "not a strategy, plan, or proposal for expanding the National Park System" (NPS 1990: 1). All the useful maps in *Part Two* were missing. The 1990 document was thus of little use for park system planning.

During 1983, a series of meetings of nongovernmental organizations (NGOs) took place to discuss the future of the system. The only product, a 15-page typed document entitled "Toward a Premier National Park System" (The Wilderness Society et al. 1983), recommended that *Part One* and *Part Two* be updated, that the NPS new areas study program be restarted, and the NNL Program be invigorated. Five years later, this meeting probably generated the nine-volume study by NPCA entitled *Investing in Park Futures—The National Park System Plan: A Blueprint for Tomorrow*. Volume 8 of the study (NPCA 1988) recommended a long list of areas for addition to the system, including many identified in NPS-sponsored theme studies and Section 8 reports. Additional report recommendations also included revising *Part One* and *Part Two* and continuing to comply with the Section 8 mandate of providing Congress with a "list of 12" potential new parks each year.

A moratorium was placed on the NNL Program in 1989 until various "program improvements" could be made. The moratorium was lifted in 1999 after a busy decade of work (Shafer 2000). However, the NNL Program budget was cut in half while NPS Director Fran Mainella was in office (2001–2006). One criticism by program opponents was the perception that NNL status was the first step towards national park creation. This fear stemmed in part from an unfortunate statement in an NGO publication which described NNLs as "ladies in waiting" (NPCA 1988: I-15)—that is, future units of the national park system. Some private property rights groups spread fear that NNLs were the first step towards government land

acquisition (see Shafer 2003). The facts indicate that that fear was overblown. Of the eight NNLs containing private land that resulted in federal acquisition, only one (Congaree River Swamp) involved the federal government exercising its right of eminent domain.

The Vail Agenda (NPS 1992), the results of an October 1991 symposium in Vail, Colorado, which sought to review NPS responsibilities with input from 500 outside invited participants, called for the plan's resurrection. Again, not every member of Congress wanted Section 8 to disappear. So it was amended again by the National Parks Omnibus Management Act of 1998 (112 Stat. 3497). This amendment directed NPS to continue to provide Congress with a list of areas for potential addition to the national park system but with a new twist of adding congressional oversight. From then on, Congress would have to *first approve* any site before NPS could expend funds on it for a "new area study." In earlier days, NPS expended funds for "suitability and feasibility" studies on any area it thought might be worthy (that is, nationally significant). This included sites unknown to Congress and others where these legislators had expressed interest. For example, during a five-year period prior to 1969, NPS conducted 260 such studies (Swem 1969).

The beginning of the end for Section 8 came in the mid-1990s. Section 3003(a)(1) of the 1995 Federal Reports and Elimination and Sunset Act (109 Stat. 735) stopped agencies from continuing to prepare hundreds of *nonessential* (emphasis added) congressional reports. Included on this list was the Section 8 report, whose mandate, as a result of this legislation, ran out after 1999. The mandate to identify the annual "list of 12" new national parks and periodic monitoring of earlier site submissions was ignored after 1980 until it was repealed in 1999. In other words, the law was not enforced for 18 years simply because many members of Congress were hostile towards it.

Nonetheless, the natural region theme studies and the Section 8 requirements have had residual positive impacts. The information used to create new NNLs (and some new national parks) was derived from the natural region theme studies conducted between 1968 and 1986. As well, NPS continued to prepare the report for threatened and damaged NNLs in 2000 and 2001 because it was a valuable tool to alert America about impending threats. After that, NNL threats and damages were noted briefly in NPS "biennial reports" available on the NNL website. Some of the clear-cut threats to NNLs that were first identified in Section 8 reports include highway rerouting (Allerton Natural Area, Illinois; Moss Island, New York; Volo Bog, Indiana; Hoosier Prairie, Indiana), pipeline rerouting (Caverns of Sonora, Texas; Ginkgo Petrified Forest, Washington); powerline rerouting (Slumgullion Earthflow, Colorado; Valles Caldera, New Mexico), and dam relocation (Big Walnut Creek, Indiana; Piedmont Beech Natural Area, North Carolina; Busse Forest Nature Preserve, Illinois; Dinosaur Valley, Texas). One housing development was also relocated (Roxborough State Park, Colorado). The list could go on. For example, Hagerman Fauna Sites, Idaho, was saved from water erosion; Belt Woods, Maryland, did not suffer adjacent highway widening; and Shaver's Mountain Spruce-Hemlock Stand, West Virginia, did not succumb to underground mining. All of the above NNLs and many more benefited from the "threatened and damaged NNLs" aspect of the Section 8 report, which was submitted to Congress for 20 years, beginning in 1977.

Assessing Part Two

Part Two of the National Park System Plan: Natural History has been judged harshly. I shall examine three related criticisms.

1. *Part Two* “did not dominate the process for identification or authorization of new areas in the 1970s” (Conservation Foundation 1985: 272). This is mostly true but demands elaboration. Although the theme studies generated new park recommendations, Congress sometimes forged ahead on its own. The omnibus park acts of 1978 and 1980 are good examples. On the other hand, during the 1970s, many members of Congress regularly asked NPS about the quality and suitability of any site they were considering. Once in the 1970s, the head of the NNL Program, Frank H. Ugolini (armed with theme study recommendations) was invited to fly over much of the West with high-level Department of the Interior officials to decide on areas for new national parks. However, examine Tables 1–5. Several sites identified by the natural region theme studies were added to the national park system in the 1970s: for example, Cumberland Island, Big Cypress, Big Thicket, and Congaree. This is not to suggest that, in these cases, a theme study’s new park recommendation or its NNL status always *caused* the area in question to be added to the national park system. Sometimes it was likely just coincidental. But in some cases, that recommendation, or its threatened NNL status, had a big influence. This is the case for Congaree, El Malpais, Valles Caldera, City of Rocks, and Hagerman Fossil Beds.

2. *Part Two* was “doomed ... to virtual disuse” (Rettie 1995: 17). This is mostly true. *Part Two* was banned in the early 1980s but was used officially before that time. This writer recalls dozens of times in the 1970s when it was used as a tool to provide a negative response for an area being pushed by a member of Congress or, more proactively, used to steer him or her towards a better area identified by theme study teams. Sometimes the response was the need to await the outcome of a theme study.

3. *Part Two* was “largely ignored” (Wright and Mattson 1996: 11). Again, mostly true. My repeated observation after 1980 was that when opportunities arose to add new units to the national park system, the secretary of the interior or Congress only rarely consulted NPS. As far as where the best areas were, Congress and the secretary often acted as if they knew best and proceeded. And of course they all had their pet areas to protect or promote. They were often unaware that NPS sat on a database compiled over 18 years because it had to be kept quiet.

However, ignoring the issue of natural region theme studies yielding site-specific park recommendations, a glance at the various charts in *Part Two* allows one to determine whether a site could fill a gap in representation. For example, Great Basin, Brooks Range and some other Alaskan additions, and American Samoa all filled major gaps in natural region representation. In addition, Congaree, Big Thicket, Tallgrass Prairie, El Malpais, Hagerman, John Day, Big Cypress, Mojave, Great Sand Dunes, City of Rocks, Salt River Bay, and Guadalupe all filled gaps in theme representation. I am convinced that NPS frequently used *Part Two* in this fashion from the 1970s onward to ascertain the worth of a proposed new park. This is does not constitute being “ignored,” *at least by NPS*. Where the natural region theme studies really shine is in their identification of potential NNLs.

Systematic park system planning

The unfortunate reality in the US is that any attempt to apply a systematic approach of adding new national park areas breaks down when additions must be approved by a legislature. They may cost too much, be opposed by special interest groups, or be unfavored by the state's congressional delegation. In fact, even if NPS thought a site was unworthy of addition to the system, Congress sometimes added it anyway (Mackintosh 1991 [2004]). During the 1970s, NPS initiated its own "new area studies" (i.e., a comprehensive examination of a potential park) on sites it thought were good candidates to improve or help "round out" the system. These new area studies addressed "suitability and feasibility" (NPS 2006). Today, such a study might also address factors like the site's potential for cooperative ventures in effective boundary expansion and habitat connectivity (NPS 2014a). With Section 8 now defunct, new approaches are being sought.

NPS system planning recommendations after the millennium

Science has learned more about preserving landscapes since 1972. The discipline of conservation biology did not surface until 1978 (Meine et al. 2006). During the 1980s, we began to appreciate factors such as reserve size, connectivity, replication, numbers, and shape (Shafer 1990). After the millennium, the National Park System Advisory Board hinted at a new vision for a system plan. They said that NPS should "restore wildlife corridors to provide biological linkages among habitats throughout North America.... The National Park Service should become an active participant in a national effort to create such connections" (Franklin et al. 2001: 15, 17):

They also criticized NPS, saying "there is no grand plan or vision guiding the evolution" of the national park system" (p. 26). On this point they may have been unaware that NPS once used *Part Two* during the 1970s and how park expansion was stopped by 1980 because of antagonistic attitudes by some members of Congress.

In 2004, the Science Committee of the Advisory Board (Earle et al. 2004 [2009]: 15) recommended establishing wildlife corridors as part of the NPS mission. In 2009, the Second Century Commission, an independent commission given the task of providing a 21st-century vision for the national park system, recommended that NPS "begin immediately to develop a new national park system plan in ways that reflect the goals of the national conservation network" (Baker et al. 2009: 23). They also recommended corridors be established. Such recommendations about corridors had been made much earlier, in 1990, by NPS staff in a private capacity (Shafer 1990).

In 2011, NPS issued *A Call to Action: Preparing for the Second Century of Stewardship and Engagement* (NPS 2011), which identified 36 actions the agency should undertake before its centennial in 2016. Among them was Recommendation #22: promote large landscape conservation using partnerships with public and private landowners. NPS Director Jonathan B. Jarvis later clarified that partnerships could be negotiated with "federal, tribal, state, and local government entities, non-governmental organizations, and private landowners to create continuous corridors" (Committee on Energy and Natural Resources 2012: 38). This may be in part too idealistic. Partnerships represent a gamble. Getting private landown-

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| Congaree National Park, South Carolina (1976) |
| Big Cypress National Preserve, Florida (1974) |
| Big Thicket National Preserve, Texas (1974) |
| Cumberland Island National Seashore, Georgia (1972) |
| El Malpais National Monument, New Mexico (1987) |
| Mojave National Preserve, California (1994) |
| National Park of American Samoa, American Samoa (1988) |
| Bering Land Bridge National Preserve, Alaska (1980) |
| Aniakchak National Monument and Preserve, Alaska (1980) |
| Cape Krusenstern National Monument, Alaska (1980) |
| Tallgrass Prairie National Preserve, Kansas (1996) |

Table 1. New parks recommended by theme studies and later added as new units of the national park system (date established).

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|---|
| Channel Islands National Park, California |
| Great Basin National Park, Nevada |
| Olympic National Park, Washington |
| Death Valley National Park, California |

Table 2. Boundary expansions recommended by theme studies and added to the national park system.

ers to cooperate is not going to work much of the time. Incentives and even coercion may have to come into play (Shafer 2015b). These are some of the approaches available to plan for climate change (Shafer 2015a). NGOs will need to get involved to assist NPS efforts.

In 2012, the Advisory Board produced another report, *Revisiting Leopold: Resource Stewardship in the National Parks* (Colwell et al. 2012). This was a reexamination of policies recommended in the famous Leopold Report (NPS 1970; originally published 1963), arguably the most respected natural resources management policy document ever to guide NPS. The report said:

NPS management strategies must be expanded to encompass a geographic scope beyond the park boundaries to larger landscapes and to consider larger time horizons. Specific tactics include improving the representation of unique ecosystem types within the National Park System, prioritizing the protection of habitats that may serve as climate refugia, the maintenance of critical migration corridors, and strengthening the resilience of park ecosystems (Colwell et al. 2012: 14–15).

Cassia Silent City of Rocks NNL (1974) became City of Rocks National Reserve, Idaho (1988)

Hagerman Fauna Sites NNL (1975) became Hagerman Fossil Beds National Monument, Idaho (1988)*

Salt River Bay NNL (1980) became Salt River Bay National Historical Park and Ecological Preserve, US Virgin Islands (1992)*

John Day Fossil Beds NNL (1966) became John Day Fossil Beds National Monument, Oregon (1974)

Congaree River Swamp NNL (1974) became Congaree National Park, South Carolina (1976)

Grants Lava Flow NNL (1969) became El Malpais National Monument, New Mexico (1987)

Table 3. National natural landmarks that were later added as new units to the national park system (first date, when the NNL was designated; second, when the park was established). Those marked with an asterisk (*) were also listed on an NNL Section 8 threatened and damaged report.

Point of Arches (1971) NNL into Olympic National Park, Washington

Cowles Bog (1965), Pinhook Bog (1965), and Hoosier Prairie (1974) NNLs into Indiana Dunes National Lakeshore, Indiana*

Cinder Cones Natural Area (1973) and Eureka Sand Dunes (1983) NNLs into Death Valley National Park, California*

Hermitage (1977) NNL into Appalachian National Scenic Trail, Maine to Georgia

Valles Caldera NNL (1975) into Bandelier National Monument, New Mexico*

Arrigetch Peaks (1967) and Walker Lake (1968) NNLs into Gates of the Arctic National Park and Preserve, Alaska

Iliamna Volcano (1976) and Redoubt Volcano (1976) NNLs into Lake Clark National Park and Preserve, Alaska

Aniakchak Crater (1967) NNL into Aniakchak National Monument and Preserve, Alaska

Malaspina Glacier (1968) NNL into Wrangell–St. Elias National Park and Preserve, Alaska

Table 4. National natural landmarks later subsumed into units of the national park system (date designated). Those marked with an asterisk (*) were also listed on an NNL Section 8 threatened and damaged report.

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| New Jersey Pinelands National Preserve, New Jersey, managed by the New Jersey Pinelands Commission |
| Canaan Valley National Wildlife Refuge, West Virginia, managed by the US Fish and Wildlife Service; became an NNL in 1974* |
| Mount St. Helens National Volcanic Monument, Oregon, managed by the US Forest Service |
| Old Paria into Grand Staircase-Escalante Canyon National Monument, Utah, managed by the Bureau of Land Management |
| Part of Nipomo Dunes–Point Sal Coastal Area, CA, became Guadalupe–Nipomo Dunes National Wildlife Refuge, managed by the US Fish and Wildlife Service; became an NNL in 1974* |

Table 5. Sites identified in theme studies that subsequently became well-known protected reserves under non-NPS administration. Those marked with an asterisk (*) were also listed on an NNL Section 8 threatened and damaged report.

In August 2014, NPS rolled out a glossy document called *A Call to Action: Preparing for a Second Century of Stewardship and Engagement* (NPS 2014a). It said “we will work with communities and partners to submit to Congress a comprehensive National Park System plan...” (p. 9). That same year, an attractive booklet entitled *Scaling Up: Collaborative Approaches to Large Landscape Conservation* (NPS 2014b) provided a collection of park stories depicting scaling-up activity already underway, that is, cooperative park boundary expansion and cooperative corridor facilitation. During October 23–24, 2014, NPS, US Fish and Wildlife Service, BLM and others sponsored the National Workshop on Large Landscape Conservation (www.largelandscapenetwork.org/2014-national-workshop) in Washington, D.C. In the view of this author, this was one of the most forward -thinking conservation activities that the Department of the Interior, under the leadership of Secretary Sally Jewell, has supported for a very long time.

Political interference in retrospect

How much freedom a park agency in the US has in creating new parks depends on the views of the political party in power. In the early 1970s, Congress was supportive of national park system planning. By the mid-to-late 1970s, that support was mixed with opposition. By 1980, having a national park system plan was regarded as very dangerous by NPS managers, and touting one was even tantamount to political suicide; this view generally held until the end of the George W. Bush administration in January 2009. This history supports an observation by the political scientist John Freemuth, who wrote that “NPS will find it difficult, if not impossible, to insulate itself from political influence” (Freemuth 1999: 75).

But by 2001, a new concept of park planning was becoming integrated into the minds of NGOs, park planners, and managers. This new mind-set was no longer only about locat-

ing the best representative sites to fill gaps in the national park system, and then addressing their suitability and feasibility. Nor was it so much about adding new parks as about making existing parks more viable and part of a larger protected area network. Now the thrust was about park integration into the surrounding region, corridors for animal dispersal, increasing a park's effective size through cooperative boundary expansion, and preparing for climate change. Skeptics knew it also had to address an activity that federal agencies dread to consider because of the inevitable political opposition: land use planning outside park boundaries (Shafer 2015b). A similar recommendation about the need for land use planning outside parks was made in 1972, well before the climate change issue surfaced (Conservation Foundation 1972).

Is it possible that all political parties can work together in the best interest of park biota? Past history suggests the answer is no. For three decades, congressional interference prevented NPS from pursuing its mandate for new parks more vigorously. This review illustrates that when agencies are suppressed by politicians beholden to the natural resources extraction industries, private property rights groups, and shrinking budgets, the result can be costly for Americans who want more and better parks.

Acknowledgments

I thank Judy Shafer for her comments on drafts of this article. I must recognize Gary Waggoner, Bill Halverson, Ron Hiebert, and Ralph Root, who were also involved in administering the National Park System Plan in the 1970s. I dedicate this account to Frank H. Ugolini who was ultimately responsible for all the activity described herein in the 1970s and all ensuing positive results. Some of this material from Shafer (1999) was reused with the permission of Springer Science + Business Data.

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