

The Wilderness Paradox

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IN THE END of June 2011, Roderick Nash and I were rowing a worn inflatable raft piled with camping gear and equipped with only a roll of duct tape in the event of a puncture through sharp metamorphic boulders and tumbling froth on the Middle Fork of the Salmon River in Idaho.

Nash and I were having a bit of a disagreement over who got to row the best rapids—a strange argument to have with a seventy-two-year-old man with an artificial hip. But Nash is no normal septuagenarian. He is a wiry, athletic, white-haired intellectual with piercing blue eyes and a nineteenth-century schooner captain's photographic memory for serpentine routes through deadly rocks, and by this time of the afternoon he was quaffing little bottles of 5-Hour Energy and tossing the empties in the bilge. I had to admit I might die someday without ever having achieved his skill as a boatman. But still, I clinched my argument, if I was going to split the cost of the trip, including the beer and the rental fee for this questionable scow with the roll of duct tape for a patch kit, I wanted half the bad (meaning good) rapids. And Nash, friend that he was, acquiesced.

I had come to the Salmon River with Nash to look at how wilderness areas were being managed, a subject I've spent much time pondering, as a lover of wild places and a former park ranger. The Middle Fork flows through Idaho's Frank Church–River of No Return Wilderness, the largest unbroken wildland preserved under the Wilderness Act of 1964 in the United States, south of Alaska. In wilderness, size matters. The reason for this is not just graduate-level conservation biology but high school geometry: the bigger a preserved place is, the greater its volume in relation to its perimeter. Therefore, less of it is impacted by edge effects—hunters on all-terrain vehicles, feral housecats from rural suburbs preying on birds, grizzly bears and wolves getting shot for stepping outside the lines, and the necessity of putting out fires when they run from wilderness toward inhabited areas. Also, wild nature has certain critical minima. As wildlands shrink, biological diversity goes down. The larger they are, the more plants and animals have a chance of living out their lives inside them. This is particularly true of conservation-reliant species like grizzly bears and wolves. It is no accident that by 1964, the last grizzly bears in the lower 48 states were holed up in national parks and wilderness areas in the Northern Rockies. A half-ton carnivore with claws the size of hunting knives that sees a cabin wall or a barn door as mere inconveniences is at risk of being shot anywhere there are cabins and barns.

Conservationists long hoped that the 2.3-million-acre "Frank" might be large enough to function as a refuge for natural processes unmediated by human beings. So might the 9-million-acre Wrangell–St. Elias and the 12.9-million-acre Noatak–Gates of the Arctic in Alaska. The Greater Yellowstone Ecosystem contains 6.6 million acres of designated wilderness and national parks within 18 million acres of public and private land. In the southern Sierra Nevada of California, three national parks and nineteen wilderness areas form an over-230-mile-long wildland along the Pacific Crest Trail. Airplanes have vanished from radar there, to be found months or years later, or, every once in a while, never. In 2005, the first of two frozen airmen lost in the 1942 crash of a military flight melted out of a glacier in the Kings Canyon Wilderness, still dressed in an antique uniform, the pockets of which contained buffalo nickels, Mercury dimes, and young women's phone numbers.

In these places, along with others of similar size—the Boundary Waters in Northern Minnesota, where wolves survived a national eradication effort until reintroductions in Idaho and Wyoming—it has long been assumed that nature has been left to work out her own mysterious destiny without the kind of human interventions that characterize

land management everywhere else. That is the point of wilderness, isn't it?

THAT, IT TURNS OUT, has never been so. The term “wilderness management” itself is steeped in irony—a point Roderick Nash makes in an essay he contributed to *Wilderness Management*, the first textbook on the subject, published by the Forest Service in 1978:

A designated, managed wilderness is, in a very important sense, a contradiction in terms. It could even be said that any area that is proclaimed wilderness and managed as such is not wilderness by these very acts! The problem is that the traditional meaning of wilderness is an environment that man does not influence, a place he does not control.

Nash's most famous book, *Wilderness and the American Mind*, completed as a doctoral thesis the year the Wilderness Act became law, has been continually in print since 1967. Winner of the 2001 National Outdoor Book Award in the Outdoor Classic category, it remains the definitive history of wilderness as an idea and an institution.

“There are two main roots of the word *wilderness*,” Nash told me, pulling on the oars. “In the old Teutonic and Norse languages, will, or willd meant willful, self-willed, or uncontrollable. *Deor* in Old English, was a general term for an animal or beast—the word *deer* probably derives from that. So, a *will-deor* is a wild animal, as opposed to a domestic animal; an animal that has its own will. We talk about ‘self-willed,’ and we mean uncontrolled by the will of someone else. Thus, *will-deor-ness*: self-willed land, the place of self-willed animals. It's the one place we honor the self-willed, autonomous condition that distinguishes it from everywhere else.”

Back in the seventies, Nash was seen as a tastemaker about wilderness. His thought was everyone's thought. That is no longer true. As the fiftieth anniversary of the Wilderness Act drew near, interventions in wilderness and proposed wilderness areas—which are required to be managed as wilderness—were common. I talked to an ecologist who'd been backpacking into the Sierra Nevada to dip hundreds of endangered yellow-legged frogs in a bacterial solution intended to protect them from a worldwide epidemic of amphibian fungus. In Glacier National Park, I listened to a scientist explain the replanting of fifteen thousand whitebark pines cultivated for resistance to pine blister rust, an Asian fungus that wiped out the wild trees. In the Grand Canyon, I interviewed hydrologists studying how to regulate the flow of the Colorado River to create naturally shaped beaches. At Big Cypress Preserve in Florida and Dinosaur National Monument in Colorado, I inspected insects intentionally introduced from other continents to harass plants previously introduced from other continents by accident.

In truth, these sorts of interventions are not a recent development. The nation's first wilderness areas, which predated the 1964 Act by three to four decades, were regulated and altered as administrators saw fit. In the years following the Act's passage, wilderness management became people management. The 1960s saw a massive uptick in outdoor recreation. Better highways and growing leisure time made wilderness easier to get to. Down sleeping bags, aluminum-framed backpacks, lightweight synthetic fabrics, and inflatable rafts for whitewater made the wilds easier to travel through, once you arrived. Traffic jams, pollution, the threat of nuclear war, and the environmental movement whetted civilized appetites for resinous campfire smoke, the sigh of wind, and the call of a loon on a fog-shrouded lake. However, with thousands of wilderness pilgrims came crowded lakeshores, litter, piles of human excrement, and trees hacked up for firewood.

In 1968, Robert Lucas, a Forest Service geographer doing research on outdoor recreation, joined with two other social scientists, George Stankey and John Hendee, to assemble a framework for administration of wilderness, which they collected in that 1978 *Wilderness Management* handbook. Just as Forest Service timberlands produced lumber for civilization, what wilderness produced was a quality “wilderness experience” for the visitor. Lucas, Hendee, and Stankey's system surveyed wilderness users to evaluate levels of acceptable or unacceptable change (damage) in the appearance of trails and campsites. Rangers were trained to count the number of suitable campsites in a given lake basin and evaluate how many could be occupied without visitors hearing each other snoring at night. From these measurements were derived “carrying capacities,” or the number of users that could be allowed into an

area at one time. Rationing systems—wilderness permits—were used to control visitation, and educational outreach and law enforcement were used to regulate visitors' behavior under a set of principles that came to be called "Leave No Trace."

As wilderness staff focused on people management, the Forest Service and Park Service continued to manipulate nature inside and outside wilderness areas. In the 1960s, the Salmon River country Nash and I inspected was aerially sprayed with pesticide to control a native insect, the spruce budworm. Sheep herders grazing under permit (which the Wilderness Act allows to this day) called upon government trappers to kill grizzly bears, cougars, and coyotes. Non-native trout were planted to enhance fishing. In New Mexico's Gila Wilderness, smokejumpers were so effective at controlling lightning fires that Whitewater Baldy and Mogollon Baldy, two peaks that had been raked by electrical storms since time immemorial, grew over with trees and were no longer bald.

PRESENT-DAY MANIPULATIONS of wilderness generally involve restoring something that was extirpated under previous, faulty logic or removing something that was added but didn't belong. Wildfire, for example, is allowed to shape wilderness landscapes again after more than six decades of attempted exclusion. However, this is not accomplished without considerable intervention. Lightning fires are selected to burn or be extinguished based on where and under what conditions they occur, and it's not uncommon for the same blaze to be fought on one flank and allowed to run on another to meet "management objectives" set by "fire management officers."

Also in the category of putting something back are wolves, which were eradicated in the 1920s and reintroduced in 1995 to the Frank Church–River of No Return Wilderness and Yellowstone National Park. Restoration of predators is often cited as an ideal manipulation, since it seems to repair a widely reported outcome of their absence: unchecked growth of herbivore populations, followed by overgrazing of plants they depend on, leading to mass starvation. Other tinkering with animal species has yielded more mixed results, even abject failures. In the late 1970s and early 1980s, California Department of Fish and Game biologists poisoned lakes and streams in the Golden Trout Wilderness, where previously introduced exotic fish were threatening native golden trout. Then the biologists reintroduced what they thought was a pure strain of the goldens. Later, improvements in genetic technology revealed that the introduced trout were hybrids, and that the effort may have inadvertently killed the last pure natives.

Taking out something that doesn't belong is not without hazards either, notably the widespread use of biocides. At one of our campsites on the Middle Fork, Nash and I noticed what looked like patches of green spray paint on the dry grass around us. A Forest Service crew had floated the river ahead of us, spraying herbicide mixed with dye to control spotted knapweed and rush skeletonweed, Eurasian plants introduced decades ago by cattle grazing. Like many weeds, these thrive on disturbed ground, spreading rapidly into areas blackened by the larger, more intense fires driven by climate change.

The battle against alien organisms is being waged at various scales nearly everywhere, but perhaps nowhere more intensely than at the Marjory Stoneman Douglas Wilderness, which comprises most of the interior of Everglades National Park. There, the Park Service sprays herbicide from helicopters to control melaleuca trees, Australian pine, Brazilian pepper, and European climbing fern, which form impenetrable thickets where little else can live. Park rangers go out on search-and-destroy missions, trying to stop seven-foot-long African monitor lizards and four-foot South American tegu lizards, introduced in the exotic pet trade, from taking up residence in the wilderness. Burmese pythons up to eighteen feet long are now so widespread in the Everglades that park rangers admit they are probably a permanent feature of the landscape, if a highly unnatural one.

EVERYONE PRETTY MUCH KNOWS what *natural* means as long as you don't think about it too much. In 1964, the authors of the Wilderness Act used it both to define wilderness and to prescribe how it would be managed: "an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its *natural* conditions . . . [italics mine]."

However, by 2007 I had begun to notice a low-level panic among scientists and wilderness managers as they came to understand that the word had become obsolete as a management objective. What is more natural—spotted knapweed, rush skeletonweed, and cheat grass crowding out native plants, or the Transline, 2,4-D, Roundup, and Plateau rangers in the Frank Church–River of No Return spray to control them?

That November, when the long-awaited Intergovernmental Panel on Climate Change’s Fourth Assessment solidly connected global warming with human activity, I was the only journalist at a meeting of scientists and wilderness managers from the National Park Service, the Forest Service, and the U.S. Geological Survey. The group convened to discuss how wilderness management might need to evolve in light of dire conditions in the global ecosystem. Should the Park Service and Forest Service start moving groups of organisms north to preserve them? Should sprinkler lines be installed in the giant Sequoia groves, for the inevitable heat and drought that could kill the two-thousand-year-old trees? These sorts of things were discussed. Everyone seemed to be in agreement that the goals set forth in the legislation creating wilderness and national parks were no longer attainable.

“What has replaced naturalness as a guiding philosophy of what to do or not do?” I asked David Graber, chief scientist for the National Park Service’s Pacific West Region, who had invited me to the meeting.

“We have nothing,” he answered, his voice flat.

In general, there is a strong appetite for even greater manipulation of nature. As wilderness comes to be seen as less “natural,” the moral injunctions against tinkering with it are further reduced. At the Saint Mary’s Wilderness in Virginia, where acid precipitation was causing a die-off of aquatic life, wilderness managers dropped helicopter loads of limestone to buffer the acid. Life bloomed again. In the Bandelier Wilderness in New Mexico, grazing and fire suppression had caused conversion of grasslands into piñon-juniper woodlands with bare ground in between, leading to rapid soil erosion. Crews were sent out to cut down junipers with chainsaws, windrowing the brush to hold soil and shelter new ground vegetation. In California’s Sequoia–Kings Canyon Wilderness, a major program is under environmental review to poison lakes and streams in order to remove previously planted trout that compete with an endangered frog.

As many lose their resistance to manipulation, Roderick Nash is left on the fringes, adamant as ever in his rejection of all this mucking about with wilderness.

“What distinguishes these areas is not that they have the exact biological features we want them to have under current theories, but that we choose to leave them alone. They are the only place we do,” says Nash.

“What about spotted knapweed?” I ask him. “What about rush skeletonweed?”

“Wilderness is a place we leave alone,” Nash answers. “Let evolution work. Evolution takes a long time, longer than our horizon. Let nature find her way.”

“But even when we don’t intervene intentionally,” I protest, “our accidental effects like climate change still act on a place, so you get all the unintended damage without the deliberate efforts to mitigate it.”

“Fine,” says Nash. “But a place you change on purpose isn’t wilderness.”

Park Service scientist David Graber comes down on the other side. The Wilderness Act “is a prisoner of its time,” wrote Graber in 2003. “It is limited to an understanding of the world that existed in 1964.” Some wildernesses, Graber maintains, are wildernesses in name only. They require urgent intervention and long-term maintenance simply to preserve what remains of their biota. And yet, he argues, what remains of their biota is considerably more valuable than some high-minded philosophy of noninterference. Graber is unimpressed with the philosophical distinction between doing things by accident, such as changing Earth’s climate, and doing things on purpose, such as saving endangered species. Restricting ourselves to only those grand strokes we make accidentally, and not the better ones we make on purpose, seems like a terrible mistake to Graber.

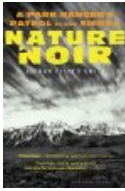
“In the present setting, doing nothing is still doing something,” he says.

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Jordan Fisher Smith is the author of Nature Noir and a forthcoming book on the control of nature in national parks.



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