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Peter S. Alagona, *After the Grizzly: Endangered Species and the Politics of Place in California* (University of California Press, 2013). ISBN: 9780520275065

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Introduction by Jacob Darwin Hamblin, Oregon State University

For most people, saving a critter from extinction is a laudable goal with a fairly straightforward action-item: don't kill the animal. The 1973 the Endangered Species Act in the United States set forth guidelines for compiling lists of such species, such as the California condor. In practice, however, the law did not just establish a list of do-not-kill. Instead, it implied a commitment to understanding how species thrived, and to setting aside areas to provide an appropriate ecological home. Although few put it in such terms back in 1973, the federal law was also about habitat protection.

In American society, preventing genetic obliteration was one thing, but restricting land use required an entirely different level of commitment, and it opened a political can of worms. Was it enough that the condor, for example, did not die out completely and was still able to reproduce in captivity? Or should there have been large areas of land where the bird could nest, mate, and carry on?

In the state of California, where a growing human population and intensive agriculture produced one of the world's leading economies in the twentieth century, these questions were always contested. California was home to at least one famous failure to preserve a species. The iconic animal there was, and remains, the grizzly bear. It still exists as an image on the state flag and serves as a mascot at universities and high schools—yet it was extinct in California by 1930.

In *After the Grizzly*, Peter S. Alagona tells the story of endangered species in California through the lens of habitat, to highlight how much the “politics of place” shaped the fates of key species—the condor, the desert tortoise, the kit fox, and the delta smelt. Each has its own ecological relationships and unique histories. And yet Alagona's narrative tells a similar tale in each—that the struggles over preserving rare and endangered species have centered more on cordoning off huge tracts of land as protected natural areas, in the name of habitat, than on saving a particular animal. Alagona sees the “protected areas paradigm” as a product of ecological science, environmental law, and resource management. The book tracks the development of this approach and evaluates whether it achieved its goals in California.

I asked **Laura A. Watt**, an associate professor at Sonoma State University, to join this roundtable because of her expertise in preservation and parks, including the efforts to integrate environmental history interpretations at Joshua Tree National Park. Like Alagona, Watt has explored how the idea of preservation “does not deal well with change.” She and her collaborators have shown how the Endangered Species Act was similar to other kinds of preservation stories. For example, the Act evolved in a similar trajectory to the National Historic Preservation Act of 1966.

Just as the ESA's remit extended to entire ecosystems, the NHPA has turned out to be concerned with "preserving dynamic systems of place and community."¹

Our second commentator is **Philip Garone**, an associate professor of history at California State University, Stanislaus. He has a deep interest in the ecological dilemmas of central California. His book, *The Fall and Rise of the Wetlands of California's Great Central Valley*, will be the subject of a future roundtable. The story he tells is one of near-destruction of wetlands because of irrigation projects. Unlike many stories of decline in environmental history, Garone has outlined the recovery efforts by a coalition of conservationists, duck hunters, and scientists, and he crafts a narrative of the political tensions in a giant agribusiness.²

Finally, **Sean Kheraj** is an assistant professor at York University, specializing in environmental history and Canadian history. Kheraj brings essential perspective on similar issues from outside California. His recent book, *Inventing Stanley Park*, won the Canadian Historical Association's 2014 Clio Prize for outstanding work in British Columbia History. It explores the creation of a major urban park in Vancouver, while engaging with broader issues, such as the eviction of humans, expectations of "wildness," and changes to ecosystems over time. His work highlights how dynamic ecosystems should be more fully embraced as part of our historical record.³

Before turning to the first set of comments, I would like to pause here and thank all the roundtable participants for taking part. In addition, I would like to remind readers that as an open-access forum, *H-Environment Roundtable Reviews* is available to scholars and non-scholars alike, around the world, free of charge. Please circulate.

¹ Laura A. Watt, Leigh Raymond, and Meryl L. Eschen, "On Preserving Ecological and Cultural Landscapes," *Environmental History* 9:4 (2004), 620-647; Laura A. Watt, "Re-Imagining Joshua Tree: Applying Environmental History to National Park Interpretation," *Journal of the West* 50:3 (2011), 15-20.

² Philip Garone, *The Fall and Rise of the Wetlands of California's Great Central Valley* (Berkeley: University of California Press, 2011).

³ Sean Kheraj, *Inventing Stanley Park: An Environmental History* (Vancouver: UBC Press, 2013).

Comments by Laura A. Watt, Sonoma State University

Every spring, the students in my Restoration seminar attempt to grapple with a fundamental paradox: that in attempting to restore wild nature, we humans often conduct extensive landscape management and manipulation. As relative newcomers to this field, my students usually balk at this idea, that “natural” restoration might involve backhoes or herbicides. They have unconsciously been trained to expect that the ideal form of wildlife or wilderness management should be as hands-off as possible, following a very Clementsian idea that all human activity translates into ecological disturbance. They similarly tend to resist the suggestion that sometimes human disturbance is not the only problem for species in trouble—and try to solve most problems with the answer, “we just need to protect more habitat!”

And, it turns out, they are in good company. In his marvelous book, *After the Grizzly: Endangered Species and the Politics of Place in California*, Peter Alagona gives a detailed history not only of how species often become proxies for broader environmental debates, but also how protected areas, usually publicly owned, have become the go-to solution for almost all wildlife management conundrums, particularly conflicts over species listed under the 1973 Endangered Species Act (ESA). As he describes, “Protected areas render nature more legible to bureaucratic institutions by reducing unruly patterns, dynamic processes, and blurry boundaries to lines on a map that define the extent of conservation programs” (7). In short, parks and refuges are easy compared to the complexity that not only characterizes ecosystems, but our social, legal, and political relationships with them. Endangered species management proves to be an exquisite lens through which to see the depth and power of many assumptions about the wild, and about control of, or access to, many natural landscapes.

In some ways it is ironic that the ESA has become the signature law of habitat conservation, since it began simply with a list, and a fairly straight-forward prohibition of harming species on that list. Over time, and particularly with the addition of Habitat Conservation Plans (HCPs) as a conduit for allowing take of listed species, the ESA has evolved to attempt landscape-scale ecological protection. In my own writing on this law, I always imagine it printed on a sheet of rubber, that then can be stretched wider and longer to cover larger and larger areas.⁴ But Alagona reminds us that this landscape approach did not begin with the ESA. He traces it all the way back to the last California grizzly, “Monarch,” to die in captivity. Having been captured on orders from William Randolph Hearst, and then settled into his new home at the San Francisco Zoo, Monarch’s fate seemed regretful to his captor, reporter Allan Kelly, who recalled feeling that “he ought to be free in his

⁴ See Laura A. Watt, Leigh Raymond, and Meryl L. Eschen, “On Preserving Ecological and Cultural Landscapes,” *Environmental History*, Volume 9, No. 4:620-647, October 2004.

native mountains” (17). From there, scientists like Joseph Grinnell and his students, wildlife managers in state and later federal agencies, and environmental advocates and activists increasingly presumed that habitat preservation was the key to species’ recovery from the brink of extinction.

Except that in many cases, they were wrong. Alagona describes reserves as necessary but insufficient, and concludes that results to date have been mixed. Of the over 1500 vertebrate species, subspecies, and populations listed under the ESA since 1967, only one percent have gone extinct—clearly meeting one of the primary goals of the Act—yet fewer than two percent have recovered enough to be delisted, which is also a major goal of the Act. And specifically, all of the species in the latter category were in trouble due to problems like overhunting or pollution, not habitat loss (230). Furthermore, protected areas are legally bounded but ecologically porous, meaning that the ecological relationships within them can and will change over time, and creating them can often be politically controversial, particularly they are established to the detriment of local communities. Yet this “protected areas paradigm” remains dominant in conservation work and advocacy.

In Roderick Nash’s classic *Wilderness and the American Mind*, he explored the etymology of the word “wild,” which originally meant self-willed or uncontrollable. He wrote that “wild” conveys the “idea of being lost, unruly, disordered, or confused,” “ungoverned or out of control.”⁵ Things, creatures, or places that are truly wild can be chaotic and unpredictable. And one of the strongest impressions I come away with after reading *After the Grizzly* is how deeply we as a society are uncomfortable with wildness—despite the many threads of environmentalism that sing its praises. Alagona observes that *images* of grizzlies are nearly ubiquitous across California, despite the species having gone extinct statewide by 1930. We idealize predators as magnificent representations of wildness, and make them into allegories of ecological decline, and yet generally agree that daily life is much easier without having to look over your shoulder for an actual chaparral bear (40). Calls to reintroduce predator species are often dismissed as unrealistic, even when they are badly needed to stabilize overpopulations of other species, such as deer—and when existing predators turn up unexpectedly in our back yards, they are often relocated or shot, to limit any possibility of harm to us or our property (including livestock and household pets). We love the wild, but prefer to avoid the unpredictability of wildness.

On the flip side, Alagona’s fluid writing gives numerous examples of the idea that human engagement with wildlife somehow automatically makes it less wild, such as when environmentalists such as David Brower initially fought attempts to establish a captive breeding program for condors, arguing that they were better off to meet “death with dignity” rather than end up in a zoo. Biologists and activists alike advocated for wilderness preservation in the rugged areas where the birds nested, ignoring the fact that many condors were successfully scavenging in valley

⁵ Nash 1967, at 1.

pasturelands grazed by domesticated livestock: “This meant that *real* condors lived *only* in the wilderness, and intensive scientific management by definition robbed them of their true, wild essence” (131). These idealized creatures should only be visited, in their view, by a few intrepid backpackers, and of course, by the biologists themselves.

It is striking, throughout this history, how readily scientific exploration or study is exempted from affecting a species’ or place’s wildness. Grinnell, for instance, was untroubled by any impacts that collecting museum specimens might have on a species, arguing that animals killed for food or sport would only benefit a few, but those for science “would benefit society for centuries” (56). One of his contemporaries, Victor Shelford, essentially argued that ecologists needed to locate, explore, and study natural areas before the rest of civilization could reach them, and that all natural sanctuaries “should have core natural areas that would remain unavailable for human uses other than scientific research” (74). Later, those raising condors in captivity made sure to keep the birds fearful of people by methodically harassing them in an aversion-therapy program, described by some as “tough love” (141); if any of these actions were done by, say, teenagers who caught a condor in the wild, they would likely be charged with violating the ESA. This reminds me so much of myriad disagreements over which types of recreation should be allowed in parks or other protected areas, with each group arguing to privilege their own preferences to the exclusion of others.

Once captive breeding of condors proved successful, however, environmentalists’ goals shifted away from concerns about hands-on management, and began to focus solely on returning this species to the wild. Of course, “its ultimate recovery would rely on the preservation of its habitat” (140). In this way, wildlife became a proxy for wilderness protection, whether the species needed wilderness or not. Research showed that poisoning (having eaten prey shot with lead bullets, or having been poisoned under a predator control program) and effects from chemicals like DDT were much bigger problems for the condors, yet “the logic that habitat preservation should take precedence over all other management approaches had become an article of faith among wilderness preservationists” (137). And all too frequently, wilderness preservation is more about controlling the landscape than it is about actual wilderness qualities themselves.

Alagona’s work highlights just how flummoxed we become when “the wild” does not behave according to plan. It turns out that many ecological relationships are far more complex than originally understood, and in many cases species have been found to be more tolerant of human activities than previously thought (or vice versa). For example, the ultimate irony of efforts to increase habitat protection for the adorable San Joaquin Valley kit fox is that a stable—and growing!—population is living in urban Bakersfield, even while they are decreasing in the other, more “wild” parts of their range. Yet these city dwellers are more or less invisible to most conservation efforts, except as a source of additional genetic diversity for their cousins living in nature reserves. We cannot seem to get our heads around an

endangered species that adapts itself to modern life—it falls too far outside of the protected areas paradigm.

Endangered species that are being negatively impacted by other creatures, rather than directly by humans through overhunting or development, pose a management conundrum. Despite huge expense to protect enormous areas of the Mojave, the desert tortoise continues to decline, in part because the young turtles are easy prey for ravens and coyotes, both native species that are proliferating due to suburban expansion into the desert. In a similar scenario, northern spotted owls are increasingly out-competed by, or hybridizing with, barred owls. So despite the significant changes to land management and extensive limits on the logging industry required by the 1994 Northwest Forest Plan (a plan written primarily by biologists, based on biological data), northern spotted owl populations continue to dwindle. So what is the solution? One possibility is to start shooting the ravens and barred owls, yet Alagona's history reminds us of what happened the last time we attempted large-scale predator control—it is what caused or exacerbated the threats to many listed species in the first place. And this is yet again an example of nature not behaving the way(s) we expect, leaving us grasping for answers—and all too often reaching back to the same solution, more habitat protection.

In some ways, it seems that endangered species pose management questions we simply do not have answers for, either ecologically or politically. Alagona quotes Aldo Leopold as writing that “the government can't buy ‘everywhere,’” and that “...a protected area paradigm that attempts to wall off wildlife and confine its management to a small community of experts risks doing the exact opposite of what Leopold advised” (232). Yet it is not always clear what alternatives we have. He describes Habitat Conservation Plans (HCPs) as having become the central feature of the law's implementation, yet these planning processes are often unwieldy, expensive, and slow, particularly when they attempt to incorporate both public and private lands, multiple jurisdictions and participants, and multiple listed and unlisted species. Many have been stalled in the drafting stages for years, or even decades, and even once signed, many (including the first HCP, written for San Bruno Mountain just south of San Francisco) are now requiring major modifications, as both the science and the funding strategies have proved inadequate. Experiments allowed under the ESA's “safe harbor” policy, like the construction of artificial dens for San Joaquin Valley kit foxes by Paramount Farming Co. in 2002, have proved to be limited; only a year later, the company expressed frustration with the complexity and pace of the process, and doubted whether they'd do it again (192). So even though Alagona's central conclusion, that a more integrated approach is needed, one that includes humans as part of the ecological picture, and considers private as well as public lands, the path forward is not entirely clear. However, understanding the path we have taken historically to arrive here is a crucial first step of the journey.

Comments by Philip Garone, California State University, Stanislaus

After the Grizzly is an insightful work that forefronts the emergence and ascendance of habitat as a central concept in conservation history, while challenging much of the conventional wisdom concerning endangered species protection. Peter Alagona skillfully traces the fluid relationship between habitat protection and species protection from the conservation efforts of early twentieth century naturalists and ecologists through contemporary applications of the Endangered Species Act. Endangered species protection is of course in part a social construction (as grounded as it may be in science), and *After the Grizzly* provides a number of intriguing and overlapping lenses through which to view its genesis and evolution. Alagona argues that the battles over the protection of endangered species often serve as proxies for debates about the ‘politics of place,’ which he defines as “an ongoing cultural conversation about who should have access to and control over lands and natural resources” (3). This notion of resource control, applied to conservation more broadly, dates back to the Progressive Era, and is widely accepted in conservation history. But Alagona is interested specifically in how the United States developed a political system that produces and sustains debates in which endangered species are the loci for broader cultural conflicts about government regulation, scientific expertise, development, nature preserves, and much more. This question suggests a fresh, and ultimately revisionist, approach to the history of endangered species protection.

The Endangered Species Act figures prominently in the book, not as a starting point for recent conflict over species protection, but rather as the culmination of a century of scientific thought that ultimately produced the notion of the ‘protected areas paradigm,’ which rests firmly upon habitat conservation as the basis for wildlife management and the protection of endangered species. The history of ‘habitat’ is thus crucial for understanding contemporary endangered species debates, and occupies much of the first half of the book. In the four endangered species case studies that compose the second half of the book—the California condor, Mojave desert tortoise, San Joaquin kit fox, and the (Sacramento-San Joaquin) Delta smelt—Alagona introduces increasingly problematic endangered species protection efforts that have been based largely on habitat acquisition, and concludes with a call for a broader vision of conservation that is based on creating sustainable landscapes.

After an opening chapter that employs California’s now-extinct grizzly bear to symbolically represent the contested relationship between humans and wild animals and the ecological transformation of the state, Alagona dedicates the next two chapters to the history of the conservation movement, from the beginning of the twentieth century through the Progressive Era, and from the end of the Progressive Era to the passage of the 1964 Wilderness Act and the beginning of the modern environmental era. Rather than simply recounting this well-travelled road, Alagona offers a novel perspective on the period, centering his narrative around Joseph Grinnell, who in 1908 became the founding director of the University of California’s

Museum of Vertebrate Zoology, and Grinnell's "Berkeley circle" of students. Alagona argues that Grinnell and his circle merit close attention because most of the contemporary arguments for wildlife and endangered species conservation emerged during the first two decades of the twentieth century, and that Grinnell's circle were at the vanguard of developing these concepts. By the close of the Progressive era, the second cohort of the Berkeley circle was moving from an earlier emphasis on hunting regulations toward science-based habitat management. Habitat began to emerge as a key concept in science and management. By the 1930s, Grinnell and the Berkeley circle had become staunch opponents of the Bureau of Biological Survey's predator control programs, arguing that they were harmful and unwarranted. The predator control debate, writ large, placed wildlife conservation debates on a national stage and marked the beginning of a protracted shift away from predator control toward the conservation and restoration of those species' habitats.

While this interpretation rings true, I wonder if perhaps factors in addition to the predator control debate edged the national discourse toward habitat conservation and management, and if the Bureau of Biological Survey and the Fish and Wildlife Service should receive more credit for advancing the notion of habitat protection. While the predator control debate did indeed broaden the audience for conservation debates to national organizations and the federal government, so too did the debate over what to do about plummeting continental waterfowl populations and the loss of breeding and wintering grounds for migratory birds. As waterfowl populations reached their nadir during the drought of the early 1930s, Franklin Roosevelt assembled his President's Committee on Wildlife Restoration, which led in turn to the passage of the 1934 Migratory Bird Hunting Stamp Act that established the means to purchase wetland habitat on a national scale. J. Clark Salyer, who headed the Division of Wildlife Refuges of the Bureau of Biological Survey and then the Fish and Wildlife Service for nearly the next three decades, used scientific data about waterfowl migration from bird-banding studies and other sources to direct the placement of millions of acres of new refuges and to vastly enlarge the refuge system. These developments arguably were crucial to the rise of the protected areas paradigm for habitat protection—in addition to the legacy of the predator control debate—and perhaps deserved greater attention in the book.

The fourth chapter of *After the Grizzly*, primarily about the Endangered Species Act(s), contains some of the book's finest insights. For Alagona, the Endangered Species Act of 1973 is central to understanding the ascendance of habitat and habitat conservation. In addition to citing several reasons why the ESA became so powerful and controversial, including that legislators did not foresee the large number of species that would qualify for protection under the act and that the language of the act would necessitate broad interpretation by the courts, Alagona proposes that few of the ESA's early supporters or framers foresaw that it would evolve from a species-protection law into a habitat-protection law. Environmental law and conservation biology—both coming of age at the same time—not only shaped and informed each other, but influenced the broadening of the scope of the

ESA from endangered species to the habitat on which those species depend, and contributed toward embedding the concept of habitat in environmental science, law, management, and politics. The development of habitat conservation plans beginning in the early 1980s, court rulings that habitat degradation and destruction constituted “harm” to listed species, and congressional affirmation of the importance of “critical habitat” in the 1978 ESA amendments have all strengthened, to varying degrees, the role of habitat conservation under the ESA. Having traced the development and evolution of this framework for habitat protection from the earliest years of the twentieth century to the contemporary battles over the interpretation of the ESA, Alagona turns to his four case studies to evaluate the successes and failures of habitat conservation for the protection of endangered species.

The narrative arc of the second half of the book, moving from the California condor to the Mojave desert tortoise, the San Joaquin kit fox, and the Delta smelt, is one of increasingly troublesome results from the acquisition of habitat for the protection of endangered species. The iconic California condor offers the most positive outcome of the four case studies, but even in this case, once the species had declined to the point at which captive breeding became necessary during the late 1980s, the solution for condor preservation and recovery required both habitat preservation and intensive scientific management. In the case of the Mojave desert tortoise, however, this combination was not enough. Alagona demonstrates how recent land use changes across the Mojave have generated a new suite of threats to the desert tortoise from development, recreation, and renewable energy development. As a consequence, even with intensive management practices in place, the establishment of vast nature reserves—including the 1.4 million-acre Mojave National Preserve—has not been adequate to reverse the decline of the species. As is true for all of his studies, these issues are timely and continue to generate intense interest in the conservation community; the Mojave desert tortoise was recently the featured story in *High Country News*, for example.⁶ In the case of both the California condor and the desert tortoise, Alagona points to how the recovery efforts fostered the further development of conservation biology, and strengthened the links between environmental law and science. This is a well-supported point, but it also raises questions (as do the remaining case studies) about the efficacy of conservation biology and of legal solutions to endangered species decline in the face of human population growth and development pressures. If there are indeed problems with the protected areas paradigm for endangered species conservation, how is the field of conservation biology itself responding and adapting to the limits of protection that can be provided even in “protected” areas? In the case of accelerating climate change, for example, conservation biologists and restoration ecologists are moving from building resilience into systems to also accepting seemingly inevitable system transitions. In regard to endangered species, how can conservation biology support

⁶ Emily Green, “Mojave Squeeze: Development and an unproven conservation strategy have put the desert tortoise in a tight spot,” *High Country News*, August 15, 2013.

a broader agenda for sustainable landscape management, a solution that Alagona proposes? In this sense, the questions that this book raises are larger in both scope and import than moving beyond the protected areas paradigm. Once we accept the limits of that approach, developed over the course of a century, how do we propose to protect endangered species and biodiversity, when human-induced changes to the land, sea, and air are felt by all species, everywhere? In his Epilogue, Alagona suggests that this is the direction in which we must move; the hard work will involve figuring out how, and if, we can create sustainable landscapes in a climatically unstable world.

The last two case studies of the San Joaquin kit fox and the Delta smelt particularly resonated with me, largely because I happen to currently live and work in California's northern San Joaquin Valley, just about half-way between the current primary range of the kit fox to the south and the Sacramento-San Joaquin Delta to the north. The San Joaquin Valley is a complicated place, with subtle but important distinctions. It is indeed a "region of aqueducts, monocultures, derricks, refineries, and migrant worker camps" (176–7), but such a description fits some parts of the valley much better than others. The southern and western parts of the valley are indeed dominated by agribusiness and, in certain areas oil, and they experience all the economic inequalities that accompany those industries. Yet much of the northern and eastern parts of the valley—which receive more precipitation, contain more rivers, and rely less on imported water—are home to a much more diversified economy, smaller farms, and more stable communities. The San Joaquin Valley actually comprises two basins, the San Joaquin Basin to the north and the Tulare Basin to the south. In the nineteenth century, this distinction was widely recognized, but as the valley's landscape was transformed and its wetlands and large lakes drained and converted to agricultural use, the distinction became ever less visible and largely forgotten.⁷ But social, economic, environmental, and even political differences remain. This distinction could perhaps have been highlighted a bit more, particularly because much of the kit fox chapter is set in the Tulare Basin, concentrating on the Metropolitan Bakersfield Habitat Conservation Plan.

As he traces the evolution of recovery plans for the kit fox since the early 1980s, Alagona reaches several disturbing conclusions. Despite having lost their protected status under the ESA in Bakersfield and its environs with the adoption of the Metropolitan Bakersfield Habitat Conservation Plan, kit foxes have not only survived but thrived within urban limits, while populations in protected natural areas elsewhere in the valley have not recovered as expected. Perhaps this outcome should be not terribly surprising, as foxes, like coyotes, are generalists, and are highly adaptable. But the potential need to supplement kit fox populations in nature preserves with individuals from unprotected urban populations does call attention to the difficulties of maintaining self-sustaining populations even in large natural areas within fragmented and altered landscapes.

⁷ See William L. Preston, *Vanishing Landscapes: Land and Life in the Tulare Lake Basin* (Berkeley and Los Angeles: University of California Press, 1981).

The problem of endangered species protection in transformed landscapes reaches its apogee in California's Sacramento-San Joaquin Delta, which has been profoundly, if not utterly, transformed in the century and a half or so since California statehood in 1850. The massive twentieth-century hydraulic engineering projects—the Central Valley Project and State Water Project—have thoroughly reorganized the Delta ecosystem as they transport enormous quantities of water from the Sacramento Valley in the north, through the Delta, to the more arid San Joaquin Valley and beyond, to southern California. Alagona is absolutely correct when he argues that the decline of endemic species—most famously the tiny fish, the Delta smelt—is “more a symptom than a cause of California's water problems” (200), as the state continues to try to meet the demands of all water claimants, demands which far outstrip the available water supply. In this way the “smelt is not a tale of animal versus people but rather a case of people versus people” (222). The example of the Delta smelt perfectly encapsulates one of Alagona's most important themes—that endangered species have often become proxies for debates over control of natural resources. This debate continues to rage in California today. The efforts of Governor Jerry Brown's administration to construct two huge water tunnels underneath the Delta—a modern-day version of the failed Peripheral Canal attempt of the early 1980s, has met with fierce political resistance from northern Californians and Delta residents, who worry that the tunnels will lead to greater water exports to the San Joaquin Valley and southern California and thus to a further decline in the quality and quantity of their own water supplies. And the debate goes beyond one set of people versus another. In an attempt to ameliorate some of the damage to the property of Delta landowners that tunnel construction would cause, the state has in recent months proposed a new alignment of the tunnels that would negatively affect a protected area for sandhill cranes. Alagona's “politics of place” is playing out brilliantly among landowners, water users, and conservationists in the Delta.

The Delta poses one of the most intractable environmental problems in the United States today. Facing massive water exports, declines in water quality, invasions of exotic species, crumbling levees, ongoing land subsidence, and rising sea levels, the Delta presents no simple solutions. Yet, ecosystem solutions for the Delta's problems, involving restoring parts of the Delta to freshwater and brackish tidal marsh, managing floodplains, practicing wildlife-friendly agriculture, and, in short, restoring ecological heterogeneity to the Delta, have been proposed.⁸ Perhaps this is one way to move beyond the protected areas paradigm—the limitations of which Alagona has enumerated throughout the book—and toward the creation of sustainable landscapes, for which he calls. We failed to create a sustainable landscape for the massive California grizzly. Is it possible that in our attempts to protect the two-inch Delta smelt (and all the cultural conflicts that this fish represents), instead of simply setting aside more protected habitat, we can find a way to create a sustainable landscape?

⁸ Jay R. Lund et al., *Comparing Futures for the Sacramento-San Joaquin Delta* (Berkeley and Los Angeles: University of California Press, 2010).

Comments by Sean Kheraj, York University

How does a historian write the story of the final days of an entire species? The history of endangered species is an apocalyptic genre of writing that is unique to environmental history. Other history sub-disciplines have certainly captured the fall of civilizations, empires, and nations, but (thankfully) historians have never had to write the story of the fall of humanity. Environmental history, with its interest in biocentric approaches to studying the past, encompasses histories of the total demise of other species. It is the most tragic genre of historical writing and, in a sense, the end of history for the subject species. Peter Alagona's *After the Grizzly*, however, is a human history, a history of those left behind and those most likely responsible for the eradication of another species.

Alagona skillfully confronts this challenging topic, taking a regional approach to understanding the US experience with endangered species legislation and the extinction of animal life. California is at once idiosyncratic and emblematic of the American experience of anthropogenic species annihilation. From the terror and charisma of the late chaparral bear to the modest and, until recently, mostly unknown delta smelt, the narrative runs through a redoubtable rap sheet of Golden State animals who found themselves on the brink of extermination in the nineteenth and twentieth centuries.

It is hard to disagree with Alagona's central argument: US endangered species law and its accompanying controversies have been proxies for broader social and political disputes over habitat protection and the politics of place. Indeed, the Endangered Species Act, whether it was intentional or not, is an incredible assertion of a biological right to a habitable Earth for all species. The effort to rescue animals from the precipice of extinction was a difficult concept for people to accept. As Mark V. Barrow highlights, naturalists did not generally accept the idea of extinction, let alone that humans possessed the capacity to entirely wipe out another species, until the early decades of the nineteenth century. Even Thomas Jefferson, according to Barrow, "had long clung to hope that the creatures whose fossil bones he had been so avidly amassing might still roam the earth."⁹ Once this idea was more generally accepted, wildlife advocates set out to protect natural spaces to ensure the survival of threatened species of animals. It was not, however, until the late decades of the twentieth century, following the ecological holocaust of industrial capitalism, that Americans were persuaded to create a legal mechanism for emergency rescue of endangered species.

In the years since Congress first passed the ESA in 1973, however, battles over its implementation have been far less admirable. In fact, the case studies that Alagona

⁹ Mark V. Barrow, "The Specter of Extinction: Taking the Long View of Species Loss" *Environmental History* 16.3 (2011): 429.

profiles often demonstrate a pettiness to the anthropocentrism of opposition to endangered species protection. As a hallmark of New Right politics, opposition to the ESA (and most other types of environmental protection law) rested not on an assertion of a human right to survival and prosperity, but a sense of entitlement to use the natural resources of the Earth as private property solely for human enjoyment, a right to exploit and pollute as we see fit. This was most evident in the case of the Mojave desert tortoise, a species whose fate might have been left in the hands of desert motorsports enthusiasts who fought to retain the absurd right to continue one of the most wasteful and environmentally irresponsible pastimes in American history. Late twentieth- and early twenty-first-century opposition to the ESA then reveals some of the ecological incompatibilities of a private property regime that only accounts for the interests of a single organism, *Homo sapiens*.

The habitat approach to endangered species protection and remediation, however, has its limits. The San Joaquin kit fox, as Alagona shows, seems to have courageously adapted to urban development. Synanthropic species are likely to have the best odds for survival in the face of industrial transformations of the Earth, but their new so-called degraded habitats do not fit neatly in the wilderness conservation paradigm. What then for the kit fox? Even the massive protected conservation areas for the Mojave desert tortoise have yet to reverse its population decline. Some endangered species seem to continue toward a path of extinction in spite of the best efforts to conserve vital habitat.

After reading through Alagona's case studies, the future of endangered species protection does not seem clear. The passage of the ESA in 1973 (and similar legislation in other countries) was, in a sense, a response to the profound human-induced ecological transformations of our current epoch, one which some ecologists and geologists now refer to as the "anthropocene."¹⁰ If in the past two to three hundred years humans have been one of the most significant forces of global ecological change, then we have also been a substantial selective agent for evolutionary change, driving one of the primary engines of evolution, species extinction. Anthropogenic global warming is, perhaps, the most likely candidate for inducing massive genetic shifts of plant and animal species around the world. Take for example, the pitcher plant mosquito (*Wyeomyia smithii*), an insect species with a genetically-controlled photoperiodic response that governs lifecycles and hibernation periods. Scientists have now detected genetic adaptations in populations of *Wyeomyia smithii* that correlate with changes in global climate in the late decades of the twentieth century. Not all animals will adapt in such a manner and those that do not will likely find their way onto an ever-growing list of endangered species.¹¹

¹⁰ Paul J. Crutzen and Eugene F. Stoermer, "The 'Anthropocene'" *Global Change Newsletter* 41 (May 2000): 17.

¹¹ William E. Bradshaw and Christina M. Holzapfel, "Genetic Shift in Photoperiodic Response Correlated with Global Warming" *Proceedings of the National Academy of Sciences in the United States of America* 98.4 (2001): 14509-14511.

Endangered species protection law confronts the troubling realities of anthropogenic evolutionary change, or as Edmund Russell puts it, “evolutionary history.” The chaparral bear, California condor, the Mojave desert tortoise, the San Joaquin kit fox, and delta smelt all shared a common problem associated with new ecological pressures induced by industrial capitalism in the nineteenth and twentieth centuries. Humans became profound selective agents for evolutionary change and, as Russell argues, “people have encouraged evolution in populations of other species, which in turn has shaped human experience.”¹² However, the concern with late twentieth century species extinctions has to do with those species whose genetic fates we did not care to promote in the way that we did for many domestic plants and animals since the Neolithic Revolution. Delta smelt served no obvious benefit to humans in the nineteenth and twentieth centuries and it also did not seem to adapt to the massive transformations of the California Bay-Delta. Therefore, it found itself on the frontlines of evolutionary change in the anthropocene. From this perspective, the ESA might seem impotent in the face of such broad and rapid ecological disruption.

That impotence is only affirmed by Alagona’s findings. Although less than one percent of the species listed under the ESA have gone extinct, less than two percent have recovered. The most aggressive approach to recovery, in the case of the captive breeding program for the California condor, was the only example in Alagona’s book of an endangered species making some kind of comeback. However, the bird is now considered a “conservation dependent” animal. What then does this say about endangered species protection and humanity’s capacity to stem the tides of extinction? The condor program caused tremendous controversy and conflict between two groups of conservationists: those who sought to protect the bird in the wild and those who saw captive breeding as the only option for the genetic preservation of the species. The case study perfectly captures Alagona’s thesis regarding the politics of place. Even though some wildlife conservationists are now exploring the potential of cloning as a strategy of endangered species protection, artificial genetic reproduction elides the broader human influences that cause species annihilation in the first place, including habitat loss. From the outset, the ESA was never intended to simply produce a DNA archive of all living species in the US so that they can be cloned and produced according to human interests and desire. It was part of a series of landmark pieces of federal legislation intended to address American anxieties regarding the ecological consequences of humanity’s epoch.¹³

¹² Edmund Russell, *Evolutionary History: Uniting History and Biology to Understand Life on Earth* (New York: Cambridge University Press, 2011), 1.

¹³ Ferris Jabr, “Will Cloning Every Save Endangered Animals?” *Scientific American Online*, last modified 11 March 2013, <http://www.scientificamerican.com/article.cfm?id=cloning-endangered-animals>.

Response by Peter S. Alagona, University of California, Santa Barbara

It has been one year since the publication of *After the Grizzly*, and during that time I have had the occasion to participate in many gratifying discussions about the book with students, colleagues, and non-academic readers. But talking is one thing; reading and being asked to respond to reviews, written by a trio of learned colleagues working on closely related topics, is an intellectual challenge on a whole other level. It is also a wonderful opportunity, and one rarely afforded in our current academic publishing culture. H-Environment roundtables provide a unique and valuable service. I would like to begin, therefore, by extending my heartfelt thanks to all of those who produce and support this website. This includes my three reviewers—Philip Garone, Laura Watt, and Sean Kheraj—as well as Jake Hamblin for his outstanding work as Roundtable Editor over the past few years.

After the Grizzly is my first academic monograph, loosely based a dissertation I wrote as a doctoral candidate in history at UCLA. Everyone who writes books knows that the first one is almost always the most difficult for the simple reason that the author must write a book while learning how to write a book. Dissertations, I now realize, prepare young scholars only partially for the task of rendering their ideas for a broader audience. Even for more experienced authors, the route to completion is riddled with impassable headwalls, yawning crevasses, knife-edged ridges, and more than a few false summits.

My own process took more than a decade from start to finish. Only two chapters, the condor and tortoise case studies, survived in any recognizable form from the dissertation to the book. All of the others emerged, from scratch, in the years after graduate school when I was a postdoctoral fellow and then an assistant professor. I completely rewrote the introduction and conclusion just weeks before submitting my revised manuscript. And in the final draft, I cut 30,000 words—or around 100 pages—of prose and notes. The result is a leaner, meaner, and much better product. But it is also a book that required many tough choices and compromises.

As the reviewers in this forum note, some of these choices and compromises are all too evident. Garone, for example, notes that despite my stated focus on space and place, *After the Grizzly* pays little attention to the internal diversity of vast regions such as the San Joaquin Valley. The same could be said of the Mojave Desert, another landscape that plays a prominent role in my story. For Kheraj, one of the book's shortcomings is its thin treatment of New Right political movements, from the Sagebrush Rebellion to the Tea Party, at the center of so many endangered species controversies over the past four decades. These are valid criticisms, and yet they barely broach the big issues I thought I was confronting as I worked on this project.

So if I have one complaint about the reviews in this forum it is that they are perhaps a little too generous, a little too forgiving. Did I really make a compelling case that the California story can serve as a kind of national metonym—at once unique,

influential, and representative of the American experience with imperiled wildlife? Did I dedicate enough analysis to the long history of ideas about habitat that involve issues other than endangered species? And did I do justice to the diversity of approaches in contemporary conservation biology beyond what I call the “protected areas paradigm”? These are just a few of the open questions I leave to my readers; I hope they generate many fruitful discussions.

What these three reviews all do extraordinarily well, I think, is point out the challenges of writing contemporary history—history that involves living memory and has some relevance to current affairs.¹⁴ Garone approaches this issue by asking what landscape-level conservation, which I recommend as a future focus of endangered species recovery efforts, might even mean in a world being transformed by global climate change. Watt, reflecting on her own experience studying national parks, wonders how conservation outside nature reserves can succeed when management problems inside reserves confront such profound ecological and political uncertainty and complexity. For Kheraj, the problems run deeper. Although stories about endangered species appeal to readers’ most nostalgic or even apocalyptic tendencies, these narrative approaches are beginning to seem downright quaint in a biosphere increasingly dominated by human action. All three reviewers wanted more from my conclusion that conservationists need to move past their focus on nature reserves to embrace the broader goal of creating sustainable landscapes. And all three agree that although *After the Grizzly* makes the past and present more comprehensible, it does little to illuminate the path forward.

These are tough comments, but they are not unexpected. Indeed, they involve a question at the heart of all contemporary history: can knowledge about the past inform the future? Or, to put it another way, can historical scholarship shape history itself?

Any historian attempting to answer this question must confront some stark realities. Changing the course of history may be a worthy goal, but it is not part of a historian’s job description. The idea that humanistic scholarship can have some relevance to contemporary issues, and that scholars should seek to cultivate these connections, although common within the field of environmental history, is the subject of considerable debate in history and the humanities more generally.¹⁵ Knowledge about contingent past events would seem to provide only limited guidance for dealing with unpredictable future events. Even in rare cases in which historians can draw unambiguous lessons from the past with direct bearing on specific current problems, most such scholars have little access to audiences with

¹⁴ This is not the first time the relationship between historical scholarship and contemporary issues has emerged in an H-Environment forum. See, for example, Paul W. Hirt, *The Wired Northwest: The History of Electric Power, 1870s-1970s*, Roundtable Review, Vol. 4, No. 2 (2014).

¹⁵ See, for example, the winter 2009 issue of *Dædalus*, with its collection of essays entitled “Reflecting on the Humanities.”

the power to influence collective decisions. As a result, most historians avoid specific recommendations, and few scholarly works have any measurable influence on public discourse or the policy-making process.

These are not exactly the same issues as those raised in a recent *Journal of American History* forum, but they are pretty close. In this newest attempt to describe the status environmental history, the contributors, including Paul Sutter, the author of the lead historiographical essay, reflected on and fretted about the direction of the field.¹⁶ The contributors all agreed that the environmental history has become more diverse and sophisticated over the past couple decades. Yet they parted ways on the question of whether it had benefitted from its increased focus on the complexity and hybridity of nature and culture, as opposed to the more activist, mission-oriented approach of an earlier generation. This is, of course, just another way of debating about the relationship between historical scholarship and contemporary issues.

A few works of environmental history have had a disproportionate influence on politics and policy by helping to provide an intellectual rationale for larger social movements. Roderick Nash's classic tome, *Wilderness and the American Mind*, is one example.¹⁷ Love it or hate it, Nash's book, now in its fourth edition, became a kind of bible for wilderness preservationists beginning in the late 1960s. In the years since, it has achieved a kind of immortality reserved for only the rarest of scholarly works: it has passed from the status of a secondary source *on* the history of wilderness to a primary source *in* the history of wilderness—a document indicative of the era, nearly half a century ago, in which it first appeared. And yet, Nash's book, a celebration of twentieth century bourgeois environmentalism dubiously advertised as a historical study of "the American mind," is exactly the kind of Whiggish scholarship that has fallen out of fashion among environmental historians.

At this point, I should admit that I am not entirely sure where all of this leads and I do not have any clear answers. What I can do, though, is offer some thoughts based on my experience of writing a book with the goal of reaching audiences outside my discipline—including scientists, activists, and public officials—all of whom are concerned mainly with the present and future.

First, in the process of writing this book, I learned that the specter of presentism was not nearly as fearsome as I had been taught. An interest in current issues does not necessarily lead to an anachronistic depiction of the past, and projecting contemporary ideas onto past events is a well-known fallacy that any serious

¹⁶ Paul Sutter, David Iglar, Christof Mauch, Gregg Mitman, Linda Nash, Helen M. Rozwadowski, and Bron Taylor, "Roundtable: The World With Us: The State of American Environmental History," *Journal of American History* 100:1 (June 2013), pp. 94-148.

¹⁷ Roderick Nash, *Wilderness and the American Mind, Fourth Edition* (New Haven: Yale University Press, 2001).

scholar should be able to avoid. In fact, an unwillingness to see familiar ideas in earlier times, even when they appear in the sources, although convenient for historians seeking to construct narratives about change over time, can blind us to the motives and accomplishments of previous generations and misleadingly flatter us about the originality of our own. The history of wildlife conservation, for example, has often been told as a progression of new ideas unfolding over the past 150 years. But in my work, I found that most of the key concepts in this history emerged by the end of the Progressive era. They were not very popular or well known, but they were there. The implication, in this case, is that it is not a march of ideas that should define our understanding change over time, but rather the distribution of power that allowed certain ideas to gain political traction in different periods. This insight does not solve the problem of how to better connect historical research to present concerns, but I hope it helps empower young scholars to not be afraid of applying historical methods to the recent past or of drawing meaningful connections between the past and the present.

Second, an unavoidable problem with writing history that attempts to speak to present concerns is that the present is always in motion. It took fifteen years, from the time I began studying endangered species until the publication of *After the Grizzly*. During that time, three presidential administrations occupied the White House and four California governors presided over Sacramento. The population of California condors increased from a few dozen to more than 400, and the world's most famous conservationist, Jane Goodall, declared the species' recovery program a success (prematurely, in my view).¹⁸ The desert tortoise became the flagship species for conservation in the Mojave Desert, even as its numbers plummeted. The San Joaquin kit fox's population remained fairly stable, but the landscape where it lived underwent massive changes. The delta smelt briefly became the country's most infamous endangered species, only to disappear again into the political backwaters from whence it came. California saw its first wild gray wolf and wolverine in eighty years, and controversies raged around the state regarding sea otters, bighorn sheep, steelhead trout, and dozens other protected species. Even the humble arroyo toad made national news when it popped up in the confirmation hearings for John Roberts, when he was vying to become the new Chief Justice of the U.S. Supreme Court.¹⁹

Of all the animals I studied, only the California grizzly behaved anything like a stable target of historical inquiry. But even the permanence of extinction is now in question. I started thinking about endangered species at about the same time as the 1993 release of Steven Spielberg's blockbuster film *Jurassic Park*. Since then, advances in synthetic biology have made experiments in "deextinction," once a

¹⁸ Jane Goodall, Thane Maynard, and Gail Hudson, *Hope for Animals and Their World: How Endangered Species Are Being Rescued from the Brink* (New York: Grand Central Publishing, 2006).

¹⁹ Adam Cohen, "Is John Roberts Too Much of a Judicial Activist?" *The New York Times*, 27 August 2005.

subject only of science fiction, not just possible but inevitable.²⁰ When I began, the field of conservation biology was young and energized and growing. Today, despite the establishment of millions of acres of nature reserves around the world, there is a widespread belief that biodiversity conservation efforts are failing.

Herein lies the dilemma: historians who understand the basic principles of our discipline need not fear presentism, but how can we make our scholarship speak to current concerns when the present is so complicated and always in motion?

One answer to this question involves the register (a musical metaphor referring to the pitch, timbre, and range) in which an author chooses to work. This is where the lessons I was willing to draw from my research depart from the wishes of my three H-Environment reviewers. In the epilogue, I frame the history of endangered species in the United States as a mixed story. There are many reasons for this, but I make the case that much of it has to do with the problematic historical relationships—biophysical, scientific, legal, bureaucratic, cultural, and economic—between species and their habitats. This is evident in the contradiction between the vast scope of global habitat protection and the negative outlook for many endangered species. Protected nature reserves, I conclude, are essential but insufficient to maintain global biodiversity in the twenty-first century. I note several positive trends, such as scientists beginning to rethink traditional approaches to habitat conservation, and I offer some specific recommendations for ways to improve the Endangered Species Act. Garone, Watt, and Kheraj all hoped for more. But this seemed like a lot for one book, and I did not want to overreach; it was as far as I was willing to go.

I have another answer to this question that may be a bit more satisfying. Writing can be a solitary experience. Yet as I neared completion of my book, and especially in the year since its publication, I have become aware my work was part of a much larger movement to assess the past, present, and future of conservation biology.²¹ This field will probably look quite different in the years to come, and *After the Grizzly* may play some small part in the debate that surrounds its evolution. Recent reviews in *Science* and *Conservation Biology* indicate that scientists are taking the book seriously, and I have had several stimulating conversations that suggest the same. If this turns out to be the case, then my study of the past will have succeeded as an exercise in contemporary history, but I will not know until sometime in the future.

²⁰ Nathaniel Rich, "The Mammoth Commeth," *The New York Times Magazine*, 27 February 2014.

²¹ See, for example, Paul Voosen, "Who is Conservation For?" *The Chronicle of Higher Education: The Chronicle Review*, 10 November 2013.

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