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"Pestered with Inhabitants": Aldo Leopold, William Vogt, and More Trouble with Wilderness

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This paper contends that Aldo Leopold's pursuit of unpeopled wilderness had a disturbing corollary—a disdain for human population growth that culminated in a critique of providing food and medical aid to developing nations. Although Leopold never fully shared these ideas with the public, he explored them in multiple unpublished manuscripts, and he submitted a first draft of one of these essays to a press. Leopold also exchanged these views with the most popular environmental Malthusian of his day, William Vogt, whose exposition of nearly identical arguments won him national fame. By revealing connections between wilderness thought and callous proposed social policy, this paper identifies a new dimension of what environmental historian William Cronon called the "Trouble with Wilderness." This manuscript further calls into question whether the concept of wilderness is inherently exclusionary and misanthropic.

Key words: *Aldo Leopold, William Vogt, wilderness, Malthusianism, environmental justice*

In summer of 1948, American ornithologist William Vogt published a provocative book entitled *Road to Survival*, exploring the social and environmental costs of human crowding. A year later, friends and family of the deceased conservationist Aldo Leopold posthumously printed a series of his meditations on wilderness as *A Sand County Almanac and Sketches Here and There*. Leopold's work has become a sacred text to environmentalists, but *Road to Survival* was initially even more influential, becoming the bestselling work by an American environmental author prior to Rachel Carson's 1962 classic, *Silent Spring*.[1]

The author would like to thank Chad Anderson, Ari Kelman, Lisa Onaga, Thomas Robertson, Joseph E. Taylor III, Louis Warren, three anonymous reviewers, the editorial team of *Pacific Historical Review*, and the Social Sciences and Humanities Research Council of Canada.

1. For a useful discussion of the religious overtones of the American environmental movement, see Thomas R. Dunlap, *Faith in Nature: Environmentalism as Religious Quest*

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Leopold remains a patron saint for the environmental movement, while Vogt has largely slid into obscurity, in spite of recent historical work demonstrating his contributions to the emergence of American environmentalism. Vogt's decline likely owes primarily to the unpalatable elitism and callous disregard for human life—especially in the developing world—that pervaded his ecological arguments for global population control. What few now realize, though, is that Vogt developed these ideas in dialogue with Leopold, and that the latter shared some of Vogt's most shocking and seemingly misanthropic inclinations, particularly his critique of providing medical aid to impoverished nations.[2]

This paper explores some of Leopold's more troublesome convictions, largely by examining the Malthusian arguments he developed in conversation with Vogt. My intention is not to carry out a character assassination on one of America's most beloved nature writers, however. Leopold was an intelligent and sensitive man who thought as deeply about the human relationship to the natural world as anyone before or since. But the very fact that even so careful a thinker as Leopold could contemplate ethically questionable policies in pursuit of his environmental vision raises important questions about the potential moral distortions embedded in the American conception of wilderness—as unpeopled space—that Leopold inherited, refined, and championed. I do not ask environmentalists to forsake their love of outdoor nature, or even Leopold's often stirring defense of it, only that we be mindful of where the idea of *wilderness* can lead us. In this respect, I believe Leopold serves as a cautionary tale.[3]

(Seattle: University of Washington Press, 2004). For William Vogt's sales figures, see Pierre Desrochers and Christine Hoffbauer, "The Post War Intellectual Roots of the Population Bomb—Fairfield Osborn's 'Our Plundered Planet' and William Vogt's 'Road to Survival' in Retrospect," *Electronic Journal of Sustainable Development* 1, no. 3 (2009): par. 7, http://www.ejsd.org/public/journal_article/12; Gregory T. Cushman, "'The Most Valuable Birds in the World': International Conservation Science and the Revival of Peru's Guano Industry, 1909–1965," *Environmental History* 10, no. 3 (July 2005), 494–95.

2. To avoid word repetition, this paper uses "population limitation" and "population control" interchangeably. I do not intend the latter to imply the use of coercion. For Vogt's contributions to environmentalism, see Cushman, "The Most Valuable Birds in the World," 477–509; Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 4.

3. William Cronon has famously made similar assertions, although not in relation to environmental Malthusianism. William Cronon, "The Trouble with Wilderness; Or,

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In recent years, Robert Gottlieb, Gregory Cushman, Pierre Desrochers, Christine Hoffbauer, and Thomas Robertson have explored the convergence of wilderness thought, Malthusianism, and environmentalism in the mid-twentieth-century United States. Yet this subject is so central to how Americans have interacted with nature and foreign peoples that it warrants further scrutiny. While the preceding scholars have addressed the relationship between Leopold and Vogt to varying degrees, this study examines their connection in more detail, and with a far greater emphasis on how their understandings of wilderness shaped their Malthusian beliefs. Through increased attention to unpublished archival sources, we gain a fuller sense of what motivated Leopold's and Vogt's fears of overpopulation, and how and where these fears led them astray. Dread of overpopulation is an underexplored aspect of Leopold's wilderness thinking, and environmentalism is an often-overlooked factor in the rise of American Malthusianism. At the same time, this essay does not seek to refute the excellent work that precedes it. While this piece focuses on how the pursuit of wilderness shaped Leopold's and Vogt's arguments for population limitation, this is not to say that the fears of overindustrialization and excess consumption highlighted by previous authors, Robertson in particular, did not also play a major role. Indeed, Leopold and Vogt likely saw love of wilderness and antipathy toward industrial growth as logically intertwined.[4]

In an essay revised numerous times over the course of the late eighteenth and early nineteenth centuries, English clergyman Thomas Malthus famously attributed much of human misery to "the constant tendency in all animated life to increase beyond the nourishment prepared for it." Like future U.S. authors, Malthus bolstered

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Getting Back to the Wrong Nature" in *Uncommon Ground: Toward Reinventing Nature* (New York: W. W. Norton and Company Ltd., 1995), 69–90.

4. Authors listed in order of publication. Cushman, "The Most Valuable Birds in the World," 494–95; Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 2–76; Robert Gottlieb, *Forcing the Spring: The Transformation of the American Environmental Movement* (Washington, D.C.: Island Press, 2005), 71–74. Thomas Robertson also notes that the idea of wilderness contributed to the rise of Malthusianism, but he does not develop this point. His work, however, presents an intelligent and timely overview of interwar environmental Malthusianism, with an emphasis on broad apprehensions concerning overindustrialization and consumption. Thomas Robertson, *The Malthusian Moment: Global Population Growth and the Birth of American Environmentalism* (Rutgers, N.J.: Rutgers University Press, 2012), 25–54; Robertson, "Total War and the Total Environment: Fairfield Osborn, William Vogt, and the Birth of Global Ecology" *Environmental History* 17, no. 2 (Feb. 2012): 336–64.

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his claims with examples from nature. Observing that plants and animals possessed a "powerful instinct" to reproduce, Malthus claimed that environments corrected the resulting surfeit through "want of nourishment," and animals "becoming prey of each other." He concluded that because people increased their population at a "geometric ratio," while food production rose only at an "arithmetic ratio," humans could never fully overcome scarcity, want, and conflict.[5]

For Americans, occupying a continent of supposedly uninhabited wilderness, Malthus's ideas did not initially carry the same urgency as they did for Europeans. But the issue of population growth garnered increasing attention in the United States over the course of the twentieth century, before cresting with ecologist Paul Ehrlich's 1968 bestseller, *The Population Bomb*. Prior to Ehrlich, however, there was Vogt, who for nearly two decades following the publication of *Road to Survival* was the nation's most prominent critic of human crowding, at least in terms of book sales, and whom Ehrlich credited with helping inspire his own crusade.[6]

Vogt devised these ideas in conversation with other environmental Malthusians, including Henry Fairfield Osborn, Jr., as well as with U.S. ecologists and conservationists, including Leopold. While it is impossible to prove that Leopold's thinking directly shaped Vogt's, or vice versa, Leopold and Vogt discussed population issues, exchanged research on the subject, and arrived at converging conclusions, all the while lauding each other's work. Their nearly identical arguments for standing idly by while the world's poor starved or succumbed to disease remind us that the dogged pursuit of unpeopled wilderness and environmental stability can easily slide into elitist misanthropy.

Beginning in the 1920s, Leopold helped articulate an enduring understanding of wilderness as unpeopled space reserved for individual, national, and perhaps even racial rejuvenation. As he worked to defend this vision, he became increasingly critical of population growth. In the ensuing decades, Leopold's understanding of wilderness evolved to allow for less human interference. He abandoned efforts to boost game populations by eradicating predators, marking

5. T.R. Malthus, *An Essay on the Principle of Population*, ed. Donald Winch (Cambridge: Cambridge University Press, 1992 [1803]), 14.

6. Paul Ehrlich, *The Population Bomb: Population Control or Race to Oblivion* (New York: Sierra Club/Ballantine Books, 1968). For Vogt's influence on Paul Ehrlich, see Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 7.

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a major break with his prior thinking. He made this transition after concluding that when freed from predation, overprotected game exceeded its environment's carrying capacity and denuded the resources on which it depended for survival. Leopold drew a parallel with humans who, through overpopulation, endangered the planet's soils and water. Although he presented these ideas in his game management lectures, he never published a developed formulation of this position. Through a series of letters and face-to-face interactions, however, he exchanged these ideas with Vogt, whose exposition of convergent conclusions in *Road to Survival* earned him national fame.

Although Vogt emphasized overconsumption and industrial expansion in his published writings, he also shared Leopold's conviction that population growth was robbing Americans of the opportunity to enjoy the rejuvenating environs of unoccupied wilderness. Vogt further mirrored his colleague by drawing comparisons between overcrowded game animals and human populations. Vogt believed that doctors who sought to eradicate diseases in Third World countries contributed to human overpopulation, much as conservation officers who exterminated wolves produced landscapes overrun with deer. In both instances, humans removed natural checks on population growth, threw the balance of nature off kilter, and initiated future environmental depletion.[7]

Born on January 11, 1887, in Burlington, Iowa, Leopold came of age in a wilderness-loving family of German extraction. He joined the Forest Service in 1909, after receiving an M.A. from Yale's School of Forestry. But by 1913, he had determined to transition from forestry to game management. Leopold initially endorsed the domineering attitude toward nature advocated by Progressive Era utilitarian conservationists. Specifically, he sought to boost game populations through predator eradication. In 1920 he warned participants in the National Game Conference in New York that they could not consider their job "fully successful" until they had killed "the last wolf or lion in New Mexico."[8]

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7. Vogt, *Road to Survival* (New York: William Sloane Associates, Inc., 1948), 48, 164, 193.

8. Susan L. Flader, "A Biographical Study of Aldo Leopold: Thinking Like a Mountain," *Forest History* 17, no. 1 (Apr., 1973), 1–19; Michael J. Lannoo, *Leopold's Shack and Ricketts's Lab: The Emergence of Environmentalism* (Berkeley: University of California Press, 2010), 8, 15; Mark V. Barrow, Jr., *Nature's Ghosts: Confronting Extinction from the Age of*

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Although still upholding the necessity of human stewardship in the form of fire suppression and predator control, in the early 1920s Leopold began encouraging the Forest Service to maintain some of its holdings in a state of "wilderness." Leopold defined wilderness as "a continuous stretch of country preserved in its natural state, open to lawful hunting and fishing, big enough to absorb a two week's pack trip, and kept devoid of . . . works of man," and he believed these types of places had nearly vanished in the United States. In 1924, he persuaded the service to establish the nation's first wilderness area in Gila National Forest.[9]

To promote his vision of wilderness, Leopold drew on well-worn arguments. In a series of articles in the mid-1920s, he described wilderness as a "fundamental instrument for building citizens." Hearkening back to the frontier myth articulated by Frederick Jackson Turner and Theodore Roosevelt, Leopold elaborated his position: "For three centuries [wilderness] has determined the character of our development; it may, in fact, be said that, coupled with the character of our racial stocks, it is the very stuff America is made of. Shall we now exterminate this thing that made us American?" Leopold believed that frontier virtues were "not only bred into our people, but built into our institutions." Through this allusion to "breeding," he hinted that wilderness had shaped the American people not only socially but also genetically. He added that, if the nation hoped to retain its democratic institutions, it would have to preserve "the environment which produced them." To this end, Leopold called for "public wilderness areas"

Jefferson to the Age of Ecology (Chicago: University of Chicago Press, 2009), 225; Donald Worster, *Nature's Economy: The Roots of Ecology* (San Francisco: Sierra Club Books, 1977), 259, 262–63, 287; Christian C. Young, *In the Absence of Predators: Conservation and Controversy on the Kaibab Plateau* (Lincoln: University of Nebraska Press, 2002), 24; Jon T. Coleman, *Vicious: Wolves and Men in America* (New Haven, Conn.: Yale University Press, 2004), 195, quoted in Flader, "A Biographical Study of Aldo Leopold," 15.

9. Aldo Leopold, "Wilderness and Its Place in Forest Recreation Policy," 62 (reprinted from the *Journal of Forestry* 19, no. 7), folder 001, box 001, series 9/25/10-6, Aldo Leopold Archives, University of Wisconsin Digital Collections, http://digital.library.wisc.edu/1711.dl/AldoLeopold [hereafter Leopold Papers]. See also Barrow, *Nature's Ghosts*, 226; Flader, "A Biographical Study of Aldo Leopold," 20; Dietmar Schneider-Hector, "Aldo Leopold Wilderness: Ensuring a Legacy While Protecting 'A Ruggedly Beautiful Country'" *Journal of the Southwest* 51, no. 3 (Autumn 2009): 382. For an excellent discussion of how Aldo Leopold's forest policies in New Mexico perhaps inadvertently curtailed Indian hunting practices, see Louis S. Warren, *The Hunter's Game: Poachers and Conservation in Twentieth-Century America* (New Haven, Conn.: Yale University Press, 1999), 71–100.

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that would allow "the more virile and primitive forms of outdoor recreation to survive the [loss] of pioneering."[10]

Perhaps unthinkingly, Leopold was tapping into a longstanding belief that the Anglo-American race had emerged through the interaction of a superior biological stock with a refining wilderness. Further hearkening to this powerful myth, he noted in 1924 that "Pioneering has absorbed the best brawn and brains of the Nordic race since the dawn of history" and added that anthropologists had determined "Nordics" possessed "a racial genius for pioneering, surpassing all other races." When Leopold additionally contended that "interest in wildlife is a racial inheritance" he, intentionally or not, encouraged his audience to regard wilderness primarily as a moral training ground for white Americans. In this instance, however, Leopold may have been referring to a broader human race.[11]

Leopold, whose Hispanic wife hardly qualified as "Nordic," may not have intended his language to be so exclusionary. But we can easily see how nonwhite readers would have questioned whether Leopold's wilderness held a place for them, especially when the term "Nordic" was one of a number of new racial categories so-called Old Stock white Americans had developed in the second half of the nineteenth century to distinguish themselves from allegedly inferior immigrants from Southern and Eastern Europe. In the mid-1920s, soon after Leopold's writing, a shared desire to distinguish themselves from increasing numbers of African Americans in

10. Leopold's "Fundamental instrument" quote is from an article titled "The Last Stand of Wilderness," and his other quotes are from "Wilderness as a Form of Land Use." For more on the frontier writings of Frederick Jackson Turner and Theodore Roosevelt, see Richard Slotkin's *Gunfighter Nation*. Leopold, "The Last Stand of Wilderness: A Plea for Preserving a Few Primitive Forests, Untouched by Motor Cars and Tourist Camps, Where Those Who Enjoy Canoe or Pack Trips in Wild Country May Fulfill Their Dreams," *American Forests and Forest Life,* October 1925, 602; Leopold, "Wilderness as a Form of Land Use," *Journal of Land and Public Utility Economics* 1, no. 4 (Oct., 1925): 400, 401; Richard Slotkin, *Gunfighter Nation: The Myth of the Frontier in Twentieth-Century America* (New York: Atheneum, 1992), 10, 29.

11. "Interest in wildlife . . . " from Leopold, "The Decline: A Vest Pocket History of the Resource Game," (no date), p. 860, ff. 002, b. 001, 9/25/10-6, Leopold Papers. All other quotes from Leopold, "Pioneers and Gullies: Why Sweat to Reclaim New Land When We Lack Sense Enough to Hold on to the Old Acres?" *Sunset Magazine*, May 1924, 15. For longstanding associations between American whiteness and wilderness, see Jake Kosek, *Understories: The Political Life of Forests in Northern New Mexico* (Durham, N.C.: Duke University Press, 2006), 144–61.

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cities, particularly in the North, helped convince most Euro-Americans to reassume the equally artificial identity of "Caucasian" or "white." By reiterating the myth of wilderness-as-Nordic-frontier, Leopold helped perpetuate an enduring divide between America's environmental movement and the nation's nonwhite citizenry.[12]

The generation of conservationists preceding Leopold had drawn even stronger connections between environmental health and the racial vigor of white Americans. Madison Grant, William Temple Hornaday, David Starr Jordan, Henry Fairfield Osborn, Sr., Theodore Roosevelt, and other prominent wilderness advocates maintained that civilization, specifically growing cities, markets, and industries, imperiled native flora and fauna, as well as "white" Americans (a racial category sometimes restricted to "Nordics" or "Anglo-Saxons," depending on the author and era). These conservationists worried that too many whites labored within factories that consumed their racial vigor and simultaneously devoured the nation's plants and animals. As growing markets and more efficient forms of transportation increasingly linked the Old World to the New, many wilderness advocates despaired that alien species would destroy ancient native flora and fauna through predation, competition, and interbreeding. Conservationists like Hornaday and Grant drew parallels between these invasive species and the Eastern and Southern European immigrants they foretold would destroy the U.S. racial stock through conflict and miscegenation. Moreover, Osborn, Grant, and Jordan feared that increasingly lethal methods of trophy hunting and warfare threatened to remove the nation's finest game animals and white men, respectively, permanently devitalizing ancient bloodlines.[13]

Drawing a direct connection between the decline of U.S. wildlife and the degeneration of the white race, prominent conservationists

12. Matthew Frye Jacobson, *Whiteness of a Different Color: European Immigrants and the Alchemy of Race* (London: Harvard University Press, 1998), 1–8. For enduring feelings of alienation among nonwhites toward parks and wilderness, see Susan G. Davis, *Spectacular Nature: Corporate Culture and the Sea World Experience* (Berkeley: University of California Press, 1997), 37–38. Also see Carolyn Merchant, "Shades of Darkness: Race and Environmental History" *Environmental History* 8, no. 3 (Jul., 2003): 380–94.

13. Miles A. Powell, *Vanishing Species, Dying Races: A History of Extinction in America* (Ph.D. dissertation, University of California, Davis, 2012), 103–50; Garland E. Allen, "'Culling the Herd': Eugenics and the Conservation Movement in the United States, 1900–1940," *Journal of the History of Biology* 46 (2013): 36; Jonathan Peter Spiro, *Defending the Master Race: Conservation, Eugenics, and the Legacy of Madison Grant* (Lebanon, N.H.: University Press of New England, 2009), 136, 272.

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often pushed as hard for the passage of immigration restriction and eugenics legislation as for conservation bills. For these reformers, the three movements became inextricably linked. Conservationists like Grant, Hornaday, Osborn, and Roosevelt expected policymakers to conserve the nation's wilderness to serve as an evolutionary gymnasium for white Americans. Yet these individuals did not believe that temporary forays into the outdoors were sufficient to reverse the degenerative effects of over-civilization. Therefore, they pushed for legislators to draw on eugenic strategies devised in the conservation of wilderness, such as rooting out foreign pests and culling stock, to maintain a vital white race and a powerful, enduring nation. Indeed, in correspondence with Osborn, Grant described conservation and race-based eugenics as parallel movements, for both were "attempts to save as much as possible of the old America." Leopold almost certainly did not share all of these concerns, but this was a strand in the intellectual tradition he drew on with his call to preserve the landscape of Nordic pioneering.[14]

In their laments for the dwindling frontier, other wilderness advocates primarily emphasized the tragedies of environmental depletion and species extinction. Leopold highlighted these issues, but he also recognized that the frontier could only exist in sparsely settled areas. Thus, in his published and unpublished works between the 1920s and early 1940s, he laced his defense of wilderness with disdain for human population growth, an element of his thinking that has received little attention from historians. Slightly misquoting British explorer Sir Humphrey Gilbert, Leopold wrote in 1920 that Americans should not "live miserably within a realm pestered with inhabitants," but rather "venture forth as becometh men, into . . . remote lands." Later noting that wilderness had "helped build the race for . . . innumerable centuries," he cautioned the American people to take steps to preserve landscapes necessary for their "spiritual and physical welfare," even if "at the cost of acquiring a few less millions of . . . population in the long run." "The real threat to 'outdoor America,'" Leopold surmised, "lies not in the

14. Powell, *Vanishing Species, Dying Races*, 103-50; Allen, "'Culling the Herd,'" 36. Quote from Spiro, *Defending the Master Race*, xiii. For a superb discussion of the relationship between conservation and eugenics in California, see Alexandra Minna Stern, *Eugenic Nation: Faults and Frontiers of Better Breeding in Modern America* (Berkeley: University of California Press, 2005), 115–49.

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particular agencies which destroy it, but in the multiplication of people who think it is nice but not necessary."[15]

Again deploying frontier imagery to depict how demographic growth imperiled wilderness, Leopold noted in 1925 that Americans had "sowed [their] sons like apple seed/In the trail of the prairie wagons." He added that the nation had "sowed them so thick that tens of thousands are killed each year trying to keep out of the way of each other's motors," and questioned whether "this thickness is necessarily a blessing to the sons." Through this pessimism, Leopold hinted that his defense of wilderness emerged partly in opposition to the proliferation of roadways and automobiles, which were bringing unprecedented numbers of people to U.S. parks and national forests by the mid-1920s. More generally, this hostility toward auto-tourism hinted that, for Leopold, protecting wilderness and opposing the excesses of industrial civilization often went hand in hand.[16]

Leopold feared that overpopulation posed an existential threat to the American people. Claiming in 1925 that "the determining characteristic of rational beings" was "self-directed" evolution, he identified as an example of the opposite, "the potato bug, which *blindly obedient to the law of increase*, exterminates the potato and thereby exterminates himself." Decades later, Leopold returned to this metaphor, and he warned that in light of the "Nordic genius for reducing . . . wilderness"—a potentially terribly destructive force—Americans might follow the potato bug's lead. But he hoped that they would instead recognize "that enlarging the range of individual experience is as important as enlarging the number of individuals." In a seeming paradox, Leopold believed that the American people,

15. Leopold's "Live miserably . . . ," "helped build . . . ," and "real threat" quotes are taken from the following writings, in order. (Curt D. Meine also quotes "helped build.") Leopold, "A Man's Leisure Time," Address to University of New Mexico Assembly, 15 October 1920, p. 346, ff. 005, b. 016, ser. 9/25/10-6, Leopold Papers; Leopold, "The River of the Mother of God," p. 382, ff. 005, b. 016, ser. 9/25/10-6, Leopold Papers; Leopold, "Naturalism and Conservation," p. 441, ff. 005, b. 016, ser. 9/25/10-6, Leopold Papers; Curt D. Meine, *Aldo Leopold: His Life and Work* (Madison: University of Wisconsin Press, 2010), 207.

16. Quote from Leopold, "Conserving the Covered Wagon: Shall We Save Parts of the Far Western Wilderness from Soft 'Improvements'?," *Sunset Magazine*, March 1925, 21. For the role of automobile tourism in the development of Leopold's wilderness ethic, see Paul S. Sutter, "'A Blank Spot on the Map': Aldo Leopold, Wilderness, and U.S. Forest Service Recreational Policy, 1909–1924," *Western Historical Quarterly* 29, no. 2 (Summer 1998): 192–94; Sutter, *Driven Wild: How the Fight against Automobiles Launched the Modern Wilderness Movement* (Seattle: University of Washington Press, 2002), 1–15.

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perhaps "Nordics" in particular, imperiled their continued survival by multiplying too prolifically, and thereby crowding the frontier that had forged their stock in the first place. (Here, Leopold offered an unusual take on the contemporary issue of white American "race suicide." Leading thinkers like Theodore Roosevelt and Madison Grant typically worried that inadequate, rather than excessive, reproduction doomed the race.) Reworking a passage from Shakespeare's *Hamlet* in the mid-1930s, Leopold fretted that America's human population might very well "die of its own too much." Later, in one of the most famous essays in *A Sand County Almanac*, "Thinking Like a Mountain," Leopold applied the same phrase to New Mexico's deer. This linguistic reuse hints that Leopold's opposition to human crowding of wilderness may have shaped his interpretation of animal populations, and vice versa.[17]

Some of Leopold's contemporaries perceived a degree of elitism and even outright misanthropy in his calls for unpeopled wilderness. In 1926, American forester Howard R. Flint published an article critiquing Leopold's philosophies. "Perhaps if one closely analyzes the arguments of the true 'wilderness' advocate," Flint determined, "it will become apparent that it is not roads but people he objects to." Flint added that "Perhaps [Leopold] wants the 'wilderness' to himself and the elect few, and objects to roads because they inevitably bring other people." Two years later, another forester, Manly Thompson, also accused Leopold of exclusionism. "What makes the wilderness wild?" Thompson enquired. "Exclusion of the hoi polloi . . . How can we exclude said hoi polloi? Keep the wilderness inaccessible." As these authors aptly recognized, Leopold's understanding of wilderness not only bore traces of the racial theories of an earlier generation of American conservationists but also retained some of their class prejudices.[18]

17. "The determining . . . " and "that enlarging . . . " from Leopold, "Wilderness as a Form of Land Use," 400–404, emphasis mine. "Nordic Genius . . . " from Leopold, "Erosion as a Menace to the Social and Economic Future of the Southwest," *Journal of Forestry* 44, no. 9 (Sept. 1946): 627–33. "Die of . . . " from Leopold, "'Social Consequences' Material," p. 437, ff. 005, b. 016, ser. 9/25/10-6, Leopold Papers. For more conventional understandings of "race suicide" among Leopold's contemporaries, see Gail Bederman, *Manliness and Civilization: A Cultural History of Gender and Race in the United States, 1880–1917* (Chicago: University of Chicago Press, 1995), 199–200.

18. Howard R. Flint, "Wasted Wilderness," *American Forests and Forest Life*, July 1926, 410; also quoted in Sutter, *Driven Wild*, 82. Thompson quoted in Sutter, *Driven Wild*, 84.

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Leopold defended himself against these charges by upholding the "distinctively American idea of *facing nature alone*," and accusing motor tourists of "buy[ing] their way into wilderness" instead of entering it through labor. He also claimed that by preserving U.S. wilderness areas, he was keeping them accessible to working-class Americans who could not afford to travel abroad in pursuit of the wild. As the historian Paul Sutter has noted, we have no reason to doubt Leopold's sincerity in these convictions. But Leopold presented no evidence that blue-collar Americans actually desired to engage in his vision of solitary outdoor recreation. Moreover, when claiming to speak for laborers, he failed to recognize that they could far more easily fit a weekend car camping trip into their schedules than the sort of "two week's pack trip" he saw as the defining characteristic of a wilderness experience. Strenuous or not, a two-week vacation was a luxury many could not afford. Ultimately acknowledging that most Americans at the time probably did not share his vision, Leopold defended his plea for wilderness on the basis of minority rights.[19]

In his advocacy of wilderness areas, Leopold found a valuable ally in the radical forester Robert Marshall. Echoing Leopold, Marshall presented wild lands as an antidote to the degenerative effects of civilization. In 1925, he wrote "people cannot live generation after generation in the city without serious retrogression, physical, moral, and mental, and the time will come when the most destitute of the city population will be able to get a vacation in the forest." When Leopold came under attack for elitism in the late 1920s, Marshall rallied to his defense, similarly citing the sanctity of minority rights. In 1935, Marshall and Leopold helped establish the Wilderness Society, which worked to expand wilderness areas and to preserve endangered species.[20]

In 1928, Leopold left the Forest Service to pursue a career managing game. By highlighting the difficulty of maintaining animal populations in the face of rising human numbers, Leopold maintained the wariness toward demographic growth that had characterized his wilderness writings. In 1933, he published an overview

19. Leopold, "Response," *American Forests and Forest Life,* July 1926, 411; also quoted in Sutter, *Driven Wild*, 82. Paul Sutter also identifies some of these contradictions in Leopold's arguments. Ibid., 82–83.

20. Quoted in Robert Gottlieb, *Forcing the Spring*, 47, 49. See also Sutter, *Driven Wild*, 94–95, 194–209; Flader, "A Biographical Study of Aldo Leopold," 26.

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of his conservation strategies, entitled *Game Management*. He parlayed this publication into a position at the University of Wisconsin (UW) as the nation's first professor of the subject.[21]

At UW, Leopold drew on and contributed to the emerging discipline of ecology. In this era, ecologists hoped to unite the biological and social sciences. Through animal studies, U.S. ecologists, such as Warder Clyde Allee and Frederic Clements, sought to provide biological insights into problems confronting humans. By tapping social theory, these scholars hoped to understand nature better. In similar fashion, Leopold and Vogt used ecological theories of environmental carrying capacity to understand human demographics, and they may have unwittingly applied to animal populations the hostility toward crowding that resulted from the pursuit of unpeopled wilderness.[22]

In his 1939 essay, "A Biotic View of the Land," Leopold laid out his emerging ecological views. He began by claiming that all organisms interacted to form a biotic pyramid, which human actions tended to topple. Returning to the theme of overpopulation, he asserted that disruptions of the pyramid seemed "to vary with human population density," for "a dense population requires a more violent conversion of the land." In Leopold's thinking, environmental protection and demographic growth were becoming antithetical.[23]

As Leopold became increasingly distrustful of humankind's capacity to manage the natural world, he began to rethink his support of predator eradication. He started to doubt the merits of this policy after studying a deer irruption in northern Arizona's Kaibab Plateau in the first half of the twentieth century. According to Leopold's now-classic interpretation, in 1906 the Kaibab deer population numbered only a few thousand. Eighteen years later, in response to aggressive predator extermination, that number had exploded to one hundred thousand. In the winters of 1924–25 and

21. Meine, *Aldo Leopold*, 297; Barrow, *Nature's Ghosts*, 227; Flader, "A Biographical Study of Aldo Leopold," 21–22, 26.

22. Gregg Mitman, *The State of Nature: Ecology, Community, and American Social Thought, 1900–1950* (Chicago: University of Chicago Press, 1992), 1, 87; Worster, *Nature's Economy*, 212.

23. Leopold, "A Biotic View of Land," reprinted from *The American Forestry Journal* (September, 1939), p. 19-20, ff. 001, b. 001, series 9/25/10-6, Leopold Papers. Robertson also notes the Malthusian dimensions of "A Biotic View of the Land." Robertson, *The Malthusian Moment*, 26; Robertson, "Total War and the Total Environment," 339–43.

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1925–26, though, 60 percent of the herd succumbed to malnutrition resulting from overgrazing. By 1939, as a result of the region's denuded foliage, only ten thousand animals persisted.[24]

In his analysis of the impact of deer foraging in the Kaibab, Leopold drew heavily on the concept of "carrying capacity," which denotes the maximum population of a given species that a particular environment can support. In the 1880s, Department of Agriculture researchers had adopted this term from engineering studies of weight loads and applied it to the distribution of cattle on land. Leopold adapted this concept to deer and other game animals, and with time, to humans as well.[25]

Leopold's interpretation of the Kaibab stood as gospel for decades, until the ecologist Graeme Caughley reexamined the evidence in 1970. He found that Leopold had based his assertions on questionable population estimates and tenuous causal relationships. Caughley believed that environmental changes resulting from forest fires and shifts in livestock grazing patterns might just as easily have explained the increases in deer population. Caughley's work did not unequivocally invalidate Leopold's claims, but it did demonstrate that the tale of the Kaibab was open to multiple interpretations, of which Leopold focused on just one. Given the fixation among mid-twentieth-century ecologists with providing lessons for human societies, and bearing in mind Leopold's preoccupation with human crowding, he might have unknowingly tailored his interpretation to offer up a warning about the folly of meddling with natural processes to boost populations. That said, today's ecologists continue to debate the merits and demerits of Leopold's Kaibab study.[26]

While overseeing the graduate research of the animal ecologist Paul Errington at UW, Leopold further refined his attitudes towards demographic pressures. Errington studied the population dynamics of northern bobwhites (a type of quail) in the early 1930s. He

24. Leopold, "The Excess Deer Problem," *Audubon Magazine,* May/June 1943, 156; Worster, *Nature's Economy*, 270–71.

25. Young, *In the Absence of Predators*, 40, 41; Nathan F. Sayre, "The Genesis, History, and Limits of Carrying Capacity," *Annals of the Association of American Geographers* 98, no. 1 (March 2008): 122–25.

26. Leopold, Lyle K. Sowls, and David L. Spencer, "A Survey of Over-Populated Deer Ranges in the United States" *Journal of Wildlife Management* 11, no. 2 (April 1947): 176; Graeme Caughley, "Eruption of Ungulate Populations, with Emphasis on Himalayan Thar in New Zealand," *Ecology* 51, no. 1 (Jan. 1970), 56. For the ongoing disagreement over how to interpret the Kaibab, see Young, *In the Absence of Predators*, 1–5.

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concluded that when population levels exceeded the land's carrying capacity, predators killed increasing numbers of weakened and poorly concealed bobwhites and thereby "trim[med] down the excess to the normal population." Leopold would apply similar arguments of the inescapability of "normal population" levels to people.[27]

By the late 1930s, Leopold had become far less tolerant of human meddling in wilderness. As part of this about face, he abandoned calls for predator eradication, and he lent his support to the most high-profile raptor preservation crusade of the 1930s and 1940s—protecting the bald eagle from extermination. This species faced deliberate eradication, especially in Alaska where legislators believed the bird slaughtered fish and game prolifically. In the late 1930s, Leopold served on the Committee on Bird Protection (CBP), which sought to preserve the bald eagle and several other endangered North American bird species.[28]

Through his involvement with the CBP, Leopold interacted with Vogt, who chaired the organization until 1939, when he left the country to conduct fieldwork in South America. Born in Mineola, Long Island, on May 15, 1902, Vogt had loved birds from a young age. Graduating from St. Stephens (subsequently renamed Bard College) in 1925, he served as the curator of the Jones Beach State Bird Sanctuary from 1932 through 1935. He spent the following four years working as a field naturalist and lecturer for the Audubon Society, and he played a central role in the society's Breeding Bird Census, launched in 1937.[29]

Vogt made his greatest contributions as an ecologist while working in South America. From 1939 through 1942, he served as an ornithological and ecological consultant for the Peruvian Guano

27. Julianne Lutz Newton, *Aldo Leopold's Odyssey: Rediscovering the Author of "A Sand County Almanac"* (Washington, D.C.: Island Press, 2006), 139; Flader, "A Biographical Study of Aldo Leopold," 23; Paul L. Errington, "Vulnerability of Bob-White Populations to Predation" *Ecology* 15, no. 2 (Apr. 1934): 111.

28. William Vogt, Clarence Cottam, Victor Cahalane, and Leopold, "Report of the Committee on Bird Protection, 1938" *The Auk* 56, no. 2 (Apr. 1939): 212, 219; Cahalane, Leopold, William L. Finley, and Cottam, "Report of the Committee on Bird Protection, 1939," *The Auk* 57, no. 2 (Apr. 1940): 288.

29. Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 17; Clarence Glacken, "Obituary," *The Geographical Review* 59 no. 2 (Apr., 1969): 294; Cushman, "The Most Valuable Birds in the World," 494. Robertson also discusses the relationship between Vogt and Leopold. Robertson, *The Malthusian Moment*, 24–37.

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Commission. For guidance, he brought with him Leopold's *Game Management* and British ecologist Charles Elton's *Animal Ecology*. In his first two years in Peru, Vogt determined that El Niño cycles led to malnutrition among over-crowded guano birds, leaving them susceptible to secondary illnesses. More broadly, he concluded that population health depended to a large degree on food supply. Vogt would later point to this event as a source of inspiration for his efforts to implement human population control. As he recalled, "Here was mass death in unforgettable shape and sound. Somehow, ever since, it has been possible to understand more fully the famines of China and India." In 1942, Vogt took a position advising the U.S. War Department on conditions in Latin America, and from 1943 through 1949, he headed the Conservation Section of the Pan American Union.[30]

While living in South America, Vogt corresponded frequently with Leopold, and the two cemented a friendship carried over from their participation in the CBP. In 1942, Leopold secured Vogt admission into UW's game management doctoral program, despite Vogt's insistence that he be exempted from certain foundational courses. Although he relished the thought of studying with Leopold, Vogt ultimately determined that his work in South America was too important to abandon for the classroom.[31]

Vogt and Leopold exchanged ideas on population dynamics and other ecological topics throughout the 1940s. In 1943, following a visit, Vogt requested and received a collection of Leopold's research on deer irruptions. In a 1943 letter, Vogt echoed Leopold's earlier writings on wilderness. Lamenting the crowded conditions in U.S. parks, Vogt expressed dismay at "The emphasis on quantitative rather than qualitative aspects" of these landscapes. He added that "the current policy [attracts] the public that normally would go to Ventura Beach and Coney Island—and belongs there." Vogt believed that the "crowds inevitably makes more difficult any attempt to make an intelligent and understanding use of the Parks."

30. Glacken, "Obituary," 294; Robertson, *The Malthusian Moment*, 42-44; Meine, *Aldo Leopold*, 478. Quote from Cushman, "The Most Valuable Birds in the World," 494–95.

31. Vogt to Leopold, 11 February 1940, Correspondences, p. 374, ff. 008, b. 003, series 9/25/10-1, Leopold Papers; Leopold to Vogt, 24 June 1940, p. 384, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Leopold, 26 June 1941, p. 445, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Leopold, 16 May 1942, p. 460, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers.

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Such comments hint that Vogt's Malthusian philosophy may have owed not only to a rigid adherence to ecological models of carrying capacity and natural population checks but also to a fixation with uninhabited wilderness paralleling Leopold's. Still, the former also shaped his thinking. Of the Kaibab, Vogt noted that, "Predators are still being killed though they seem to be needed to hold down the natural increase. However, the coyotes are numerous and may do the job."[32]

In his response, Leopold revealed how closely his wilderness principles paralleled Vogt's. Leopold found his friend's "impression of the National Parks" as replicating "Coney Island" insightful. He advised Vogt to share his concerns with National Parks Director Newton B. Drury. "You can tell him from me that I shy off all parks," Leopold shared. I "haven't seen one for 20 yrs." Referring to the Kaibab, Leopold was "glad" that Vogt had "spotted the erroneous . . . policy," but he cautioned that, "Coyotes do not do the job," having been "present throughout the 1924 irruption." To enlighten Vogt, Leopold sent along further research on the Kaibab.[33]

In addition to exchanging ideas, each man read the other's manuscripts and provided feedback. In August of 1946, Vogt announced to Leopold that he had received a book contract for "the natural resource–population problem," and asked Leopold if he would "give critical reading to some of the chapters." Leopold later revealed that he never read the book in its entirety, but he had encountered Vogt's ideas through talks and correspondences and considered his findings "the last word on conservation as applied to the world-wide problem of men and land." Vogt, in turn, read Leopold's essays prior to their posthumous publication as the environmentalist handbook, *A Sand County Almanac*, placed them among the ranks of "great literature," and even offered to write a foreword for the collection.[34]

32. Leopold to Vogt, 9 September 1943, p. 600, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Leopold, 16 September 1943, p. 601, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers.

33. Leopold to Vogt, 27 September 1943, p. 603, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers.

34. "The natural resource . . . " from Vogt to Leopold, 5 August 1946, p. 514-15, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers. See also Vogt to Leopold, 28 January 1946, ff. 12, b. 3, William Vogt Papers, CONS 76, Denver Public Library, Denver [hereafter Vogt Papers]; Leopold to E. P. Swenson, 3 March 1948, p. 546, ff. 008, b. 003, ser. 9/25/10-1,

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A look at Leopold's unpublished manuscripts from this period suggest that he was indeed strongly familiar with Vogt's arguments for population control and likely helped mold them. Leopold never fully shared his attitudes toward demographic growth with the public, but he did outline his position in an unpublished paper entitled "In the Long Run." He wrote this paper in 1941, as he contemplated the tragic trajectory of World War II and sought out solutions in the natural world. This context is significant, for as the historian Alison Bashford has demonstrated, geopolitical concerns regarding the relationship between demography and war played a central role in the international growth of Malthusianism from the 1920s to the 1940s. Authored several years before Vogt's Malthusian publications, Leopold's "In the Long Run" mirrors his colleague's writings so strongly that substantial cross-fertilization of ideas seems probable. Although Leopold's wilderness crusade had long since convinced him of the evils of human population growth, "In the Long Run" emphasizes ecological models. Perhaps Leopold hoped that shrouding his arguments in scientific objectivity would deflect the charges of elitism that had met his earlier calls for unpeopled wilderness.[35]

Leopold began "In the Long Run" with the caveat that "whether . . . analogies [between human and animal populations] are valid is anybody's guess." But these were hardly extemporaneous musings. He had written several drafts of the paper, used it as a lecture in his game management class, and also submitted it for publication in the literary journal *The Land*—although why the essay did not appear in print remains unclear. Indeed, the relationship between animal ecology and human overpopulation was frequently on his mind. Leopold toyed with these ideas in other unpublished papers, once jotting down for instance, "Every area has some level, beyond which its quail feel the inner itch for Lebensraum, fare forth, and [illegible]." In the same document, Leopold asked

Leopold Papers; Leopold to Swenson, 9 March 1948, p. 550, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Leopold, 5 August 1946, p. 514–15, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Leopold, 17 October 1947, p. 524, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Joseph J. Hickey, 25 May 1948, p. 555, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Vogt to Hickey, 27 April 1948, p. 551, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers; Hickey to Vogt, 16 July 1948, p. 563, ff. 008, b. 003, ser. 9/25/10-1, Leopold Papers.

35. See Alison Bashford, "Population, Geopolitics, and International Organizations in the Mid Twentieth Century," *Journal of World History* 19, no. 3 (2008): 327–48.

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himself, "Are we like the lemming, the quail, or the deer in our response to overpopulation?" With "In the Long Run," Leopold attempted to answer this question.[36]

"In the Long Run" warned that every piece of land could only support so many members of each type of organism. "Every animal in every land has its characteristic number," Leopold surmised. "That number is the carrying capacity of that land for that species." To illustrate his point, he claimed that "the characteristic number of Indians in virgin America was small. More Indians would either have starved or killed each other off." According to Leopold, humans (apparently with the exception of Native Americans) had increased the land's carrying capacity through the development of technology. Yet while men and women might have succeeded in increasing their food supply, he warned that other, less easily evaded population checks patrolled the natural kingdom.[37]

To demonstrate that nature would correct excess populations irrespective of increasing food supplies, Leopold cited ecological literature. Probably referencing Errington's work, Leopold noted that in Prairie du Sac, Wisconsin, even in periods of increasing food supply, predation and other natural checks kept the local bobwhite population within its normal range. He also drew on fighting among overpopulated muskrats to assert that intra-species predation constituted a "self-limiting mechanism" that helped maintain the "natural order." Leopold's assertion that crowded human populations—even if well nourished—were unnatural appears to bear the influence of his earlier wilderness writings.[38]

As hinted at by his discussion of intra-species predation as a self-limiting factor, Leopold attributed World War II and other human conflicts to overpopulation. He asserted that societies had developed ethics to overcome the "laws of intrahuman predation" but that these ethical restraints broke down as populations surged. According to

36. Leopold, "In the Long Run: Some Notes on Ecology and Politics" (unpublished, n.d.), p. 1172, ff. 006, b. 017, ser. 9/25/10-6, Leopold Papers. Earlier drafts include Leopold, "Geology and Politics," p. 600-604, ff. 006, b. 16, ser. 9/25/10-6, Leopold Papers; Leopold, "Ecology and Politics" (multiple drafts), p. 604-610, ff. 006, b. 16, ser. 9/25/10-6, Leopold Papers. For submission for publication, see Russell Lord to Leopold, 19 April 1941, p. 619, ff. 006, b. 16, ser. 9/25/10-6, Leopold Papers. "Every area . . . " from Leopold, "Untitled," p. 807-8, ff. 006, b. 16, ser. 9/25/10-6, Leopold Papers.

37. Leopold, "In the Long Run: Some Notes on Ecology and Politics" (unpublished, n.d.), p. 1172, ff. 006, b. 017, ser. 9/25/10-6, Leopold Papers.

38. Leopold, "In the Long Run," 1172.

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Leopold, both Adolf Hitler and Benito Mussolini advocated "competitive multiplication . . . with a view to bigger and better predations." Leopold considered their efforts to remedy "the overpopulation of Europe" with "more overpopulation of Germany and Italy" to be asinine, unless you assumed that only "these expanding and predatory groups" possessed cultural values. Yet, in a throwback to Roosevelt's writings on "race suicide," Leopold perceived France's collapse as possible proof that "voluntary self-limitation of numbers" led to "social decay." Voicing the darkest fears underpinning Turner's frontier thesis, Leopold speculated that "technological civilization [might be] inherently self-terminating, [capable of existing] only temporarily in new and under-populated habitats." This reference to "technological civilization" reaffirms that not only the pursuit of wilderness but also an interconnected distrust of industrial expansion and overconsumption shaped Leopold's thinking.[39]

Leopold also presaged Vogt and other environmental Malthusian authors by questioning the wisdom of providing aid to the developing world. Leopold insisted that, "When the British ameliorated the hard lot of South African natives (by medical service, better farming, etc.), the response was more natives rather than higher standards [of living], and more strain on an overcrowded range." Once again, he defended his argument with a reference to his ecological writings. "Feeding starving deer is a close analogy," he surmised. "Deer starve because their range is overtaxed, and the price of ameliorating their lot is more deer, more need of feeding, more damage to the range, and the eventual malnutrition and deterioration of the herd." Through this comparison, Leopold applied his evolving understanding of wilderness, as a place that should remain free from external human meddling, to indigenous African communities. He concluded that, "Perhaps only animals capable of qualitative self-improvement and quantitative self-limitation can be safely ameliorated." It would seem that citizens of the developing world did not qualify.[40]

In earlier revisions of the paper, Leopold warned that in addition to overpopulation, "Another new threat, perhaps even more

39. Ibid., 1173, 1175. For an excellent discussion of how fears of overconsumption shaped the thinking of environmental Malthusians, see Robertson, "Total War and Total Environment," 336–64. Also see Leopold, "Post-war Prospects" *Audubon Magazine,* Jan/Feb 1944, 27–29.

40. Leopold, "In the Long Run," 1172.

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series [sic], is the genetical [sic] deterioration of the human species." He added that when it came to humankind's struggle with nature, "There can be no doubt that better human stocks, both as to inheritance and environment, are more likely to find a modus vivendi." At this point, Leopold appears to have been wrestling with the obvious corollary to population control—that someone would have to determine who could reproduce and in what numbers. Unlike Vogt and many other environmental Malthusians, though, Leopold did not take the next step of actively endorsing eugenics, and in fact, he removed these passages from subsequent drafts of the paper.[41]

In May of 1945, after exchanging ideas on the subject with Leopold for years, Vogt published his first major work on human overpopulation, "Hunger at the Peace Table," in the *Saturday Evening Post*. Although it is impossible to prove that Leopold directly shaped Vogt's thinking, or vice versa, there were striking similarities between their writings. Like Leopold, Vogt believed that overpopulation had propelled World War II, and questioned whether human crowding made lasting peace impossible. Revealing his conviction that aid to the developing world created excess population and conflict, he questioned why, in explanations for the causes of war, "I have never seen Louis Pasteur mentioned, nor American foundations, nor our own schools of public health." Vogt would expound on these ideas in *Road to Survival*.[42]

In a series of ecological studies of South American nations, published by the Pan American Union in 1946, Vogt continued to explore the issue of human crowding. Of the situation in Venezuela, he asserted that, "Doctors must learn that the people they are helping to keep alive must be fed—with less means of doing it every year." Vogt did not believe that Costa Rica possessed a surfeit of people yet, but he cautioned that "Rising populations . . . are going to make the situation of the plants and animals of the country increasingly precarious." Mirroring Leopold's passion for wilderness, Vogt contended that Costa Rican officials needed to create

41. Leopold, "Ecology and Politics," 604, 610. Matthew Connelly has astutely observed that the struggle to limit births almost always raises the question of who will inherit the earth. Matthew Connelly, *Fatal Misconception: The Struggle to Control World Population* (Cambridge, Mass.: Harvard University Press, 2008), 5.

42. Vogt, "Hunger at the Peace Table" *Saturday Evening Post*, May 12, 1945, 110. Also cited in Robertson, *The Malthusian Moment*, 42.

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wilderness spaces for hunting, tourism, and scientific inquiry. By doing so, officials could shield regions from demographically propelled environmental change. In fact, Vogt believed that legislators should "permanently set aside" some "wilderness areas" that only he and other experts could access. "These areas should be considered inviolate," he commented, "fenced if possible, and entrance to them permitted only to scientists." None from the "Coney Island crowd" would disturb Vogt there.[43]

Vogt published his treatise on overpopulation, *Road to Survival*, in spring of 1948. Drawing heavily on the ecological concept of carrying capacity, he asserted that "the biotic potential of any piece of cultivated land has an absolute or theoretical ceiling," and that "the ratio between human populations and the supply of natural resources" determined whether societies persisted or disappeared.[44]

Vogt feared that through their overabundance, humans were obliterating the environment on which they depended for survival. Taking the example of the U.S. people, he presented a familiar argument concerning their dependence on revitalizing wilderness: "Today as we are caught in the grinding mesh of mechanized civilization and the monotony of unrewarding tasks, we need as never before to turn to the healing hills and forest, with their rich company of plants and animals." Reiterating Leopold's frontier writings, Vogt warned Americans to reign in their population, lest they "smash the crucible in which they have been refined." As hinted by Vogt's critical depiction of "mechanized civilization," though, he not only sought to defend wilderness, but also to reign in overconsumption, particularly in affluent nations. The historian Thomas Robertson notes that, despite Vogt's many faults, in this respect he was well ahead of his time and made a positive contribution to the development of the modern environmental movement.[45]

In addition to calling for more sustainable interactions with nature, Vogt pushed for legislators to apply the insights of ecology

43. Vogt, *The Population of Venezuela and Its Natural Resources* (Washington, D.C.: Pan American Union, 1946), 51; Vogt, *The Population of Costa Rica and Its Natural Resources* (Washington, D.C.: Pan American Union, 1946). Also cited in Robertson, *The Malthusian Moment*, 50–54.

44. Vogt, *Road to Survival*, 14.

45. Ibid., 131–32; Robertson, *The Malthusian Moment*, 11, 37.

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and conservation to people. In some passages, he explicitly drew parallels between human population control and game conservation. Discussing the Food and Agriculture Organization's farming plans to prevent Communist incursions into Greece, Vogt noted that, "[a]t no point in the entire report is there any suggestion that a positive effort be made to reduce the breeding of the Greeks." He suggested that, "such neglect would disqualify a wildlife manager in our most backward states!"[46]

In *Road to Survival*, Vogt frequently cited ecological literature, especially studies of the Kaibab deer irruption. In a telling passage, he used the Kaibab deer range as an analogue for interwar Germany: "Had the deer of the Kaibab Plateau been provided with guns and munitions, and a cerebral cortex to free them from the restraint of instinctive behavior and allow them to develop a master-race psychology, they might well have started a campaign of world conquest." He continued, "[t]hey had been forced by overprotection and overbreeding, into a situation closely analogous to that of modern European man; one hundred thousand stomachs had to be filled every day from land that could provide for only a fraction of that number." Whether intentionally or not, by providing a demographic explanation for Nazism, Vogt naturalized its emergence and reduced the culpability of its human architects in the process.

Vogt accepted Leopold's assertion that the Kaibab deer irruption had resulted from "overprotection" in the form of predator extermination. But how could the United States learn from this mistake? In his plea for population control, Vogt demonstrated a callous opposition to providing medical assistance to individuals in developing countries. He critiqued "[t]he modern medical profession," for continuing "to believe it has a duty to keep alive as many people as possible," and also accused "well-meaning public health authorities" of reducing the death rate while "completely ignoring the problem of how millions of Latin Americans are to be fed." Like government hunters who exterminated wolves and cougars, doctors who eradicated diseases in third-world countries upset the balance of nature and set the stage for future annihilation. Uncomfortable with the idea of forced sterilization, Vogt believed that population control at the reproductive level should be "voluntary." At the

46. Vogt, *Road to Survival*, 206; also quoted in Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 44

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international level, though, he encouraged U.S. officials to deny foreign aid to governments that failed to take sufficient steps to reign in their numbers—in order words, he advocated a policy where women could either "volunteer" to use contraceptives, or they and their compatriots could go hungry. Perhaps Vogt believed that some level of compulsion was required in an era when the Catholic Church and other powerful governmental and nongovernmental bodies opposed the distribution of birth control and other contraceptives, even to women demanding them. But his well-intentioned efforts to achieve "freedom of contraception" threatened to worsen the lot of some of the planet's most vulnerable people. Moreover, history has shown that affluence and advanced medical technology often lead to a leveling of population growth, rather than the explosion in numbers Vogt feared.[47]

Vogt received additional support for his ideas with Henry Fairfield Osborn, Jr.'s *Our Plundered Planet*, a second study of human overpopulation that hit shelves at the same time as *Road to Survival*. In 1935 Osborn had retired from a career in international business to dedicate himself completely to environmental causes. In 1940, he assumed the presidency of the preservationist New York Zoological Society (NYZS), for which his father—the scientific racist and eugenicist Henry Fairfield Osborn, Sr.—had once served as secretary.[48]

While heading the NYZS, Osborn Jr. corresponded with Leopold and Vogt on matters of ecology and overpopulation. In 1947, Osborn met with the two to present his plan to create an international conservation body affiliated with the NYZS. In a letter to a friend, Leopold later surmised, "The outfit is a good one . . . I was pleasantly surprised at their ability to absorb advice that must have sounded pretty stiff. Bill [Vogt] and I found ourselves giving identical views, even tho [sic] we had hardly seen each other for years." Shortly after, Osborn cofounded the Conservation Foundation, with Leopold and Vogt serving on the advisory council.[49]

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47. Vogt, *Road to Survival*, 48, 64, 211, 282; Robertson, *Malthusian Moment*, 10; Connelly, *Fatal Misconception*, 1–3.

48. Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 19; "Fairfield Osborn, the Zoo's No. 1 Showman, Dies: Leading Conservationist, 82, Headed Zoological Society" *New York Times*, 17 September 1969.

49. Fairfield Osborn, Jr., "The Zoological Society in These Times," *Science* 93, no. 2412 (March 21, 1941): 269. "The outfit . . . " quoted in Meine, *Aldo Leopold*, 495. See also "Fairfield Osborn, the Zoo's No. 1 Showman, Dies"; Donald Gibson, *Environmentalism: Ideology and Power* (N.Y.: Nova Science Publishing Inc., 2003), 46.

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In *Our Plundered Planet*, Osborn Jr. echoed Leopold and Vogt's assertions that humans had imperiled their continued survival through their overabundance. Unlike Leopold and Vogt, however, Osborn did not apply the lessons of the Kaibab to the human population. He made no pleas for direct population limitation, and he placed much greater emphasis on ways humans could "co-operate" with nature to ensure their continued survival. In comparison to Vogt and even to Leopold, Osborn embodied a more humane form of Malthusianism. While willing to apply the insights of Leopold's ecological models to humankind's relationship to the environment, Osborn nonetheless recognized that human lives differed fundamentally in value from those of deer or potato bugs.[50]

Osborn Jr.'s writings did share one of Vogt's more unsettling conclusions, however. Within their arguments for population control, both occasionally endorsed eugenic policies—a step Leopold had contemplated but refused to take. Vogt and Osborn recognized that, by controlling reproduction, state officials would in effect be ruling on who would inherit the earth. Vogt titled a particularly instructive section of *Road to Survival* "Kallikaks of the Land," referencing a famous family that the eugenicist-cum-psychologist Henry H. Goddard had studied in the 1910s to contend that criminality and stupidity persisted within lineages. Vogt warned that just as the state supported "the Kallikaks . . . the senile, the incurables, the insane, [and] the paupers" it also artificially perpetuated "ecological incompetents." He plainly believed that the state should withdraw its support for these ignorant destroyers of soil and water, and let nature run its course. Meanwhile, in Osborn's 1953 follow up, *The Limits of the Earth*, he wished that more countries would follow the lead of Sweden, which in 1934 enacted a law that accepted "that quantity of population should not be bought at the expense of quality." He added that "[o]ne of the major purposes of this unique program is to prevent the bearing of children by parents who are mentally incompetent or physically defective," to the effect that "Sweden is daring to pioneer in one of the most essential problems of human society." Through such statements, Osborn Jr. gave new life to the eugenicist creed both his father and his family friend Madison Grant had helped popularize in the early twentieth

50. Henry Fairfield Osborn, Jr., *Our Plundered Planet* (Boston: Little, Brown, and Co, 1948), 43.

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century. Yet Osborn Jr. diverged from the men he once called his two idols on important points. Unlike his predecessors, the younger Osborn and Vogt both belonged to a generation of "reform eugenicists," who sought to make their agenda more palatable in the wake of Nazism by refraining from connecting genetic fitness to race or class. Indeed, Osborn in particular argued passionately against the racist worldview his father had helped popularize[51]

Leopold never had the opportunity to read these books that Vogt and Osborn Jr. had based, in part, on his thinking. Leopold died of a heart attack on April 21, 1948, while helping his neighbors in Wisconsin quell a brush fire. A week earlier, Oxford Press had agreed to publish a book of essays he had written exploring the themes of conservation, ecology, and wilderness. Perceiving great value in Leopold's work, his son Luna prepared the manuscript for publication. In 1949, the completed book arrived in stores as *A Sand County Almanac and Sketches Here and There.*[52]

In *A Sand County Almanac*, Leopold cautioned against unchecked human population growth, although only subtly. In "Song of the Gavilan," he warned that too many scientists believed "that every river needs more people, and all people need more inventions, and hence more science, [and that] the good life depends on the indefinite extension of this chain of logic." By contrast, Leopold believed that when fewer individuals occupied an environment, they could better appreciate the ecological

51. Mark H. Haller, *Eugenics: Hereditarian Attitudes in American Thought* (New Brunswick, N.J.: Rutgers University Press, 1984), 102, 107; Vogt, *Road to Survival*, 145; Henry Fairfield Osborn, Jr., *The Limits of the Earth* (Boston: Little, Brown and Company, 1953), 26; Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 3. Daniel Kevles distinguishes between the eugenics of the early twentieth century and the "reform" eugenics of the late 1920s and 1930s, which did not conflate genetic fitness with race or class. Daniel Kevles, *In The Name of Eugenics: Genetics and the Uses of Human Heredity* (Berkeley: University of California Press, 1985), 426. For a useful discussion of the relationship between eugenics and Malthusianism in an earlier era, see Garland E. Allen, "Old Wine in New Bottles: From Eugenics to Population Control in the Work of Raymond Pearl" in *The Expansion of American Biology*, ed. Keith R. Benson et al. (New Brunswick, N.J.: Rutger's University Press, 1991), 231–61. Connelly also notes the close association between population and eugenics. Connelly, *Fatal Misconception*, 8, 59–60, 98–99, 103–106, 117–20. See also Henry Fairfield Osborn, Jr. *Our Plundered Planet*, 26. For Henry Fairfield Osborn Jr.'s idolization of his father and Madison Grant, see Stern, *Eugenic Nation*, 126. In some respects, reform eugenicists shifted their emphasis from racial health to upholding gender norms; Alexandra Stern provides an intelligent discussion of this transference. Stern, *Eugenic Nation*, 155.

52. Flader, "A Biographical Study of Aldo Leopold," 28.

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interactions taking place within it. In the case of rivers, fewer people meant more opportunity to hear the waterway's song, "its score inscribed on a thousand hills, its notes the lives and deaths of plants and animals." Leopold's posthumous editors removed the following passage from his eulogy for the passenger pigeon: "We have only now begun to doubt . . . that it is more important to multiply people and comforts than to cherish the beauty of the land in which they live." In these passages, Leopold once again upheld the need to limit human populations and reign in consumption in order to maintain solitary encounters with wilderness.[53]

In addition to critiquing human demographic growth, Leopold eloquently articulated his opposition to wildlife crowding in his extremely influential essay, "Thinking Like a Mountain." He recalled an episode from his early days in the U.S. Forest Service when he had shot a wolf. At that time, Leopold had still believed that "because fewer wolves meant more deer, that no wolves would mean hunter's paradise." But as state after state extirpated its wolves, deer populations had surged, and consumed "every edible bush and seedling . . . first to anemic desuetude, and then to death," until, in each instance, "the starved bones of the hoped-for deer herd, *dead of its own too-much*, bleach with the bones of the dead sage." With the phrase "dead of its own too much," Leopold echoed his earlier writings on human crowding. He concluded "Seeing like a Mountain" by extending its lessons to people, albeit with far greater restraint than in his unpublished paper: "We all strive for safety, prosperity, comfort, long life, and dullness . . . but too much safety seems to yield only danger in the long run." *A Sand County Almanac* won nearly unanimous praise from critics who admired its thoughtful observations and poetic tone.[54]

Both Vogt and Osborn Jr. received more divided reviews of their publications. Because Vogt's work was more overtly misanthropic, he

53. Leopold, *A Sand County Almanac: And Sketches Here and There* (New York: Oxford University Press, 1968 [1949]), 149, 153; Leopold, "On a Monument to the Pigeon," reprinted from *Silent Wings* (1947), p. 1109, ff. 002, b. 001, ser. 9/25/10-6, Leopold Papers.

54. Emphasis mine. Leopold, *A Sand County Almanac*, 129, 132, 133. D. S. F., "Review: A Sand County Almanac and Sketches Here and There" *Bird Banding*, Apr. 1950, 78–79; R. S. Campbell, "Book Review: A Sand County Almanac and Sketches Here and There," *Journal of Range Management* 3, no. 4 (Oct, 1950): 325; H.I. Fisher, "Recent Literature," *The Auk*, Oct. 1950, 523; Wakelin McNeel, "Review: Sand County Almanac" *The Wisconsin Magazine of History* 34, no. 1 (Autumn, 1950): 48. Robertson also notes the Malthusian dimensions of "Thinking Like a Mountain." Robertson, *The Malthusian Moment*, 25.

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often drew the most scathing critiques. In the *Geographical Review*, E. G. R. Taylor asserted that Vogt demonstrated an "apparent complete disregard of human values" by deeming "a high death rate the greatest of blessings," calling doctors "public enemies," and ranking the "tsetse-fly . . . as one of Tanganyika's prime assets."[55]

An anonymous reviewer for *Time* magazine saw "hints of the old 'yellow peril'" in the Malthusian argument, especially in Vogt's work. If the world was already overpopulated, so the argument ran, the U.S. "should not help foreigners," but rather "let them starve . . . before they increase their numbers (with our help) and overwhelm us." The reviewer presented a reasonable critique. Since the late nineteenth century, many white Americans had feared that the non-white races of the world would overrun the country through higher reproduction. Vogt generally presented his arguments in terms of the entire human population, and he did chastise some European populations, such as "the Greeks," for excess fertility. But he appears to have most aggressively pursued population control in the developing world. Although he considered North America overpopulated, for instance, he never suggested withdrawing medical support from citizens of the United States, except perhaps in the case of "ecological incompetents."[56]

To what extent this discrepancy resulted from racism is unclear. As Thomas Robertson has noted, when Vogt wrote of the poor level of biological understanding in South America, he stated it was "not for lack of intelligence or ability." Vogt also strove to use his sway with Leopold to get a dark-skinned Peruvian field assistant admitted to UW. Moreover, Vogt recognized that western exploitation of developing nations contributed to environmental degradation. Yet many of Vogt's sweeping generalizations seem to bear the taint of racial stereotyping. In "Hunger at the Peace Table," for instance, he warned that in Africa, China, India, and Latin America (i.e. the non-white world) "man treads in the path of his forefathers;

55. Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 70; F. Fraser Darling and Charles Elton, "Review: Malthus" *Journal of Animal Ecology* 17, no. 2 (Nov 1948): 262–63; E. G. R. Taylor, "Review: People against the Land," *Geographical Journal* 113 (Jan/Jun 1949): 93.

56. Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 73; "Economics: Eat Hearty" *Time Magazine*, Nov. 08, 1948 (electronic source accessed online, September 23, 2011) https://vpn.lib.ucdavis.edu/time/magazine/article/,DanaInfo=www.time.com+0,9171,853337,00.html, 7; Vogt, *Road to Survival*, 146.

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if they burned the forests, planted a milpa to corn and destroyed the land within ten years, their present-day descendants will insist on the same procedures." Would a non-white contemporary of Vogt's, upon reading that all the people residing outside Europe, North America, and Australasia were incapable of independently adjusting to changing conditions, not detect a hint of racism, and a reassertion of the "white man's burden"?[57]

Although reviewers praised *A Sand County Almanac*—which ultimately became a near sacred text to environmentalists—the writings of Vogt, and to a lesser extent Osborn Jr., more immediately shaped public opinion. Vogt's *Road to Survival* underwent translation into nine languages, before a condensed version (itself translated into eleven languages) appeared in *Reader's Digest*. Scholars have estimated that between twenty and thirty million people read Vogt's book, making it the best-selling environmental work prior to Carson's 1962 classic, *Silent Spring*. By encouraging unprecedented numbers of readers to ponder the human relationship to nature, Vogt helped set the stage for the emergence of the modern environmental movement just over a decade later.[58]

Vogt also helped initiate a debate among postwar environmental theorists concerning the dangers of overpopulation. Most Americans today credit Paul Ehrlich's 1968 bestseller, *The Population Bomb*, with sparking their country's interest in global population growth, but these fears actually date back much further. During the 1950s, Vogt gained a platform to promote his philosophies through his role as national director of the Planned Parenthood Federation. By 1960, sufficient numbers of Americans feared human crowding that *Time* magazine could run the population explosion as its cover story. Capitalizing on this rising interest, Vogt restated his arguments in *People! Challenge to Survival* (1960). Although Ehrlich preferred citing Osborn Jr.'s work because of its

57. Robertson, *The Malthusian Moment*, 54; Robertson takes a more critical stance towards Vogt in Robertson, "Total War and the Total Environment," 354. Vogt, "Hunger at the Peace Table," 110. For a thoughtful discussion of how mid-twentieth-century American conservationists reimagined the white man's burden, see Barrow, *Nature's Ghosts*, 166.

58. [1] For Vogt's contribution to the emergence of environmentalism, see Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 4. For a useful discussion of the broader contribution of population control advocates to the environmental movement, see Robertson, *The Malthusian Moment*, 1–11.

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less misanthropic tone, he also took inspiration from one of Vogt's lectures.[59]

Several factors helped Vogt to enjoy enormous success and influence as an author. Most obviously, with the end of World War II, the United States experienced a major increase in its birthrate, making the issue of global population growth seem more salient. At the same time, in response to the horrific destructiveness of the atomic bomb, postwar Americans had become increasingly aware of the fragility of the planet and of the vulnerability of the human species that presumed to control it. In this era, popular psychology also helped convince Americans of the danger of overcrowding. Beginning in the mid-1940s, the ecologist-turned-psychologist John B. Calhoun launched a series of experiments in which he confined rats to cramped living areas. He found that populations leveled off well below their environments' carrying capacity, due partly to an increase in aggressive and antisocial behavior.[60]

The vision of wilderness Leopold refined and championed also set the stage for Vogt's reception. Along with the nature writer Sigurd Olson, Leopold was perhaps the most vocal proponent of the wilderness ideal in the interwar years. While Leopold's understanding of wilderness initially allowed for some level of human stewardship, by the 1930s he had become increasingly suspicious of such meddling, based in large measure on his interpretation of the Kaibab irruption. When Vogt cautioned that rising human populations in Costa Rica would imperil uninhabited areas necessary for recreation and scientific enquiry, he tapped into the vision of wilderness Leopold had helped popularize. When Vogt begged his readers not to "smash the crucible in which they have been refined" he again appealed to this ideal. When he warned that doctors providing aid to the developing world upset nature's balance, Vogt in a sense projected this vision of wilderness—as space humans should not try to control—onto the developing world. Vogt and Leopold were not alone in linking calls

59. Desrochers and Hoffbauer, "The Post War Intellectual Roots of the Population Bomb," par. 2, 6, 16, 20; Glacken, "Obituary," 295; Robertson, *The Malthusian Moment*, 72.

60. Robertson, *The Malthusian Moment*, 102; Elaine Tyler May, "The Politics of Reproduction" *Irish Association for American Studies* 6 (1997): 24; Jon Adams, "Rat Cities and Beehive Worlds: Density and Design in the Modern City" *Comparative Studies in Society and History* 53, no. 4 (2011): 724, 734; Edmund Ramsden and Adams, "Escaping the Laboratory: The Rodent Experiment of John B. Calhoun and their Cultural Influence," *Journal of Social History* (Spring 2009): 761, 763, 769, 777, 778.

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for unpeopled space and demands for fewer births—the Sierra Club took up the cause of population control in the late 1950s. Then, in 1968, the organization's leader, David Brower, asked Ehrlich, a little known ecologist at the time, to write a book on the subject, and shortly thereafter *The Population Bomb* arrived on the scene, further fanning American fears of a crowded planet.[61]

In the preceding pages, I have attempted to demonstrate that Leopold's wilderness thinking contained antipathy towards human population growth—an aversion that scholars have largely neglected. Further, I have argued that the pursuit of unpeopled nature played an important and often overlooked role in the rise of U.S. Malthusianism. Disdain for human numbers was by no means the sole driving force behind Leopold's pursuit of wilderness, though; nor was a fixation with unoccupied spaces the sole driver of the writings of Vogt and other environmental Malthusians. Yet, just because we live in a world of muddled causality does not mean that we cannot identify important connections and ponder the lessons they hold for how we relate to the environment and to each other.

In his influential essay, "The Trouble with Wilderness," the environmental historian William Cronon warns that "[i]f we allow ourselves to believe that nature, to be true, must also be wild, then our very presence in nature represents its fall." Leopold argued eloquently, and more often than not compellingly, for a more respectful relationship with the natural world, but he clearly struggled with this corollary to his wilderness philosophies. In 1938, he delivered a lecture in which he drew the following analogy: "The parasite is . . . prevented from killing his host by a conditioned food chain . . . A disease is a 'green' parasite learning how not to kill . . . Man is, in this sense, a disease on the land." Rooted to wilderness as he was, Leopold mulled over letting some of the human disease starve, so that it would no longer kill. But Cronon offers a more optimistic assessment. He believes that, by moving beyond the concept of wilderness, as something entirely separate from us, we might develop an environmental ethic that considers how people can best live in, and interact with, nature. I am inclined to agree.[62]

61. For Sigurd Olson's popularity in the interwar years, see Dunlap, *Faith in Nature*, 77.

62. Although deeply influenced by Cronon, I do not presume to speak for him; the views expressed herein are strictly my own. Cronon, "The Trouble with Wilderness," 81; Leopold, "Economics, Philosophy, and Land," unpublished lecture, 23 Nov 1938, p. 538, ff. 005, b. 016, ser. 9/25/10-6, Leopold Papers.

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Through histories exploring how conservationists displaced local, often indigenous populations to create uninhabited nature, scholars such as Louis Warren, Mark David Spence, and Karl Jacoby have revealed that *wilderness* is less a wondrous place than an inherently exclusionary idea that has empowered certain groups while disempowering others. When defense of wilderness has lapsed into critiques of population growth, it has in a sense extended this exclusionism onto the world's unborn. We need to develop a more inclusive environmental discourse, one premised on accepting the presence of people—with diverse experiences, needs, and desires—and the nonexistence of pure wilderness. Environmentalists holding such an outlook seem far less likely to contemplate letting the disadvantaged starve, in order to provide the survivors with more space.[63]

63. Authors listed in order of publication. Karl Jacoby, *Crimes Against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Berkeley: University of California Press, 2003), 12–23, 39–40, 83–91, 100–119, 149–90; Mark David Spence, *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (New York: Oxford University Press, 1999), 1–62; Warren, The Hunter's Game, 71–100, 126–51.

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