Predator Politics: Coyote Wrenching in Edward Abbey’s Desert Solitaire and Barbara Kingsolver’s Prodigal Summer

Mary Louisa Cappelli

Abstract
Edward Abbey’s Desert Solitaire and Barbara Kingsolver’s Prodigal Summer urges readers to see coyotes as crucial members of the natural community whose predation is essential for the maintenance of biodiversity and ecological stability. Their cultural production provides a human story of ecocritical engagement for understanding the cascading effects of removing top predators from their ecosystems. By envisioning biocentric possibilities within place-based and scientific contexts, Edward Abbey and Barbara Kingsolver share a common theme of political ecology: political processes shape ecological conditions. A close reading of Edward Abbey’s Desert Solitaire and Barbara Kingsolver’s Prodigal Summer provides a literary entryway to connect research, arguments, and discourse across disciplines tasking readers to engage in political discussions of environmental sustainability and to consider viable solutions to preserve the ecological diversity of our predator populations and ecosystems.

Keywords
Edward Abbey, Barbara Kingsolver, predator politics, coyotes, keystone predators, ecocriticism

Introduction
The coyote has been an integral predator of North America for hundreds of years; yet, populations fluctuate depending on the politics of the geographical bioregion in which they live. In many instances, coyotes have been slaughtered by U.S. Department of Agriculture (USDA) Wildlife Services, gunned down in predator killing contests, or displaced by land enclosures, urbanization, and environmental degradation. Although coyotes are one of the most imperiled predators in America with approximately 400,000 coyote killings a year, they are opportunistic survivors accommodating to what Catherine Reid (2005) refers to as the “new maze of edges” within our country’s extensive urban sprawl (p. 10). Although coyotes normally feed on the small prey of birds, rabbits, and rodents along with fruit and seed vegetation within their local prey environment, coyotes displaced to urban ecologies consume the food remains of human garbage (Timm, Baker, Bennett, & Coolahan, 2004, p. 51). In my examination of coyote scat in the Santa Monica Mountains, I have uncovered plastic from a bag of Cheetos, a Subway wrapper, and a Coors bottle cap. For many people, like myself, actively living alongside coyotes within this suburban/wetland interface, coyotes are not only a nuisance but also a danger to livestock, small animals, and children (Timm et al., 2004, p. 47).

Within the last decade, coyote attacks on both children and adults have increased turning some backyards into battlegrounds between prey and predator and neighborhoods into factions of procoyote and anticoyote sympathies (Sterba, 2012, p. 186). As a result, a growing political divide has ensued between anticoyote advocates calling for increased eradication of coyote populations and wildlife advocates calling for people to learn how to live alongside nature. In this politicized debate, ecological concerns are contested across local and regional communities, and political inquiries and disagreements are cast more and more in ecological terms.

It is here at this political juncture between coyote eradication and coyote/human sustainable interaction that I situate this article. In this polemic of ecocritical perspectives, the cultural production of Edward Abbey and Barbara Kingsolver contributes what Lawrence Buell (1995) describes as “environmental texts” to show that the “nonhuman environment is present not merely as a framing device but as a presence that begins to suggest that human history is implicated in natural

1Global Mother, Pacific Palisades, CA, USA

Corresponding Author:
Mary Louisa Cappelli, globalmother.org, 707 Via de La Paz, Pacific Palisades, CA 90272, USA.
Email: mlcappelli@globalmother.org

Creative Commons CC-BY: This article is distributed under the terms of the Creative Commons Attribution 3.0 License (http://www.creativecommons.org/licenses/by/3.0/) which permits any use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
Edward Abbey’s Desert Solitaire

A powerful meditation on the desert Southwest, Edward Abbey’s Desert Solitaire is a foundational environmental work on the importance of maintaining predators within our ecosystems. In what Abbey (1990) refers to as his “elegy” to the Southwest, the assertion that, “We need more predators,” demonstrates a political and ethical polemic on the environment (p. 38). Reading Edward Abbey to construct an aesthetic of his principles is problematic as he defied socially constructive limitations and resisted any political loyalties. Although he claims that he “never wanted to be an environmental crusader,” his Land Ethics is quite similar to those of Aldo Leopold (Hepworth & McNamee, 1989, p. 39). His environmental account of the Southwest desert interrogates the winners and losers in wildlife conservation efforts—a central question of political ecology.

Abbey’s defense (1990) of the wilderness is a strong “stylized debate,” in which he advocates “a new argument,” that wilderness should be preserved for “political reasons” (p.163). Whether the wilderness is a refuge from industrialized forces or “political oppression,” Abbey argues for its preservation. In a passionate proclamation of his ethical stance, he says, “A civilization which destroys what little remains of the wild, the spare, the original, is cutting itself off from its origins and betraying the principle of civilization itself” (Abbey, 1990, p. 211). It is this rhetoric that, “All living things on earth are kindred,” which positions him as an “earthiest,” and protector of the coyotes and other predators of the wilderness (Abbey, p. 22).

Desert Solitaire chronicles Abbey’s life as a U.S. park ranger in Utah’s Arches National Monument and the environment of the Moab Desert. He begins his journal with his strong connection to place saying,

This is the most beautiful place on Earth. There are many such places. Every man, every woman, carries in heart and mind the image of the ideal place, the right place, the one true home, known or unknown, actual or visionary. (p. 1).

Abbey describes in vivid detail his notion of “place,” based in the immediacy of the “here and now” and the “tangible, dogmatically real earth on which we stand” (p. 190). Abbey’s establishment of place includes all of its inhabitants writing, “not only apple trees and golden women but also scorpions and tarantulas and flies” as well as spiders and an assortment of reptiles (p. 190). He extensively lists every creature big and small along with its geographical features including “quicksand” and “volcanoes” (p. 190). The recognition that “whole assemblages of species, habitats, and ecosystems” need to be protected “before they decline,” strengthens the environmental call to action to prevent the further collapse of ecosystems (Noss & Cooperider, 1994, p. 27). It is at this juncture of the “here and now,” that Abbey establishes the desert as a sustainable place and interconnected environment in which all its organisms work in a symbiotic relationship. This ecocritical vision embraces a nonanthropomorphic understanding of the desert as Abbey (1990) contemplates the thoughts of its animal life, particularly that of the desert song coyote.5

What do the coyotes mean when they yodel at the moon? What are the dolphins trying so patiently to tell us? Precisely what did those two enraptured gopher snakes have in mind when they came gliding toward my eyes over the naked sandstone? If I had been as capable of trust as I am susceptible to fear I might have learned something new or some truth so very old we have all forgotten it. They do not sweat and whine about their condition. They do not lie awake in the dark and weep for their sins. (p. 25)

In these lines, Abbey aligns himself with the natural world and the ability to simply be and live without complaining about the physical demands and circumstances of the environment. In so doing, Abbey attempts to subvert an anthropomorphic perspective of viewing the world simply based on human endeavors and emotions. His observations reveal that
animals are at home in their habitats, perhaps more so than man himself. Abbey further observes, however, that the Southwestern desert has become a “place” of contestation as industrializing mobile capital flows into the “space.” Human geographer Tim Cresswell (2004) notes that the “global flow of people, meaning and things, has led some to perceive an accelerating erosion of place” (p. 43). Increasing development of bedroom communities has expanded across America’s landscape constructing cookie-cutter houses right smack in the middle of wildlife communities of deer, bear, birds, vultures, wolves, bobcats, and yes, coyotes—all of which make struggles over resources unavoidable (Sterba, 2012, p. 271).

Although these globalizing forces, the information highway, and electronic media have separated man from his connection to the environment, the coyote has been able to endure and “survive within the fragmented natural environment of rural and urban landscapes” (Sandlos, 1999, p. 114). After the disappearance of the wolf in the lower 48 states due to hunting and trapping, urbanizing forces, and predator control implementation, coyotes learned to adapt and change to the world around them. Because of this “ability to adapt to an environment modified by humans, coyotes are now observed in large cities” (Bekoff & Gese, 2003, p. 467). According to Wildlife Resource data, coyotes have passed through unlikely urban spaces including a Chicago sandwich eatery where it took up residence in a beverage cooler. It is my contention that the coyote’s persistent monkey wrenching across these contested spaces offers an imaginative bridge of possibility between the wilderness and the industrialized urban world.

Ironically, Abbey accuses the Wildlife Service (WS), the very institution that is supposed to facilitate the cohabitation of people and wildlife for many of the imbalances in the environment (USDA, 2012). Previously known as Animal Damage Control, the WS was established in 1895 as a branch of the USDA and has gone through different bureaucratic changes since its inception switching umbrellas from the U.S. Department of the Interior to the Animal Health Protection Services under the USDA (2012), whose general mission is “to protect the health and value of American agriculture and natural resources.”

The WS vision operates under this socio-political construction of “protection,” “improvement,” and “coexistence.” Its vision statement advocates a “wide range of public interests that can conflict with one another” (USDA, 2012). This vision then delineates these conflicting interests to include “wildlife conservation, biological diversity, and the welfare of animals, as well as the use of wildlife for purposes of enjoyment, recreation and livelihood” (USDA, 2012). The reading of the vision suggests a protectoral vision and conservatorship of our wildlife resources—one that acknowledges biodiversity and the welfare of animals. However, embodied in the vision are antithetical political forces which subordinate wildlife for man’s “purposes of enjoyment, recreation, and livelihood” (USDA, 2012). The very mission statement highlights predator politics and the link between political economy and natural ecosystems, power and powerlessness. The WS mission statement acknowledges wildlife as a shared American value and public resource, and states, “By its very nature, however, wildlife is a highly dynamic and mobile resource that can damage agricultural and industrial resources, pose risks to human health and safety, and affect other natural resources” (USDA, 2012). The manifest concern for the damage to industry demonstrates the real mission of WS—the protection of commercial agricultural commodities in the interest of development, agribusiness and global capital.

Abbey was quite aware of the intentions of the WS as evidenced in his strong rhetoric against WS predator removal tactics, which is quite subversive in its tone and substance. Abbey (1990) asserts,

The Wildlife Service keeps its people busy in trapping, shooting and poisoning wildlife, particularly coyotes and mountain lions. Having nearly exterminated their natural enemies, the wildlife experts made it possible for the porcupines to multiply so fast and so far that they—the porcupines—have taken to gnawing the bark from pinyon pines in order to survive. (p. 34)

Abbey observes the impact of predator removal and considers the fate of deer and what will happen to them with continued human interference. Acknowledging the inter-being between porcupine and deer he questions why they most fall “victims to human meddling with the natural scheme of things” (p. 37). It is at this juncture of his meditation, that he asserts, “Not enough coyotes around and the mountain lions close to extinction” (p. 37). Abbey recognizes the importance of predators in the preservation of sustainable ecosystems. Without coyotes other species multiply “like rabbits” and overpopulate the habitat by “eating themselves out of house and home,” which results in an ecological starvation (p. 37). Although Abbey’s nonfiction prose is based mostly on personal anecdote and personal musings, his observations are indeed supported by extensive scientific evidence.

According to Robert T. Paine (1966) in “Food Web Complexity and Species Diversity,” “Local species diversity is directly related to the efficiency with which predators prevent the monopolization of the major environmental requisites by one species” (p. 65). All species living within an ecosystem are interconnected by a web of interactions, stabilized by the biodiversity of its members. In his landmark paper, “A Note on Trophic Complexity and Community Stability,” Paine identified these species as “keystone species” whose continued existence is essential for the biodiversity of the ecosystem. In his research, “Ecological Chain Reactions in Kelp Forests,” Jim Estes confirmed the importance of predators insisting that they be considered as “drivers” and not mere “passengers” on earth. Professor Jim Nuttle, of the University Indiana of Pennsylvania, in Abbey’s hometown of Indiana, led an ecological impact assessment.
documenting this correlation between the impact of predator removal and the increase in deer population and its “negative effect on plants” (Wells, 2011, p. 18). He refers to this effect as “trophic ricochet,” resulting from “the indirect effect that we’ve eliminated the carnivores that eat deer” (Wells, 2011, p. 18). His research supports earlier studies that when we decrease the top carnivores in the chain, it has “flip-flopping effects” on the entire ecosystem (Wells, 2011, p. 18).³

Abbey (1990) observed this “flip-flopping effect,” and in one of his strongest environmental propositions in support of predator ecology and protection, he states, “We need more predators” (p. 31). He then proceeds to refute claims made by “sheepmen,” that their loss of a single lamb here and there will impact their herding economy. For Abbey, a “sacrificial lamb” on a “heavily subsidized public land” is an inconsequential price for the “support of the coyote population” (p. 31). Using vitriolic diction, he refers to the sheepmen as “hog-rich” and “pigheaded” who can bare the loss of a sheep or two in the interest of the predators and other noncommodified animals of the wilderness. He repeats his political stance again declaring, “We need more coyotes, more mountain lions, more wolves and foxes and wildcats, more owls, hawks and eagles” (p. 31). In rabble-rousing detail, Abbey indicts the Predator Control Agency as a mercenary apparatus of commercial “livestock interests” launching a “campaign of extermination” to vanquish coyote populations with “unremitting ferocity and astonishing cruelty” (p. 26). Using inflammatory support for his predator conservatorship, he specifies the inhumane methods of the Predator Control Agency alleging:

Everything from the gun and trap to the airplane and the most ingenious Device of chemical and biological warfare. Not content with shooting coyotes from airplanes and hunting lions with dogs, these bounty hunters, self-styled sportsmen, and government agents like to plant poisoned meat all over the landscape, distribute tons of poisoned tallow balls by air, and hide baited cyanide guns in the ground and brush—a threat to humans as well as animals. Still not satisfied, they have developed and begun to use a biochemical compound, which makes sterile any animal foolish enough to take the bait. (Abbey, 1990, p. 38)

Abbey’s accounts of inhumane practices toward coyote populations still hold true today. According to The Humane Society of the United States (2012), coyotes are the most “persecuted predators in North America” (p. 2). The USDA branch reported close to 77,000 coyote killing, by trapping, aerial gunning, sodium cyanide M-44, Compound 1080, or Sodium Nitrate. Every year, tens of thousands of coyotes are exterminated by helicopter aerial fire using Benelli shotguns at extremely close ranges of 20 to 100 ft. Their prey runs helplessly seeking cover from this continuous aerial assault. “They kill them as fast as they can and in as big a volume as they can,” said certified aerial gunner Rex Shaddox (The Humane Society of the United States, 2012, p. 2). Documenting depredation methodology, the Humane Society reports myriad deadly practices ranging from cyanide spring-propelled M-44′s to close-range aerial shooting. Depredation advocates argue that the attacks are warranted to prevent coyote damage to livestock and other wildlife.

A social media video, titled Helicopter Coyote Depredation, depicts the thrill of the hunt and claims,

The coyotes were doing a lot of damage to wildlife and cattle on multiple ranches, so it was decided to bring in the helicopters and some shooters that knew how to run a rifle. These were depredation hunts, not fair chase hunts. (Infinity400cb, 2011)

The images of a helicopter hunting down coyotes on an open range, followed by a closing image of a slain coyote with a Benelli rifle over his body illustrate the ideological battlefield of contemporary predator politics. The only comment on the video, boasts, “It was great experience and anyone that has the opportunity to participate in aerial gummy should do so because it’s educational and well . . . yeah . . . fun” (Infinity400cb, 2011).⁵

In The Voice of the Coyote, J. Frank Dobie (1949) observes the complicated relationship between man and the coyote population when he writes, “The English-Americans have never taught coyote any language but that of lead, steel, and strychnine” (p.10). On this political terrain, the environment has become a contested space between wilderness predators, domesticated animals, commercial livestock interests and recreational hunters. Larger systematic forces that circulate through the different ideological interests of society influence the wilderness, what we perceive to be the wilderness, and what we value in the wilderness. Although some may believe coyotes and other wild predators must be contained from injuring domestic cultural productions, Abbey (1990) strongly counters this with a clear position on environmental ethics: “A civilization which destroys what little remains of the wild, the spare, the original, is cutting itself off from its origins and betraying the principle of civilization itself” (p. 211).

It is my contention that Abbey’s Solitaire is a foundational discourse that has informed and transformed environmental justice scholarship and advocacy. Willing to enter the contested space of predator politics, Abbey advocates for a wilderness ethic that reinforces the protection of biodiversity and the integrity of its predator ecosystems. Although his rhetoric is sometimes confrontational and hyperbolic, privileging coyotes over the commercial flow of people through the wilderness, it is nonetheless compelling in its persuasive impression. If political and environmental awareness is about engagement, then Abbey (1990) engages the reader if not to accept, at least to understand his predator politics and his ideas that the natural environment is an integral part of human society and it is our fiduciary duty to preserve and sustain undamaged what ecosystems still exist (p. 58).
Kingsolver’s Keystone Predators of the Appalachians

Barbara Kingsolver (1995) introduces an ecofeminist perspective to the discourse of saving our predator populations in her novel _Prodigal Summer_. Informed by scientific principles, Kingsolver articulates a complex and often contentious relationship between coyotes and humans. Similar to Edward Abbey, she depicts how natural ecosystems work as vast interconnected webs that renew and sustain themselves naturally without human interference. Kingsolver narrates the interplay of man and predator from both the human and predator perspective to highlight “trophic cascades”—the deep effects on the food chain when top predators are added or removed from their natural ecosystems. She beckons her readers to examine this interplay from the top down.

Kingsolver returns to her Appalachian roots integrating her academics background in ecology and evolutionary biology to offer an Alpha-female coyote perspective on the impact of civilization on nature’s species. In this synthesis of science, place, and fiction, she shows the delicate balance of living “place” in the natural world of the Southern Appalachian bioregion and records the continuous threat of hyper-growth and its constant demand for land and resources to exploit. Kingsolver’s (1995) nonanthropomorphic ecological consciousness shows the impact of this growth on the coyote population by showing how coyotes have been pushed to the edges of their natural habitats and “have turned up in every one of the continental United States in the last few years” (p.17).

Kingsolver’s (1995) coyote protector, Deanna Woolf, is “a graduate student in wildlife biology, finishing up a thesis on the coyote range extension in the twentieth century” (p.18). Deanna believes that the forced migration of coyote populations to the Appalachian Mountains is a result of industrialized hyper-growth and that the coyotes are filling the spot “vacated two hundred years ago by the red wolf” (Kingsolver, 1995, p. 18). Similar to Thoreau, Abbey, and more contemporary wilderness adventurers like Christopher McCandless, Kingsolver’s fictional female counterpart retreats back to nature to “live deliberately” and “front only the essential facts of life” (Thoreau, 1854). Deanna’s adventure takes her to Zebulon Mountain where she will heal her heart from a broken marriage, and work for the U.S. Wilderness Service, employment, which Edward Abbey also enjoyed.

Inspired by Darwinian theory and the “Theory of Population Genetics and Evolutionary Ecology,” which is part of her reading pastime, Deanna hypothesizes that the only reason the coyotes ended up far afield from the deserts of Mexico and the Southwest in the high mountains and forests of the Appalachians is because of forced migration (Kingsolver, 1995, p. 61). “Why else would they have ventured so high up the mountain into this forest, so far from the fencerows and field margins that are a coyote’s usual domain?” (Kingsolver, 1995, p. 58). Deanna acknowledges the possible interbreeding between coyotes and red wolves reinforcing National Wildlife Research, which demonstrate that “coyotes can successfully interbreed and produce fertile hybrids” with red wolves and gray wolves (Dice, 1942, p. 186).

The revival of the coyote (_Neotenic canis_) and its renegotiating of place within the Appalachian Range becomes the subject of Deanna’s work and research, which she describes as “the return of a significant canid predator and the reordering of species it might bring about” (Kingsolver, 1995, p. 65). Deanna’s work to restore this “keystone predator” is based on “Paine’s famous experiments from the 1960s, in which he’d removed all the starfish from his tide pools and watched the diversity of species drop from many to very few” (Kingsolver, 1995, p. 65). When trying to illuminate the importance of predators to her coyote hunter/lover, Eddie Bondo, Deanna provides informative detail of zoologist Robert T. Paine’s (1969) keystone species concept, which he formulated with the Makah Indian Tribe in the lands along Washington’s Pacific coastline to describe the ecological impact of removing one key predator from its ecosystem and the resulting impact on its ecosystems. The fundamental principle of Paine’s concept is that the presence of keystone species facilitates ecosystem sustainability and higher levels of biodiversity than if keystone species are removed. In her example, Deanna summarizes how “the starfish preyed on mussels. Without starfish, the mussels boomed and either ate nearly everything else or crowded it out” (Kingsolver, 1995, p. 65). In Paine’s experiment, when the starfish (_Pisaster ochraceus_) was taken out of the ecosystem, two of the mussel species (_Mytilus_) grew in unprecedented proportions and dominated the community, reducing its diversity. Deanna uses Paine’s starfish experiment as an argument by analogy to compare it with the removal of “mountain lions from the Grand Canyon,” which “had rendered it a monoculture of prolific, starving deer that out-bred all other herbivores and gnawed the landscape down to granite” (Kingsolver, 1995, p. 64). In a convincing didactic argument to Eddie Bondo, who represents the rugged hunter archetype, she inculcates American society and the people from “her own beloved mountains” for simply watching the elimination of a “predator from a system” and the consequential loss of “richness to one extinction after another” (Kingsolver, 1995, p. 65). Deanna does concede that coyotes can wreak havoc in the environment “as newly introduced species” and “maybe the farmers were right to shoot them” (Kingsolver, 1995, p. 66). Kingsolver vividly depicts this complicated and contentious relationship between man and coyote.

Indeed, coyote conflicts have drawn increasing media attention; yet, there “have been a few detailed studies of predatory behavior of wild coyotes on small animals” (Kingsolver, 1995, p. 67). Coyotes tend to hunt in small packs running on an average of 35 miles per hour and kill its prey by attacking the throat of the small animal. Many
residents and farmers are alarmed and have taken up arms against the “gray ghosts of the forest,” adopting a shoot to kill policy. Many Appalachian states have “no bag limit” hunting seasons and as a result coyote hunting has become a popular sport in Kentucky where farmers can grant hunters shooting privileges on their land to get rid of what they perceive to be the threat to livestock. A 7-year study implemented by Eric Gese (2005) in southeastern Colorado demonstrates that the effects of coyote culling actually did the opposite—it increased coyote populations (p. 282).

Kingsolver’s (1995) predator advocate Deanna Wolfe holds firm to her conviction that coyotes contain the ancestral cells of the red wolf and gray wolf and rightfully insinuates “themselves into the ragged hole in this land that needed them to fill it” (p. 66). For Deanna, the coyotes are her ancestral offspring carrying within their cells the memory of a rich diverse wilderness and are now silently reemerging to return “to the place it had once held in the complex anatomy of this forest like a beating heart returned to its body” (Kingsolver, 1995, p. 66).

Her lover Eddie, on the contrary, a rancher from the West asserts that, “hating coyotes is his religion,” a religion buried deep within the livelihood of farmers and cattle ranchers afraid of losing their livestock (Kingsolver, 1995, p. 326). Eddie and Deanna represent the political battlefield between man and wildlife conservation efforts. On this mountain, Deana notes there is only one of them who “thinks like a mountain,” one protector and one enemy. Similar to Edward Abbey, Deanna becomes a fictional voice for Aldo Leopold’s (1970) Land Ethics in which,

all ethics so far evolved rest upon a single premise: that the individual is a member of a community of interdependent parts.

The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively the land. (p. 204)

For Deanna, this is also an environmentalism of the spirit and mind.

Philosopher Norman Wirzbza (2003) posits in his work on the ethics of agrarian land politics, that resources “feed cultural ambition” leading to “an animosity between the country and city each side claiming for itself moral or human excellence” (p. 88). Kingsolver captures this political discourse using her characters Deanna and Eddie to play out the ideological tension of opposing socioeconomic and environmental viewpoints. In so doing, she helps readers examine the interconnectedness of man and predator species and how their eradication can threaten our environment.

In one of the most forceful appeals in Kingsolver’s narrative, Deanna says, “To kill a natural predator is a sin” (1995, p. 181). Deanna tries to substantiate this belief with an appeal to logos based on her scientific observations that when coyotes are hunted, they “breed faster” and have “bigger litters” (Kingsolver, 1995, p. 329).

Sometimes they’ll even share a den, so where you’d normally see just the alpha female breeding, now one of her sisters breeds, too. They work in family groups, with most of the adults helping to raise one female’s young. It might be that when some adults are killed out of a group, there’s more food for the young. Or maybe there’s a shift in the reproductive effort. Something happens. What we know for sure is, killing adults increases the chances of survival for the young. (Kingsolver, 1995, p. 329)

Fully armored with scientific research and Leopoldian ethics, Kingsolver positions Deanna as a maternal eco-warrior against the eradication of top carnivores from the animal pyramid. Like Leopold and Abbey, Kingsolver’s Deanna believes predator removal will disrupt and impoverish existing ecosystems. Leopold (1970) writes in Thinking Like a Mountain, that he thought “that because fewer wolves meant more deer, that no wolves would mean hunters’ paradise” (p. 138). Instead, he discovered that wolf removal negatively affected its ecosystems.

I have watched the face of many a newly wolfless mountain, and seen the south-facing slopes wrinkle with a maze of new deer trails. I have seen every edible bush and seedling browsed, first to anaemic desuetude, and then to death. I have seen every edible tree defoliated to the height of a saddle horn... In the end the starved bones of the hoped-for deer herd, dead of its own too-much, bleach with the bones of the dead sage, or molder under the high-lined junipers. (Leopold, 1970, pp. 139-140)

Leopold explains how the elimination of carnivore predators increases the population of herbivores who in turn overeat topsoil vegetation layers, which in turn removes essential flora fauna necessary for a healthy ecosystem. According to Leopold (1970),

The energy that plants absorb from the sun:... flows through a circuit called the biota, which may be represented by a pyramid consisting of layers. The bottom layer is the soil. A plant layer rests on the soil, an insect layer on the plants, a bird and rodent layer on the insects, and so on up through the various animal groups to the apex layer, which consists of the larger carnivores... Proceeding upward, each successive layer decreases in numerical abundance. Thus, for every carnivore there are hundreds of his prey, thousands of their prey, millions of insects, unaccountable plants. (p. 252)

It is this argument, amply supported by trophic cascade researchers, that Deanna proffers for the protection of the coyote populations. She believes similarly that like wolves, if coyotes are eliminated, it will cause invariable harm by allowing the herbivores on Mount Zebulon to overgraze the Appalachian Mountain Range. Like Leopold, she “does not object to hunting per se, but does object to hunting major predators” (Wentz, 2003, p. 108).

Deanna describes how a mother coyote nurtures her pups for a year teaching them how “to stalk and hunt” to survive (Kingsolver, 1995, p. 323). Coyotes are fortunate if a pup
lives past the first year (Kingsolver, 1995, p. 323). In another emotional plea, she urges Eddie and her reader audience to understand that coyotes are living beings in the natural order of the universe with “something important” to do in their lives, whether it be as something as simple as eat or simply “be” (Kingsolver, 1995, p. 323). Here, Kingsolver connects to a environmental worldview in which all sentient beings are interconnected in an ecological collective sustainability and, in so doing, embraces Aldo Leopold’s (1970) vision of seeing “land as a community to which we belong” (p. viii).

Deanna is the protector of not only the coyote beings but also the coyote spirit and North American Folklore. Kingsolver characterizes Deanna’s coyote family as a creator and a trickster. In so doing, the coyote becomes almost a cultural wilderness hero who is capable of surviving and adapting to a constant world of globalized market forces. Even after “a hundred years of systematic killing,” there are more “coyotes now than there have ever been, in more places than they ever lived before” (Kingsolver, 1995, p. 328). Kingsolver synthesizes scientific evidence to support Deanna’s coyote politics and is substantiated by Canadian wildlife biologist, Dr. Paul Paquet, who argues,

Coyotes usually have an orderly social structure with the dominant pair of a group breeding once a year. If left alone, family groups and populations are stable, with 1st year pup mortality at 50% to 70%. If we kill pack members, other members can begin breeding more often, and with more food now available for pup survival, the result is more coyotes. Over the years, we’ve been acting in opposition to our best interests because we didn’t consider how biologically and behaviorally adaptable coyotes are. (Fox, 2011, p. 2)

Former professor of evolutionary biology at University of Colorado Dr. Marc Bekoff confirms Paquet’s findings that coyotes adapt to the stresses and fluctuations in their environment and are clever in their ability to seek out food and water sources, especially when they are under attack from human and environmental threats. Bekoff strongly states that, “Killing does not and never has worked. Community education and a willingness to coexist are the keys to eliminating human-coyote conflicts” (Fox, 2011, p. 2).

Deanna expresses some of the core principles of these scientific findings and the mystery of coyote’s steadfast nature to survive and transform comparing them with other mammals that have been hunted down to extinction. “It’s a mystery, isn’t it? We kill grizzlies, wolves, blue whales, and those guys slump off toward extinction as fast as they can. Darn coyotes, though, they’re more trouble. I think the Indians are right: they’re downright tricky” (Kingsolver, 1995, p. 328). The coyote, in her ability to adapt and travel across the plains, rivers, and mountains, almost becomes an omniscient sacred presence and transformative power in Deanna’s eco-design. This transformative power to adapt to an impermanent and fluctuating universe creates the sense of mystery associated with the coyote. According to Dr. Åke Hultkrantz’s (1966) research on Native American religions and ecology, the coyote occupies a mythic counterpart to the Great Spirit in his impersonation of creator. Deanna’s alpha mother coyote embraces this procreative source of power and maternal protector, and acts like a feminist eco-warrior of the Appalachians, nurturing her own coyote (monkey) wrench gang with her new den of pups.

Kingsolver’s coyote is forever watching and observing all of Deanna and Eddie’s daily routines, while ironically at the same time that Deanna is observing and recording the coyote’s habits. Her text is structured in an evolutionary frame that moves and shifts from an anthropomorphic perspective in the first chapter to a nonanthropomorphic female perspective in the final chapter. The final chapter gives voice to the “other” members of the natural world. In this evolutionary shift and juxtaposition of perspectives, she embraces a new way of envisioning the world from the perspective of the predator.

In the first paragraph of the opening chapter on Predators, she writes about Deanna’s movement through the mountain.

Her body moved with the frankness that comes from solitary habits. But solitude is only a human presumption. Every quiet step is thunder to beetle life underfoot; every choice is a world made new for the chosen. All secrets are witnessed. (Kingsolver, 1995, p. 3)

The narration later evolves to the coyote’s perspective and an immediate observation that, “Solitude is a human presumption” (Kingsolver, 1995, p. 447). She then adds the coyote predator perspective and a final argument for the integrity of keystone predators in the living ecological cycle of life. The coyote notes, “A tug of impalpable thread on the web pulling mate to mate and predator to prey, a beginning or an end. Every choice is a world made new for the chosen” (Kingsolver, 1995, p. 447). With these lines, Kingsolver subverts the Christian paradigm of the “chosen,” positioning both man and coyote on equal ground. Kingsolver becomes both human and animal voicing the collective perspectives of both species and their concerns about the ecological sustainability of our planet. Her ability to enter the nonhuman perspective represents an organic collective voice of ecological inter-being. She awakens the reader to an ecocritical consciousness showing us that we are all connected in a living democracy; although, every creature might believe she or he is the center of the universe, we all carry within ourselves the cells of each other. Bridging science and literature, she provides a living reading of the world to awaken us to live more meaningful lives. Once awake, she challenges us to engage in the interconnected web of human and nonhuman relations that sustain our communities.

**Predator Politics**

Edward Abbey’s *Desert Solitaire* and Barbara Kingsolver’s *Prodigal Summer* draw reader’s awareness to the importance
of coyotes in our ecosystems and inspire ethical contemplation and ecological consideration. They have created what William Kittredge (1992) refers to as a “new story,” that “understands killing the natural world” is a way of “killing each other” (p. 12).

Coyotes hold the distinction of being one of the top persecuted predators in North America with an estimated 400,000 coyote kills a year, averaging 1,100 a day (Sullivan, 2015). Although the government is responsible for 80,000 kills, the remaining 320,000 coyotes are killed in sporting competitions in which prizes along with boasting rights are awarded for the biggest bounty with prizes ranging from a new AR-15 assault rifle to a few hundred dollars. Although the United States and state governments support lethal efforts to protect property owners from coyote attacks, other organizations such as ProjectCoyote, founded in 2008, advocate for “human-wildlife mitigation or wildlife ecology and behavior” (ProjectCoyote). Executive Director Camilla Fox argument represents Abbey and Kingsolver’s Predator Politics. Fox (2011) argues that, “It is important that people recognize that coyotes are part of our ecosystem and that they have intrinsic value and ecological value” (p. 2). Fox believes coyotes reduce urban rodents and keeps “mesocarnivores—like foxes, skunks and raccoons—in check” (Fox, 2011, p. 2).

There are myriad ways to raise audience awareness on environmental issues. Kingsolver’s fictional account of coyote/human relations is similar to present day coyote/human relations throughout America. Whereas Deanna and Eddie Bondo represent two different ideologies on this issue, Kingsolver leaves little doubt as to her loyalties. Using numerous scientific details, she appeals to reader’s intellect and logic to understand the importance of fostering coyote predator populations to maintain ecological sustainability. Abbey (1977), on the contrary, said it best: “The idea of wilderness needs no defense. It only needs more defenders” (Journey Home, p. 223). William Kittredge (1992) goes a step further arguing that, “We need to take our politics back from lawyers and the professionals and the boys with money” (p. 13). Leopold, Abbey, Kingsolver, and Kittredge all share a common enterprise of “reinventing our notion of what is most valuable to us, as individuals and as a species” (Kittredge, 1992, p. 13). New stories that imagine ways to stop the destruction of our ecosystems are “redefining what we take to be sacred; it is our most urgent business, our major communal enterprise” (Kittredge, 1992, p. 13).

**Final Howl**

In this article, I have argued that the close readings of Edward Abbey’s *Desert Solitaire* and Barbara Kingsolver’s *Prodigal Summer* illustrate the need for environmental predator justice. Their works articulate a compelling wilderness voice that advocates for the recognition of keystone predators as integral members of our ecological community and for their full participatory protection within our ecosystems. Abbey and Kingsolver’s predator politics parallel contemporary environmental justice demands for sustainable ecosystem democracies and foster an interdisciplinary approach to environmental justice advocacy. Their works provide stories in “which the processes of communality and mutual responsibility are fundamental” (Kittredge, 1992, p. 13). It is my contention that multiple interdisciplinary approaches to what we consider literature and integrated ecological discourse enhance global environmental awareness and humanity’s relationship and interconnectivity to the environment.

**Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

**Funding**

The author(s) received no financial support for the research and/or authorship of this article.

**Notes**

1. I have been examining coyote scat and tracks for 30 years in the Santa Monica mountain range. Most of my scat examination has turned up bits of rodent hair and local berries.

2. “Coyote Attacks: An Increasing Suburban Problem,” by Timm, Baker, Bennett, & Coolahan, 2004 chronicles Coyote attacks in California between 1978 and 2003.

3. The Department of Fish and Wildlife’s Law Enforcement Division urges the communities to work “together to eliminate sources of food that may attract wildlife to neighborhoods” (CDFW). See: “Coyote Incidents in Southern California Prompt Precautionary Reminders” CDFW News, July 2015. https://cdfgnews.wordpress.com/2015/07/08/coyote-incidents-in-southern-california-prompt-precautionary-reminders/

4. See Berger (1998); Dice (1925); Elton (2000); Estes (1996); Gese (2005); Paine (1995); Slobodkin, Smith, and Hairston (1967); and Terborgh (2005).

5. I use nonanthropomorphic to reflect Naturalist John Burroughs’ (1921) observation that if we interpret the natural world in human terms, we are certain to misunderstand it (*Under the Maples*, p. 179). Conversely, Abbey subverts the anthropomorphic tendency to interpret nature in terms of human values and needs proffering a nonanthropomorphic perspective.

6. See Berger (1998); Dice (1925); Elton (2000); Estes (1996); Gese (2005); Paine (1995); Slobodkin et al. (1967); and Terborgh (2005).

7. See Berger (1998), Dice (1925), Elton (2000), Estes (1996), Gese (2005), Paine (1995), Slobodkin et al. (1967), and Terborgh (2005).

8. Current research has shown, however, that aggressive coyote culling does not reduce coyote populations. A 7-year study by Eric Gese published in 2005 shows that aggressive coyote culling might in fact increase coyote reproductive rates. Studies have further shown that decreasing coyote populations can have a cascading effect within the ecosystem.

9. Conversation biologist Michael Soulé offers perhaps one of the best case studies of the impact of removing coyotes in a Southern California chaparral that had been carved up by urban development projects. Soulé discovered that coyotes help to regulate smaller predators and in so doing sustain native thrashers and avifauna. Without the coyotes, mesopredators
(smaller predators) multiplied, which he termed “mesopredator release” (Stolzenburg, 2011, p. 127). Without coyotes, the diversity of chaparral birds diminished.

References

Abbey, E. (1977). *The journey home*. New York, NY: Dutton.
Abbey, E. (1990). *Desert solitaire*. New York, NY: Simon & Schuster.
Bekoff, M., & Gese, E. M. (2003). *Coyote (Canis latrans)* (Paper No. 224). USDA National Wildlife Research Center—Staff Publications. Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1218&context=icwdm_usdanwrc
Berger, J. (1998). Future prey: Some consequences of losing and restoring large carnivores. In T. Caro (Ed.), *Behavioral ecology and conservation biology* (pp. 80-100). Oxford, UK: Oxford University Press.
Buell, L. (1995). *The environment of the imagination: Thoreau, nature writing, and the formation of American culture*. Cambridge, MA: Harvard University Press.
Burroughs, J. (1921). *Under the Maples*. Boston, MA: Houghton Mifflin Harcourt.
Cresswell, T. (2004). *Place: An introduction*. Malden, MA: Wiley Blackwell.
Dix, L. R. (1925). Scientific value of predatory mammals. *Journal of Mammalogy*, 6, 25-27.
Dix, L. R. (1942). A family of dog coyote hybrids. *Journal of Mammalogy*, 23, 186-192.
Dobie, F. J. (1949). *The voice of the coyote*. Lincoln: University of Nebraska Press.
Elton, C. S. (2000). *The ecology of invasions by animals and plants*. Chicago, IL: University of Chicago Press.
Estes, J. A. (1996). Predators and ecosystem management. *Wildlife Society Bulletin*, 24, 390-396.
Estes, J. A. (2005). Carnivory and trophic connectivity in kelp forests. In J. C. Ray, K. H. Redford, R. S. Steneck, & J. Berger (Eds.), *Large carnivores and the conservation of biodiversity* (pp. 61-81). Washington, DC: Island Press.
Fox, C. (2011). Canid experts recommend coexistence as best strategy. *The Coyote News, l(Special Edition)*, 1.
Gese, E. M. (2005). Demographic and spatial responses of coyotes to changes in food and exploitation. *Wildlife Damage Management Conference, 11*, 271-285.
Hepworth, J., & McNamee, G. (1989). Resist much, obey little: Some notes on Edward Abbey. Tucson, AZ: Harbinger House.
Hullkrantz, H. F. (1966). An ecological approach to religion. *Ethnos*, 31, 131-150.
The Humane Society of the United States. (2012). Coyotes under fire: Government program slaughters coyotes by the tens of thousands. Retrieved from http://www.humanesociety.org/news/magazines/2012/03-04/coyotes_under_fire_a.html?referrer=https://www.google.com/
Infinity400cb, dir. (2011, July 24). Helicopter coyote depredation [Video file]. Retrieved from https://www.youtube.com/watch?v=64gIU5zHBD8
Kingsolver, B. (1995). *Prodigal summer*. New York, NY: HarperCollins.
Kittredge, W. (1992). *Hole in the sky: A memoir*. New York, NY: Knopf.
Leopold, A. (1970). *A sand county almanac with essays on conservation from round river*. New York, NY: Ballantine.
Noss, R., & Cooperrider, A. Y. (1994). Saving nature’s legacy: *Protecting and restoring biodiversity*. Washington, DC: Island Press.
Paine, R. T. (1966). Food web complexity and species diversity. *American Naturalist, 100*, 65-75.
Paine, R. T. (1969). A note on trophic complexity and community stability. *American Naturalist, 103*, 91-93.
Paine, R. T. (1995). A conversation on refining the concept of keystone species. *Conservation Biology, 9*, 962-964.
Reid, C. (2005). Coyote seeking the hunter in our midst. New York, NY: Houghton Mifflin Harcourt.
Sandlos, J. (1999). The coyote came back: The return of an ancient song dog in the post-colonial literature and landscape of North America. *Interdisciplinary Studies in Literature and the Environment*, 6(2), 99-120.
Slobodkin, L. B., Smith, F. E., & Hairston, N. G. (1967). Regulation in terrestrial ecosystem and the implied balance of nature. *American Naturalist, 101*, 109-124.
Sterba, J. (2012). *Nature wars: The incredible story of how wildlife comebacks turned backyards into battlegrounds*. New York, NY: Crown Publishers.
Stolzenburg, W. (2011). *Where the wild things were: Life, death, and ecological wreckage in a land of vanishing predators*. New York, NY: Bloomsbury.
Sullivan, M. M. (2015). 400,000 coyotes are killed in U.S. each year. . . . The reason will make you livid. *The Rainforest Site*. Retrieved from http://blog.therainforestsite.com/killing-coyotes-
Terborgh, J. (2005). The green world hypothesis revisited. In J. C. Ray, K. H. Redford, R. S. Steneck, & J. Berger (Eds.), *Large carnivores and the conservation of biodiversity* (pp. 82-99). Washington, DC: Island Press.
Thoreau, H. D. (1854). *Walden*. Chicago: University of Illinois Press.
Timm, R., Baker, R., Bennett, J., & Coolahan, C. (2004). Coyote attacks: An increasing suburban problem. *Proceedings of the Twenty-First Vertebrate Pest Conference*. Lincoln: Digital Commons at University of Nebraska. Retrieved from http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1000&context=ipc21
U.S. Department of Agriculture. (2012). *Wildlife damage management*. Retrieved from https://www.aphis.usda.gov/wildlife_damage/informational_notebooks/2012/Protecting_Wildlife_combined.pdf
Wells, R. (2011, Fall-Winter). The white tail effect. *IUP Magazine* Retrieved from http://www.iup.edu/magazine/toc.aspx?id=118432
Wentz, P. S. (2003). Leopold’s novel: The land ethic in Barbara Kingsolver’s Prodigal Summer. *Ethics & the Environment*, 8(2), 106-125.
Wirzba, N. (2003). *Introduction to the essential agrarian reader: The future of culture, community, and the land*. Lexington: University of Kentucky Press.

Author Biography

Mary Louisa Cappelli is a graduate and interdisciplinary scholar from USC, UCLA, and Loyola Law School, where she studied anthropology, theater, film and television, law and literature. A former lecturer at Emerson College, she currently engages in participatory action research with indigenous mothers suffering from food and water insecurity in Africa and Central America.