

Writing Water, Writing Life

Silko as Environmental Activist

Christina Boyles

As concerns regarding the earth's water resources continue to grow, Indigenous communities are often thrust to the forefront of these conflicts. Protests at Standing Rock and the Tar Sands have highlighted the challenges they face when trying to access clean water. Perhaps unsurprisingly, Indigenous peoples are some of the hardest hit by government and corporate entities seeking to privatize water for profit. One of the communities most affected by water politics are the Indigenous peoples of Arizona and New Mexico, whose water supply is being drained, polluted, and rerouted due to corporate and government interests. The work of Leslie Marmon Silko, who is a member of the Laguna Pueblo of New Mexico, is mired in the concerns of her community, particularly issues of water scarcity. While Silko discusses the role of water in Native American communities in the Southwest in each of her works, those written post-1990—*Almanac of the Dead*, *Sacred Water*, *Gardens in the Dunes*, and *Oceanstory*—examine it in the greatest depth. These texts highlight the tension between imperial interests and Indigenous knowledge, focusing specifically on issues of water scarcity to demonstrate the need for an environmental ethos grounded in Indigenous practices. Since water allocation cannot be separated from either environmental or racial factors, Silko's texts critique (eco)colonialism's relationship to Native American communities and their water supply. In *Almanac of the Dead*, Silko discusses how large quantities of water are both used and contaminated by uranium mining, an act that has the greatest impact on the nearby Native American reservations. In *Sacred Water*, Silko presents a solution to water scarcity and contamination by advocating for sustainable irrigation, farming, and gardening practices. In *Gardens in the Dunes*, Silko addresses issues of population growth and landscaping

in the American Southwest, noting that current trends are detrimental to the water supply. Her most recent publication, an e-novella entitled *Oceanstory*, completes her discussion of water by drawing connections between colonialism and environmental degradation.

Silko's work directly challenges the settler logics inherent in the environmental movement for its investment in the narrative of Indigenous erasure. By focusing on the preservation of "pristine" landscapes—many of which are stolen Indigenous lands now operating under the guise of natural parks—environmentalists fail to address the ways in which climate change poses the greatest threat for marginalized groups, especially Native communities in the Southwest. Silko notes that "[t]hose who claim to love and protect the Mother Earth have to love all of her, even the places that are no longer pristine" (*Yellow Woman* 95). One way for activists to do this is by acknowledging the environmental conditions in many Native communities. Cultural studies scholar Andrea Smith notes that "ecofeminist thinkers do not adequately discuss the material conditions in which Indian people live, how these conditions affect non-Indians, and what strategies we can employ to stop the genocide of Indian people and end the destructive forms of resource development on Indian land" (30).

In her work on *Almanac of the Dead*, Bridget O'Meara argues that "[a]n environmental movement that does not consistently and consciously foreground the relationship between the degradation of ecosystems and the violence against labor within gendered, racialized, and sexualized discourses and practices of capitalism merely serves and strengthens capital's interests in (neo)colonial and (neo)imperial projects" (71). Silko exhibits these values in her novels both by highlighting the harm created by settler culture and by demonstrating the ways in which Indigenous knowledge promotes healthier ways of being for both people and the ecosystem. T. V. Reed terms Silko's approach "decolonial environmental justice cultural studies" to emphasize the ways it challenges imperialist logics of economics, race, and the environment. Reed's assessment provides a powerful foundation for many key components of Silko's philosophy; this piece builds upon it by noting the interplay between Indigenous knowledge and decolonial projects. Decolonial environmental projects, often aligned with the "environmental justice" movement, address the needs of individuals "from an assortment of racial and social class backgrounds; they are African,

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Latino, Asian, Native, and white” activists who are seeking to redress the environmental harm done to marginalized communities (Reed 40). As such, they aim to address environmental discrimination broadly, often by refuting the colonial ideologies undergirding our culture’s valuation of peoples and lands. Using “decolonial” to encompass the experiences of all people of color, however, is a form of equivocation that risks erasure of Indigenous experiences. As Eve Tuck and K. Wayne Yang note, “[F]orwarding a thesis on decolonization without regard to unsettling/deoccupying land, are equivocations . . . [that] ambiguously avoid engaging with settler colonialism; they are ambivalent about minority/people of color/colonized Others *as settlers*; they are cryptic about Indigenous land rights in spaces inhabited by people of color” (19). This article, therefore, grounds its analysis in a decolonial framework that is specifically Indigenous to acknowledge the specific histories of settler colonialism in Indigenous communities; to highlight the relationship between water rights, climate change, and sovereignty; and to promote environmental practices grounded in Indigenous knowledges. Doing so captures the nuance of Silko’s work and creates a richer picture of the ways in which she addresses eco(colonialism) in the Southwest.

While scholars have drawn strong connections between capitalism and the environment in Silko’s works, these discussions have not examined the role of water in this dichotomy. Rebecca Tillett states that “[o]ne of the principal issues that Silko addresses is the complicity between science/technology and capitalist ventures, such as the energy/nuclear industries and real estate, which pursue the potential for vast economic profits at the cost of irreversible ecological damage” (154). Others, like Terre Ryan, note that Silko’s works “demonstrate the ways in which white European and American men have sought to dominate all other human beings and all of the earth’s landscapes” (115). Both of these arguments demonstrate the ways in which settler power structures like capitalism and conquest are inherently harmful to marginalized groups, particularly the Native peoples of the Southwest; I build upon these arguments by examining the ways in which water relegation and access play into these structures. In particular, I demonstrate how Silko’s novels use water issues to advocate for an (eco)revolution grounded in Indigenous knowledgesystems.

Water Scarcity in the Southwest

Just as the role of water has taken a central role in Silko's texts on the American Southwest, much of the current research surrounding water scarcity has taken place in this region. Since the Colorado River Compact of 1922, water allocation has been a contentious issue in the Southwest. The Environmental Protection Agency notes that "[w]ater allocations in the region, some of which were agreed upon almost a century ago, have become difficult to meet" (Environmental Protection Agency, "Climate"):

Recent studies of past climate and streamflow conditions have broadened understanding of long-term water availability in the Colorado River, revealing many periods when streamflow was lower than at any time in the past 100 years of recorded flows. That information, along with two important trends—a rapid increase in urban populations in the West and significant climate warming in the region—will require that water managers prepare for possible reductions in water supplies that cannot be fully averted through traditional means. Successful adjustments to these new conditions will entail strong and sustained cooperation among the many entities involved in Colorado River water management and science programs. (National Academy of Sciences)

In other words, the allocations outlined in the Colorado River Compact are unsustainable, and if states continue to draw their maximum water allowances, the reservoirs will go dry. Although it may seem simple to reduce allocation amounts, finding a way to do so that supports existing infrastructure and treats states fairly is quite a challenge, especially given current drought conditions. Journalist Doyle Rice notes that "[w]ater flow in the Colorado River—which supplies water to more than 30 million people in the Southwest including Los Angeles, Phoenix, and Las Vegas—is declining, along with the spring snowpack in the mountains that feed the river due to increased warmth." One contributing factor is climate change: "Temperatures in the Southwest are also rising more quickly than in other regions of the nation as a result of climate change, according to a recent climate change paper prepared by the White House. Specifically, Arizona is the fastest-warming state in the

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nation, based on data from 1970 to 2011, warming at a rate of 0.6 degrees per decade, a Climate Central report found” (Rice). Warmer temperatures are detrimental not only to the Southwest’s water supply but also to its entire ecosystem. The United States Global Change Research Program asserts that “[p]rojected increases in drought, wildfire, invasive species, and pests, as well as changes in the geographic ranges of species, will likely threaten Native forests and other ecosystems in the Southwest” (qtd. in Environmental Protection Agency, “Climate”). Increased temperatures affect both the immediate water supply and the ecology that feeds it—an act that is likely to compound issues of water scarcity in the years to come.

The effects of climate change are exacerbated by the Southwest’s recent population growth. According to the United States Census Bureau, “The population growth in each state in this region exceeded the national average growth rate between 2000 and 2010. Several states, such as Nevada (35.1%), Arizona (24.6%), and Utah (23.8%) experienced population growth rates more than double the national average of 9.7%” (qtd. in Environmental Protection Agency, “Climate”). As a result, there is an ever-increasing demand for water in the Southwest, particularly in areas of urban development. Since many residents maintain pools and European landscaping in the desert climate, their use of water is very high. According to sociologist Scott T. Yabiku, “[A] landscape with turf grass or non-Native plants requires more water than a landscape with Native vegetation. By one estimate, a 3000m² turf grass lawn in Arizona uses 9,000 to 15,000 gallons per month, whereas the same area covered with [Native] plants, shrubs, and trees uses only 800 to 1,300 gallons per month” (384). European gardening and landscape practices are unsustainable, given the water availability in the region. If these practices continue, environmental engineer David Jenkins argues that “the aquifers will be pumped effectively dry, as is happening in the much larger Ogallala aquifer beneath Colorado, Kansas, Oklahoma, New Mexico, and Texas” (443).

Native communities are likely to suffer the most from a decrease in available water. The United States Global Change Research Program, a government agency examining prominent issues affecting the citizenry, notes that “[w]ith changing climate conditions, including increased temperatures and severe droughts, Native Americans living on reservations could suffer from limited access to water resources. Since res-

ervation lands were established and set aside in historic agreements, Native Americans living on reservations may be unable to relocate. They may have limited recourse if reservation water supplies become scarce or contaminated” (qtd. in Environmental Protection Agency, “Climate”). The Navajo, Pueblo, and Apache peoples are some of the few Native nations in the United States whose federally appointed lands overlap with their historic homelands. As a result, Indigenous peoples in Arizona and New Mexico are particularly tied to place. Leaving these spaces poses many challenges to these communities. First, relinquishing land has the potential to be misinterpreted as the relinquishing of sovereignty because Indigenous nations must be on federally appointed lands to establish and enforce tribal laws. Natives who live outside these lands risk losing access to ways of life grounded in the specific practices of their community. Second, leaving the land limits community members’ access to knowledge systems, infrastructure, and resources found on the reservation that may be integral to preserving the community’s history, ceremony, and unity. Finally, relinquishing the land also contributes to settler narratives of erasure, which minimize and/or negate the lived experiences of Indigenous peoples as a means of reinforcing settler domination. For all of these reasons—and likely more—Puebloan, Navajo, and Apache communities are inextricably linked to the land in the American Southwest.

Due to poor infrastructure and contamination, however, many Natives in this region have access to low-quality water. Since many individuals access their water through natural means like streams and springs, their water does not go through purification processes. While this practice worked well in the past, corporate and agricultural development in the region has led to the water supply becoming highly contaminated. Silko believes that the Indigenous peoples in this region will continue to adapt to these conditions rather than leave their lands. She states that “Mexicans and Indians grew connected to a place; they would not leave Tucson even after all of Arizona’s groundwater was polluted or pumped dry” (Silko, *Almanac* 651). While Native communities in the Southwest have developed strategies and knowledge systems around living in conditions of water scarcity, the complete absence of clean water could pose a significant threat to their health and well-being. According to the Centers for Disease Control, a number of adverse health effects and conditions were attributed either directly

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or indirectly to drought. For example, people exposed to dust clouds were at increased risk for acquiring “dust pneumonia,” an often fatal type of pneumonia caused when dust fills the lungs and inflames them, resulting in high fever, coughing, chest pain, and difficulty breathing. Poor air quality can also increase the risk of respiratory infections such as bacterial pneumonia and valley fever, a fungal infection and common cause of pneumonia in many areas of the southwestern United States, Mexico, Central America, and South America. There also are numerous long-term health concerns that arise from drought, including decreased sanitation, decreased nutrition, increased infectious diseases, and increased incidence of disease caused by animals.

Moreover, according to western water law, the collection of rainwater is illegal because it interferes with water allocation policies, making it particularly difficult for communities to access clean water sources. According to the Navajo Water Project, “Navajo are 67 times more likely than other Americans to live without running water or a toilet. . . . Many Natives can’t get enough clean water, creating a cycle of poverty that limits health, happiness, educational opportunity, and economic security” (Navajo Water Project). For these reasons, it is crucial to examine the ways in which current and projected water allocation practices reinforce colonial conquest.

Because much of the research surrounding water scarcity has taken place throughout the Southwest, my argument pulls research from across the Puebloan and Navajo Nations to provide a more comprehensive picture of the threats posed by water scarcity to Indigenous peoples, particularly the Laguna and Acoma Nations, with which Silko identifies. While the Apache peoples are not named explicitly in the sources for this article, they also reside in the region under examination and are subject to water scarcity. I seek to identify the material conditions of the Puebloan, Navajo, and Apache peoples to bring attention to issues of water scarcity faced by these communities and to advocate for environmental practices that are grounded in Silko’s decolonial Indigenous framework.

Water in Silko’s Works

Almanac of the Dead underscores the ways in which humanity has harmed the environment of the American Southwest, particularly

the lands allocated to Indigenous peoples, through uranium mining. According to the Environmental Protection Agency,

nearly four million tons of uranium ore were extracted from Navajo lands under leases with the Navajo Nation. Many Navajo people worked the mines, often living and raising families in close proximity to the mines and mills. Today the mines are closed, but a legacy of uranium contamination remains, including over 500 abandoned uranium mines (AUMs) as well as homes and drinking water sources with elevated levels of radiation. Potential health effects include lung cancer from inhalation of radioactive particles, as well as bone cancer and impaired kidney function from exposure to radionuclides in drinking water. (“Addressing”)

Although the above passage discusses the impact of mining on the Navajo, likely because they are the largest tribal group affected by the mining, the negative health effects of mining extend to the Laguna, the tribe to which Silko belongs. Silko notes that the tribal elders spoke out against the mines, believing that “destruction of any part of the earth does immediate harm to all living things” (*Yellow Woman* 131). Nevertheless, numerous Native peoples went to work for mining companies because they were some of the only jobs easily available to the residents of the reservation (Brugge and Goble). Working in the mines, however, put Native workers at high risk. Public health researchers Doug Brugge and Rob Goble note that “[m]iners were paid minimum wage or less. Copies of pay stubs provided by a Navajo miner from 1949 show an hourly wage of \$0.81 to \$1.00. . . . Navajo miners report that the bosses were usually White and that the foremen did not spend as much time in the mines as did the Navajo laborers” (1411). As a result, Native workers were the most likely to suffer health consequences from their work in the mines due both to their prolonged exposure to hazardous chemicals and to their homes’ close proximity to the mines. Brugge and Goble observe that

the Navajo language had no word for radiation, few Navajo People spoke English, and few had formal education. Thus, the Navajo population was isolated from the general flow of knowledge about radiation and its hazards by geography, language, and literacy level. Today, the miners and their families say that they had no

idea that there were long-term health hazards associated with uranium mining. Virtually all of the Navajo miners report that they were not educated about the hazards of uranium mining and were not provided with protective equipment or ventilation. (1411)

By constructing these mines on or near reservations, failing to educate workers about the hazards of radiation, and relying almost exclusively on Indigenous labor, these mines demonstrate that cultural and environmental conquest are intimately linked.

This disregard for Native life is also evident in Silko's novel *Almanac of the Dead*, which revolves around a sandstone snake that miners discover deep under the earth near Tucson, Arizona. Formed by the water that covered the Southwest centuries ago, the snake serves as a “catalyst for the novel” and shapes much of the narrative (Silko, *Yellow Woman* 144). According to Silko, Pueblo religious stories tell us that “Ma ah shra true ee is the giant serpent the sacred messenger of the spirit from the Fourth World below. He came to live at the Beautiful Lake, Kawaik, that was once near Laguna village. But neighbors got jealous. They came out one night and broke open the lake so all the water was lost. The giant snake went away after that. He has never been seen since” (127). Since the reappearance of the snake is precipitated by uranium mining on Laguna land, the elders believe that the snake demonstrates that “destruction of any part of the earth does immediate harm to all living things . . . like a stone snake com[ing] to remind us that violence in the Americas—against ourselves and against one another—can run as deep, but only as deep, as the deepest shafts with which humankind has pierced the earth” (132). Through activities such as mining, drilling, and fracking, these shafts have depleted the earth's resources in ways that are unsustainable; however, these activities have not altered the core of the earth. As such, Silko suggests, the violence we are doing to the earth is violence to ourselves and our communities. Those affected by these projects—through proximity, employment, or dispossession—are the most likely to suffer consequences related to their health and well-being, especially the Native peoples of Arizona and New Mexico. By embodying these inequalities, the snake serves as both a warning and a catalyst for activism.

The desire of Indigenous communities to protect the land is not new. While the mining companies view the land as a source of profit, Silko

writes, “[t]he old-timers [of the Laguna] had been dead set against ripping open Mother Earth so near to the holy place of the emergence. But those old ones had been dying off and already were in the minority. So the Tribal Council had gone along with the mine because the government gave them no choice, and the mine gave them jobs” (*Almanac* 34). Doing so, however, only invited trouble by exposing citizens to radiation, pollution, and exploitation. Silko explains the problem with the tribe’s concession through a story about Emperor Maximilian, the patriarch of the second Mexican Empire in the early nineteenth century. She notes that “[t]he Indians and mestizos refused to kill insects in the palace or the garden [at Maximilian’s request] because spirits would be offended” (215). By respecting all forms of life, Indigenous peoples maintain a sense of harmony among all living creatives—humans, animals, plants, and spirits. Over time, however, the influence of European values became more and more intertwined with Native culture through coercion, force, and government mandates. As a result, when the US government decided to establish mines on Pueblo land, the Native peoples’ only recourse was protest—outright refusal was no longer an option. Yoeme, an old Yaqui women, encourages protesting because she believes it is necessary for the survival of Native peoples; she says: ““You may as well die fighting the white man . . . [b]ecause the rain clouds will disappear first; and with them the plants and the animals. When the spirits are angry or hurt, they turn their backs on all of us”” (580). In order for the spirits to return, Silko suggests, the desecration of the land must stop, and humans must regain a sense of harmony with animals and the land.

Harmony with the land is difficult to achieve, even for mainstream environmental justice movements. In fact, environmentalists often give their time and resources to “virgin” landscapes whose relationship to Indigenous peoples has been erased and/or commodified. In doing so, these groups adhere to colonial notions of the environment by failing to address the places most in need of repair: the sites, typically within communities of color, surrounding mines, toxic waste dumps, landfills, and coal factories. Such behavior enables and encourages racism, exploitation, and desecration. Silko voices these concerns through the character Clinton, who “did not trust the so-called ‘defenders of Planet Earth.’ . . . Human beings had been exterminated strictly for ‘health’ purposes by Europeans too often. Lately, Clinton had seen ads purchased by so-called

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‘deep ecologists.’ The ads blamed the earth’s pollution not on industrial waste—hydrocarbons and radiation—but on overpopulation. . . . ‘Too many people’ meant ‘too many *brown-skinned* people’” (Silko, *Almanac* 415). Deep ecologists are a prime example of how settler communities co-opt Indigenous values. Although they claim to value and respect all forms of life, they have been criticized for allowing marginalized groups to bear the brunt of environmental destruction. In particular, they fail to acknowledge the ways in which settler culture has encouraged and fostered environmental destruction through capitalism and industrialization, which place blame for environmental issues on “brown-skinned” people and, at their most extreme, enable their genocide.

Not only does marginalization play a factor in environmental movements, it also dramatically influences commercial development. Silko voices these concerns through Leah, a real estate developer who decides to re-create the city of Venice in Arizona by using deep wells to supply water for her city; this decision risks contaminating local supplies of freshwater. Silko notes, “She had spent millions drilling the deepest wells in North America. The water from her deep wells had been salty, but all the better for her ‘canals of Venice.’ . . . Thanks to the judge’s directed verdict, she had all the water she wanted without interference from environmentalists or Indian tribes” (*Almanac* 656). Just because Leah is able to circumvent environmental activists and Native protestors does not mean that her development does not have a significant impact on their lives.

In particular, her deep wells risk making all available groundwater unpotable, effectively cutting off Native American lands from freshwater. Although little research has been done concerning the effects of deep well drilling for water, plenty of scholars have discussed the environmental hazards of fracking, which uses the same processes and materials to extract resources from deep within the earth’s crust. According to Abrahm Lustgarten and ProPublica,

The cement casing which rings the well bore and goes through underground aquifers is meant to act as a barrier between underground water and the shaft through which frack fluid and gas flow. But the casing can fail or break during the . . . process, allowing the frack fluid or naturally-occurring contaminants to contaminate groundwater. When that happens, frack fluid and methane

can leak from the well bore directly into the water supply, causing dangerous gas buildups, and making water unfit to drink.

In addition to contaminating the water supply with dangerous pollutants, deep water drilling also increases the salinity of water, making it less potable. Since surface water is typically separated from groundwater via a rock layer, the two water sources have highly variable chemical makeups. Surface water tends to have less salinity, while groundwater has higher concentrations of salt. When water is pulled through the rock barrier, it tends to infiltrate the surface water supply, potentially making it too salty for human use. As such, deep well drilling poses a number of threats to nearby Indigenous communities that rely on natural water sources.

Embodying capitalism, Leah gives little thought to the environmental risks posed by her development. Believing that the landscape of the Southwest is inherently bad, she feels that the introduction of canals into the environment is an indisputable improvement. She states that “[s]he could not understand why the Indians or the environmentalists had bothered to sue even if her deep wells did harm other wells or natural springs. . . . [W]hat possible good was this desert anyway? Full of poisonous snakes, sharp rocks, and cactus! Leah knew she was not alone in this feeling of repulsion; most people who saw the cactus and rocky hills for the first time agreed the desert was ugly” (Silko, *Almanac* 750). By labeling the landscape of the Southwest as undesirable, Leah reinforces the notion that there is a hierarchical system in which some landscapes are better than others. In doing so, she uses colonial logics to rationalize the damage she is causing to the environment by claiming that the Southwest could not be any worse than it already is. In this critique she is also devaluing Puebloan peoples, particularly those who live off the land, by treating their respect for the environment as ignorance. Utilizing the legal system to validate her opinions, Leah justifies stripping the nearby Indigenous community of their sovereignty over the land and leaves them little recourse to respond.

To protest these injustices, Silko depicts an uprising of Native peoples seeking to reestablish healthy relationships with humans, animals, and the land. Members of this revolutionary group believe that the spirits will punish Europeans for desecrating the land by removing them from the face of the earth. Once this occurs, vegetation and animal life will

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return to its original state, and Native peoples will be able to exist as they did prior to colonialism. Silko states that “[t]heir faith lay in the spirits of the earth and the mountains that casually destroyed entire cities. Their faith lay in the spirits outraged by the Europeans who had burned alive the sacred macaws and parrots of Tenochtitlan; for those crimes and all the killing and destructions, now the Europeans would suffocate in their burning cities without rain or water any longer” (*Almanac* 711). The catalyst for this transition is water scarcity; because the Europeans are so reliant on excessive water consumption, they are likely to leave the Southwest once the water supply becomes limited.

To Silko, this matters because of her belief that “after all the ground-water had been sucked out of the Ogalala Aquifer, then the white people and their cities of Tulsa, Denver, Wichita, and Des Moines would gradually disappear and the Great Plains would again host great herds of buffalo and those human beings who knew how to survive on the annual rainfall” (*Almanac* 759). This will usher in the next age for Native communities, one in which they can achieve sovereignty and be free of settler culture.

Anticipating this event, two prophets lead a revolution against Eurocapitalism. One of these prophets is Tacho, a man who is “followed [by macaws], always roosting in nearby trees until they located [him] again. . . . The blue-and-yellow macaws shrieked Tacho’s new name over and over from dawn to dusk: ‘Wacah! Wacah! Wacah! Wacah! Big changes are coming!’” (Silko, *Almanac* 339). Possessing a very intimate relationship with natural animals, Tacho learns that the environment is gearing itself up for revolution. He then shares this knowledge with others in order to recruit more people for the revolution. The other prophet is El Feo, a man who claims that he is “married—married to the earth” (468). This relationship is both physical and spiritual. Notably, El Feo consecrates his marriage to the land through sex, stating that “[h]e imagined the warmth of the darkest, deepest forest in an early-summer rain; he imagined he was burying himself deeper and deeper into the core of the earth until he lost himself in eternity where wide rivers ran to a gentle ocean that included all beings” (522). Analyzing this passage is problematic: El Feo seems to lose his sense of personhood for the sake of being fully unified with the earth, becoming subsumed by the land rather than dominant over it. At the same time, his behavior emulates that of early European settlers, especially their use of sexual violence to

advance their conquest. The inclusion of this scene hints at the ways in which Indigenous culture and settler culture have become inextricably linked. While Indigenous values are key to ensuring the health and well-being of the earth, the ongoing traumas and abuses committed by settlers and replicated by some Indigenous groups have left indelible marks on Native communities. As such, Tacho and El Feo's revolution is bound to face opposition from both settlers seeking to exploit Indigenous land and members of the movement seeking to eradicate the lingering effects of patriarchy and conquest.

The end of the novel returns to the sandstone snake and connects its existence to the coming revolution. However, this connection is missed by many miners and locals who believe that "[t]he snake was so near the tailings it appeared as if it might be fleeing the mountains of wastes. This had led to rumors that the snake's message said the mine and all those who made the mine had won. Rumors claimed that the snake's head pointed to the next mesa the mine would devour, and had Sterling believing the mine had won" (*Almanac* 762). What Sterling's capitalistic worldview misses is the ways in which environmental destruction has unified Indigenous peoples across the globe. Throughout the novel, Silko prophesies movements such as IdleNoMore and the Indigenous People's Environmental Network through her depiction of an uprising, led by El Feo and his twin brother, Tacho, slowly making its way from Mexico into the United States. The snake, therefore, is not a sign of the landscape's defeat in the face of capitalism; instead, its view is "looking south, in the direction from which the twin brothers and the people would come" (763). In other words, the snake is both a prophecy of and symbol for the coming revolution to reclaim Native land and landscapes.

Perhaps this is the reason why Silko's next work, *Sacred Water*, outlines the values of Indigenous environmentalists by listing concrete ways to responsibly use and respond to water scarcity in the American Southwest. She begins by repeating the story of the sandstone snake and notes that for the Pueblo, "[p]etroglyphs of coiled snakes are signs that a natural spring or pool of rain water is nearby. The head of the snake glyph points in the direction of the water. The Spaniards thought the snake glyphs pointed to buried treasures the Indians had hidden.

The Spaniards did not understand: fresh water is the treasure" (*Sacred Water* 29). As it is in *Almanac of the Dead*, the significance of the snake is misinterpreted by settler culture; however, Indigenous peoples who

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are familiar with its symbology recognize its connection to Indigenous environmental knowledge systems. While the Europeans take water resources for granted, a thing to use to gain power and profit, the Laguna understand that the water is worth preserving and protecting.

In 2003 the director of the Pueblo of Acoma's Haaku Water Office, Fidel Lorenzo, stated, "The Pueblo has taken the approach that the value we place upon our water can be a value that can sustain us into the future" (New Mexico Water Resources Research Institute 45). In other words, treating water with the utmost respect ensures the survival of the Puebloan peoples by preventing the community from overusing its resources, contaminating its water supply, or rescinding its rights to water. As Silko stated in *Almanac of the Dead*, "The old-time people had warned that Mother Earth would punish those who defiled and despoiled her. Fierce, hot winds would drive away the rain clouds; irrigation wells would go dry; all the plants and animals would disappear. Only a few humans would survive" (632). Thus, the only way to survive the wrath of the spirits is to ensure the ethical treatment of their lands and peoples.

While *Almanac of the Dead* discusses the implications of water scarcity on a large scale, *Sacred Water* emphasizes the individual impact that a decrease in the water supply would have on Puebloan peoples. Silko writes, "When I was a child, the people used to watch the sky for changes in the weather. I learned to watch for the fat dark rain clouds, and I remember the excitement and the anticipation as the cool wind arrived smelling of rain" (*Sacred Water* 5). She goes on to describe the ways in which the Pueblo interact with water, noting both physical and spiritual aspects of their belief system: "We children were seldom scolded or punished for our behavior. But we were never permitted to frolic with or waste fresh water. We were given stern warnings about killing toads or frogs. Harm to frogs and toads could bring disastrous cloudbursts and floods because the frogs and toads are the beloved children of the rain clouds" (6). Silko's story reveals the ways in which respect for water is an Indigenous knowledge system that is passed down through generations. Not only do children learn not to contaminate sources of freshwater, but they also view water as a divine gift from the spirits. This view prevents the misappropriation or misuse of water by making such an act abominable for the rest of the nation, ultimately ensuring the survival of the community.

The remainder of the text describes ethical ways to interact with water. For example, Silko compares the behavior of Felipe Riley with that of irrigation companies to show both good and bad ways to utilize water's power:

Felipe Riley used to dry farm with the run-off water from the hillside. He diverted the water with an intricate network of small stone check dams which he carefully engineered so that the rain water fed small ditches leading to his pumpkin and squash plants. . . .

Felipe's arrangement of stone check dams was so subtle, and conformed to the natural contours so well that we never realized how Felipe had saved our old houses from the flood water until after Felipe had passed on. (*Sacred Water* 44–45)

Felipe Riley's irrigation practices are admirable for a number of reasons. Not only does he engage in dryland farming, which uses far less water than conventional farming, but also he retains the appearance and function of the landscape. Both of these factors demonstrate Felipe Riley's healthy relationship with the environment. According to Kathy Fairchild, "Dry land farming is entirely dependent on natural rainfall and, in New Mexico and Arizona, where the average annual rainfall is about 12 inches or less, the Hopi people have managed to endure and thrive by utilizing a tried and true method of farming that is totally dependent on natural precipitation." Since dryland farming has been practiced by the Native Americans of the Southwest for centuries, methods and techniques are often passed down from one generation to the next. Due to current climate conditions, dryland farming provides a powerful model for the future of farming. Fairchild notes that "[t]he future of Hopi agriculture is promising and many non-Hopi individuals have found that their traditional knowledge and techniques are appropriate technology for the modern farmer."

In contrast, when the US government installs drainage systems on Laguna land, it takes them "months and many thousands of dollars to install giant storm drains which dump the run-off into the river" (Silko, *Sacred Water* 46). This response is problematic because the drains divert the water from Native American lands into the Colorado River, which is the main source of water for the aquifers in this region. As a result, these drainage systems take water away from Indigenous communities and farmers: "[D]itches don't just capture road runoff. They also inter-

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cept about 20 percent of the rainfall as it drains the hills upslope. The ditches then rapidly shunt that water downstream and discharge it like a high-velocity faucet directly into streams. . . . Rapid shunting of surface runoff leads to less groundwater recharge and falling water tables. Headwater streams now routinely dry out” (Schneider). Not only does this interfere with Native strategies of water management—irrigation and collection—but also it has significant environmental impacts. Since large-scale drainage ditches often gather water from numerous sources, the probability of contamination is high. Rebecca Schneider, a scholar of sustainable water resource management, notes that “[a]gricultural ditches and tile drains often discharge into roadside ditches. Fecal coliform bacteria from manure spread on headwater farm fields, as well as nutrients from manure, fertilizers, leaking septic fields and other sources can reduce the quality of downstream drinking water supply systems and sometimes force closing of swimming areas.” Rather than aiding the water problem, large-scale drainage ditches often exacerbate issues of water scarcity.

One reason the US government continues to build this style of drainage ditch is to increase the amount of water available for distribution as drinking water or waste water. Since the Southwest is experiencing a sizeable water shortage, every available source of water is vital. The majority of these resources, however, are given to corporations that use the water for profit: upscale housing developments, golf courses, and commercial agriculture. Although these entities are problematic, Silko critiques one group more heavily: the individual homeowner. Noting that many residents of European descent do not share Native values surrounding water use and conservation, Silko observes that “[i]n Tucson and Phoenix, more young children die from drowning than from traffic accidents. Backyard swimming pools are numerous; the clear, still water, the colorful tiles, pool steps and pool ladders are all designed to be attractive and inviting” (*Sacred Water* 54). Embedded in this critique is Silko’s belief that pools are an irresponsible use of water. According to the Arizona Department of Water Resources,

More than half of the potable water Arizona homeowners use is outdoors[.] Pools and spas are responsible for approximately 16% of the outdoor water use [or 9 percent of total water use]. In Arizona, a standard (16 ft. × 36 ft.) uncovered pool loses

four to six feet per year to evaporation, most of which occurs during the summer. Added to the water lost during refilling and backwashing, that's roughly the equivalent of filling the pool every year. Draining a pool doubles this amount.

For Silko, such frivolous use of water is unethical because it goes against the teachings she learned as a child by disregarding the ecology of the Southwest and by disrespecting people who have limited access to water. In fact, owning a pool in the Southwest is a choice that willfully ignores issues of water scarcity in the region.

Instead of abusing available water resources, Silko promotes natural methods of purifying contaminated groundwater and well water. Notably, when Silko's well is unusable due to a red algae infestation, she responds by placing water hyacinths in the pool. Upon doing so, "the pool began to clear and smell cleaner because water hyacinths digest the worst sorts of wastes and contamination: decomposing rodents and dead toads" (Silko, *Sacred Water* 72). Similarly, the datura plant also purifies land and water contaminated by plutonium: "Datura not only thrives in soil contaminated by plutonium, the datura actually removes the plutonium from the soil so that the soil is purified and only the datura plant itself is radioactive. The datura metabolizes 'heavy water,' contaminated with plutonium, because, for the datura, all water is sacred" (75). For settlers, both the water hyacinth and the datura plant are considered undesirable plant species that "infest" and "suppress" the growth of other plants. As a result, citizens of the Southwest often try to remove these plants from the landscape. This view of the water hyacinth and datura is based on a hierarchy in which some plants—particularly those that are European in origin—are given greater value than others. This pattern of thought is based in colonialism and completely disregards the restorative properties that these plants possess. Just as Native communities are often devalued in Arizona, so are these plants; thus, *Sacred Water*, like *Almanac of the Dead*, highlights the connection between racial and environmental injustice.

Silko's later works add to this conversation by discussing the ways in which landscaping and gardening are highly political acts. In *Gardens in the Dunes* she draws a detailed comparison between Edward Palmer, a European naturalist, and Indigo, a member of the Sand Lizard tribe in the American Southwest. Edward travels around the world to collect

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plant specimens to sell for profit in the United States: “Edward traveled to places so remote and collected plants so rare, so subtle, few white men ever saw them before. He added these rare treasures to his growing collection of roots, stalks, leaves, and, most important, when possible, seeds. His ambition was to discover a new plant species that would bear his name” (Silko, *Gardens* 78). In pursuit of this goal, Edward forms corrupt relationships with government agencies, such as the Bureau of Plant Industry, to ensure his own financial gain. In contrast, Indigo forms significant emotional relationships with her environment—she converses with animals, she values land and water, and she collects seeds for her community. Their drastically different stances on the environment come into conflict numerous times throughout the novel, highlighting the differences between settler and Indigenous approaches to the environment.

At the beginning of the novel, Silko describes one of Edward’s trips to collect specimens from the Caribbean: “The Natives might possess unknown medicinal plants with commercial potential or a new variety of citrus or a new source for rubber. He was also eager to purchase archaeological artifacts and curiosities” (*Gardens* 86). He is surprised, however, when the Indigenous peoples of Mexico reject his requests to purchase cultural artifacts. After offering to buy meteor irons, a woman whom he terms “The Black Indian” says, “You cannot buy them but you will pay!” (88). Dumbfounded, Edward wonders, “Had she misunderstood?” (88). Such a response demonstrates that Edward does not understand the ethical implications of collecting specimens: he is stealing from other cultures to establish his own authority and financial wealth. When his ship encounters a storm on its journey home and all of his collections are lost, Edward cannot fathom the idea that the curse may have been the cause. Since the woman does not possess traits that indicate European forms of power—white skin, male genitalia, scientific training—Edward believes she is not credible. However, his trip ends in complete failure: “Dozens of rare orchids, intended to repay the underwriters of the expedition, mildewed and rotted. Later there were allegations certain plant materials were exported without proper government permits. His companions behaved irresponsibly, and the failure of the expedition nearly ruined him” (77). Edward’s failure to acknowledge Indigenous knowledge systems highlights his embodiment of the rac-

ism, sexism, and capitalism inherent in colonial environmental knowledge systems.

As the novel continues, Edward becomes more and more corrupt. Tricking his family into traveling with him to Corsica, Edward claims he is going to study the citrus plants in this region. In reality, he steals “cuts” from the trees in order to establish a monopoly on citron in the United States: “Currently, Corsica and her French and Italian owners controlled the world’s commercial supply of citron. Now, by a special arrangement with the Bureau of Plant Industry, he would own some of the first citrus cuttings ever imported to the United States” (Silko, *Gardens* 162). This statement reveals Edward’s disrespect for both the landscape and the people of Corsica. Not only does he find it appropriate to introduce a non-Native species into California that could have significant impact on California’s ecology, but also he targets Corsica because it is in the midst of political turmoil. Thus, Edward takes advantage of vulnerable cultural groups and environments for his own financial gain.

Furthermore, citrus plants require high quantities of water. Since Edward seeks to establish an orchard in California, it would contribute to water scarcity in the region. According to the University of Arizona College of Agriculture, “[M]ature citrus trees use about 60 inches of water per year. Depending on the size of the tree, this can correspond to as much as 17 gallons of water per day in the winter and 135 gallons of water per day in the summer.” Such a drain on the water supply significantly reduces the availability of water for other residents of the state. Edward’s orchard, therefore, not only seeks to monopolize the citron industry but also demands an overabundance of water, both of which reveal how Edward values personal profit over the well-being of others.

Indigo, on the other hand, does not view the landscape in terms of hierarchies. Instead, she forms intimate bonds with animals, plants, and people by acknowledging their value. In the very first scene of the novel, she celebrates the rain: “After the rain, they tended the plants that sprouted out of the deep sand; they each had plants they cared for as if the plants were babies. Grandma Fleet had taught them this too. The plants listen, she told them. Always greet each plant respectfully. Don’t argue or fight around the plants—hard feelings cause the plants to wither” (Silko, *Gardens* 14). By forming personal relationships with the plants in her garden, Indigo learns to consider their needs when

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planting, caring for, and harvesting them. Such behavior reveals that her environmentalism is grounded in decolonial Indigenous knowledge: she celebrates all plants, she does not seek profit from the earth, she prioritizes the health of the earth.

Although Indigo, like Edward, collects seeds and plant cuttings, their processes are drastically different. Edward's treks are planned and funded by government agencies, which generally do not seek permission to extract resources from other nations. His purpose is to establish and retain both national and personal power. His artifacts are either given to government agencies for the sake of reinforcing European authority or used for his own financial benefit. Indigo, on the other hand, does not take planned trips to collect seeds or plants; instead, she receives them as gifts from other women as an act of passing knowledge through the community. She claims that her fascination with seeds comes from her "Grandma Fleet[, who] always advised the girls to collect as many new seeds as they could carry home. The more strange and unknown the plant, the more interested Grandma Fleet was; she loved to collect and trade seeds" (Silko, *Gardens* 84). For Indigo, seeds provide sustenance—they are the means by which she and the Sand Lizard people survive. Yet this behavior is not solely practical. Learning to cultivate plants in her environment is a form of literacy and knowledge that encourages the health of her community and of future generations. Thus, collecting seeds is a communal act because it both serves and engages each member of Indigo's community. She notes that "[i]n years when the rains were scarce, the people carried water to the wilted plants in gourd canteen, from the spring in the sandstone cliff. Each person had plants to care for, although the harvest was shared by everyone" (16). In other words, the seeds are a form of Indigenous literacy that create unity and a sense of shared responsibility to ensure the health and well-being of all members of the community. Utilizing the techniques of dryland farming as well as small quantities of freshwater pulled from natural sources, these gardens do not put a strain on existing water supplies but instead operate in harmony with the Southwest's desert climate. Each of these choices demonstrates Indigo's and her nation's embodiment of environmental justice.

Silko's most recent work, an e-novella entitled *Oceanstory*, extends her discussion of water by showing how hierarchical structures have a global impact. In this work, a corrupt American man attempts to make

money by cheating others out of resources. When he fails to gain either power or material wealth in the United States, he decides to move to Mexico, essentially colonizing a small community by exploiting resources, citizens, and laws for his own gain. X is not considered wealthy in the United States; however, he is moderately affluent in Mexico. His financial status enables him to bribe local authorities and corporations to steal land from a Mexican ejido, or a communal agricultural community, so that he can build beachfront properties for his own profit. Ignoring warnings from both environmentalists and the government, he decides to demolish nearby dunes in order to give his properties an uninterrupted view of the Gulf shore:

[W]hile the ejido still owned the property, the big beach dunes on the property were bulldozed, loaded and taken by the contractors who built the resort hotels and beach condos in town. Without the protective dunes, the gulf waters were slowly circling behind the beach front and reclaiming the tidal lagoon behind the beach. Sondra advised X to hire her friend, the Professor, to survey and map the best route, and to get the bulldozing done soon because the federal government was about to implement restrictions that forbade the removal of sand from the beach dunes. (Silko, *Oceanstory*)

By deliberately opposing environmental recommendations regarding the sand dunes, X exposes his property and the ejido to flooding from the Gulf. Only a few weeks later a storm comes through, leaving “no trace of the dike that held the road or the two metal culverts or even the huge black boulders” that X installed on the beach (Silko, *Oceanstory*). While neither X nor the narrator mentions the outcome for the residents of the ejido, the implication is that their property and crops are completely eradicated, destroying the food supply and hindering the well-being of the entire community. Many farmers in ejidos are Indigenous; as such, X embodies settler colonialism—he steals from Indigenous communities, exploits their labor and resources, disregards their health and well-being, and denigrates Indigenous knowledge systems. Like the characters in Silko’s other novels, X’s obsession with profit seeking results in the erasure of Indigenous peoples, allowing him to claim the right to their possessions. When his stolen resources are threatened, however, X protects the assets at all costs, racing home over winding

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roads at breakneck speeds. In the process, he flips his car into a water-filled arroyo and dies, a narrative choice that reveals how capitalistic values are incredibly destructive and how the earth ultimately reclaims itself from settler culture.

Similarly, X's mother seeks her own gratification at the cost of all else. Notably, she demands a personal servant—an Indigenous woman—to care for her night and day. By positioning herself as superior to others, X's mother also embodies settler colonialism. Her subconscious, however, acknowledges the problematic nature of her behavior. In fact, she repeatedly dreams that “she heard a bumping and knocking at the front door. She didn't recognize the furniture in the house, yet it seemed familiar. When she opened the door she saw only the ocean—the entire town, every sign of anything human was gone, and the waves gently lapped at the lower step. There was no one. She was entirely alone” (Silko, *Oceanstory*). Although this dream does not come to fruition in Mexico, when she moves to New Orleans X's mother is killed in a flood. Like X, the mother is ultimately destroyed by her greed; once again, the earth reclaims itself from its mistreatment at the hands of settlers.

Only X's unnamed girlfriend, a Puebloan woman, appears to be concerned with the well-being of living things. When walking on the beach, she takes “a garbage bag along [to dispose of] each tide deposited debris—plastic bottles and plastic bags, a motor oil can, one flip-flop, fish tails, a decomposing sea lion, and the vertebra of a small whale” (Silko, *Oceanstory*). By removing trash from the beach and water, she also promotes the health of the natural environment. According to the Environmental Protection Agency, “Marine debris kills and maims marine mammals, fish, shellfish, sea turtles, and birds. . . . [A]n estimated 2 million seabirds and 100,000 marine mammals die on U.S. coasts each year from becoming entangled in marine debris or from digesting plastic mistaken for food” (“Marine”). The death of these animals not only hurts wildlife populations but also harms the ecology of the Gulf by causing a buildup of trash on the Gulf floor. When this occurs with biodegradable materials, which have a high demand for oxygen, available oxygen for marine life is reduced, resulting in the decline of all marine life (Environmental Protection Agency, “Marine”). Her behavior reveals that, like Silko, this woman was raised with both knowledge of and respect for the water. By putting her community's val-

ues into practice, she participates in the earth’s reclamation process and embodies an ethic of decolonial Indigenous environmentalism.

Another reason X’s girlfriend removes trash from the Gulf is because she believes that the ocean is a source of power for Indigenous peoples: “I knew someday the beach front real estate, all the land, would be reclaimed by the ocean but long before that another kind of tall wave—this one the tall wave of the indigenous people would reclaim all the land” (Silko, *Oceanstory*). Here the novels come full circle. As in *Almanac of the Dead*, X’s girlfriend prophesies an uprising of Indigenous peoples advocating for an environmental movement grounded in Native knowledge systems. In doing so, she is calling upon Indigenous activists to rise up and fight against the abuse of Mother Earth. Groups like the Indigenous Environmental Network and IdleNoMore have taken up this call, seeking to redress the legislative abuses of Indigenous peoples by advocating for sovereignty and environmental health.

Conclusion

We have the opportunity to continue this mission by engaging in activism and advocacy within our own communities. Silko’s work provides us with a framework for understanding a history of water-related abuses against the Indigenous peoples of the Southwest as well as a series of recommendations on how to implement a decolonial Indigenous environmentalism in our own lives. In *Almanac of the Dead*, Silko describes the historical and spiritual significance of water to the Laguna people and outlines how their water sources are being depleted by European American capitalist interests. Her next text, *Sacred Water*, describes how Native peoples ethically interact with water and advocates the adoption of these behaviors by all other residents of this region. Her most recent texts, *Gardens in the Dunes* and *Oceanstory*, complete her narrative regarding water by highlighting the long-term consequences of misusing water and by calling environmentalists to action. In *Gardens in the Dunes* she compares ethical and unethical environmental practices as an exemplar for readers. In *Oceanstory* she describes the beginning of the revolution by advocating for Indigenous-based social movements and by depicting the earth’s reclamation of its resources. Taken together, these texts provide a cohesive narrative

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surrounding water scarcity both by demonstrating the harm that water privatization causes to Indigenous peoples and by outlining a framework for decolonial Indigenous environmentalism. Today, the work of Indigenous groups such as IdleNoMore, the Indigenous Environmental Network, the Zapatistas, and the Council of Indigenous Peoples of Honduras are taking up this call; however, their work is often hindered by governmental intervention, corporate greed, and/or the assassination of activists. These behaviors will undoubtedly continue until we acknowledge Indigenous peoples' rights to water and sovereignty. Only then can we achieve the environmental justice that Silko's work so passionately advocates.

Christina Boyles is an assistant professor of culturally engaged digital humanities in the Department of Writing, Rhetoric, and American Cultures at Michigan State University. She is the founder of the Hurricane Memorial project and is the cofounder of the Makers by Mail project. Her research explores the relationship between surveillance, social justice, and the environment. Her published work appears in *The Southern Literary Journal*, *The South Central Review*, and *Plath Profiles*, and her forthcoming work will appear in *Digital Humanities Quarterly*, *Bodies of Information: Feminist Debates in the Digital Humanities*, and *American Quarterly*.

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