Opinion

I Am Haunted By What I’ve Seen At Great Salt Lake

By TERRY TEMPEST WILLIAMS

Ms. Williams is the author of “Refuge: An Unnatural History of Family and Place” and a writer in residence at the Harvard Divinity School. Mr. Sheikh is an artist working in the Southwest. His forthcoming book is “Thirst — Great Salt Lake.”

From a distance, it is hard to tell whether the three figures walking the salt playa are human, bird or some other animal. Through binoculars, I see they are pelicans, juveniles, gaunt and emaciated without water or food. In feathered robes, they walk with the focus of fasting monks toward enlightenment or death.

This was not a dream or a nightmare, but the first time I realized Great Salt Lake was in danger of disappearing. It was the fall of 2016.

The lake’s Gunnison Island has been a sanctuary to one of the largest white pelican rookeries in North America, with as many as 20,000 nesting individuals. The watery distance from the island to the mainland has protected the pelicans from predators. Now, young pelicans are easy prey for coyotes crossing the land bridge created as the waters receded.

Most likely spooked by coyotes, the adolescent pelicans fled the island, but their wings were not strong enough to fly the miles to fresh water for fish. Forced down by fatigue, they were dying from hunger and thirst. Walking behind them at a respectful distance felt like a funeral procession. I passed 60 salt-encrusted bodies stiff on the salt flats, hollow bones protruding from crystallized clumps of feathers, wings splayed like fans waving in the heat.

I have known Great Salt Lake in flood and now in drought; between her highest level at 4211.8 feet in 1987 and her lowest at 4188.5 feet in 2022. Maps and newspapers call her the Great Salt Lake, but to me, she’s Great Salt Lake.

For 13,000 years, the lake has existed with no outlet to the sea, her large deposits of salt left behind through evaporation. Lately, evaporation from heat and drought accelerated by climate change, combined with overuse of the rivers that feed it, have shrunk the lake’s area by two-thirds. A report out of Brigham Young University and other institutions earlier this year warned that the contraction has been quickening since 2020 and that if we do not take emergency measures immediately, Great Salt Lake will disappear in five years.

Already, the lake presents us with a
chronicle of death foretold: the collapse of an entire salt desert ecosystem of reefs that foster the life cycle of brine flies and shrimp, that in turn support more than 10 million migrating birds along the Pacific Flyway; of a sacred landscape for the Northwestern Band of the Shoshone Nation and the Paiute and Ute Nations; of a $1.5 billion per year mineral extraction industry; of a $80 million brine shrimp industry; of a $1.4 billion ski industry dependent on powder snow from the “lake effect.”

Great Salt Lake’s death and the death of the lives she sustains could become our death, too. The dry lake bed now exposed to the wind is laden with toxic elements, accumulated in the lake over decades. On any given day, dust devils are whipping up a storm in these “hot spots,” blowing mercury and arsenic-laced winds through the Wasatch Front where 2.6 million people dwell, with Salt Lake City at its center. Arsenic levels in the lake bed are already far higher than the Environmental Protection Agency’s recommendation for safety. And with the state’s population projected to grow to 5.5 million people by 2060, the urgency to reverse the lake’s retreat will only grow.

Yet I do not believe Utahns have fully grasped the magnitude of what we are facing. We could be forced to leave.

The retreat of Great Salt Lake is not a singular story. Death is what happened to vast stretches of the Aral Sea in Kazakhstan and Uzbekistan by the late 2010s, now seen as one of the planet’s largest environmental disasters. Pick your place anywhere in the world and Great Salt Lake is a mirror reflecting a flashing light on what is coming and what is already here. Our natural touchstones of joy will deliver us to heartbreak. Each of us will face the losses of the places that brought us to life.

Utah is my home. The Church of Jesus Christ of Latter-day Saints raised me to care about community in the fullness of Creation. We were taught through sacred texts, The Pearl of Great Price, among them: “For I, the Lord God, created all things, of which I have spoken, spiritually, before they were naturally upon the face of the earth.” Great Salt Lake had a spirit before she had a body. Brine shrimp have a spirit. White pelicans and eared grebes have a spirit. They are loved by God as we are loved.

AFTER Joseph Smith, the founder of Latter-day Saints, was killed in 1844, the newly recognized prophet and colonizer Brigham Young sought a terri-
The birds have resided in my heart since childhood. My grandmother, a passionate birdwatcher, passed her love on to me. Encountering avocets and stilts for the first time was a wondrous secret. Watching birds replaced religion. Long-billed curlews and white-faced ibises, my high calling, are navigating in constant disorientation.

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EAR Promontory Point, Great Salt Lake is in conversation with the Spiral Jetty. In 1970, the artist Robert Smithson set this piece of land art on the shore of Antelope Island National Historical Park, where a century earlier the Transcontinental Railroad was completed. During the flood years in the 1980s and the years that followed, the spiral made of black basalt stones was submerged, resurfacing in salt crystals in 2002. It is a place of pilgrimage, a path to walk in a landscape of mirages.

In the center of the spiral, Fazal and I lay on our backs and closed our eyes, feeling a shared pulse as we held hands. Our minds slowed down to the pace of the vast spaces that encircled us and we became part of the Great Salt Lake Desert breathing. The world shifts when the heart is met with quiet.

From the Spiral Jetty, Fazal walked west with his camera; I walked south with my journal. The lake was now a mile away. Salt crystals brocaded the flats, reflecting prisms of light. Kettles of water created detours. I saw no pelicans, only stone carins left by fellow pilgrims. At the edge of the lake, red water pooled like a blood letting: red water, bleeding into magenta becoming pink, color changes caused by halophiles, a Greek word meaning “salt-loving.” Halophiles are one of the few microorganisms that can survive the extreme salinity, now at 27 percent in the North Arm of Great Salt Lake.

The malignant colors, shapes and smells eerily mirrored the imaging of my mother’s late-stage cancer. I knelt to caress the water body of Great Salt Lake, my henna-painted hands now tattooed in intricate designs by the feathered bodies of dead brine shrimp.

On the surface of the lake, small waves broke toward shore, creating salt lines, but beneath the water surface there appeared to be an undertow, an inner tide pulling water back toward the center. If Great Salt Lake is in retreat, perhaps she is holding her breath, as we who worry about her prognosis. To retreat, to withdraw momentarily to garner strength and perspective, can be a strategic retreat. Can be a conscious action: a period of time called for to pray and study quietly, to think carefully and regain one’s composure. I have not thought about the retreat of Great Salt Lake as a position one could take: to commit to a different way of being, to change one’s beliefs.

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AZAL and I scrambled up a rocky slope on Stansbury Island just in time to witness the sunset over Great Salt Lake. It is a local ritual. My mother would stop everything to step outside and applaud the sun slowly sinking into the lake. As Fazal and I watched in silence, I saw it as a burning metaphor for the state of the lake. The poet Rainer Maria Rilke’s words returned to me: “For beauty is nothing but the beginning of terror.” Darkness fell as we sat facing the lights of U.S. Magnesium LLC, where salts are mined for magnesium metal. The remoteness of the 80,000-acre operation has kept it largely out of the public eye — but the birds see it.

The island and the red-winged blackbirds have resided in my heart since childhood. My grandmother, a passionate birdwatcher, passed her love on to me. Encountering avocets and stilts for the first time was a wondrous secret. Watching birds replaced religion. Long-billed curlews and white-faced ibises, my high calling, are navigating in constant disorientation.

This time, we were called to the lake in drought. We focused on four compass points: Antelope Island, Promontory Point, Lone Pine desert to the west and Stansbury Island to the south.

The years my mother was facing ovarian cancer, 1983 to 1987, Antelope Island was largely inaccessible. The island became my mother’s body, unreachable, floating in uncertainty. Now, 36 years later, it is the body of my Mother Lake who is hurting. Great Salt Lake has mentored me almost twice as long as my birth mother. She calls me home with the birds, keeping me buoyant in a broken world.

Housing developments near Antelope Island and other shores of the Great Salt Lake have grown beyond what is sustainable. Each new subdivision needs its own water lines; each home waters a green lawn. Gone are miles of wetlands and fields bustling with meadowlarks; gone are vast tangles of cattails where flocks of red-winged blackbirds rose as a vibrant dark cloud as they banked west to Antelope Island.

Although Fazal and I were seeing many species, the numbers were few. We traveled northeast to the Bear River Migratory Bird Refuge, where 75,000 tundra swans normally gather in the fall, and we saw 11. A predictable world is another casualty in drought and climate chaos. We are navigating in constant disorientation.

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In 2009, the E.P.A. identified U.S. Magnesium as a Superfund site. The 4,525 acres on the edge of the lake, 40 miles west of Salt Lake City, was deemed a hazard to human health and the environment. Contaminants, including heavy metals, dioxins and PCBs, were found in sediments, waste pools, water and air. In 2021, the company was still cleaning up these environmental abuses under the oversight of the E.P.A.

Nearby, on the southwestern edge of the lake, Morton Salt has produced industrial and table salt for decades.

As a result of industrial waste, agricultural runoff and other processes, the lake’s sediment now contains a host of pollutants, including arsenic, cadmium, mercury, nickel, chromium, lead and organic contaminants, the B.Y.U. report found.

How can we be surprised at the lake’s critical condition? With its retreat, these poisons are transformed into deadly dust sitting on exposed lake bed.

In January, Hanna Saltzman, a pediatric physician and mother in Salt Lake City, wrote in The Salt Lake Tribune that as the lake retreats and the toxins on the lake bed are uncovered, “toxic dust storms could be catastrophic for children’s health. Take lead, for example, one of the heavy metals found in the lake bed: Even the tiniest amount of lead poisoning can harm a child’s brain.”

Robert Paine is a pulmonologist and professor of medicine at the University of Utah who studies the impact of air quality on human health. He’s most concerned about the effect of breathing in the tiny particulate matter in the lake bed dust known as PM 2.5. “We know that even a couple of days of higher exposure to PM 2.5 particles can have immediate health effects,” he told me. “We also know that increased amounts of lake bed dust will add to accumulated exposure with long-term health effects.” What we breathe in during these dust storms can trigger cardiovascular events from strokes to heart attacks to respiratory diseases such as asthma, pneumonia and lung cancer.

The laws of nature do not negotiate with generations of abusive behavior. Our needs are overtaking the needs of Great Salt Lake at our own peril.

We have known this was coming.

In 1947, Dr. Walter P. Cottam, an esteemed professor of botany from the University of Utah, delivered the Reynolds Lecture to reflect on the 100th anniversary of the Mormon pioneers arriving in the Salt Lake Valley. “Is Utah Sahara Bound?” he asked. “To a public accus- tomed to the self-glorification expressed by the repeated boast that ‘we have made the desert blossom as the rose’” he said, let’s admit that “serious range and watershed problems do exist . . . and that we can do something about them.”

This rebuke of Utah’s poor agricultural practices and mismanagement of soil and water resources hastening desertification can now be read as prophetic. The desertification of the lake is happening, a fate that may echo the death of Owens Lake in California when it desiccated in 1926.

Fazal and I walked for miles along the shoreline of Bridger Bay, stepping between microbialities — reef-like formations that are usually covered by salt water. What remains are dry, calcified honeycombs void of life. In spite of what Fazal and I have seen on our circumambulation, we have been embraced by a great and peculiar beauty. Grace can inhabit the paradox of being present with the living and dying.

I made a bouquet of bones and left them for coyotes.

In January, I walked a quarter-mile of the lake’s edge stepping over and around dead eared grebe after dead eared grebe, rotting in the shallows. They are small, sturdy water birds with a sharp pointed beak, largely black with pearlescent white bellies and a shock of gold feathers that radiate outward from the intensity of their red eyes.

We counted their bodies: 496 eared grebes were dead. There were so many more. We stopped counting. The stench was suffocating.

Each year, at least two million eared grebes, half of the North American population, come to the lake in the fall to molt. Each eared grebe eats from 25,000 to 30,000 brine shrimp a day. They, too, are dependent on a healthy lake. The dead we saw may have left Great Salt Lake later in the season than usual, their health weakened by the low lake level, and were slapped down by a winter storm.

Walking back the way we came, everything was blurred. Tears are made of salt water and we drank them. Grief is love, I kept repeating under my breath. Whatever I have come to know of love and grief I have learned from Great Salt Lake.

Protecting the life of Great Salt Lake is a moral imperative. “We can become a lake-facing people,” as the poet Nan Seymour said to me. We know what needs to be done in the next five years.

Scientists tell us the lake needs an additional one million acre-feet per year to reverse its decline, increasing average stream flow to about 2.5 million acre-feet per year. A gradual refilling would begin. Two-thirds of the natural flow going into the lake is currently being diverted: 80 percent of that diversion by agriculture, 10 percent by industries and 10 percent by municipalities. Water conservation provides a map for how to live within our means. We can create water banks and budgets where we know how much water we have and how much water we spend. Public and private green turf can be retired. State and federal agencies must turn toward Indigenous leaders for traditional knowledge about watershed restoration and conservation.

But for Great Salt Lake to survive, we need to cut 30 to 50 percent of our water usage. The ecologist Ben Abbott’s words return to me: “‘The Gospel of Overconsumption must end.’” We can compensate farmers who use water to grow alfalfa to

Photographs by Fazal Sheikh

Halophiles, one of the few microorganisms that can survive the extreme salinity, have turned parts of the Great Salt Lake red.

Salt-encrusted mounds in the North Arm of the Great Salt Lake.

Part of the lake’s hypersaline North Arm.
feed cows in other states to fallow their fields during these critical years to support the lake’s rise. We can demand a legally binding lake level within a healthy range of 4,200 feet or higher where Great Salt Lake can count on a sustained table of water that will benefit all species and cover 60 percent of the toxic dust. And most importantly, we must secure permanent legally binding water rights to replenish the lake.

“If we believe in the Western water doctrine of ‘first in time, first in rights,’ then the water law of prior appropriation says these water rights originally belonged to her as a sovereign body,” said Mr. Abbott.

The Rights of Nature is now a global movement granting personhood to rivers, mountains and forests. In Ecuador, they have granted constitutional rights to Pachamama, Earth Mother.

In the United States, Lake Erie was granted personhood in 2019, allowing citizens to sue on behalf of the lake. Although this right was invalidated by a federal judge, this is the new frontier of granting legal status to a living world. Why not grant personhood rights to Great Salt Lake, which in 2021 was voted “Utahn of the Year” in The Salt Lake Tribune? This is not a radical but a rational response to an increasingly wounded Earth.

Senator Mitt Romney may not be ready to advocate personhood, but he has acknowledged the crisis and helped Congress pass the Great Salt Lake Recovery Act, which will bring millions of dollars home to support the lake.

The Utah Legislature recently finished a 45-day session without passing the most meaningful legislation for the lake, including a nonbinding resolution that would have created a target lake level of 4,198 feet. The bill never even made it out of committee. One reason the Legislature was so cowardly this session was that the “water buffaloes” and their lobbyists, who favor water storage projects and pipelines over conservation, pulled the strings of the local lawmakers like puppets, said Zachary Frankel, executive director of Utah Rivers Council.

On March 1, a reporter asked State Senator Scott Sandall why no bills had passed to replenish the lake. “Mother Nature really helped us out,” said Mr. Sandall, a rancher and farmer. “We are going to see a really nice runoff in the lake” with the above-average snowpack this year. What he didn’t say is that very little, if any, of that runoff will find its way into Great Salt Lake. The water has already been earmarked, mostly for agriculture. One high water year does not solve decades of overconsumption.

But moral leadership comes from many directions. Within the state of Utah, Latterday Saints is a nexus of power, some of it hidden. It has moral authority and political sway.

On March 15, the Utah Department of Natural Resources announced that the church, which holds significant water rights within the Salt Lake watershed, was donating 5,700 water shares, or about 20,000 acre feet of water, permanently to Great Salt Lake. This is a significant gesture that hopefully will inspire other private donations of water rights to be managed by the Great Salt Lake Watershed Enhancement Trust, established by the State Legislature in 2022 in partnership with the Nature Conservancy and the National Audubon Society.

But it is not enough.

Brigham Young’s vision of roses in the desert needs a radical correction. The eco-
logical, economic and human health along the Wasatch Front is at stake. Our toxic legacy is being written on our bodies.

The Latter-day Saints president, Russell M. Nelson, the current prophet, has devoted much of his life to saving lives as a cardiac surgeon. But we do not need a revelation to save the life of Great Salt Lake. We need an immediate churchwide call for conservation to deliver urgent care to the lake and protect the health of those of us living in the heart of Mormon Country.

This is where I place my faith — in our collective capacity to mobilize love. If we can shift our view of Great Salt Lake from a lake to be avoided to a lake we cherish; from a body of wasted water to an ancient body of wisdom; not to exploit, dam, and dike, but to honor and respect as a sovereign body, our relationship and actions toward the lake will be transformative.

The artist Alfred Lambourne was keeping his own vigil at Great Salt Lake from the vantage point of his homestead on Gunnison Island in 1893. In his book "Our Inland Sea: The Story of a Homestead," he wrote, "History must be rewritten. With a wider view, we must grasp the deeper law."

A wider view restores the lake to health. A deeper law is exhorting us to change, so she can flourish as she has done for centuries.

The Mother Lake is an oracle who has brought us to this place of revelations; she is offering us a gift of prophecy if we will humble ourselves, kneel at her receding shores and listen.

A few weeks ago, I returned to Great Salt Lake. The sunrise cast a silver sheen on blue waters still laced with ice. A coyote hunted along frozen edges with a focus forward. Sweet murmurings of pintails and shovelers numbering tens of thousands became an exuberance — an ecstatic reminder of what I still trust, the return of birds with millions more on their way.

It was also a haunting of all we stand to lose.