

*A hymn of love to the world.*

—ELIZABETH GILBERT

BRAIDING  
SWEETGRASS



Indigenous Wisdom, Scientific Knowledge,  
and the Teachings of Plants

ROBIN WALL KIMMERER

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## THE SACRED AND THE SUPERFUND

Above the spring behind my house a drop forms at the end of a mossy branch, hangs in a momentary sparkle, and then lets go. Other drips and drops join in the procession, just a few of the hundreds of rivulets from the hills. Gathering speed, they splish over rocky ledges with growing urgency to be on their way, down Nine Mile Creek until they find Onondaga Lake. I cup my hands to the spring and drink. Knowing what I know, I worry about the journey these drops will soon take, wanting to hold them here forever. But there is no stopping water.

The watershed of my home in upstate New York lies within the ancestral homelands of the Onondaga people, the central fire of the Iroquois, or Haudenosaunee, Confederacy. Traditional Onondaga understand a world in which all beings were given a gift, a gift that simultaneously engenders a responsibility to the world. Water's gift is its role as life sustainer, and its duties are manifold: making plants grow, creating homes for fish and mayflies, and, for me today, offering a cool drink.

The particular sweetness of this water comes from the surrounding hills, great shoulders of inordinately pure, fine-grained limestone. These old seafloors are almost pure calcium carbonate with scarcely a trace of other elements to discolor their pearly gray. Other springs in these hills are less sweet, emerging from limestone shelves that hide salt-filled caverns, crystal palaces lined with cubes of halite. The Onondaga used these salt springs to season their corn soup and venison and preserve the baskets of fish the waters offered up. Life was good

and water rushed off to do its work, faithful to its responsibility every day. But people are not always as mindful as water—we can forget. And so the Haudenosaunee were given the Thanksgiving Address to remind themselves to greet and thank all of the members of the natural world whenever they gathered. To the waters they say:

*We give thanks to all the Waters of the world. We are grateful that the waters are still here and doing their duty of sustaining life on Mother Earth. Water is life, quenching our thirst and providing us with strength, making the plants grow and sustaining us all. Let us gather our minds together and with one mind, we send greetings and thanks to the Waters.*

These words reflect the sacred purpose of the people. For just as water was given certain responsibilities for sustaining the world, so were the people. Chief among their duties was to give thanks for the gifts of the earth and to care for them.

Stories are told of long-ago times when the Haudenosaunee people *did* forget to live in gratitude. They became greedy and jealous and began fighting among themselves. Conflict brought only more conflict, until war between the nations became continuous. Soon grief was known in every longhouse and yet the violence went on. All were suffering.

During that sorry time a son was born to a Huron woman far to the west. This handsome youth grew to manhood knowing that he had a special purpose. One day he explained to his family that he must leave home to carry a message to people in the east, a message from the Creator. He built a great canoe carved of white stone and journeyed far until at last he pulled his boat ashore in the midst of the warring Haudenosaunee. Here he spoke his message of peace and became known as the Peacemaker. Few heeded him at first, but those who listened were transformed.

His life in danger, weighed down with sorrow, the Peacemaker and his allies, among them the real Hiawatha, spoke peace in times of terrible trouble. For years they traveled between villages and one by one the chiefs of the warring nations came to accept the message of peace, all but

one. Tadodaho, an Onondaga leader, refused the way of peace for his people. He was so filled with hate that his hair writhed with snakes and his body was crippled by vitriol. Tadodaho sent death and sorrow to the carriers of the message, but the peace was more powerful than he and eventually the Onondaga too accepted the message of peace. Tadodaho's twisted body was restored to health and together the messengers of peace combed the snakes from his hair. He too was transformed.

The Peacemaker gathered together the leaders of all five Haudenosaunee nations and joined them with one mind. The Great Tree of Peace, an enormous white pine, has five long green needles joined in one bundle, representing the unity of the Five Nations. With one hand the Peacemaker lifted the great tree from the soil and the assembled chiefs stepped forward to cast their weapons of war into the hole. On this very shore, the nations agreed to “bury the hatchet” and live by the Great Law of Peace, which sets out right relations among peoples and with the natural world. Four white roots spread out to the four directions, inviting all peace-loving nations to shelter under the tree's branches.

So was born the great Haudenosaunee Confederacy, the oldest living democracy on the planet. It was here, at Onondaga Lake, where this Great Law was born. For its pivotal role, the Onondaga Nation became the central fire of the Confederacy and from that time forward, the name Tadodaho has been carried by the spiritual leader of the Confederacy. As a final measure, the Peacemaker placed the far-seeing eagle atop the Great Tree to warn the people of approaching danger. For the many centuries that followed, the eagle did its work and the Haudenosaunee people lived in peace and prosperity. But then another danger—a different kind of violence—came to their homelands. The great bird must have called and called, but its voice was lost in the maelstrom winds of change. Today, the ground where the Peacemaker walked is a Superfund site.

In fact, nine Superfund sites line the shore of Onondaga Lake, around which the present-day city of Syracuse, New York, has grown. Thanks

to more than a century of industrial development, the lake known as one of North America's most sacred sites is now known as one of the most polluted lakes in the United States.

Drawn by abundant resources and the coming of the Erie Canal, the captains of industry brought their innovations to Onondaga territory. Early journals record that smokestacks made the air "a choking miasma." The manufacturers were happy to have Onondaga Lake so close at hand, to use as a dumping ground. Millions of tons of industrial waste were slurried onto the lake bottom. The growing city followed suit, adding sewage to the suffering of the waters. It is as if the newcomers to Onondaga Lake had declared war, not on each other, but with the land.

Today, the land where the Peacemaker walked and the Tree of Peace stood isn't land at all, but beds of industrial waste sixty feet deep. It sticks to shoes like thick white school paste used in kindergartens to glue cutout birds onto construction-paper trees. There aren't too many birds here, and the Tree of Peace is buried. The original people could no longer find even the familiar curve of the shore. The old contours were filled in, creating a new shoreline of more than a mile of waste beds.

It has been said that the waste beds made new land, but that is a lie. The waste beds are actually old land, chemically rearranged. This greasy sludge used to be limestone and freshwater and rich soil. The new terrain is old land that has been pulverized, extracted, and poured out the end of a pipe. It is known as Solvay waste, after the Solvay Process Company that left it behind.

The Solvay Process was a chemical breakthrough that allowed for the production of soda ash, an essential component of other industrial processes such as glass manufacturing and making detergents, pulp, and paper. Native limestone was melted in coke-fired furnaces and then reacted with salt to produce soda ash. This industry fueled the growth of the whole region, and chemical processing expanded to include organic chemicals, dyes, and chlorine gas. Train lines ran steadily past the factories, shipping out tons of products. Pipes ran in the other direction, pouring out tons of waste.

The hills of waste are the topographic inverse of the open pit mines—the largest open pit mines in New York State, still unreclaimed—where the limestone rocks were quarried, the earth gouged out in one place to bury the ground in another. If time could run backward, like a film in reverse, we would see this mess reassemble itself into lush green hills and moss-covered ledges of limestone. The streams would run back up the hills to the springs and the salt would stay glittering in underground rooms.

I can too easily imagine what it must have been like, those first ejections from the pipe falling in chalky white splats like the droppings of an enormous mechanical bird. Splurting and pulsing at first, with air in the mile-long intestine that stretched back to the gut of the factory. But it would soon settle into a steady flow, burying the reeds and rushes. Did the frogs and mink get away in time to avoid being entombed? What about the turtles? Too slow—they wouldn't be able to escape being embedded at the bottom of the pile in a perversion of the story of the world's creation, when the earth was carried on Turtle's back.

First they filled in the lakeshore itself, sending tons of sludge into the waters in a plume that turned blue water to white paste. Then they moved the end of the pipe to the surrounding wetlands, right up to the edges of the stream. The water of Nine Mile Creek must have wanted to head back uphill, to defy gravity and find again the mossy pools beneath the springs. But it kept to its work and found its way, seeping through the waste beds and out to the lake.

Rain bound for waste beds is in trouble too. At first, the waste particles are so fine that they trap the water in white clay. Then gravity eventually pulls the drops through sixty feet of sludge and out the bottom of the pile to join a drainage ditch instead of a stream. As it passes through the chalky depths, the rain cannot help doing what it has been called to do: dissolving minerals, carrying ions intended to nurture plants and fish. By the time it reaches the bottom of the heap, the water has picked up enough chemicals to be as salty as soup and as corrosive as lye. Its beautiful name, water, is lost. It is now called leachate. Leachate seeps from the waste beds with a pH of 11. Like drain cleaner, it will burn your skin. Normal drinking water has a pH value

of 7. Today, engineers collect the leachate and mix it with hydrochloric acid in order to neutralize the pH. It is then released to Nine Mile Creek and out into Onondaga Lake.

The water has been tricked. It started on its way full of innocence, full of its own purpose. Through no fault of its own it has been corrupted and, instead of being a bearer of life, it must now deliver poison. And yet it cannot stop itself from flowing. It must do what it must do, with the gifts bestowed upon it by the Creator. It is only people who have a choice.

Today, you can drive a motorboat on the lake the Peacemaker paddled. From across the water, the western shore stands out in sharp relief. Bright white bluffs gleam in the summer sun like the White Cliffs of Dover. But when you approach by water, you'll see that the cliffs are not rock at all, but sheer walls of Solvay waste. While your boat bobs on the waves, you can see erosion gullies in the wall, the weather conspiring to mix the waste into the lake: summer sun dries out the pasty surface until it blows, and subzero winter temperatures fracture it off in plates that fall to the water. A beach beckons around the point but there are no swimmers, no docks. This bright white expanse is a flat plain of waste that slumped into the water when a retaining wall collapsed many years ago. A white pavement of settled waste extends far out from shore, barely under water. The smooth shelf is punctuated by cobble-sized rocks, ghostly beneath the water, unlike any rock you know. These are oncolites, accretions of calcium carbonate, that pepper the lake bottom. Oncolites—tumorous rocks.

Pilings stick up through the flat like a backbone, remnants of the old retaining wall. Here and there, rusted pipes that carried the sludge stick out at odd angles. Where the sludge piles meet the flats of Solvay, there are small, trickling seeps that are eerily reminiscent of springs, but the liquid that emerges seems slightly thicker than water. There are plates of summer ice along the little rivulets that drain toward the lake, crystal sheets made of salt, beneath which the water bubbles like a melting stream at the end of winter. The waste beds continue to leach tons of salt into the lake every year. Before the Allied Chemical Company, successor to Solvay Process, ceased operation, the



salinity of Onondaga Lake was ten times the salinity of the headwaters of Nine Mile Creek.

The salt, the oncolites, and the waste impede the growth of rooted aquatic plants. Lakes rely on their submerged plants to generate oxygen by photosynthesis. Without plants, the depths of Onondaga Lake are oxygen-poor, and without swaying beds of vegetation, fish, frogs, insects, herons—the whole food chain—are left without habitat. While rooted water plants have a hard time, floating algae flourish in Onondaga Lake. For decades high quantities of nitrogen and phosphorous from municipal sewage fertilized the lake and fueled their growth. Algae blooms cover the surface of the water, then die and sink to the bottom. Their decay depletes what little oxygen is in the water and the lake begins to smell of the dead fish that wash up on shore on hot summer days.

The fish that survive, you may not eat. Fishing was banned in 1970 due to high concentrations of mercury. It is estimated that one hundred and sixty-five thousand pounds of mercury were discharged into Onondaga Lake between 1946 and 1970. Allied Chemical used the mercury cell process to produce industrial chlorine from the native salt brines. The mercury waste, which we know to be extremely toxic, was handled freely on its way to disposal in the lake. Local people recall that a kid could make good pocket money on “reclaimed” mercury. One old-timer told me that you could go out to the waste beds with a kitchen spoon and pick up the small glistening spheres of mercury that lay on the ground. A kid could fill an old canning jar with mercury and sell it back to the company for the price of a movie ticket. Inputs of mercury were sharply curtailed in the 1970s, but the mercury remains trapped in the sediments where, when methylated, it can circulate through the aquatic food chain. It is estimated that seven million cubic yards of lake sediments are today contaminated with mercury.

A sampling core drilled into the lake bottom cuts through sludge, trapped layers of discharged gas, oil, and sticky black ooze. Analysis of these cores reveals significant concentrations of cadmium, barium, chromium, cobalt, lead, benzene, chlorobenzene, assorted xylenes, pesticides, and PCBs. Not many insects and not many fish.

Onondaga Lake in the 1880s was famed for its whitefish, served freshly caught on steaming platters alongside potatoes boiled in salty brine. Fine restaurants did a booming business along the lakeshore, where tourists came for the scenery, the amusement parks, and picnic grounds where families spread their blankets on a Sunday afternoon. A trolley delivered passengers to the grand hotels that lined its shore. One famed resort, White Beach, featured a long wooden slide lit with strings of glittering gaslights. Holidaymakers would sit in wheeled carts and whoosh down the ramp to splash into the lake below. The resort promised an “exhilarating dousing for ladies, gentlemen, and children of all ages.” But swimming was banned in 1940. Beautiful Onondaga Lake. People spoke of it with pride. Now they barely speak of it at all, as if it were a family member whose demise was so shameful that the name never comes up.

You would think that such toxic waters would be nearly transparent with the absence of life, but some areas are often nearly opaque with a dark cloud of silt. The turbidity comes from a muddy plume that enters the lake from another tributary, Onondaga Creek. It flows in from the south, from the high ridge above the Tully Valley, from hillsides of forests, farms, and sweet-smelling apple orchards.

Muddy water is usually attributed to runoff from farmland, but in this case the mud comes from below. High in the watershed are the Tully mudboils, which erupt into the creek like mud volcanoes, sending tons of soft sediment downstream. There is some debate as to whether the mudboils are of natural geologic origin. The Onondaga elders remember when, not so long ago, Onondaga Creek ran so clear through their Nation that they could spearfish by lantern light. They know that there was no mud in the creek until salt mining began upstream.

When the salt wells near the factories ran out, Allied Chemical used solution mining to access the underground salt deposits up near the headwaters. The company pumped water into the subterranean deposits, dissolved them away, and then pumped the brine miles down the valley to the Solvay plant. The brine line was run through the remaining territory of the Onondaga Nation, where breaks in the line ruined the well water. Eventually the dissolved salt domes collapsed

underground, creating holes through which groundwater pushed with high pressure. The resulting gushers created the mudboils that flow downstream and fill the lake with sediment. The creek that was once a fishery for Atlantic salmon, a swimming hole for kids, and a focal point of community life now runs as brown as chocolate milk. Allied Chemical and its successors deny any role in the formation of the mudboils. They claim it was an act of God. What kind of God would that be?

The wounds to these waters are as numerous as the snakes in the Tadodaho's hair, and they must be named before they can be combed out. The ancestral Onondaga territory stretches from the Pennsylvania border north to Canada. It was a mosaic of rich woodlands, expansive cornfields, clear lakes and rivers that sustained the Native people for centuries. The original territory also encompasses the site of present-day Syracuse and the sacred shores of Onondaga Lake. Onondaga rights to these lands were guaranteed by treaties between the two sovereign nations, Onondaga Nation and the United States government. But water is more faithful to its responsibilities than the United States would ever be.

When George Washington directed federal troops to exterminate the Onondaga during the Revolutionary War, a nation that had numbered in the tens of thousands was reduced to a few hundred people in a matter of one year. Afterward, every single treaty was broken. Illegal takings of land by the state of New York diminished the aboriginal Onondaga territories to a reservation of only forty-three hundred acres. The Onondaga Nation territory today is not much bigger than the Solvay waste beds. Assaults on Onondaga culture continued. Parents tried to hide their children from Indian agents, but they were taken and sent to boarding schools like Carlisle Indian School. The language that framed the Great Law of Peace was forbidden. Missionaries were dispatched to the matrilineal communities—in which men and women were equals—to show them the error of their ways. Longhouse ceremonies of thanksgiving, ceremonies meant to keep the world in balance, were banned by law.

The people have endured the pain of being bystanders to the degradation of their lands, but they never surrendered their caregiving responsibilities. They have continued the ceremonies that honor the land and their connection to it. The Onondaga people still live by the precepts of the Great Law and still believe that, in return for the gifts of Mother Earth, human people have responsibility for caring for the nonhuman people, for stewardship of the land. Without title to their ancestral lands, however, their hands were tied to protect it. So they watched, powerless, as strangers buried the Peacemaker's footsteps. The plants, animals, and waters they were bound to protect dwindled away, though the covenant with the land was never broken. Like the springs above the lake, the people just kept doing what they were called to do, no matter what fate met them downstream. The people went on giving thanks to the land, although so much of the land had little reason to be thankful for the people.

Generations of grief, generations of loss, but also strength—the people did not surrender. They had spirit on their side. They had their traditional teachings. And they also had the law. Onondaga is a rarity in the United States, a Native nation that has never surrendered its traditional government, never given up its identity nor compromised its status as a sovereign nation. Federal laws were ignored by their own authors, but the Onondaga people still live by the precepts of the Great Law.

Out of grief and its strength has come a rising power, a resurgence that became public on March 11, 2005, when the Onondaga Nation filed a complaint in federal court with the goal of reclaiming title to their lost homelands, that they might once again exercise their care-giving responsibilities. While elders passed on and babies became elders, the people held to the dream of regaining their traditional lands, but they had no legal voice by which to do so. The halls of justice were closed to them for decades. As the judicial climate gradually changed to permit tribes to bring federal suit, other Haudenosaunee nations filed claims to recover their lands. The substance of these claims was upheld by the Supreme Court, which ruled that Haudenosaunee lands were illegally

taken, and the people greatly wronged. Indian lands were unlawfully “purchased” in contravention of the United States Constitution. New York State has been ordered to forge a settlement, though remedies and reparations have proven difficult to find.

Some nations have negotiated land claims for cash payoffs or land gains and casino deals in an effort to find relief from poverty and ensure their cultural survival on the remnants of their territories. Others have sought to reclaim their original lands via outright purchase from willing sellers, land swaps with New York State, or the threat of lawsuits against individual landowners.

The Onondaga Nation took a different approach. Their claim was made under United States law, but its moral power lay in the directives of the Great Law: to act on behalf of peace, the natural world, and future generations. They did not call their suit a land claim, because they know that land is not property, but a gift, the sustainer of life. Tadodaho Sidney Hill has said that the Onondaga Nation will never seek to evict people from their homes. The Onondaga people know the pain of displacement too well to inflict it on their neighbors. Instead the suit was termed a land rights action. The motion began with a statement unprecedented in Indian Law:

The Onondaga people wish to bring about a healing between themselves and all others who live in this region that has been the homeland of the Onondaga Nation since the dawn of time. The Nation and its people have a unique spiritual, cultural, and historic relationship with the land, which is embodied in Gayanashagowa, the Great Law of Peace. This relationship goes far beyond federal and state legal concerns of ownership, possession, or other legal rights. The people are one with the land and consider themselves stewards of it. It is the duty of the Nation’s leaders to work for a healing of this land, to protect it, and to pass it on to future generations. The Onondaga Nation brings this action on behalf of its people in the hope that it may hasten the process of reconciliation and

bring lasting justice, peace, and respect among all who inhabit this area.

The Onondaga land rights action sought legal recognition of title to their home, not to remove their neighbors and not for development of casinos, which they view as destructive to community life. Their intention was to gain the legal standing necessary to move restoration of the land forward. Only with title can they ensure that mines are reclaimed and that Onondaga Lake is cleaned up. Tadodaho Sidney Hill says, "We had to stand by and watch what happens to Mother Earth, but nobody listens to what we think. The land rights action will give us a voice."

The list of named defendants was headed by the state of New York, who illegally took the lands, but the suit also listed corporations that have been responsible for degradation: a quarry, a mine, an air-polluting power plant, and the more sweetly named successor to Allied Chemical, Honeywell Incorporated.

Even without the suit, Honeywell is finally being held accountable for the lake cleanup, but there is great debate about the best approach to dealing with the contaminated sediments so that natural healing can go forward: dredge, cap, or leave it alone? State, local, and federal environmental agencies are all offering solutions with a range of price tags. The scientific issues surrounding competing lake restoration proposals are complex, and each scenario offers environmental and economic trade-offs.

After decades of foot dragging, the corporation has predictably offered its own cleanup plan, which involves minimum cost and minimum benefits. Honeywell has negotiated a plan to dredge and clean the most contaminated sediments and bury them in a sealed landfill in the waste beds. That may be a good beginning, but the bulk of the contaminants lie diffused in the sediments spread over the entire lake bottom. From here they enter the food chain. The Honeywell plan is to leave those sediments in place and cover them with a four-inch layer of sand that would partially isolate them from the ecosystem. Even if isolation were technically feasible, the proposal is to cap less than half of the lake bottom, leaving the rest to circulate as usual.

Onondaga Chief Irving Powless characterized the solution as a Band-Aid on the lake bottom. Band-Aids are fine for small hurts, but “you don’t prescribe a Band-Aid for cancer.” The Onondaga Nation called for a thorough cleanup of the sacred lake. Without legal title, however, the powers that be will not give the nation an equal place at the negotiating table.

The hope was that history would turn itself to prophecy, as the Onondaga Nation combed the snakes from the hair of Allied Chemical. While others quarreled over cleanup costs, the Onondaga took a stance that reversed the usual equation in which economics takes priority over well-being. The Onondaga Nation land rights action stipulated a full cleanup as part of restitution; no halfway measures would be accepted. non-Native people of the watershed joined with them as allies in their call for healing, in an extraordinary partnership, the Neighbors of the Onondaga Nation.

In the midst of legal wrangling, technical debates, and environmental models, it is important to not lose sight of the sacred nature of the task: to make this most profaned lake worthy of the work of water again. The spirit of the Peacemaker still walks along these shores. The legal action concerned not only rights *to* the land but also rights *of* the land, the right to be whole and healthy.

Clan Mother Audrey Shenandoah made the goal clear. It is not casinos and not money and not revenge. “In this action,” she said, “we seek justice. Justice for the waters. Justice for the four-leggeds and the wingeds, whose habitats have been taken. We seek justice, not just for ourselves, but justice for the whole of Creation.”

In the spring of 2010, the federal court handed down its ruling on the Onondaga Nation’s suit. The case was dismissed.

In the face of blind injustice, how do we continue? How do we live our responsibility for healing?

The first time I heard of the place, it was long past saving. But no

one even knew. They kept it hidden. Until one day the sign appeared, eerily, out of nowhere.

## HELP

Green block letters big enough for a football field, just off the highway. But even then, no one paid attention.

Fifteen years later, I moved back to Syracuse, where I had been a student and watched those letters fade to brown and die away along that busy stretch of road. And yet the memory of that message hadn't faded for me—I needed to see the place again for myself.

It was a fine October afternoon and I had no classes. I wasn't sure exactly how to find the place, but I'd heard rumors. The lake was so blue you could almost forget what it was. I drove past the backside of the fairgrounds, long closed for the season and desolate. But off a dirt road at the perimeter I found the security gates wide open and swinging in the wind, and I went in, mine the only vehicle in a back lot designed for thousands of fairgoers.

It's not like there were maps for what lay behind the fences, but there was a lane of sorts heading off in the general direction of the lake, so off I went, being sure to lock my car in this lonely place. I'd just be a while, back in plenty of time to pick up my girls after school.

The lane was just a rutted track through a thicket of phragmites, the reedy stems so densely packed as to make a wall on either side. I had heard that every summer the manure from the state fair barns was dumped out here. The mucked-out stalls of blue ribbon dairy cows and midway elephants all ended up on the waste beds. The city later followed suit, dumping tankers of sewage sludge. The resulting paddy was completely overgrown, plumed seed heads towering over my head by several feet. My view of the lake and my sense of direction were lost in the craze of stems, all rubbing and sawing against each other, rocking in the wind with a hypnotic sway. The lane forked off to the left and then to the right and became a walled labyrinth without landmarks of any kind. I felt like a rat in a *Phragmites* maze. I took



the fork that seemed to go lakeward and began to wish I'd brought my compass.

There are fifteen hundred acres of wasteland along this shore. Even the sound of the highway, usually a good direction finder, was lost in the swishing sound of the reeds. A niggling suspicion that this was not a good place to be alone crept up the back of my neck, but I talked myself out of being afraid. There was absolutely no one here to worry about. Who would be crazy enough to come to this godforsaken place? Who but another biologist, whom I'd be happy to meet. Either that or an ax murderer disposing of a body in the reeds. It would never be found.

I followed the track as it twisted and turned until I caught a glimpse of the top of a cottonwood. I could hear its leaves in the distance, an unmistakable sound. It was a welcome landmark. Another bend in the lane brought the tree into full view, a big cottonwood with thick spreading branches that hung over the road. From the lowest branch hung a human body. Next to it an empty noose swayed in the wind.

I screamed and ran, taking any path I could find, panicked and walled in by reeds. With pounding heart I ran blindly on and on, and then met the dead end of every horror movie. Here in a tableau of terror stood an executioner with a black hood, muscled arms, and, of course, a dripping ax. A woman's body was draped over the chopping block, her blond curls spilling from her severed head. I did not move. And neither did they. At all.

A space had been cut from the thicket to form a reed-walled room like a museum diorama with life-sized figures posed at the point of murder. Relief poured off me in a cold sweat. No dead bodies. But the palpable presence of some twisted imagination was only a marginal improvement over actual corpses. To make matters worse, I was now entirely lost in the maze, wanting only to be somewhere else, most especially picking up my kids from the school bus. Thinking of them, I gathered my wits and moved as quietly as possible, wanting to avoid detection by the satanic cultists I envisioned.

On my search for a way out, I encountered additional rooms hacked into the reeds: a mocked-up prison cell with an electric chair, a hospital room with a straitjacketed patient and an ominous nurse, and, finally, an open grave with a long-nailed occupant crawling from it. After another long pass through the eerie reeds, the lane emerged into the parking lot. The light stanchions now cast long shadows and my car was visible way down at the other end. I patted for my keys in my pocket. Still there. I could probably make it. I couldn't see if the gate was open or closed. I turned for one last look behind me. Off to the side, a nicely lettered sign was pounded into the ground:

Solvay Lions Club  
Haunted Hayrides  
October 24–31  
8 pm–midnight

I laughed myself silly. But then I had to cry.

The Solvay waste beds: how very fitting a venue for our fears. What we ought to be afraid of isn't in the haunts, but under them. Land buried under sixty feet of industrial waste, trickling toxins into the sacred waters of the Onondaga and the home of half a million people—death may be slower than the fall of the ax, but it is just as gruesome. The executioner's face is hidden, but its names are known: Solvay Process, Allied Chemical and Dye, Allied Chemical, Allied Signal, and now Honeywell.

More frightening to me than the act of execution is the mind-set that allowed it to happen, that thought it was okay to fill a lake with toxic stew. Whatever the companies are called, individual people were sitting behind those desks, fathers who took their sons fishing, who made the decision to fill the lake with sludge. Human beings made this happen, not a faceless corporation. There were no threats, no extenuating circumstances to force their hands, just business as usual. And the people of the city allowed it to happen. Interviews with Solvay workers tell the typical story: "I was just doing my job. I had a family to feed

and I wasn't going to worry about what happened out there on the waste beds."

Philosopher Joanna Macy writes of the oblivion we manufacture for ourselves to keep us from looking environmental problems straight in the eye. She quotes R. J. Clifton, a psychologist studying human response to catastrophe: "Suppression of our natural responses to disaster is part of the disease of our time. The refusal to acknowledge these responses causes a dangerous splitting. It divorces our mental calculations from our intuitive, emotional, and biological embeddedness in the matrix of life. That split allows us passively to acquiesce in the preparations for our own demise."

*Waste beds*: a new name for an entirely new ecosystem. *Waste*: we use the word as a noun to mean "a leftover residue," "refuse or rubbish," or "a material such as feces which is produced by a living body, but not used." More contemporary uses are "an unwanted product of manufacturing," "an industrial material rejected or thrown away." Wasteland is, therefore, land that has been thrown away. As a verb, *to waste* means "to render the valuable useless," "to diminish, to dissipate, and to squander." I wonder how the public perception of the Solvay waste beds would change if, instead of hiding them, we put up a sign along the highway welcoming people to the lakeshore defined as "squandered land covered in industrial feces."

Ruined land was accepted as the collateral damage of progress. But, back in the 1970s, Professor Norm Richards of the College of Environmental Science and Forestry in Syracuse decided to conduct one of the first studies of the dysfunctional ecology of the waste beds. Frustrated by local officials' lack of concern, "Stormin' Norman" took matters into his own hands. Following the same lane I walked years later, he snuck into the fenced-off lakeshore and unloaded his guerrilla garden equipment, wheeling his backyard lawn seeder out to the long sloping beds that faced the highway. He pushed the load of grass seed and fertilizer back and forth with measured steps. North twenty paces, east ten paces, north again. A few weeks later the word *HELP* appeared, written in grass letters forty feet long on the barren slopes. The scale of the wastelands left room for a longer treatise in fertilized script, but

that single word was the right one. The land had been kidnapped. Bound and gagged, it could not speak for itself.

The waste beds are not unique. The cause and the chemistry vary from my homeland to yours, but each of us can name these wounded places. We hold them in our minds and our hearts. The question is, what do we do in response?

We could take the path of fear and despair. We could document every scary scene of ecological destruction and never run out of material for a Haunted Hayride of environmental disasters, constructing a shocking nightmare tableaux of environmental tragedies, in rooms carved from a monoculture of invasive plants, on the shore of the most chemically contaminated lake in the United States. There could be scenes of oiled pelicans. How about chain saw murders on clear-cut slopes washing into rivers? Corpses of extinct Amazon primates. Prairies paved over for parking lots. Polar bears stranded on melting ice floes.

What could such a vision create other than woe and tears? Joanna Macy writes that until we can grieve for our planet we cannot love it—grieving is a sign of spiritual health. But it is not enough to weep for our lost landscapes; we have to put our hands in the earth to make ourselves whole again. Even a wounded world is feeding us. Even a wounded world holds us, giving us moments of wonder and joy. I choose joy over despair. Not because I have my head in the sand, but because joy is what the earth gives me daily and I must return the gift.

We are deluged by information regarding our destruction of the world and hear almost nothing about how to nurture it. It is no surprise then that environmentalism becomes synonymous with dire predictions and powerless feelings. Our natural inclination to do right by the world is stifled, breeding despair when it should be inspiring action. The participatory role of people in the well-being of the land has been lost, our reciprocal relations reduced to a KEEP OUT sign.

When my students learn about the latest environmental threat, they are quick to spread the word. They say, "If people only knew that snow

leopards are going extinct,” “If people only knew that rivers are dying.” If people only knew . . . then they would, what? Stop? I honor their faith in people, but so far the *if-then* formula isn’t working. People *do* know the consequences of our collective damage, they *do* know the wages of an extractive economy, but they don’t stop. They get very sad, they get very quiet. So quiet that protection of the environment that enables them to eat and breathe and imagine a future for their children doesn’t even make it onto a list of their top ten concerns. The Haunted Hayride of toxic waste dumps, the melting glaciers, the litany of doomsday projections—they move anyone who is still listening only to despair.

Despair is paralysis. It robs us of agency. It blinds us to our own power and the power of the earth. Environmental despair is a poison every bit as destructive as the methylated mercury in the bottom of Onondaga Lake. But how can we submit to despair while the land is saying “Help”? Restoration is a powerful antidote to despair. Restoration offers concrete means by which humans can once again enter into positive, creative relationship with the more-than-human world, meeting responsibilities that are simultaneously material and spiritual. It’s not enough to grieve. It’s not enough to just stop doing bad things.

We have enjoyed the feast generously laid out for us by Mother Earth, but now the plates are empty and the dining room is a mess. It’s time we started doing the dishes in Mother Earth’s kitchen. Doing dishes has gotten a bad rap, but everyone who migrates to the kitchen after a meal knows that that’s where the laughter happens, the good conversations, the friendships. Doing dishes, like doing restoration, forms relationships.

How we approach restoration of land depends, of course, on what we believe that “land” means. If land is just real estate, then restoration looks very different than if land is the source of a subsistence economy and a spiritual home. Restoring land for production of natural resources is not the same as renewal of land as cultural identity. We have to think about what land means.

This question and more are played out on the Solvay waste beds.

In a sense, the “new” land of the waste beds represents a blank slate on which a whole range of ideas have been written in response to the urgent message of *HELP*. They are scattered over the waste beds, in scenes every bit as evocative as the tableaux of the Haunted Hayride. A tour of the Onondaga Lake shore captures the scope of what land might mean and what restoration might look like.

Our first stop would have to be the blank slate itself, greasy, white industrial sludge poured over what once was a grassy green lakeshore. In some places, it is as bare as the day it was spewed, a chalky desert. Our diorama should include a figure of a laborer placing the outfall pipe, but behind him would be the man in the suit. The signpost at stop #1 should say: *LAND AS CAPITAL*. If land is only a means to make money, then these fellows are doing it right.

Norm Richards’s *HELP* appeal started something back in the 1970s. If nutrients and seed were all it took to green the waste beds, the city had a ready answer. Slopping sewage sludge onto the terraces of the waste beds provided both nutrients for plant growth and a disposal solution for the output of the water treatment plant. The result was the nightmare swards of Phragmites, a dense monoculture of invasive reeds, ten feet high, that excludes all other forms of life. Stop #2 on our tour. The sign reads: *LAND AS PROPERTY*. If land is just private property, a mine of “resources,” then you can do whatever you want with it and move on.

Scarcely thirty years ago, covering up your mess passed for responsibility—a kind of land-as-litter-box approach. Policy dictated only that land ruined by mining or industry had to be covered by vegetation. With this AstroTurf strategy, a mining company that destroyed a forest of two hundred species could satisfy its legal responsibilities by planting the tailings to alfalfa under a mist of irrigation and fertilizer. Once federal inspectors checked and signed off, the company could put up a *MISSION ACCOMPLISHED* banner, turn off the sprinklers, and walk away. The vegetation disappeared almost as quickly as the corporate executives.

Happily, scientists like Norm Richards and a host of others had a

better idea. When I was at the University of Wisconsin in the early 1980s, on summer evenings I would walk with a young Bill Jordan through the trails of the arboretum, where a collection of natural ecosystems had been put in place on abandoned farmland, homage to Aldo Leopold's advice that "the first step to intelligent tinkering is to save all the pieces." At a time when the toll taken by places like the Solvay waste beds was finally being understood, Bill envisioned a whole science of restoration ecology, in which ecologists would turn their skills and philosophy to healing land, not by imposing an industrial blanket of vegetation, but by recreating natural landscapes. He didn't submit to despair. He didn't let his idea sit on the shelf. He was the catalyst for and a cofounder of the Society for Ecological Restoration.

As a result of efforts like his, new laws and policy demanded evolution in the concept of restoration: restored sites would have to not only look like nature, but have functional integrity as well. The National Research Council defined ecological restoration thus:

The return of an ecosystem to a close approximation of its condition prior to disturbance. In restoration, ecological damage to the resource is repaired. Both the structure and the function of the ecosystem are recreated. Merely recreating form without the function, or the function in an artificial configuration bearing little resemblance to a natural resource does not constitute restoration. The goal is to emulate nature.

If we got back on the hayride wagon, it would take us to a restoration experiment at Stop #3, another version of what this land might be, what it might mean. It's visible from way off, in big quilted blocks of vivid green against the chalky white. Moving like a field of grass, you can hear the sound of the wind in the willows. This scene might be titled *LAND AS MACHINE* and be peopled with mannequins of engineers and foresters who are in charge of the machine. They stand before the ravenous jaws of a brush hog and an unending plantation of shrub willows, as thick as the Phragmites and not much more diverse. Their goal is to reestablish structure, and especially function, to a very specific purpose.

Here the intention is to utilize the plants as an engineering solution to water pollution. When rainwater leaches through the waste beds, it picks up high concentrations of salt, alkali, and a host of other compounds that it carries right to the lake. Willows are champions of absorbing water, which they transpire to the atmosphere. The idea is to use the willows as a green sponge, a living machine to intercept the rain before it gets down into the sludge. As an added benefit, the willows can be mown down periodically and used as woody feedstock for biomass fuel digesters. Use of plants in phytoremediation schemes holds promise, but an industrial monoculture of willow, however well-meaning, does not quite meet the standard for true restoration.

This kind of fix is at the core of the mechanistic view of nature, in which land is a machine and humans are the drivers. In this reductionist, materialist paradigm an imposed engineering solution makes sense. But what if we took the indigenous worldview? The ecosystem is not a machine, but a community of sovereign beings, subjects rather than objects. What if those beings were the drivers?

We can clamber back on the hay wagon to travel to the next display, only this one is not well marked. It sprawls across the oldest lakeside section of the beds into a scruffy patchwork of vegetation. The restoration ecologists here at Stop #4 are not university scientists or corporate engineers, but the oldest and most effective of land healers. They are the plants themselves, representing the design firm of Mother Nature and Father Time, LLC.

After that momentous Halloween excursion years ago, I felt completely at ease on the waste beds and enjoyed rambling there to watch restoration in action. I never encountered another dead body. But that is part of the problem. It is, of course, dead bodies that build soil, that perpetuate the nutrient cycle that propels the living. The "soil" here is white emptiness.

Here on the waste beds there are expanses without a living thing, but there are also teachers of healing and their names are Birch and Alder, Aster and Plantain, Cattail, Moss, and Switchgrass. On the most



barren ground, on the wounds we have inflicted, the plants have not turned their backs on us; instead, they have come.

A few brave trees have become established, mostly cottonwoods and aspens that can tolerate the soil. There are clumps of shrubs, some patches of asters and goldenrod, but mostly a thin scraggly collection of the common roadside weeds. Dandelions, ragweed, chicory, and Queen Anne's lace blown to this spot have made a go of it. Nitrogen-fixing legumes in abundance, and clovers of all kinds, have also come to do their work. That struggling field of green is, to me, a form of peacemaking. Plants are the first restoration ecologists. They are using their gifts for healing the land, showing us the way.

Imagine the surprise of the infant plants who emerged from their seed coats to find a waste bed habitat no one in their long botanical lineage had ever experienced. Most died of drought, of salt or exposure, or starved from lack of nutrients, but a select few survived and did their best to carry on. Especially the grasses. When I dig my trowel under a grass patch, the soil is different. The waste below is no longer pure white and slippery, but dark gray and crumbly between my fingers. There are roots all through it. The darkening of the soil is humus mixed in; the waste is being changed. True, a few inches down it is still dense and white, but the surface layer holds promise. The plants are doing their work, rebuilding the nutrient cycle.

If you get down on your knees, you'll see anthills, no bigger than a quarter. The granulated soil the ants have mounded around the hole is as white as snow. Grain by grain, in their tiny mandibles, they are carrying up waste from below and carrying seeds and bits of leaves down into the soil. Shuttling back and forth. The grasses feed the ants with seeds and the ants feed the grasses with soil. They hand off life to one another. They understand their interconnections; they understand that the life of one is dependent on the life of all. Leaf by leaf, root by root, the trees, the berries, the grasses are joining forces, and so there are birds and deer and bugs that have come to join them. And so the world is made.

Gray birches dot the top of the waste bed, arriving on the wind,

no doubt, and lodging fortuitously against a gelatinous clot of *Nostoc* algae bubbling in a puddle. Protected in the selfless scum of *Nostoc*, the birch can grow and thrive on its nitrogen inputs. They are now the biggest trees here, but they are not alone. Directly beneath almost every birch are small shrubs. Not just any shrubs, but those that make juicy fruits: pin cherry, honeysuckle, buckthorn, blackberry. These shrubs are largely absent from the bare expanse between birches. This apron of fruit bearers speaks of the birds who passed over the waste beds and stopped to perch on the trees to defecate their load of seeds into the shade of the birch. More fruit drew more birds, who dropped more seeds, who fed the ants, and so it goes. That same pattern of reciprocity is written all over the landscape. That's one of the things I honor about this place. Here you can see beginnings, the small incremental processes by which an ecological community is built.

The beds are greening over. The land knows what to do when we do not. I hope that the waste beds do not disappear entirely, though—we need them to remind us what we are capable of. We have an opportunity to learn from them, to understand ourselves as students of nature, not the masters. The very best scientists are humble enough to listen.

We could name this tableau *LAND AS TEACHER, LAND AS HEALER*. With plants and natural processes in sole command, the role of land as a renewable source of knowledge and ecological insight becomes apparent. Human damage has created novel ecosystems, and the plants are slowly adapting and showing us the way toward healing the wounds. This is a testament to the ingenuity and wisdom of plants more than to any action of people. I hope we'll have the wisdom to let them continue their work. Restoration is an opportunity for a partnership, for us to help. Our part of the work is not complete.

In just the last few years, the lake has offered signs of hope. As factories have closed and citizens of the watershed build better sewage treatment plants, the waters have responded to that care. The natural resilience of the lake is making its presence known in tiny increments of dissolved oxygen and returning fish. Hydrogeologists have redirected the energies of the mudboils so that their load is lightened.

Engineers, scientists, and activists have all applied the gift of human ingenuity on behalf of the water. The water, too, has done its part. With lessened inputs, the lakes and streams seem to be cleaning themselves as the water moves through. In some places, plants are starting to inhabit the bottom. Trout were found once again in the lake and when water quality took an upward turn it was front-page news. A pair of eagles have been spotted on the north shore. The waters have not forgotten their responsibility. The waters are reminding the people that they can use their healing gifts when we will use ours.

The cleansing potential of the water itself is a powerful force, which gives even greater weight to the work that lies ahead. The presence of eagles seems a sign of their faith in the people, too, and yet what will become of them, as they fish from the wounded waters?

The slowly accreting community of weedy species can be a partner in restoration. They are developing ecosystem structure and function, beginning ever so slowly to create ecosystem services such as nutrient cycling, biodiversity, and soil formation. In a natural system, of course, there is no goal other than proliferation of life. In contrast, professional restoration ecologists design their work to move toward the “reference ecosystem,” or the predamage, native condition.

The volunteer successional community creating itself on the waste beds is “naturalized,” but it is not native. It is unlikely to lead to a plant community that the Onondaga Nation would recognize from their ancestral past. The outcome will not be a native landscape peopled with the plants who lived here when Allied Chemical was only a gleam in the eye of a smokestack. Given the drastic changes produced by industrial contamination, it is probably not possible to recreate cedar swamps and beds of wild rice without some help. We can trust the plants to do their work, but except for windblown volunteers, new species can’t get here across highways and acres of industry. Mother Nature and Father Time could use someone to push a wheelbarrow, and a few intrepid beings have volunteered.

The plant communities that will thrive in this environment are the ones that are tolerant of salt and the sodden “soil.” It’s tough to

imagine a reference ecosystem of native species that could survive. But, in presettlement times, there were salt springs around the lake, and they supported one of the rarest of native plant communities, an inland salt marsh. Professor Don Leopold and his students have brought in wheelbarrows full of these missing native plants and conducted planting trials, watching their survival and growth with hopes of playing midwife to the recreation of a salt marsh. I went out to visit with the students, to hear their story and look at the plants. Some were dead, some were hanging on, and some were flourishing.

I headed to where the green seemed the strongest; I caught a whiff of a fragrance that haunts my memory, and then it was gone. I must have imagined it. I stopped to admire a thriving stand of seaside goldenrod and some asters. To witness the regenerative power of the land tells us that there is resilience here, signs of possibility that arise from partnership between the plants and the people. Don's work fulfills the scientific definition of restoration: working toward ecosystem structure, function, and the delivery of ecosystem services. We should make this nascent native meadow the next stop on the hayride, Stop #5, with a sign that says LAND AS RESPONSIBILITY. This work raises the bar for what restoration can mean, to create habitat for our nonhuman relatives.

As hopeful as this tableau of restored vegetation might become, it doesn't feel quite whole. When I visited with the students with shovels in their hands, their pride in the planting was evident. I asked what motivated them in their work, and I heard about "getting adequate data" and "devising a solution" and a "feasible dissertation." No one mentioned love. Maybe they were afraid. I've sat on too many dissertation committees where students were ridiculed for describing the plants they've worked with for five years with so unscientific a term as *beautiful*. The word *love* is unlikely to make an appearance, but I know that it is there.

That familiar fragrance was tugging at my sleeve again. I raised my eyes to meet the brightest green in the place, shiny blades gleaming in the sun, smiling up at me like a long lost friend. There she was—sweetgrass—growing in one of the last places I might ever have

expected. But I should have known better. Tentatively sending out rhizomes through the sludge, slender tillers marching bravely away, sweetgrass is a teacher of healing, a symbol of kindness and compassion. She reminded me that it is not the land that has been broken, but our relationship to it.

Restoration is imperative for healing the earth, but reciprocity is imperative for long-lasting, successful restoration. Like other mindful practices, ecological restoration can be viewed as an act of reciprocity in which humans exercise their caregiving responsibility for the ecosystems that sustain them. We restore the land, and the land restores us. As writer Freeman House cautions, “We will continue to need the insights and methodologies of science, but if we allow the practice of restoration to become the exclusive domain of science, we will have lost its greatest promise, which is nothing less than a redefinition of human culture.”

We may not be able to restore the Onondaga watershed to its pre-industrial condition. The land, plants, animals, and their allies among the human people are making small steps, but ultimately it is the earth that will restore the structure and function, the ecosystem services. We might debate the authenticity of the desired reference ecosystem, but she will decide. We're not in control. What we *are* in control of is our relationship to the earth. Nature herself is a moving target, especially in an era of rapid climate change. Species composition may change, but relationship endures. It is the most authentic facet of the restoration. Here is where our most challenging and most rewarding work lies, in restoring a relationship of respect, responsibility, and reciprocity. And love.

A 1994 statement from the Indigenous Environmental Network puts it best:

Western science and technology, while appropriate to the present scale of degradation, is a limited conceptual and methodological tool—it is the “head and hands” of restoration implementation. Native spirituality is the ‘heart’ that guides the head and hands . . . Cultural survival depends on

healthy land and a healthy, responsible relationship between humans and the land. The traditional care-giving responsibilities which maintained healthy land need to be expanded to include restoration. Ecological restoration is inseparable from cultural and spiritual restoration, and is inseparable from the spiritual responsibilities of care-giving and world-renewal.

What if we could fashion a restoration plan that grew from understanding multiple meanings of land? Land as sustainer. Land as identity. Land as grocery store and pharmacy. Land as connection to our ancestors. Land as moral obligation. Land as sacred. Land as self.

When I first came to Syracuse as a student, I had a first—and only—date with a local fellow. We were going on a drive and I asked if we could go to fabled Onondaga Lake, which I had never seen. He reluctantly agreed, joking about the city's famous landmark. But when we got there he wouldn't get out of the car. "It stinks too much" he said, as ashamed as if he himself were the source of the foul odor. I'd never met anyone who hated his home before. My friend Catherine grew up here. She tells me that her weekly ride to Sunday school took the family along the lakeshore, past Crucible Steel and Allied Chemical, where even on the Lord's day, black smoke filled the sky and pools of sludge lay on either side of the road. When the preacher talked of fire and brimstone and the sulfurous vents of hell, she was sure he meant Solvay. She thought she drove to church each week through the Valley of Death.

Fear and loathing, our internal Haunted Hayride—the worst parts of our nature are all here on the lakeshore. Despair made people turn away, made them write off Onondaga Lake as a lost cause.

It's true that when you walk on the waste beds you can see the hand of destruction, but you can also see hope in the way a seed lands in a tiny crack and puts down a root and begins to build the soil again. The plants remind me of our neighbors at Onondaga Nation, Native people faced with daunting odds, great hostility, and an environment much changed from the rich land that first sustained them. But the

plants and the people survive. Plant people and human people are still here and are still meeting their responsibilities.

Despite numerous legal setbacks, the Onondaga have not turned their backs on the lake; rather, they are the authors of a new approach to healing it, put forward in their “Onondaga Nation Vision for a Clean Onondaga Lake.” This dream of restoration follows the ancient teachings of the Thanksgiving Address. Greeting in turn each element of Creation, the declaration offers vision and support for returning the lake to health and with it a mutual healing of lake and people. It is an exemplar of a new holistic approach, called biocultural or reciprocal restoration.

In the indigenous worldview, a healthy landscape is understood to be whole and generous enough to be able to sustain its partners. It engages land not as a machine but as a community of respected non-human persons to whom we humans have a responsibility. Restoration requires renewing the capacity not only for “ecosystem services” but for “cultural services” as well. Renewal of relationships includes water that you can swim in and not be afraid to touch. Restoring relationship means that when the eagles return, it will be safe for them to eat the fish. People want that for themselves, too. Biocultural restoration raises the bar for environmental quality of the reference ecosystem, so that as we care for the land, it can once again care for us.

Restoring land without restoring relationship is an empty exercise. It is relationship that will endure and relationship that will sustain the restored land. Therefore, reconnecting people and the landscape is as essential as reestablishing proper hydrology or cleaning up contaminants. It is medicine for the earth.

One day in late September, while earth-moving machinery dredged contaminated soils on the western shore of Onondaga Lake, another group of earth movers worked on the eastern shore—dancing. I watched their feet as they moved in a circle led by the water drum. Beaded moccasins, tassel-tie loafers, high-top sneakers, flip-flops, and

patent-leather pumps all beat against the ground in a ceremonial dance to honor the water. All the participants carried vessels of clean water from their home places; their hopes for Onondaga Lake were held in these vessels. Work boots brought spring water from the high hills, green Converse carried city tap water, and red wooden sandals peeking from below a pink kimono carried sacred water all the way from Mount Fuji to blend that purity into Onondaga Lake. This ceremony is also restoration ecology, the healing of relationship and the stirring of emotion and spirit on behalf of the water. Singers, dancers, and speakers took the stage by the lake to call for restoration. Faithkeeper Oren Lyons, Clan Mother Audrey Shenandoah, and international activist Jane Goodall joined the community in this water communion to celebrate the sacredness of the lake and to renew the covenant between people and the water. There on the shore where the Tree of Peace once stood, we joined to plant another tree in commemoration of peacemaking with the lake. This should be on the restoration tour, too.

Stop #6: LAND AS SACRED, LAND AS COMMUNITY.

Naturalist E. O. Wilson writes, “There can be no purpose more inspiring than to begin the age of restoration, reweaving the wondrous diversity of life that still surrounds us.” The stories are piling up all around in scraps of land being restored: trout streams reclaimed from siltation, brownfields turned into community gardens, prairies reclaimed from soybeans, wolves howling in their old territories, schoolkids helping salamanders across the road. If your heart isn’t raised by the sight of whooping cranes restored to their ancient flyway, you must not have a pulse. It’s true that these victories are as small and fragile as origami cranes, but their power moves as inspiration. Your hands itch to pull out invasive species and replant the native flowers. Your finger trembles with a wish to detonate the explosion of an obsolete dam that would restore a salmon run. These are antidotes to the poison of despair.

Joanna Macy speaks of the Great Turning, the “essential adventure of our time; the shift from the Industrial Growth Society to a life-sustaining civilization.” Restoration of land and relationship pushes



that turning wheel. “Action on behalf of life transforms. Because the relationship between self and the world is reciprocal, it is not a question of first getting enlightened or saved and *then* acting. As we work to heal the earth, the earth heals us.”

The last stop on the ride around the lake hasn't been finished yet, but the scene is planned. In this tableau there will be kids swimming, families picnicking. People love this lake and take care of it. It's a place for ceremony and celebration. The Haudenosaunee flag flies alongside the Stars and Stripes. Folks are fishing in the shallows and keeping their catch. Willow trees bend gracefully, their limbs full of birds. An eagle sits at the top of the Tree of Peace. Lakeshore wetlands are rich with muskrats and waterfowl. Native prairies green the lakeshore. The signpost at the scene reads LAND AS HOME.