



# Our Land, Our Stories

Excavating Subterranean Histories of Ringwood Mines and the Ramapough Lunaape Nation

Anita Bakshi, Editor

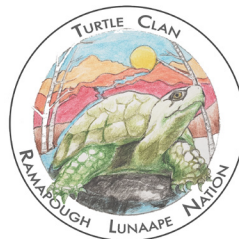
**Our Land, Our Stories**  
**Excavating Subterranean Histories of Ringwood**  
**Mines and the Ramapough Lunaape Nation**  
**2019**

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History, Culture, and Education, and Environmental Justice,"  
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# OUR LAND, OUR STORIES

## Excavating Subterranean Histories of Ringwood Mines and the Ramapough Lunaape Nation

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The Ramapough Lunaape Nation has been fighting for years for justice, for their land to be remediated, for treatment of illnesses they believe are connected to contaminated soil and water. Because of their activism, Ringwood Mines/Landfill became a Superfund site in 1983. The community was once again instrumental in getting the site relisted in 2006 when it was discovered that only an incomplete cleanup had taken place. Today they continue to struggle to bring attention to the remaining contaminants; to protect their homes, lands and heritage; and to protect waterways that connect all residents of New Jersey. Many thanks are due to the individuals who shared their stories, family photographs, home movies, and memories. The Ramapough are known as the “Keepers of the Pass,” guardians of the passageway through the mountain, and of the rivers and valley. They continue this role today.

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Jan Barry, the creator of the “Toxic Legacy” series for *The Record*

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## YOUR LAND, YOUR STORY



Chief Mann visits the Rutgers Landscape Architecture studio in 2018.

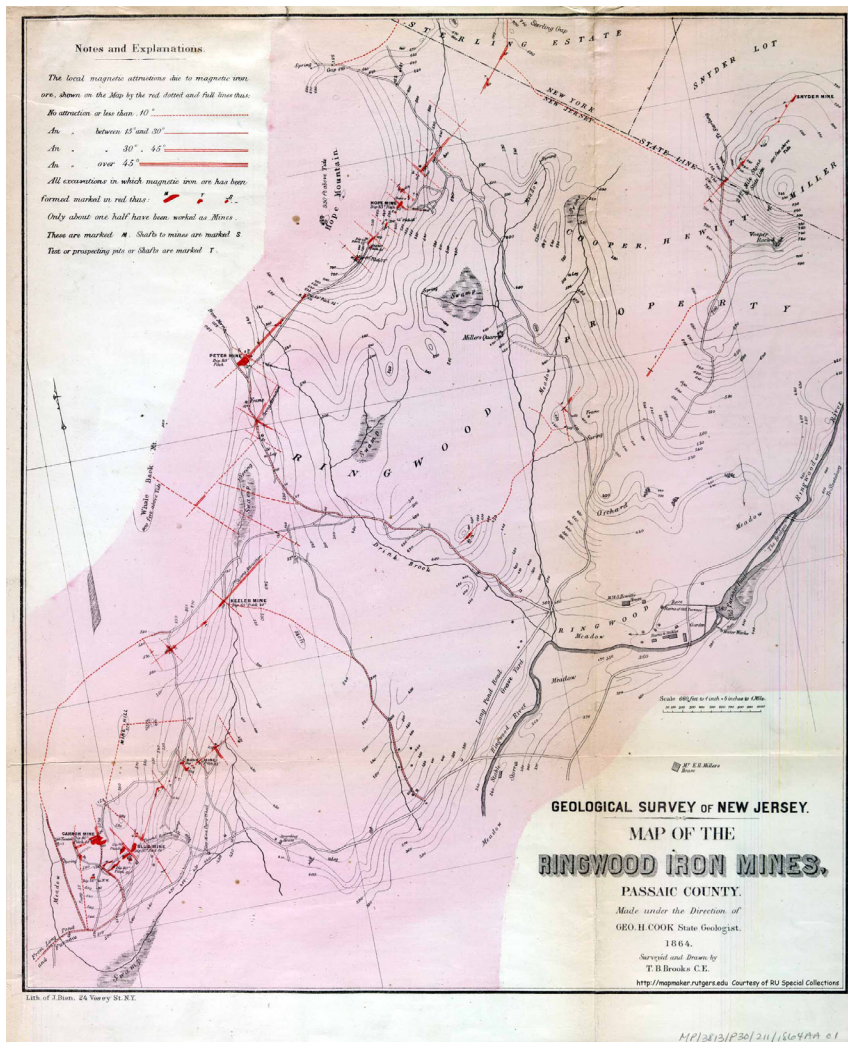
## About This Book

This book documents a place, a people, and an ever-changing landscape that connects us all. The place is Ringwood, New Jersey, sheltered below Hope Mountain. The people who have called this place home for centuries are the Ramapough Lunaape (Lenape) Turtle Clan. The landscape includes former iron mines, Native American rock shelters, a forest in which people hunt and forage for food, a large drinking water reservoir, deep pockets of contaminated soil, streams that now flow with orange water, a stew of different chemical toxicants from the former Ford manufacturing plant, and the Ringwood Mines/Landfill Superfund Site. The people live in the Superfund site, just upstream from the Wanaque Reservoir, which provides drinking water to millions of New Jersey residents.

Information about this place, people, and landscape has been difficult to understand. There are contested narratives about the history and extent of contamination and its impact on the people residing here. This book seeks to clarify these narratives through clear graphic representations that illustrate the connections between different sets of scientific data, environmental remediation reports, records of the site's industrial history, and personal narratives of the cultural and spiritual traditions of the Ramapough. This book describes these interconnected social, cultural, and environmental histories by excavating below the surface of the apparent to reveal other narratives from which to draw your own conclusions.

Presented here you will find, side by side, detailed environmental data from EPA reports and scientific studies alongside narratives of human experience. While scientific studies provide knowledge, they can also strip away significance. Using numbers, figures, and statistics to describe environmental losses, this abstract and academic language is sterile; it misses something vital and important in terms of human experience. There is more to Superfund sites than contaminants and remediation strategies. They are part of the web of environmental relationships that define the landscapes in which we all make our home. This book communicates the impact on human communities and the transmission of cultural practices connected to the land.

This book is intended for residents of Ringwood as well as for a broader audience. We hope that it will be used for teaching, and that it will find a home in high schools, universities, cultural institutions, and as a reference resource. You will see that the book is incomplete, that we have left space at the end for you to write and sketch your own thoughts, interpretations, and ideas about how to understand and mark environmental and cultural losses. Where is your land? What are your stories? We hope that from the following pages you are able to gain an understanding of the natural systems that connect us all, and that we might find collective strategies to address the losses that affect a vast cross section of people and places.



Ringwood Iron Mine map, 1864 Geological Survey map of the Ringwood Iron Mines  
 SPCOL Map Collection, Rutgers University Libraries-Special Collections

### Ringwood, New Jersey

Hope Mountain is part of the Ramapo Mountains, a section of the Appalachians that runs up to the Hudson River at Bear Mountain, New York. The town of Ringwood is nestled along its eastern edge, in the northern New Jersey Highlands. Historically there were three main passageways through the mountains, old Native American trails along the Ramapo Clove Pass in New York, the Pequannok Gap, and Pompton and Wanaque Valleys in New Jersey (Lenik, 2011 p.90).

This landscape is home to the Ramapough Lunape (Lenape) people, who today reside in three interconnected communities, now divided by state lines, with the Turtle Clan in Ringwood, the Wolf Clan in Mahwah, New Jersey, and the Deer Clan in Hillburn, New York. While they are recognized by the state of New Jersey, they do not have federal recognition from the Bureau of Indian Affairs (BIA). This is by no means an unusual situation; Native Studies expert Thomas King estimates that close to 40% of Native people in North American remain "unrecognized" (2012, p.69). This statistic is connected to a long history of systematic removal and assimilation policies intended to erode tribal sovereignty, with policies such as the General Allotment Act of 1887, the Indian Reorganization Act of 1934, the House Concurrent Resolution of 1953, and the Indian Relocation Act of 1956.

The history of tribal land ownership is not a simple one. The removal of indigenous people from their homelands was not limited to a distinct time in American history. Rather, these removal efforts took place over centuries, and included policies that were enacted well into the middle of the 20th century in continuing efforts to dispossess Indian land and weaken tribal sovereignty. Ancestors of the Ramapough experienced this process in the Colonial and early Federal period of our nation's history; we cannot fully understand the history of this community without placing it in the context of these larger policies. An overview of this history within the context of this removal process is provided in the History Chapter.



There was a robust iron mining industry in Ringwood from the mid-18th to mid-20th Century. The mine shafts and surrounding forests were used to dump toxic paint sludge waste from the nearby Ford Motor Company manufacturing plant in the 1960s and 1970s. Contamination has led to environmental degradation, illness, and the loss of traditional practices connected to the land. Although partially remediated through the EPA's Superfund program, contaminated material remains on the site to this day.

### Telling the Story

***“Stories are kept alive through the telling. By telling of what happened a hundred years ago, it comes into being and happens now.”***

***- Chief Ronald Redbone, Ramapough***

The story of dumping, contamination, and remediation has been communicated through several documentary films, including *Mann v. Ford* (2010), *American Native* (2014), and *Troubled Water* (2017). “Toxic Legacy,” a thoroughly researched series in *The Record*, a North Jersey newspaper, resulted in text, photographs, and a website that document this story. In addition, EPA and NJDEP (New Jersey Department of Environmental Protection) reports are available to the public through online sources. Much information is available, yet it remains difficult to stitch together these sources - which are at times competing and divergent - and make sense of where the overlaps are. According to well-known regional figure and advocate Chuck Stead, PhD., “the Ramapoughs have a long history of being interpreted by another’s agenda,” (2015, p.139) and it is important to include their voices in the telling of this tale.

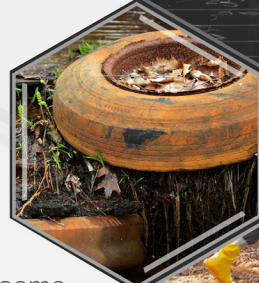
Storytelling has traditionally been done by community elders. Eldership (elder leadership) plays a large role in Native American communities, but in Ringwood the diseases that have been exacerbated by the poisoning of the land have resulted in a loss of many elders, with few people in the community above the age of 65. This is a drastic change from earlier generations, when it was not unusual to find many elders in their 80s and 90s. According to Stead: “With the loss of the true keepers of the knowledge, the stories are in danger of being lost. It is for this reason that the wounded storytelling must carry on, must be nurtured” (2015, p. 236). This book aims to provide a forum for such storytelling, and to create visual depictions and records of collective and personal experiences, recording what might otherwise be lost.



As a youth, Dr. Chuck Stead - a resident of the region who led a clean-up of Ford paint sludge in nearby Hillburn, NY - witnessed the dumping of drums of paint sludge. He documented this in sketches in his notebook, which he has to this day. (See his essay on page 28).



The Ford Motor Company assembly plant in Mahwah, NJ was the largest in the nation before it closed in 1980. The seemingly remote lands of Ringwood are laden with its remains: tires, car frames, and millions of gallons of paint sludge.



The sludge has since spread and has become incorporated into environmental systems throughout Ringwood, and is dangerous when inhaled, ingested, or simply touched. Curious children in Ringwood used to form the paint sludge into "mud pies" and innocently eat them.



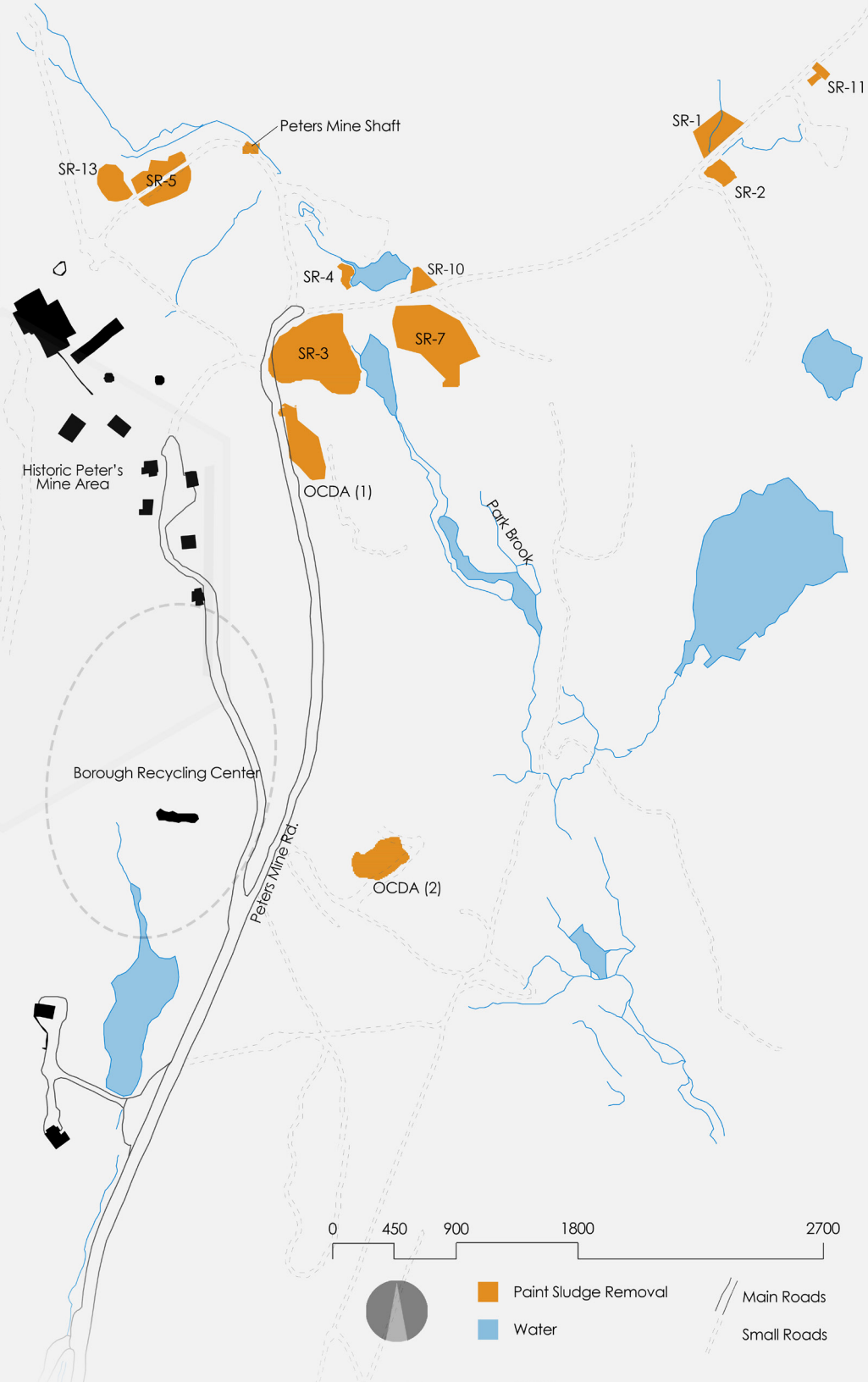
Chemicals from the paint sludge have seeped in to the water system. Pictured here is a nearby stream that runs along the Recycling Center on Peters Mine Road.



Childhood landscapes of the Ramapough Native Americans have changed drastically in the last five decades. To the right is a pond that elder Vivian Milligan and her sister used to ice skate on. The pond is now clearly discolored, and emits a sharp chemical smell.



Photos from the cleanup in nearby Hillburn, NY show evidence of the paint sludge penetrating the ground and entering the soil layers. (Photo by Chuck Stead).

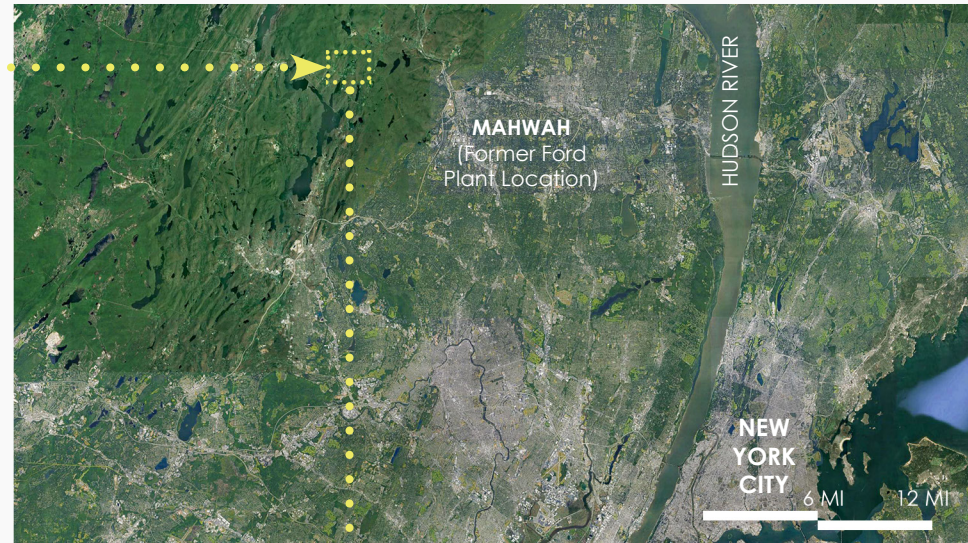


*“You know, we’re talking about a big corporation, right in our backyard, that gave hope and promise that one day we’d be a Garden of Eden. But it turned around and just became a cemetery.”*

*- Wayne Mann, Ramapough*



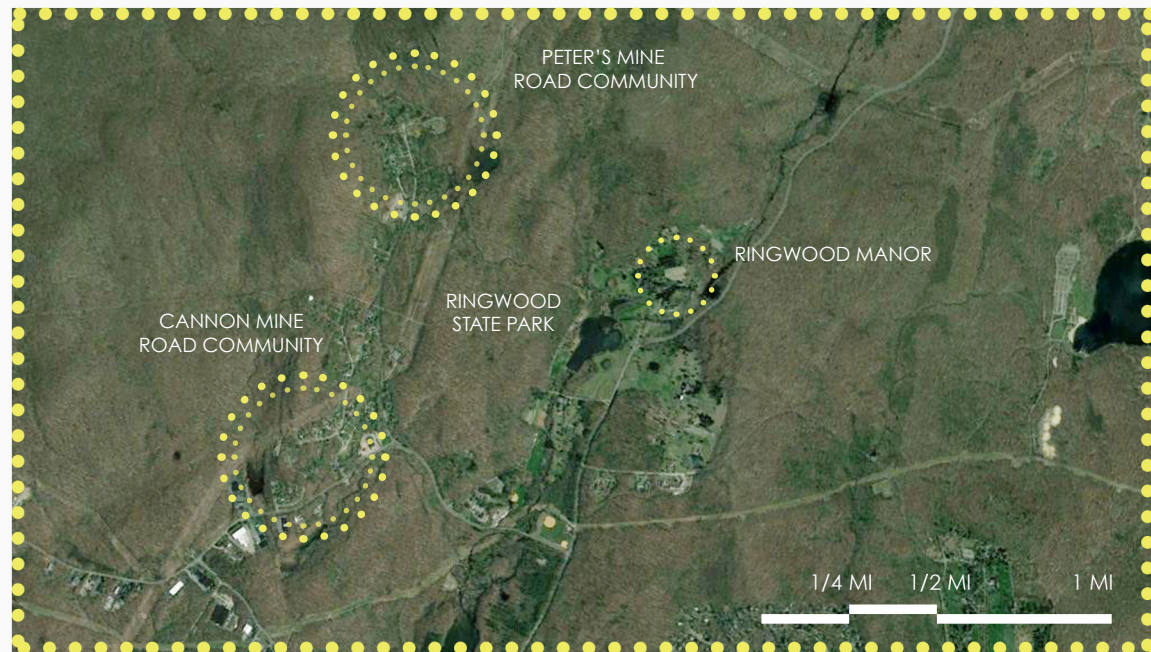
STATE SCALE



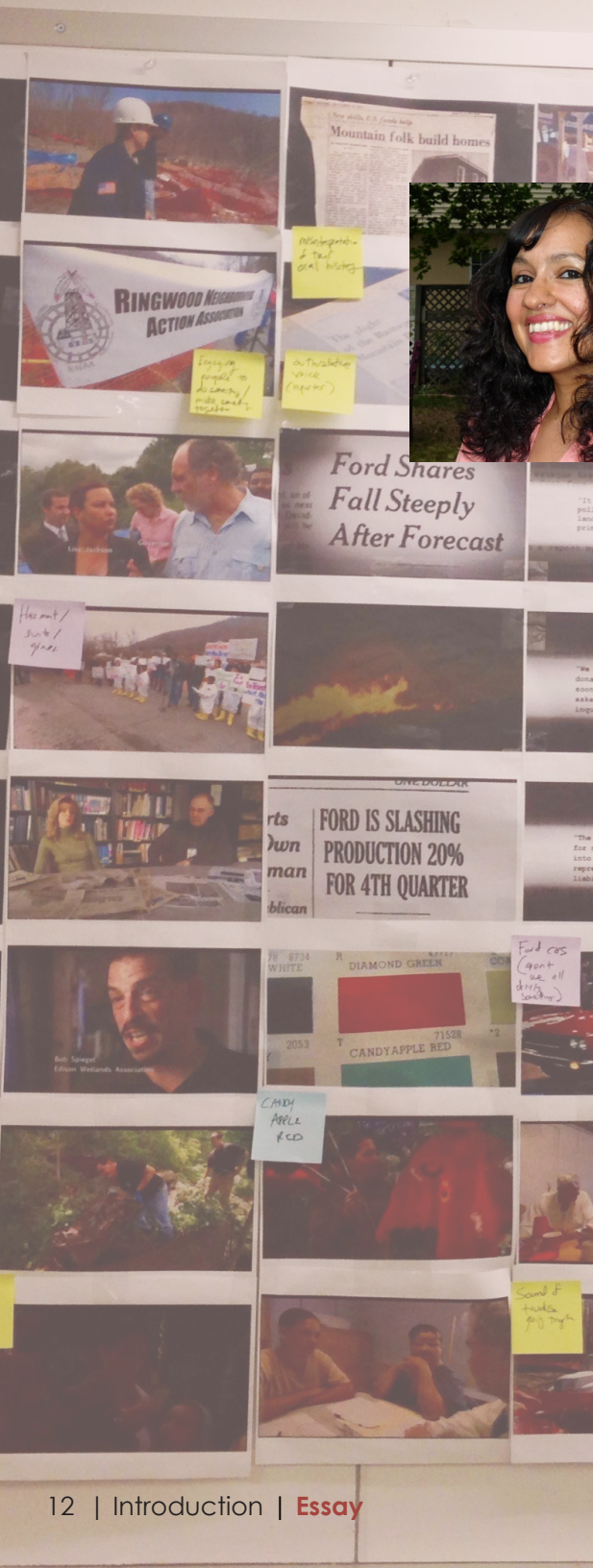
CITY SCALE

## sup • er • fund site

(noun) any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. These sites are placed on the National Priorities List (NPL).



NEIGHBORHOOD SCALE



## WHY DO WE NEED MEMORIALS FOR ENVIRONMENTAL LOSSES?

by ANITA BAKSHI

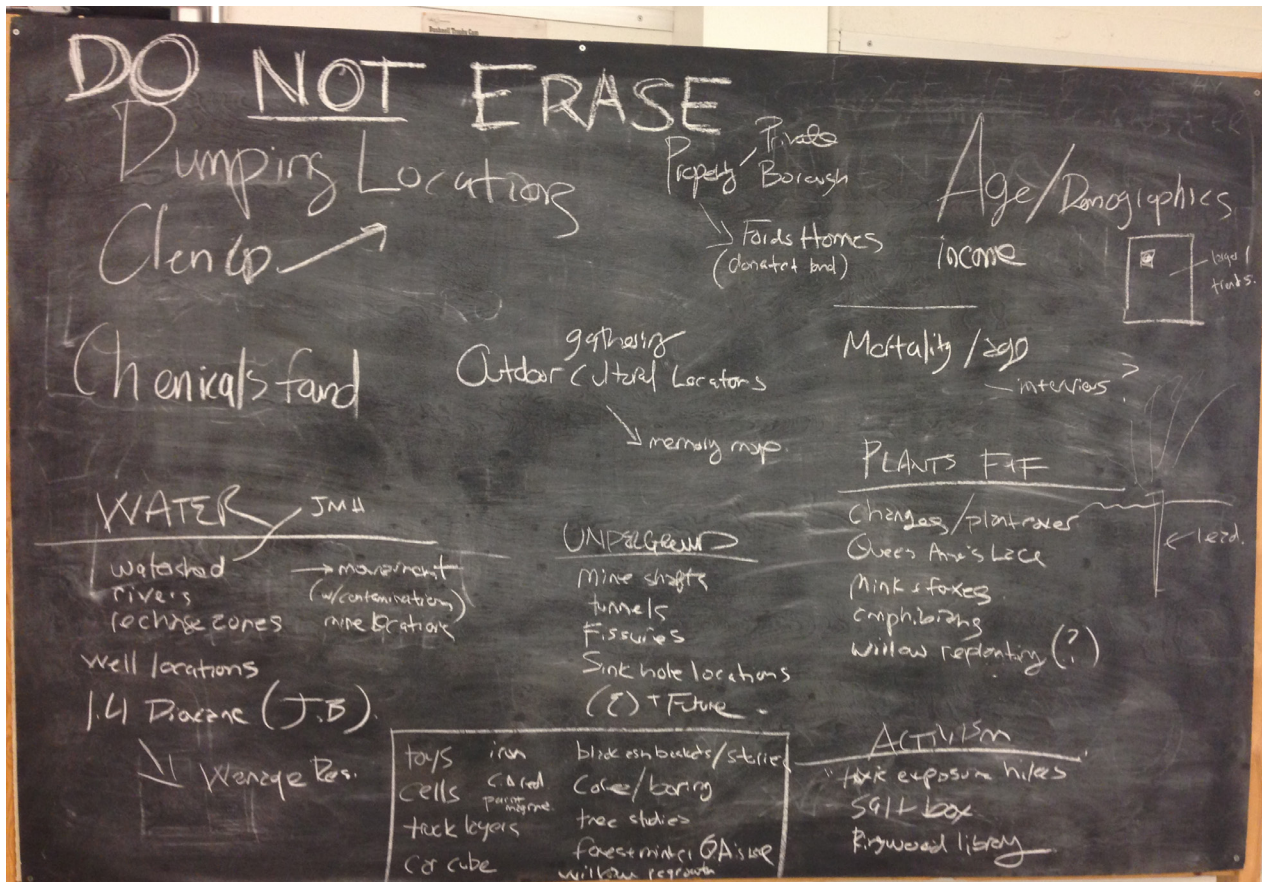
How can the stories connected to this place be told? What forms and formats can be used to communicate the full depth of connections to this landscape, interconnected lifeways, and the environmental losses that have been experienced by its residents? To explore these questions, in 2018 I taught the “Marking Environmental Losses” design studio in the Department of Landscape Architecture at Rutgers University. This marked the start of our work with the Ramapough Turtle Clan. The goal of the studio was to explore how we could, through the lens of design, respond to emotional aspects of environmental loss. Would it be possible to create immersive experiences of empathic engagement with loss, interconnectivity, continuity, survival, and possibility? I wanted to explore if such designed landscapes could mark collective losses and make them understandable, and perhaps even inspire activism and political action around environmental issues.

Today we are bombarded with many facts and figures about environmental losses and projections of how our climate will change. These abbreviations and numbers can be difficult to understand. Through our site documentation of Ringwood, we wanted to create nuanced representations of the cultural and environmental history of the Ramapough community, as well as clear representations of data about contamination and remediation. The first obstacle we faced in our initial investigations was the mind-numbing amount of documents available through the EPA, NJDEP, NJDHSS, and ATSDR. Even these abbreviations required deciphering!

With such complex, and incredibly important information, we need other, more creative forms of communication. Narratives that make the numbers and losses understandable are required to visualize the scale of these changes and their emotional impacts. Physical memorials and designed spaces can be helpful in making this abstract information available to the human body and can open up access to understandings of different temporal, historical, and spatial scales: from the neighborhood to the bioregion, and from our lifetimes to intergenerational thinking. The design studio participants worked to develop memorial projects that represent the Ramapoughs' contributions, land stewardship, ongoing environmental activism, and intergenerational knowledge about the landscape.

It is in an effort to communicate the *emotional impacts* of histories, ecological relationships, and scientific data that we have included visualizations of stories and proposed memorial designs in the book. While they will not be built, we hope that the drawings and renderings will help to provide a different kind of information about this landscape and its residents, and help to elucidate the histories of contamination and continuity that lie below the soil.

You will notice that many of the designs are not about marking death and loss - as we might expect to see in typical memorials. Instead, the memorial proposals also celebrate positive aspects of the past and generations of connection to this landscape. They create spaces where traditional practices might be continued, or even revived, or they do active work to heal the landscape and create places for community. They attempt to inspire continued activism, and remind us of the need to stay vigilant and protect the environment that we all share.





# HISTORY

## INDUSTRIAL HISTORY OF RINGWOOD

The German industrialist Peter Hasenclever purchased the Ringwood Ironworks Estate located in the Ramapo Mountains in 1764 and built the Long Pond Ironworks. He opened 53 mines in the surrounding area during his years in business, bringing hundreds of workers over from Germany and supervising the construction of roads, dams, houses and other mine structures. Operation of this commercial enterprise was transferred to Robert Erksine in the 1770s, and then to Martin Ryerson in 1807. Peters Mine, opened around 1740, was the longest running mine in Ringwood, and had seventeen levels, with a shaft running 2,400 feet on an incline, reaching a depth of 1,800 feet below ground. During the Revolutionary War the ironworks manufactured heavy chains that were strategically placed between Manhattan and West Point to block British ships from ascending the Hudson towards Albany. The Great Chain at West Point is the most famous of these.

After the mines were purchased by Abram Hewitt for Peter Cooper in 1853, they were again called into use for war manufacturing, this time to produce mortar carriages, gun-barrel iron, and plating for armored ships during the Civil War. Hewitt even received a telegram from Abraham Lincoln requesting mortars for General Grant's men. Hewitt built the current Ringwood Manor on the site of the first manor that was built for Hasenclever. In 1938 the house, including its contents, and the property were donated by the Hewitt family to the State of New Jersey to serve as a museum and a state park (Ransom, 2011 p.227).

Peters Mine and Cannon Mine were in operation off and on after the 1870s. They were bought by the Defense Plant Corporation of the federal government in 1942, with the thought that iron ore might play a valuable role in World War II. Despite extensive rehabilitation, the mines were of little use for the war effort. They finally closed in 1954, changing ownership multiple times until the land was acquired by Ringwood Realty Corp., a subsidiary of Ford Motors, in 1965. The Ford Motor Company had opened a production plant in nearby Mahwah in 1955, reaching the milestone of one million cars assembled by 1960. It was the largest of its kind

in the nation during its years of production, with approximately 2 million square feet of plant space. The plant closed on June 20, 1980, eliminating 4,500 jobs, and was eventually demolished in 1984 (O'Brien, 2010). Many tons of paint sludge and related manufacturing waste from the Ford plant were dumped in the Ringwood Mines area in the 1960s and 1970s.

***"In 1969 alone...the Mahwah factory generated 84,000 cubic yards of waste, including 1.3 million gallons of paint sludge. That's enough waste to fill 25 Olympic swimming pools."***

***- Jan Barry, Reporter for The Record***



*Image: Peters Iron Mine, Ringwood Boro, Passaic County,  
by Meredith E. Johnson, September 1947*

## NATIVE AMERICAN HISTORY IN NEW JERSEY

Indian Rock, Spook Rock, Black Creek, Abbott Farm, Tuckerton Shell Mound, and the Minisink Archeological Site represent the few physical places remaining in New Jersey and neighboring New York to mark the presence of Native people. Although much of their homeland has been lost to development, the Ramapough have had a long and continuing presence in the area. When the first settlers came to the east coast in the 17th century, the land that became New Jersey was populated by Indigenous people related by language and kinship, primarily known to the Europeans as the Munsee and the Lenape. They traded with the Dutch, and later with the English, mainly exchanging furs for trade goods such as beads, brass, tools, cloth, guns, knives, and swords. Estimates suggest that at the time of European arrival there were close to 12,000 Lenape living in Lenapehoking, their homeland. European diseases and conflict with the new settlers reduced this population down to one tenth of its former size by the end of the 17th century.

Conflicts and disputes connected to the French and Indian War (1754-63) and the Treaty of Easton (1758) accelerated the displacement of most of the remaining Native American population from New Jersey. Many Lenape had moved west into Pennsylvania, while Christian converts moved further south to the short-lived Brotherton Reservation (active from 1758-1802) in Burlington County near the Pine Barrens. Others relied upon the protective isolation of the mountains on the border of New Jersey and New York.

At this time New Jersey was also home to enslaved people, some Native but predominantly individuals of African heritage. Those able to escape slavery also sought safety in the wilds of the Ramapo Mountains, where they were joined by free Blacks. These newcomers to the Ramapo Mountains were first mentioned in 1771, with documentation of "Negro Guy's Improvements," and in mapmaker Robert Erskine's survey from 1778 which recorded "Negro Pond" (Sessions, 1985 p.11). While free Blacks had enjoyed some measure of independence and

economic success, a number of laws began to restrict this. For example, a 1798 New Jersey law severely limited their rights to cross county and state boundaries. "Small wonder that some families chose the relative isolation and freedom of the Ramapos over the increasing discrimination in the more populated lowland areas" (Ibid., p.12). Some settled with the Munsee and Lenape who remained in northern New Jersey. Over the subsequent generations, the Native, African American and White inhabitants of the Ramapo Mountains intermingled, with the unifying community hallmark of cultural adherence to their Lenape identity.

Documenting and interpreting Native American history is riddled with several challenges. There is archeological evidence, but this involves a light footprint on the land. In New Jersey this includes rock shelters, sacred landscapes and their interconnected stories, fish weirs, and shell mounds. The many oral traditions are harder to document, and can become subject to various interpretations, some of which have been used to discount the Native American origins of the Ramapough people. Written evidence must be examined carefully since its production is entwined with colonial perspectives. Histories written in the Colonial and early Federal period have given us limited and deeply flawed information about Native American pasts. But, we might also question the terms "past" and "present." Nick Estes, American Studies scholar and citizen of the Lower Brule Sioux Tribe, raises the question:

"How does one relate to the past? Settler narratives use a linear conception of time to distance themselves from the horrific crimes committed against Indigenous peoples and the land...But Indigenous notions of time consider the present to be structured entirely by our past and by our ancestors. There is no separation between past and present, meaning than an alternative future is also determined by our understanding of our past. Our history is the future" (Estes, 2019 p.14).



## NATIVE AMERICAN LAND

In order to understand the political and cultural relationship of Native Americans to land we must look at the long history of land sovereignty in relation to federal policies. Many have heard about US government removal policies of the 1800s and of Andrew Jackson's famous statement as he passed the 1830 Indian Removal Act, "What good man would prefer a country covered with forests and ranged by a few thousand savages to our extensive Republic...?"

***"Land has always been a defining element of Aboriginal culture. Land contains the languages, the stories, and the histories of a people. It provides water, air, shelter, and food. Land participates in the ceremonies and the songs. And land is home."***

***- Thomas King, Indigenous author***

In high school many probably heard about the Trail of Tears, and perhaps even of the 1887 General Allotment Act, which authorized the President (then Grover Cleveland) to survey reserved Indian land and divide the area into allotments for individual Indians and families. Plot sizes varied from 40 to 160 acres in size, and "excess" land, exceeding the amount needed for allotment to all tribal members, could be sold by the federal government to non-Indian settlers. 60 million acres were either ceded or sold off as "surplus lands." But Indians allotted land were not really landowners, since they were deemed "incompetent" to manage their own land, which would instead be held in trust by the United States government. Ownership would transfer to individuals only after a 25-year period. John Oberly, the commissioner of Indian Affairs in 1886, had written that the Indian "must be imbued with the exalting egoism of American civilization so that he will say 'I

instead of 'We,' and 'This is mine' instead of 'This is ours'" (Treuer, 2019 p.144).

The result of this policy was a dramatic loss of land: from 138 million acres in 1887 to only 48 million acres when allotment ended in 1934 (Treuer, 2019 p.150). One reason for this plunge is that many Indians sold their land because they were unable to farm the land in the manner intended by the US government. No training or equipment was provided, and more importantly, intensive agriculture was not the tradition amongst many Native communities, and allotment contributed to a loss of previous livelihoods and means of survival. According to Senator Henry L. Dawes, the chief architect of this new policy, the idea was for Indians to "wear civilized clothes...cultivate the ground, live in houses, ride in Studebacker wagons, send children to school, drink whiskey [and] own property" (Treuer, 2019 p.113).

Few classes or teachers would have gone on to describe the land that was later lost to dam and reservoir projects, initially as authorized by the Pick-Sloan Flood Control Act of 1944 for the Missouri River. The Army Core of Engineers ignored treaties, acquired land through eminent domain, and flooded tribal lands, resulting in the loss of 155,000 acres of Indian farmland and forced relocation of families. The resultant flooding required one-third of the population from five reservations to relocate. It resulted in the destruction of 75% of wildlife and plants and 90% of commercial timber production on these reservation lands. "By design, the Pick-Sloan Plan was a destroyer of nations" (Estes, 2019 p.152).

Even less well known are government policies from the 1950s that called for termination and relocation of tribal populations. The 1953 House Concurrent Resolution 108 (HCR-108) declared the intent of the United States to abrogate all treaties that it had made with Native people and abolish federal supervision over tribes, calling for the immediate termination of several tribes. Passed at the same time, Public Law 280 transferred jurisdiction from the federal government to several

state governments, giving them extensive authority over tribal lands. By the time the policy ended in 1966, 109 tribes had been terminated, and one million more acres of Indian land had been lost.

The 1956 Indian Relocation Act “encouraged” native people to leave reservations and head for the cities. This took the form of the dissolution of federal recognition and the ending of federal funding for schools, hospitals, and basic services on reservations from the 1953 acts. The federal government paid for relocation expenses to cities and provided some vocational training for those who made the move, but many became isolated from their communities and previous systems of support.

The social activism of the 1960s witnessed the birth of the American Indian Movement (AIM) and renewed efforts to bring attention to land claims with actions such as the takeover of Alcatraz Island in 1969 and the Trail of Broken Treaties Caravan in 1972. More recent years have seen the birth of the Idle No More Movement, which began in Canada in 2013 as a response to Bill C-45, which made changes to the Indian Act, eroded treaties, and removed environmental protections. There have been related protests in Canada and the United States, as well as a number of other countries.

The Ramapough, like many other Native groups in the Eastern United States where tribal groups were either driven away, massacred, or went into hiding, do not have federal recognition from the BIA or access to any of the associated benefits. This lack of federal recognition has hampered legal and social rights afforded to federally recognized groups, such as the Delaware Tribe and Delaware Nation in Oklahoma, or the Stockbridge-Munsee of Wisconsin; each group having roots in Lenapehoking.

We need to understand the historic roots of why Native American cultural practices went underground, and why communities like the Ramapough have

exhibited less obvious markers of identity in recent centuries. This dates back to 1883 when the BIA created the Court of Indian Offenses, which tried offenses to “civilization regulations.” Offenses included ceremonial dances, large feasts that were not organized by the church, men wearing long hair, Indigenous funerary rites, and a host of other practices traditional in Native Life. These regulations were only repealed in 1935 (Estes, 2019 p.117).

## **ENVIRONMENTAL JUSTICE & NATIVE AMERICAN COMMUNITIES**

Environmental Justice is a term that was first used in 1982 when activists in Warren County, North Carolina, a predominantly African American community, protested the construction of a hazardous waste dump in their neighborhood. Several studies have outlined the connection between environmental contamination and race. A 1983 study by the US General Accounting Office and a 1987 national study by the United Church of Christ Commission for Racial Justice concluded that race was a strong predictor of the location of hazardous waste facilities. One study found that the percentage of racial minorities living near incinerators was 89% higher than the national median (Rothstein, 2017 pp.54-55). A report issued by the EPA in 1991 confirmed that a disproportionate amount of toxic waste facilities were found in African American communities around the nation.

As of 2017, Native American communities lived near approximately 600 of 1,338 Superfund sites across the country (2017 figures from Hoover, 2017 p.8). Traci Voyles points to a particular facet of the connection between contamination and race in the case of Native Americans, whereby “even the phrase ‘environmental racism’ can seem to lose the whole meaning in a tribal context, simply because ‘racism’ has always meant environmental violence for native peoples” (Voyles, 2015 p.23).

This environmental violence is intertwined with the early history of the United States, involving the despoilment of environments that Indigenous people relied on for

survival, in the most basic sense, for food and water. One of the earliest such acts was the extermination of tens of millions of buffalo from 1865 to 1883, to eliminate a primary food source and stamp out the resistance of the Plains nations. In more recent decades, food sources have been destroyed through contamination. Just one example can be seen in the experience of the Akwesasne Mohawk community living near two New York state-mandated Superfund sites. Located at the confluence of several rivers, for generations this community had relied on abundant fish and gardens that could be planted in the rich alluvial soils. A fish advisory was put in to place, disrupting these traditional economies.

***“For Native people, pollution problems also result in lost relationships with the natural world, something that can only be likened to mourning. The people actually mourn the loss of the natural world...The loss of place, relationships and balance can be culturally devastating.”***

***- Akwesasne Environment Research Advisory Committee***

Concerns about contamination led residents to stop fishing and abandon their gardens. While these measures helped to prevent further PCB exposure, the people lost sources of good, healthy food, and had to rely more on commercially available groceries. This exacerbated health problems such as diabetes and cardiovascular disease. For Elizabeth Hoover the impacts of contamination are compounded for many native communities: “Because of subsistence lifestyles, spiritual practices, and other cultural behaviors, Indigenous people often suffer multiple exposures from resource use that result in environmental health impacts disproportionate to those seen in the general population” (Hoover, 2017 p.12).

The example of the construction of the Dakota Access Pipeline highlights

disregard for considering environmental protection on Native lands, in violation of treaty rights. The Army Core of Engineers uses a process called Nationwide Permit 12 to permit large oil pipelines, meaning that a large-scale, multi-state project is only assessed on a piece-by-piece basis. The cumulative impact of a proposed pipeline on water quality or plant and animal species does not need to be reviewed. This fast-tracking approach allows companies to bypass stricter federal reviews under the Clean Water Act, National Environmental Policy Act, or the Endangered Species Act. The Native American-led protests of the #NoDAPL movement have brought increased scrutiny to Nationwide Permit 12, a mechanism that previously drew little attention (Estes, 2019 pp. 42-43).



**ARTIFACTS OF AN UNWANTED IDENTITY**

*The Ramapough in Ringwood have come to be identified with unasked for artifacts.*

## TIMELINE NATIVE AMERICAN LAND, LAWS & POLICIES

### 1830 Indian Removal Act

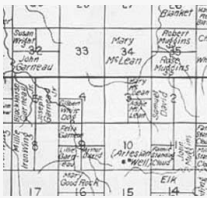
"What good man would prefer a country covered with forests and ranged by a few thousand savages to our extensive Republic, studded with cities, town, and prosperous farms, embellished with all the improvements which art can devise or industry execute, occupied by more than 12,000,000 happy people, and filled with all the blessings of liberty, civilization, and religion?" - Andrew Jackson

### 1879 Richard Pratt opens the Carlisle Industrial Indian School in Pennsylvania

"Kill the Indian in him, and save the man."  
"He is born a blank, like the rest of us. We make our greatest mistake in feeding our civilization to the Indians instead of feeding the Indians to our civilization."



### 1887 General Allotment Act / Dawes Act



The Act authorized the president to survey Indian land and divide the area into allotments for individual Indians and families. The land sizes varied from 40 to 160 acres in size, and "excess" land could be sold by the federal government to non-Indian settlers. 60 million acres were either ceded or sold off as "surplus lands."

### 1934 Indian Reorganization Act (IRA) / Wheeler-Howard Act

In many ways, this legislation was a departure from previous programs and represented a positive shift in government thinking. It ended the official policy of allotment and allowed a small percentage of the "surplus lands" that had been lost to be returned to tribes.

### 1953 House Concurrent Resolution 108 (HCR-108) & Public Law 280

HCR 108 declared the intent of the United States to abrogate all treaties that it had made with native people and abolish federal supervision over tribes. The resolution called for the immediate termination of several tribes. At the same time, public Law 280 allowed a number of states to assume control of Indian Reservations. Before the policy was officially ended in 1966, 109 tribes had been terminated and another million acres of Indian land was lost.

### 1956 Indian Relocation Act

Relocation "encouraged" native people to leave reservations and head for the cities.



### 1968 Indian Civil Rights Act

### 1968 The American Indian Movement (AIM) is formed

### 1975 Indian Self Determination and Education Act

"The Congress declares its commitment...through the establishment of a meaningful Indian self-determination policy which will permit an orderly transition from Federal domination of programs for and services to Indians to effective and meaningful participation by the Indian people in the planning, conduct and administration of these programs and services..."

### 1978 American Indian Religious Act

### 1983 Indian Land Consolidation Act

### 1988 Indian Gaming Regulatory Act (IGRA)

IGRA established the National Indian Gaming Commission

### 1990 Indian Arts and Crafts Act

Native artists cannot call themselves by their tribal affiliation unless they are official members of the tribe. To do so is to risk fines of up to \$250,000.

### 1990 Native American Graves Protection and Repatriation Act (NAGPRA)

NAGPRA requires federal agencies and institutions receiving federal funding to return cultural materials and human remains to Native American tribes.



## TIMELINE INDUSTRIAL HISTORY IN RINGWOOD, NJ

**1764** Peter Hasenclever purchases the Ringwood Ironworks estate

**1807** Martin Ryerson purchases Canon Mine

"The men in the mines wore high leather boots which cost about \$3 and lasted about a year of rough, wet wear. It was not uncommon for the miners to stand knee-deep in water when the pumps failed to clear the mine floor. The remainder of the clothing worn by most miners, even in winter, consisted of an undershirt with the sleeves cut out and a pair of overalls. The temperature rarely changed below the frost line and most men washed, and changed their clothing in the engine house before going home" (Ransom, 2011 p.227).

**1853** Hewitt (Trenton Iron Company) purchases the mines for Peter Cooper

The amount of ore that had been mined on this property prior to this date is estimated at between 300,000 to 500,000 tons, and much more remained in the ground.

"None of the ponds in front of the manor house were in existence when the Hewitts moved to Ringwood...The large pond, now in front of the house, was created about 1895...The first building along this dirt road was the old country store, the center of attraction in the community for more than a hundred years...a row of workmen's wooden houses and some log huts stood, but these were cleared away by Mrs. Hewitt's orders after she arrived at Ringwood"(Ibid., pp. 59-60).

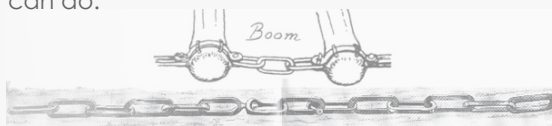


**1861** Civil War Begins

In late 1861 an order arrived for gun carriages to support mortars:

"I am told that you can do things which other men declare to be impossible. General Grant is at Cairo, ready to start on his movement to capture Fort Henry and Fort Donelson. He has the necessary troops and equipment, including thirty mortars, but the mortar-beds are lacking. The Chief of Ordnance informs me that nine months will be required to build the mortar-beds, which must be very heavy in order to carry 13-inch mortars now used for the first time. I appeal to you to have these mortar-beds built within 30 days, because otherwise the waters will fall and the expedition cannot proceed. Telegraph what you can do."

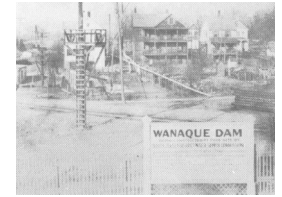
- A.Lincoln



**1900** Peters Mine actively worked until it was abandoned in 1931

**1900-** The Wanaque Reservoir is created  
**1920**

The Wanaque River was dammed to create the 6-mile long reservoir. The town of Boardsville was flooded and several cemeteries were removed.



**1915** Steel and concrete hoisting tower was erected at Canon Mine



**1942** The Defense Plant Corporation bought the Mines

Thinking that iron ore could play a valuable role in World War II. The Allan Wood Steel Company was given a contract to dewater and recondition the Peters and Cannon Mines. Old buildings from the time of the Hewitts were razed and new buildings were erected. "On September 8, 1944, the government superintendent at the mine revealed that there were 17 levels in the mine, that the shaft went down 2,400 feet on an incline, and that the bottom of the mine was then 1,800 feet below ground. Originally there was only one double track. The shaft had to be widened to accommodate an additional one..." (Ibid., p.263).

**1945** The mines were transferred to the War Assets Administration

**1955** The government seized the property from Ringwood Iron Mines, Inc.

The Borough of Ringwood later foreclosed Ringwood Iron Mines due to back taxes owed. "At one time the mine was considered for use as a storage warehouse, the ninth level consisting of a cavern that could provide as much as 14,000 square feet, with 1000 feet of solid protection overhead" (Ibid., p.268).

**1958** Pittsburgh Pacific Company purchases mines at auction

"Thus far, the new owner has not operated the mines and its only source of income has been limited to the rent on some 60-odd dwellings. Just what the future has in store for the old Colonial mines and its works is not known..." [written in 1966] (Ibid., p.66).

## TOLD

There are many great names connected to Ringwood. The Cooper Hewitt dynasty has roots here. Abraham Lincoln wrote a personal telegram requesting the production of weapons from the mines for General Grant. Robert Erskine, a surveyor under General George Washington during the Revolutionary War, operated the Ringwood Ironworks and manufactured a boom for the Hudson River. There were other leaders here as well, such as sachems [chiefs] Taphow and Manis (the Mann family are his descendants). William Bond's 1710 map of the Ramapo Tract documents the presence of Native people in the area. Yet, like the longhouses depicted on the map, many of the sites important to them have been erased or superimposed with more dominant structures, like the sacred rock that became the insipid centerpiece of Indian Rock Shopping Center in Montebello, New York (depicted on page 26). Narratives are superimposed as well, and we come to know the stories that are more often documented and told. Much oral history remains unrecorded, and, more significantly, Native American stories are meant to be flexible and to change with each telling.

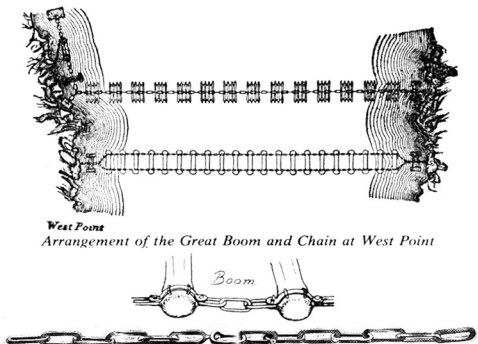
"The stories of the Ramapough represent the changing nature of traditional tales and the difficulty faced by the folklore and ethnological community in their attempt to track credible cultural roots; this is an oral tradition that defies a particular time or place...Oral tradition is a living embodiment of story, as the native teller would say on completion of a story, 'I am done with that, now it is yours to tell.' The telling and re-telling keeps the story alive and a living story changes as we do."

- Chuck Stead (2015 p.183).

- 1 Robert Erskine served as surveyor under General George Washington during the Revolutionary War. He operated the Ringwood Iron Works and they became important suppliers of iron products to the Continental Army including a boom made for the Hudson River to stop British Ships.
- 2 Peter Hasenclever purchased the Ringwood Ironworks Estate on in 1764. He built the Long Pond Ironworks in 1766 and opened a total of fifty-three mines in the surrounding area over his years in business.  
*(Image from Ransom, 2011 p.16)*
- 3 Abram Hewitt built the present Ringwood Manor on the site of the first manor that was built for Hasenclever. In 1938, the house, including its contents, and the property were donated by the Hewitt family to the State of New Jersey to serve as a museum and a state park.
- 4 Peters Mine was the longest running mine of the group of Ringwood Mines. It was first worked in the 1740s and was operated until 1954. During World War II the Peters Mine ore processing plant replaced the old processing plant buildings.  
*(Image: Peters Iron Mine, Ringwood Boro, Passaic County, by Meredith E. Johnson, September 1947)*
- 5 Peter Cooper purchased the Ringwood Iron Works in 1853. Abram Hewitt served as the secretary and business manager for Peter Cooper, and married his daughter Amelia.
- 6 Ford Motor Company ran the nearby plant in Mahwah, NJ from 1955 to 1980, providing jobs for many Ringwood residents. The plant was the largest of its kind in the nation during its years of production.  
*(Photograph of "Aerial view of the plant nearing completion" from O'Brien, 2010 p.25)*

NEW YORK  
NEW JERSEY

1



2



3

**RINGWOOD MANOR FORGES**  
 Here during the Revolution, were made cannon and shot for the Continental Army. Washington and Greene were quartered at the Manor, home of Robert Erskine, Geographer of the Army. Here began the march of 5000 soldiers to Yorktown.

HEWITT  
2 1/2 M.S.

PETER

COOPER X

RINGWOOD

MANOR HOUSE

INDIAN FARM  
Drink Brook

FURNACE SITE

6



4



LONG POND  
IRONWORKS  
FURNACES

Beek Brook

Warsque

CANNON-NEW LONDON

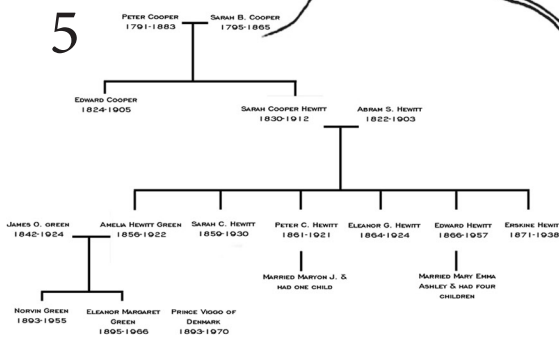
RINGWOOD

Mane Pond

ERIE R.R.

HEWITT  
COOPER-HEWITT FAMILY

5



1000 0 1000



## UNTOLD

Native Americans are often pictured as beings from the past, historical figures with a static culture. Common representations have frozen interpretations of who "real Indians" are, what they look like, and how they live. As Thomas King puts it, "North America no longer sees Indians. What it sees are war bonnets, beaded shirts, fringed deerskin dresses, loincloths, headbands, feathered lances, tomahawks, moccasins, face paint, and bone chokers" (King, 2012 p.54). He claims that Indians are imagined as romantic figures from a distant past; "all of them doomed, dying, or dead." Today they are largely forgotten, living on reservations and popping up occasionally at cultural festivals and street fairs. "Dead Indians are dignified, noble, silent, suitably garbed. And dead. Live Indians are invisible, unruly, disappointing. And breathing. One is a romantic reminder of a heroic but fictional past. The other is simply an unpleasant, contemporary surprise" (King, 2012 p.66).

Perhaps this is why the Native American roots and heritage of the Ramapough have been difficult for some people to recognize, along with their continuing presence and role as agents of American history. They worked in the iron mines that produced crucial war goods for the Revolutionary and Civil Wars. Centuries later, their ancestors worked in the Ford production plant in Mahwah. The Ramapough, Keepers of the Pass, were there the whole time: working, living, building, tending, and creating. Their names are not celebrated, their portraits do not hang in Ringwood Manor, and their heritage is questioned by those ignorant of history. Still, as Chief Vincent Mann puts it: "We are the fabric of this country. There are stories that have to be told."

"To the metropolitan mind, the indigenous people of the Ramapos just did not belong there. Certainly there was no place for them in the park, a neatly rationalized landscape where regeneration, not degeneration, was the leitmotif. The Ramapo natives were in nature the wrong way because they were in history the wrong way. They "belonged" to the past, the same way that abandoned iron mines, charcoal pits, redoubt ruins, and old logging roads did. These landscape features, inanimate and mute, added vital texture to the region's primeval atmosphere. The holdouts against modernity, animate and vocal, disrupted that texture and that atmosphere."

- Kevin Dann (1956 p.143).

- 1 Painting named "Ramapo Mountain Man" depicting John Van Dunk.  
*(Painting by Barbra Van Der Sluys, in Lenik, 2011)*
- 2 Abram Hewitt had the current Ringwood Manor built, in part, by Ramapough Indians.
- 3 Workers at the Furnaces of the Ringwood Iron Works including many Ramapough Native Americans. *(Image adapted from "Diagram of a Furnace" from Ransom, 2011 p.8)*
- 4 Many Ramapough Native Americans worked at the Ford plant in nearby Mahwah, NJ during its years of production. Ford Motor Company used land owned by the Borough of Ringwood as a dumping site for the plant's toxic waste from 1967 to 1971. The land that was dumped on was home to the Ramapough.
- 5 Miners at Peters Mine circa 1925. Much of the work force at the Ringwood Iron Works during this time included local Ramapough. *(Image from Ransom, 2011 p.261)*
- 6 List of names of Ramapo Mountain People on the payroll for the Ringwood Furnace in 1869. *(Table from Cohen, 1964 p.55)*



6

RAMAPO MOUNTAIN PEOPLE ON THE PAYROLL  
FOR THE RINGWOOD FURNACE,  
NOVEMBER 30, 1869

Name	Furnace	Coal Job	Teams	Store Trade
Moses De Groat	\$45.00	.....	.....	\$52.10
Richard De Groat	.....	.....	\$13.50	8.63
Samuel Milligan	.....	\$ 7.05	.....	7.05
John Morgan	77.50	.....	.....	66.19
Samuel Degroat	37.50	.....	.....	23.43
John De Groat	.....	27.85	.....	21.68
George Degroat	.....	17.18	.....	17.18
Moses Defrease	.....	47.69	.....	47.69
William Morgan	.....	47.65	.....	47.26
Peter Suffern	56.52	.....	.....	56.52
George Suffern	46.88	.....	.....	42.37
William Suffern	.....	14.74	.....	14.74
Edward Suffern	29.00	.....	.....	18.00
Martin Suffern	.....	32.29	.....	32.29
Thomas Dunk	.....	97.27	.....	97.86
Elias Dunk	34.37	.....	.....	17.18
Samuel Dunk	.....	.....	37.50	89.15

NEW YORK  
NEW JERSEY

1

2

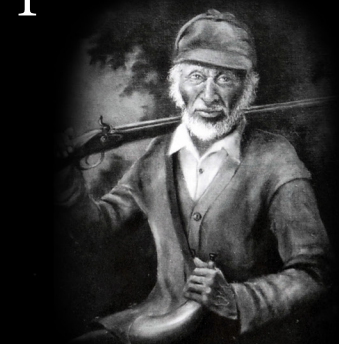
HEWITT  
2 1/2 M.S.

RINGWOOD

3

4

5



LONG POND  
IRONWORKS  
FURNACES

HEWITT

CANNON-NEW LONDON

RINGWOOD

ERIE R.R.

1000 0 1000



PETER  
COOPER X

MANOR HOUSE

INDIAN FARM  
Drink Brook

FURNACE SITE

Salter's Pond

Mill Pond

Shaft

Mane Pond

Beet Brook

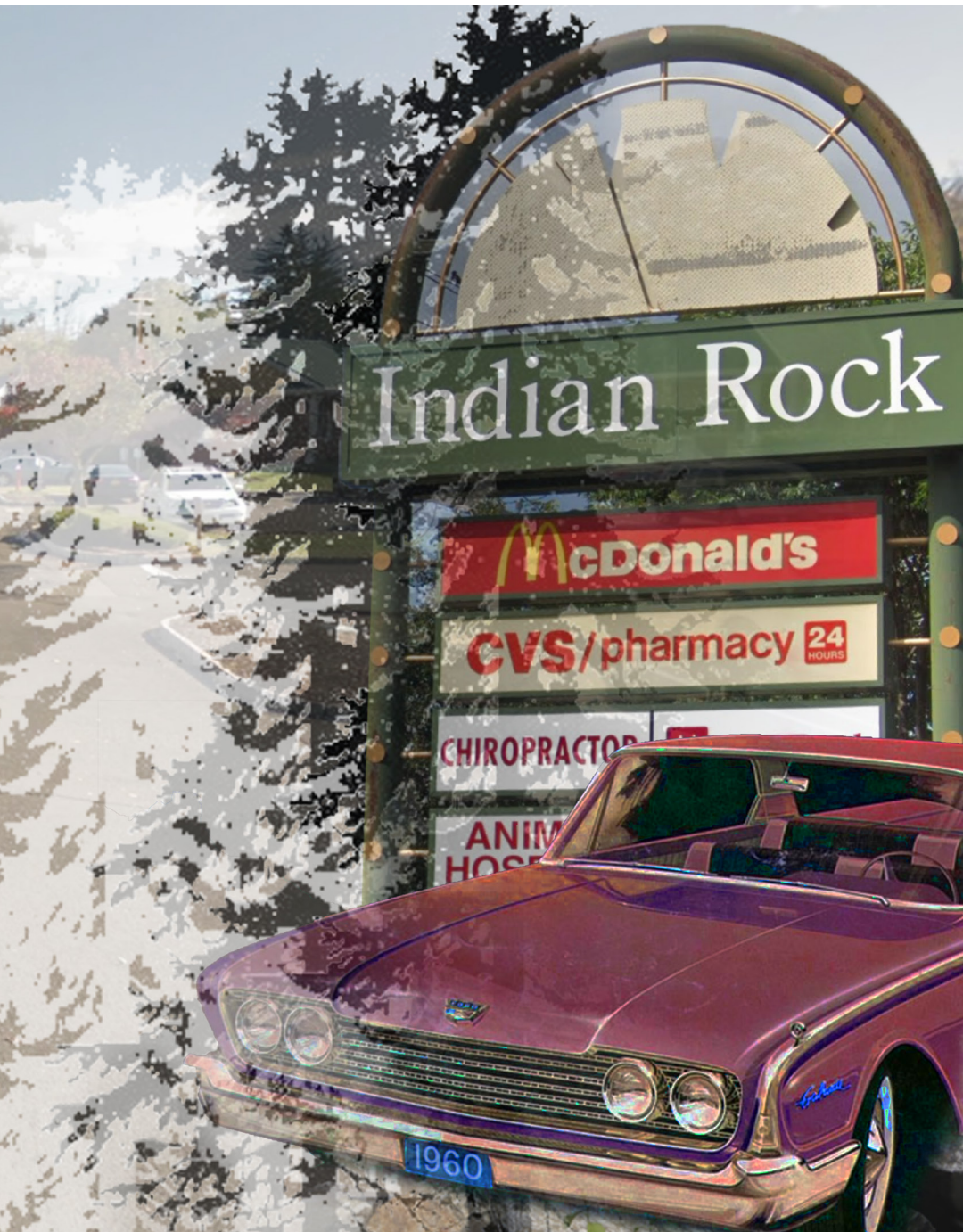
Wanaque

Mill Pond

Shaft

Mane Pond





## THE STORY OF SPOOK ROCK & STOLEN NARRATIVES

This place, this Rock lives it breathes and it speaks. Go there on a cold night and listen. Owl lives in White Pine and speaks and Pine speaks, Wind whispers, they talk, Rock mostly listens. Sometimes, sometimes Rock speaks.

This was a meeting place, a sacred place, now it's an intersection for cars. The hole in the rock that once spoke is filled with concrete so the wind can no longer move there but go there, if you like.  
That's all.

*Above is the Story of Spook Rock, as recounted by Chief Otto Mann to Chuck Stead in 1980. Shown here is Indian Rock, now located in the parking lot of the Indian Rock Shopping Center in Montebello, New York. "Indian Rock has three overhanging areas that could have provided shelter for Indians in pre- and post-Historic Contact times...I believe that Indian Rock was once viewed as a majestic block of granite that was awe inspiring and imbued with spiritual power" (Lenik, 2011 p.170).*



## DISCOVERING SIGNS OF PAINT DUMPING

by CHUCK STEAD

As a child, I attended a private Catholic school by day, then, stripped of my formal costume, I was a 19th century trapper. While my focus was on reading the forest, tracking wildlife, and watching for changes in the landscape, I also made note of any new activities in the sand quarries. After school, I entered the trap line usually covering the most heavily wooded stretch first. Cutting through a little ravine, called Crows Nest, I hiked the eastern wall of the valley until I reached Candle Brook, from there I turned south close to Torne Valley Road. It was often dark by the time I came down. In the morning, I went out in the dark and reversed the trek, so that I came down through the rough terrain by the early light of day.

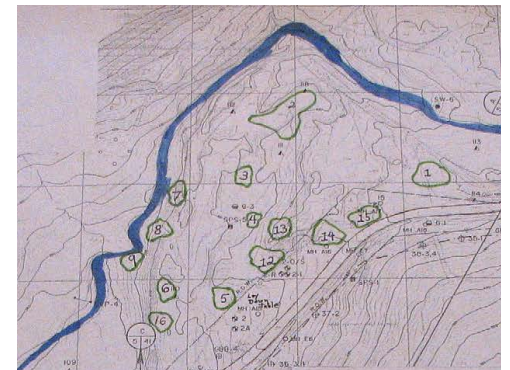
It was during that first year in the valley that I discovered signs of paint dumping. Late on a Saturday, I had decided to walk up the Valley Road instead of down. Having just come around the bend beyond the gate, I found two pickup trucks parked along the right side of the road. There was a cleared area behind the trucks up off the road, some saplings had been pushed over and the earth was torn up. The trucks were loaded with fifty-five gallon drums covered over with a heavy painter's canvas. I put down my trappers pack and climbed into the first pickup, a Ford F150, and found the keys were in the ignition. Thrilled, I was tempted to turn the key but then realized this could mean the owner was near at hand so I slid out. Before leaving, I explored the source of a thick turpentine-like odor and found that it came from the barrels. I climbed up on the back of the bed and was about to look under the tarp, but the smell got to me and caused my eyes to water, so I jumped down. After making the full loop, I returned to the spot where both trucks were parked as before as if waiting for something. I made a note of this in my journal but didn't bother to sketch them; it was dark and I didn't feel confident drawing vehicles. I carried a notebook of one sort or another with me most of the time, although I was not consistent in how I logged into them: sometimes like a diary, sometimes very dry lists of things, and on occasion I sketched along the trap line.

The first time I actually sketched what could be seen as a record of dumping activities was in late fall of 1965 when I found a back hoe in the evening at Middle Pit. It was next to a freshly dug trench about two and a half feet wide and a good four feet deep. The ground all around was rock hard from freezing, but the trench still had water across its base. There were two or three steel drums empty but I could smell that syrupy sweet, acidic odor from them. I drew the scene including the back hoe, a couple of the drums, and the trench. This was on a weekday evening with the cold dark night closing in. The next morning, I came around the north side of the Middle Pit and the first thing I noticed was the back hoe tractor had been moved. I saw that the trench was filled in with dirt spread around making it difficult to know where the trench had been. Later that day, I stopped by the paint shop to tell Uncle Mal about the quarry crew working at night. He shook his head and told me

they weren't quarrying at night, they were burying Ford paint up there. It was that common. A good many folks knew paint was being dumped and buried.

I have long been involved in studying the pollution sites of Ford Motor Company's lead paint dumping in the New York/New Jersey area. By 2005, I started investigating portions of the Torne Valley indicated in my trapper's journal from the 1960s. Working with my undergraduate student interns from Ramapo College of Mahwah, New Jersey, I mapped out locations of paint dumping and ran tests to measure depth and condition of the hardened sludge. This was arduous work often done in the winter, but we managed to draw the Department of Environmental Conservation (DEC) and the Town of Ramapo back into council over this threat to the watershed. Over the next two years the Town negotiated with the Land Company to purchase a thirteen acre tract of land that included the paint sludge sites my students and I were studying. By 2007, while the two parties neared an agreement, Ford sent their remediation agency, Arcadis, into the Torne Valley to remove sludge we had documented in the flow of the Torne Brook. This was the first sludge to be dealt with by Ford in the Torne Valley. My students continued to examine the area and eventually they drew up a map indicating sixteen dump sites of various depositions. We rebuilt an historic Saltbox structure near one of Ford's dump sites in Ramapo to house our activities and continue public education with the Ramapo Saltbox Environmental Research Center. From 2007, when a Ford representative stated unequivocally that Ford would in all likelihood do little work in Torne Valley, to 2011 when Ford representatives entered into negotiation with Town of Ramapo for a clean-up, the former Town Supervisor Christopher St. Lawrence was an important supporter of the Saltbox and the clean-up. Since 2011, many locals have visited the Saltbox to reminisce about their grandparents' years at the Iron Works and share their own account of paint dumping in the Torne Valley.

The building had come to embody a safe haven, a place of healing and recovery. Unfortunately the story does not end there. Supervisor St. Lawrence was later indicted for securities fraud, and leadership of the town changed in mid-2017. The new administration has threatened the future of the Saltbox as well as the completion of the Ford cleanup. I asked them why they would stop a remediation program that cost the Town nothing (Ford had by that time spent well in excess of thirty-five million and counting) and was told by the Town's Purchasing Agent that the clean-up was non-sense and that the lead paint was in no way a threat to our drinking water. In closing, I can only say that this turn of events indicates the danger when authoritarian forces take control of a democratic mechanism. It will be a great shame if the Saltbox, a liberating structure that has been the focus of good progressive environmental and social achievement, is torn down; but it would be a far greater problem if the remedial work in the watershed is allowed to be destroyed.





## PROCESS & METHODOLOGY

by EDWIN GANO

I first learned about Ringwood as a student in the 'Marking Environmental Losses' design studio class in the Department of Landscape Architecture at Rutgers University. The studio began with a series of shorter exercises that introduced students to the idea of memorials and how we might translate visceral emotions into something as tangible as design. A series of guests were invited to come to our studio space in order to give feedback and introduce students to different methods, techniques, and perspectives. Each came from a different background and field of work in order to expose the students to the wide breadth of possibilities. After the students "got their feet wet," they began getting acquainted with the Ringwood Mines Superfund Site, the main focus of our work.

Since most of the students had grown up in New Jersey, many had already heard of the situation in Ringwood. However, many of us knew little about the side of the story of our biggest partners in this studio, the Turtle Clan of the Ramapough Lunaape. The class watched the HBO documentary, *Mann v Ford*, which provides insight on how Ford Motor's dumping of paint sludge in the upper Ringwood Mines and forests affected more than just the wildlife and environment, but also the Ramapough Native Americans. Experts on the situation were brought in to share their experiences and knowledge. These included Dr. Chuck Stead, a lecturer at Ramapo College and environmental specialist for the Ramapo Saltbox Environmental Research Center, and Jan Barry, a former environmental journalist for *The Record* who broke stories on the Ford dumping and led the coverage series, "Toxic Legacy." Our partners shared both factual information as well as more personal stories of how they were affected by this history of contamination.

The class welcomed Chief Vincent Mann, the leader of the Turtle Clan of the Ramapough. Being able to speak with the Ramapough was important for the class in order to understand their viewpoint and hear it straight from the source. Watching movies and hearing secondhand accounts was beneficial, but this type of education was different. Chief Mann shared his personal stories with the class, and provided knowledge on the situation and clean up process that would be useful to know moving forward. However, the students were also learning on an emotional plane. It can be difficult coming from a place as stringent as academia to step into a culture foreign to yours. Hearing the range of emotions in his words helped the students understand where he believes his people are, where they have been, and where they are going.

The class recognized the importance of hearing both sides of the story and did reach out to NJDEP and EPA, however they declined to comment.

The class obtained and read documents and reports from various sources, including the EPA, to learn more about the science of site-specific contamination and the measures being taken to clean it up. We were tasked with translating the technical language of the reports into graphics that could be more easily digested by the average person. Because most of the historic records were created from the colonial viewpoint, we also read books on mining history and dissected historic maps found in books and online.

When the class visited Ringwood, we were greeted by Ramapough Lunaape community members and Chuck Stead. The class took this opportunity to listen to more stories from the community, and take photos of the local flora and fauna. Aerial photographs were captured of the landscape at the large-scale, and an unmanned aerial vehicle was used to survey areas that were too dangerous to approach closer. The students were able to meet residents who have lived in Upper Ringwood since they were kids. This included Vivian Milligan, a clan elder who shared many stories with the students. We visited Peters Mine Road, Cannon Mine Road, the Wanaque Reservoir, and the community ball field near Ringwood Manor.

***“You all need to have the vision of my eyes to tell the story. This, right here, should change and affect you for the rest of your life.”***

***- Chief Vincent Mann, Ramapough Turtle Clan***

After the site visit, the students were tasked with documenting their findings before presenting their work to community members in another site visit a few months later. We developed memorial design proposals that explored how this history could be communicated to visitors, while also creating places for the community that could support living practices and ecosystems. You will see examples of these memorial designs at the end of each chapter.



## DEEP MAPPING OF RINGWOOD

ERIKA SCHELLINCK

FOCUS: historical layers.

*These design studies by landscape architecture students, shown in each section of the book, present a range of ideas for creating memorials to mark the environmental losses experienced at Ringwood.*

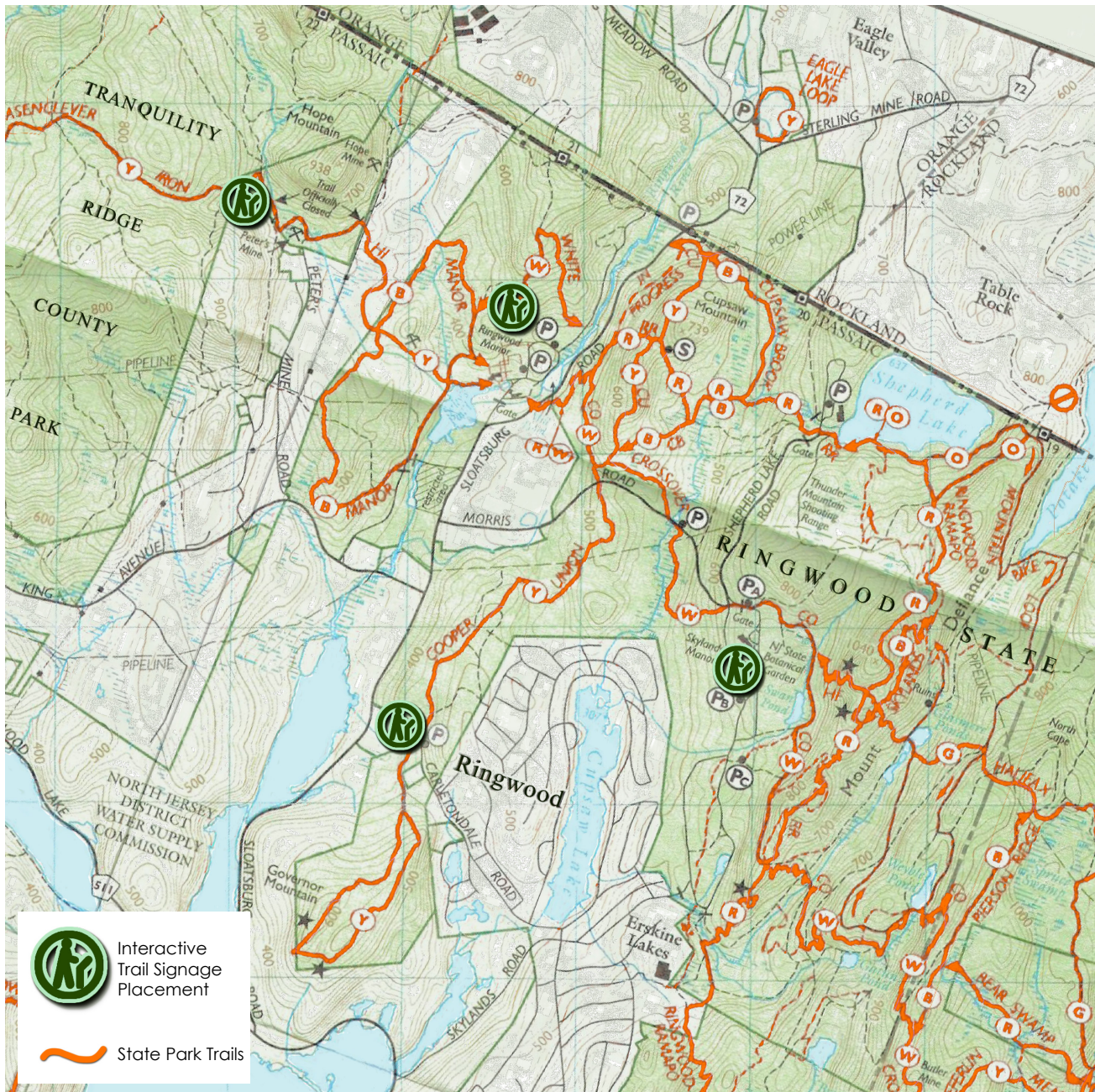
Ringwood, New Jersey is known for its beautiful state parkland, its water resources, and its mining history. Mining for iron in Ringwood began in the 1740s, and continued through the 1950s, providing employment for many Ramapough. Ford used land that is home to the Ramapough as a dumping ground for toxic material in the form of paint sludge and other waste. The Ramapough have had a substantial role in the shaping of American history, yet many of their accomplishments have remained unrecognized.

The technique of deep mapping is used to represent Ringwood as a complex and layered place, rather than as an abstracted space. The vast majority of visitors to Ringwood State Park and other nearby destinations remain unaware of the issues the residents are still facing. In order to spread awareness and encourage understanding of the issues, state park maps must show more than just one flattened layer. The proposal for multi-layered, interactive trail maps will intrigue visitors to the state park trails to learn more about the place they are spending time in or living near. Many will be fascinated to discover that issues at Ringwood affect more than just the Ringwood population. The maps will also include personal accounts such as quotes from the Ramapough, making the experience of exploring the map more personal and relatable.

Experiences, memories, and ideas are a part of the history that is tied to the physical places that make up Ringwood. The interactive trail maps will portray historical timelines, while also telling the stories of Ringwood residents. An associated website will allow visitors to post about their own experiences at Ringwood, adding to the collection of documented memories and experiences, and resulting in a better understanding of a place that many are connected to.









**COMMUNITY**

## COMMUNITY

The people of Upper Ringwood have maintained strong connections to family, place, and community over numerous generations, with many preferring not to leave or move elsewhere, but to stay in this place of connection. People profess to feeling like a large family, long-rooted in this beautiful landscape.

The people who have lived in the Ramapo Mountains for centuries have been referred to by several names including the Ramapough Mountain Indians, the Ramapo Mountain People, as well as other less civil names. They call themselves the Ramapough Lunape Nation, and their ancestors lived in the region long before the arrival of European settlers. Many outsiders reject their claims to Native American heritage, perhaps because they do not fit the stereotypical image of what Indians are supposed to look and act like, and some in the region even refer to them with derogatory slurs. Fearing competition for his casinos in New Jersey, in 1993 Donald Trump questioned their ethnicity in an aggressive media campaign related to the Indian Gaming Regulatory Act (IGRA). Some scholarly accounts, such as the study by folklorist David Cohen, deny the native heritage of this community, claiming instead that they are descended mainly from free black landowners who were culturally Dutch (Cohen, 1974).

David Oestreicher, a leading authority on the Lenape, points to the publication of Cohen's book in 1974 as a major galvanizing force among the Ramapough. He believes this catalyzed them to incorporate as the Ramapough Mountain Indians in 1978, as well as to bring in scholars who could help them reconnect with their Native culture. Oestreicher himself worked with Ramapough children in the early 1980s to teach them traditional Lenape culture from his fieldwork experience with the Oklahoma Delaware Lenape (Stead, 2015 p.41). "Locally, the Ramapoughs have long faced challenges to their native heritage from historians and academics alike, and...academics have a tendency to 'decide' who the Ramapoughs are regardless of their own traditional family stories" (Ibid., p.206).

Despite this questioning of their ancestry, the residents of Ringwood can trace their lines down generations and have a strong sense of identity and continuing cultural practices that define their community. Studies by social scientists who spent time with the Ramapough in the early 1900s support their accounts, including anthropologist Frank Speck (1911), linguist J. Dyneley Prince (1910), archeologist and anthropologist Alanson B. Skinner (1915), as well as the ongoing work of anthropologist Edward J. Lenik (1999, 2011, 2016).

The Ramapough do not conform to dominant conceptions and popular imaginings of Native Americans. They are ethnically mixed, have Dutch surnames, and do not live on a reservation - living instead just 30 miles from Manhattan. It is difficult to imagine hybridity and dynamism among what many commonly (and wrongfully) perceive as a static culture from the past.

***"It's the connection to this land where our families have always been that makes us Ramapough. It's the love of the land that being a Native American is all about."***

***- Jody Van Dunk, Ramapough***

Before the 1870s, the New Jersey census (as well as much of the United States) only had 3 categories for racial identity: White, Black (Slave), and Black (Free), as was typical in most slave states. More options were later added to the US Census, with "Mulatto" and "Mulatto slaves" appearing in 1850, "Indian" in 1860, and "Chinese" added in 1870 (<http://www.pewsocialtrends.org/interactives/multiracial-timeline/>). The Ramapough of Ringwood, as well as other Native Americans, were unable to declare themselves Native Americans until the 1870s. The lack of official documentation has contributed to disputes over their claims of their heritage, and continues to be a point of contention.



**Stealing Sovereignty,  
Identity Theft,  
The Creation of False Tribes**

June 23  
Jack  
Leg  
**Jack Johnson Wh  
ness, and th  
Mountains**

**They are a vicious lot as  
rule  
degenerate intellectual  
if not physical**



## COMMUNITY PERCEPTIONS, INTERNAL & EXTERNAL

Perceptions of this community have long been tainted by popular newspaper and website accounts:

"Thirty-five Miles from New York City, with its man-made skyline, seats of learning and citizens of culture, towers a range of mountains which shelters an assortment of humans...wilder than any people [in] the Tennessee mountains."

- New York Tribune, June 1921  
"Wild Men Within Commuting Distance"

"For many years now there have been stories of a degenerate race of people who live an isolated existence removed from the civilized world in New Jersey's Ramapo Mountains. As far back as the revolutionary war New Jerseyans have heard, and told, tales of a motley group of social outcasts who had taken refuge in the northeastern hills of the state and inbred to the point of mutation. The group, which has been alleged to be comprised of a mongrel hybrid of renegade Indians, escaped slaves, Hessian mercenary deserters, and West Indian prostitutes, have come to be known as the Jackson Whites."

- Weird New Jersey website, September 2012  
<https://weirdnj.com/stories/fabled-people-and-places/jackson-whites/>

***"I've been told they deserve everything they get. I can't tell you how many emails I've gotten, or phone calls, from people in the community saying when are you going to tell the real story about the people up there, that they've created their own lives, they've created their own mess...."***

**- Barbara Williams, Reporter for The Record**

"Jackson White" is a racial slur used to describe the Native people of the Ramapo Mountains. The root of this phrase is unclear, though there are many theories as to its origin. The Ramapough are proud of who they are and embrace their history and culture. They have lived in the same area generation after generation, maintaining traditions as best they can, even in the context of contamination and compromised access to their lands.

***"I am proud of my family and my heritage"***

**-Vivian Milligan, Ramapough Elder**

2. The market for the land is restricted because of its isolated location, surrounding land uses and poor access.
3. The area used as a dump site for numerous years is leaching into a public water supply and represents a contingent liability.
4. The property is surplus with no reason for continued Company ownership.

Ford internal document



## HOUSING & HOW-TO Inc.

During the time of Cooper and Hewitt's ownership of the mines, their employees lived in housing supplied by the Ringwood Company adjacent to the mines. The ownership of this land eventually passed to Ringwood Realty Corp, a subsidiary of Ford Motors, in 1965. In this same year the Community Action Council of Passaic County (CACPC), an organization that addressed poverty, came to Ringwood and set up several aid programs including: Operation Headstart, Neighborhood Youth Corps, and Legal Aid. They surveyed the mine area and, finding poor housing conditions, made plans for a self-help housing project that would be funded by Farmers' Home Administration mortgages.

**HOW-TO, Inc.** (Housing Operation With Training Opportunity) was set up in 1966. Training was provided for carpentry, masonry, plumbing, and upholstery skills, and residents provided labor to build the new homes with low interest rates and no down payments required for mortgages. The board of directors included several local residents, including William Van Dunk. The land on which the new homes were eventually built came in the form of a donation from Ford, through Ringwood Realty. They donated 290 acres to the town in order to accommodate a landfill that was facing some opposition. The donation of the land allowed the creation of the Ringwood Solid Waste Management Authority (SWMA), which operated a municipal landfill there from 1972-1976. NJDEP closed the landfill in 1976 after confirming that contaminants were leaching into the nearby surface water. HOW-TO, after long and contentious negotiations, eventually bought 8.2 acres of land from SWMA in 1972 for \$1,000 in order to build the homes.

According to then Ringwood Councilman Dale Peters:

"Now let's set the record straight as to how the borough came into ownership of the 290 acres of land in the Mine Area...the land was simply given to the town because of the most difficult set of social problems existing on their piece for so many years. The Ringwood Realty Company...felt that Ringwood

could and should assume responsibility for solving housing problems for nearly 400 people – a task they felt was outside of their corporate purposes" (Quoted in Cohen, 1974 p.83)

Paint sludge was later removed from the yards of HOW-TO homes built on donated land; Ford knowingly donated contaminated land. A **Ford internal memo states:**

We could probably make a donation to How-To, Inc., sooner with fewer questions and less risk of inquiry and exposure as to the general condition of the property...The State would be intrigued with receiving the property at no cost but also would be more suspicious and make more inquiry as to the general conditions of the property. The State's Department of Environmental Protection also has some jurisdiction over solid waste disposal, and it would not take much inquiry for the State to determine that the former landfill presents some problems"(Mann v. Ford, 2010).

The people of Upper Ringwood, it turns out, had their shot at the American Dream of homeownership, but it was built on toxic ground. In 2004, after the first EPA cleanup of the Superfund site had been completed, a tour with government officials, residents, and media wound its way to this donated area where paint sludge had been removed from a home's backyard during the previous cleanup. This time, more sludge was found in the front yard. Reporter Jan Barry from *The Record*, who was instrumental in drawing attention to the contamination, expressed frustration upon visiting this site again:

***"I was fed up. I turned to the regulator and said 'you were going to clean this up!' It was heavy through the grass and around the children's play area. Their attitude was blasé, they could care less!"***

**- Jan Barry, Reporter for The Record**



## THE COMMUNITY ADVISORY GROUP (CAG) AND THE SUPERFUND CLEANUP

by WENKE TAULE

In 2005, I became the first woman mayor of Ringwood. I led a winning slate of Democrats; where we became, after 30 years, the majority on the Ringwood Council. The Ramapough Community was instrumental in our election. Ford Motor Company, after purchasing the historic Ringwood Iron Mines in 1964, began dumping millions of gallons of toxic sludge in the mines and throughout Upper Ringwood, where the Ramapough live. The Ringwood Mines/Landfill Site was listed on the National Priorities List in 1984 and de-listed in 1994, although visible sludge remained.

In 2005, the issue of re-listing the Ringwood Mines Superfund Site was heating up. Ramapough activists had been working for years to have the Site placed back on the National Priorities List. Historically the EPA, NJDEP and the Ringwood Council had locked the Ramapough out of all processes regarding the Superfund Site. As mayor, I organized the first meeting ever, between the Ramapough, their attorneys, Ford, the EPA, NJDEP and Ringwood Boro. The Site was re-listed in 2006 - becoming the only Site, in the history of the Superfund Program, to be re-listed because of a failed clean up.

The Community Advisory Group (CAG) was formed, under the auspices of the EPA, to open communications between the Ramapough and the EPA, which had been non-existent. I became a member of the CAG and have been a member for over 12 years. The CAG supported a full cleanup of the Site. The Democratic Council supported justice for the Ramapough and a full cleanup of the Site. Our Boro Attorney was working to hold Ford responsible for their toxic dumping. For the first time, the Ramapough could trust their local government.

Sadly, the Ringwood Council Majority changed hands in 2008 and a different path was taken. This Council did not support a full cleanup of the Site and began working with Ford. In 2014, the EPA issued its Record of Decision (ROD), which mandated capping Peters and Cannon Mines, but excavating and replanting the O'Connor Landfill, which would become Open Space for the Community. The CAG and the Ramapough approved of this decision. Excavating the mines would be too dangerous for the community, where sinkholes are an ever-present danger. The highly contaminated water in the mines will be addressed in the Groundwater ROD, to be issued this year.

The Ringwood Council stopped the excavation of the O'Connor Landfill, saving Ford \$32M, and instead agreed to cap over 100,000 tons of toxic soil in the community. The EPA refused to override this decision. After years of fighting for justice for their community, their local, state and federal government have betrayed the Ramapough once again.



## TIMELINE

### The Ford Plant in Mahwah

- 1955** Ford plant opens in Mahwah
- 1960** The 1,000,000th car is assembled at the Ford Mahwah plant
- 1965-1973** Ringwood Realty Corp., a former Ford Motor Company subsidiary, purchases the mines and adjoining properties
- The original intent was to construct low-cost housing for Mahwah plant employees. These plans were soon scrapped and most of the land was sold or donated by 1970, with a few small parcels sold off in 1973.
- 1967-1971** O'Connor Trucking operates a permitted landfill on the property
- O'Connor (a Ringwood Realty contractor) was contracted to remove waste from the Mahwah plant. Ford records indicate that during these years O'Connor disposed of this waste at the Ringwood Mines Landfill site.
- 1970** 208 acres sold by Ringwood Realty to Public Service Electric & Gas for utility right of way
- 1970** Ringwood Realty donated 290 acres to Ringwood Solid Waste Management Authority (SWMA)
- A municipal landfill was operated on part of this property from 1972 until the NJDEP ordered its closure in 1976.
- 1972** HOW-TO, Inc. (Housing Operation With Training Opportunity) Purchases 8.2 acres of land from SWMA for \$1,000
- 1973** Ringwood Realty donates 109 acres to NJDEP in what is now Ringwood State Park
- 1980** On June 20, 1980 the Ford plant closed, eliminating 4,500 jobs
- 1984** The Ford plant is demolished.



Photos of a community memorial along Peters Mine Road.



## THE RAMAPOUGH LUNAAPE TURTLE CLAN IN RINGWOOD

by CHIEF VINCENT MANN

### Why is the clean up at the Ringwood Mines Superfund Site still ongoing?

The EPA reassured us that all the contaminants had been removed when they first ended the clean-up in 1994. It's possible that they could have missed something because there were many problems with the documents provided by Ford. But why did it take 12 years to relist the site on the National Priorities List? In those years Ford, DEP, EPA, the state of New Jersey, they all said that it was safe for us to live there. They said it was "protective of human health and the environment." But when Jan Barry from *The Record* went out there in 2004 – all the barrels were in exactly the same spot! He has photos of what he saw right there in his essay in this book. They gave us another death sentence through more and more years of toxic exposure.

### What role does water play in the case of the contaminated site?

The Wanaque Reservoir is very close to the Superfund site. Park Brook, which runs through Ringwood, eventually drains down to the reservoir. Those ponds, brooks and streams in Ringwood used to be clean. The water used to be drinkable. But we know what it looks like now. The reservoir is the main reason that the dumping stopped, because they knew what chemicals could eventually end up there, and it's really important as a drinking water source. Many places, like Newark, get their water from there. Even Budweiser cancelled their contract with the Wanaque. Clean water is a right. There is no magnesium in spring water. Everyone has the right to drink water from the ground. Raindrops eventually make streams and rivers. We don't know where that rain is going to fall again. So we are all connected in this way - like water. If we take care of the water and the air, the rest is easy.

### How has the contamination affected the everyday lives and cultural practices of Ramapough Turtle Clan? Are there any current projects and initiatives that address these changes?

So much has been disrupted and lost. We've lost people we love and the ways we used to live. We have lost a lot of community elders and there is a lot that we need to relearn. Now we are offering Lunaape language classes at Ramapo College. This past June, 2018 we did a "Paddle against Addiction" - a canoe trip along the Walkill River. There is a lot of rebuilding and reconnecting that must be done, and a lot of connections that need to be made. The struggles that we are facing are not unique to us. When I spoke to a group of people interested in environmental justice in Newark this past November, there were a lot of similar stories from people all over the country.

**What are your hopes for larger projects in the future?**

One of the things we would like to do is to create a cultural interpretation center and museum to showcase crafts created by our people. An environmental education center is another goal, a place that includes a pow wow ground area. This center would have a green roof, healing plants, and sweat lodges. There is a great need for a place of healing, from addiction and from spiritual deprivation. This would be a place for instructors to teach more about Native culture. We need to have land owned in a non-profit structure. Then we can create green tech and grow trees, and we can create colleges that focus on educating Native students. We need to create places for people who want to live like Indians, but that are not cut off from others.

***“We all know that Columbus was a murderer. It doesn’t mean that we need to go dump red paint on statues. It’s about creating other statues.”***

***- Chief Vincent Mann, Ramapough Turtle Clan***

**What do you see as some major needs and issues for your people today?**

We have been saying for years that we do not want a new recycling center to be constructed in our community, but the plans keep getting pushed forward. It is a bad idea - with all of the heavy traffic associated with the recycling center, and the vibration created by large trucks driving over the thin cap that they installed over the toxic waste-filled soil. This is not good for our community, or for any other nearby communities. We need to keep telling our story and to keep bringing attention to this environmental disaster, and to its impact on our people. This is our history, and it’s the history of America. We all know that Columbus was a murderer. It doesn’t mean that we need to go dump red paint on statues. It’s about creating other statues.



# THROUGH THE EYES OF THE RAMAPOUGH

DIANA RANDJELOVIC

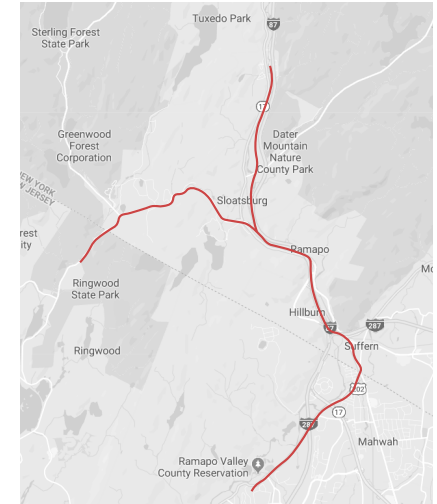
FOCUS: community experiences and practices

These design studies by landscape architecture students, shown in each section of the book, present a range of ideas for creating memorials to mark the environmental losses experienced at Ringwood.

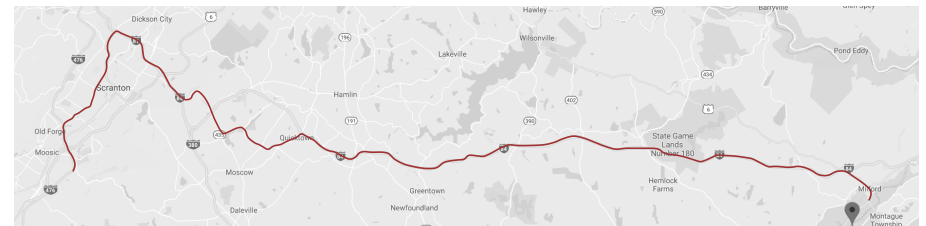
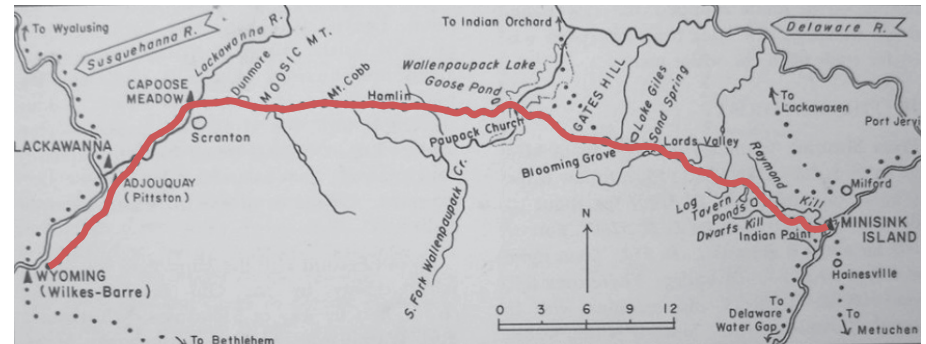
Many people are not aware of the environmental injustices that took place on the land that the Ramapough call home, and many are not aware that the Native American tribe still exists today. A memorial commemorating environmental loss can contribute towards education. With the intention of raising awareness and commemorating history, a memorial trail system is proposed. The memorial will be located along the existing Ringwood-Ramapo trail of the Ringwood State Forest and the Hasenclever Iron trail (originally a Native American trail). At selected points, walls will enclose trails from each side and consist of weavings of different materials, paying homage to the Ramapough cultural practice of basket weaving. Incorporated in some weavings will be pictures telling the history of this community and this site.

The Trail will start with translucent weavings incorporated with photos, telling the general history of the site and the Ramapough. As the trail approaches Ringwood Manor, the weaving will be composed of fabric. As the trail enters the mountains, copper wire will be used, and in the contaminated areas, weavings will change to copper panels interwoven with pictures of what happened to the Ramapough and the effects of the dumping.

Weavings will progressively become more open and transparent, allowing for views through the materials. As visitors move closer to the contamination, however, the weavings become more coarse and closed, cutting off views and connection with nature. The copper panels of the last weaving will be reflective, allowing visitors to see themselves in the story. This trail explains that the Ramapough people are still here, and that their trails, traditions, lives, and health have been strongly affected by the contamination. The memorial trail will give people a chance to see the landscape through the eyes of the Ramapough, and will also create a private space just for their community: a place to tell stories, weave baskets, and grow medicinal plants in woven green walls.



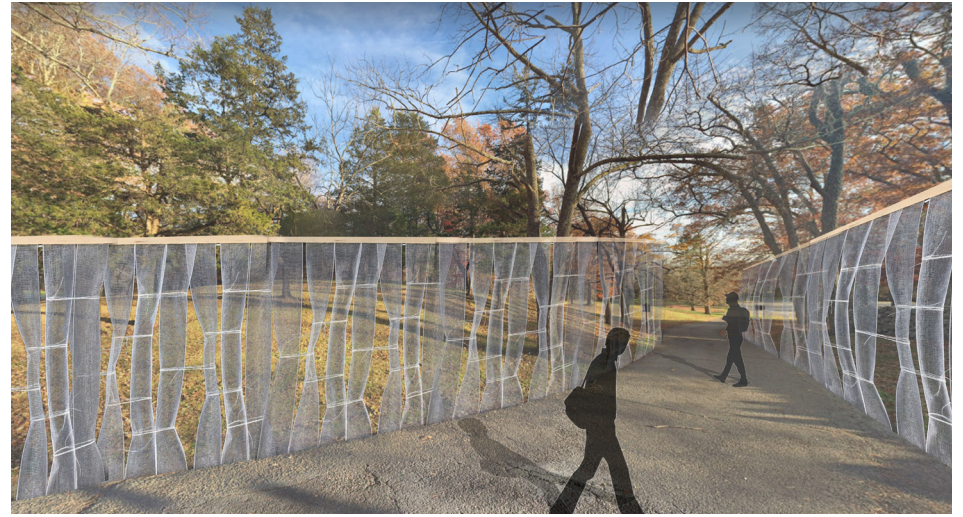
RAMAPO PASS in New Jersey: Today, the ancient path aligns with Route 202, Sterling Mine Road, and Route 17, or Route 87.



MINISINK PATH in Pennsylvania. Today this trail aligns with Route 84 and Route 81.



*HISTORY: Clear walls interwoven with the history of the site and the community told through historic photographs and text.*



*RINGWOOD MANOR: Walls of fabric frame the views and trails leading into Ringwood*



*POND: The contaminated pond in the Superfund site (in the Ramapoughs' backyard) will be framed by tightly woven copper panels embossed with photographs of how they used to use the water.*



*GREEN WALLS: In a separate and private active recreation space for the Ramapough community, woven walls will allow for the planting of culturally significant plants, creating spaces for activities like story-telling and basket weaving.*



**CONTAMINATION**

## CONTAMINATION

"A slab of bright blue lies beside a mountain stream above the Wanaque Reservoir. It's a sporty color, maybe the "Diamond Blue" that Ford sprayed on Galaxies in the late 1960s. It hardened like lava where it was dumped more than a generation ago. When running high, the stream rinses over the slab and down the mountain, through marshes and past beaver dams, toward the reservoir. It's everywhere, this paint. Chunks of it jut from the driveway of a house in Ringwood where a child got lead poisoning. It is so toxic he and his mom have moved out. Piles of it, weathered and gray and wrinkled like an elephant's skin, cling to a hillside. Nearby is the home of a boy who died of a rare tumor. On the other side of the hill a spring-fed stream once ran clear and fresh. For generations, it quenched the thirst of the mountain's residents, the Ramapoughs. Now the water is bright orange and laced with cancer-causing benzene."

- "Ford, the feds, the mob: Making a wasteland" *The Record*, October 2, 2005

## PAINT SLUDGE DUMPING & REMEDIATION

The Ford Plant in Mahwah generated hundreds of thousands of cubic yards of waste and millions of gallons of paint sludge. For each car made, 5 gallons of paint was produced, equating to 6,000 gallons of sludge a day (Ibid). This waste was primarily disposed of in the Meadows around Hillburn, NY and in the Mine Area of Ringwood. After a subsidiary of Ford, Ringwood Realty, came in to ownership of the mines in 1965 they contracted O'Connor Trucking to remove waste from the Mahwah plant. Ford records indicate that during these years O'Connor disposed of this waste at the Ringwood Mines Landfill site. Residents recall the sound of large trucks moving down Peters Mine Road in the middle of the night and referred to the "midnight landfill." (See illustration on page 50). Barrels of sludge and other waste were pushed down the shaft of Peters Mine, tumbling down the 17 underground levels on a 2,400 foot incline. Paint sludge contains a number of

carcinogens including lead, arsenic, antimony, polychlorinated biphenyls (PCBs), Bis(2-ethyhexyl) phthalate (DEHP), and acetone. The drawings on pages 58-59 illustrate the impact of these chemicals on human health.

***"The chemical cocktail that makes up Ford Motor Company paint sludge is a 20th century wonder, a new compound that in some ways defies reason, for even the volatile organic chemicals (VOCs) that ought to have long ago dissipated when exposed to the air remain trapped inside the hardened sludge, waiting to release gas as much as fifty years later."***

***- Chuck Stead, PhD Environmental Studies***

The Ringwood Mines Superfund Site was first placed on the EPA's National Priorities List (NPL) in 1983. From 1987 through 2016, over 60,000 tons of paint sludge and associated soils and 113 drums containing wastes were removed from the Ringwood Mines Superfund site and disposed of off-site. (See Remediation Calendar on page 61 for dates, amounts, and removal sites). Considering that EPA estimated 70,000 tons of material in the Peters Mine Pit area, more than 100,000 tons in the O'Connor Disposal Area (OCDA), and 40,000 tons in the Cannon Mine Pit area, much remains in the ground (North Jersey District Water Supply Commission, 2017 p.18).

When the initial site investigation took place in 1984, the 500-acre Superfund site contained close to 50 private homes. The EPA identified two liable parties responsible for the contamination: Ford and the Borough of Ringwood. Ford then identified 3 areas where they had authorized dumping by waste haulers, as well as a potential fourth site. The search for sludge and other waste was limited

to these 4 areas. 11,340 tons of sludge were removed by Ford during the initial investigation and EPA believed that the source of groundwater, surface water, and sediment contamination had been removed. The site was taken off the National Priorities List (NPL) in 1994, although a large amount of sludge remained. A 2007 EPA Evaluation Report admits to faulty oversight of the cleanup:

“Residents continued to discover paint sludge at the Site after EPA deleted it from the NPL in 1994. These discoveries were because EPA did not ensure that Ford's initial Site investigation was comprehensive. During the initial investigation, EPA could have ensured that Ford conducted a more comprehensive survey of the 500-acre Site and made better use of aerial photographs. In addition, EPA itself could have conducted a more thorough search for records involving waste disposal activities at the Site by enforcing disclosure requirements on Ford” (NJDEP, 2007).

For instance, “the 1974 aerial photograph shows recently formed, large concentrations of debris piles scattered along Hope Mountain Road,” a dumping site that was not remediated in the initial phase. Because of this massive oversight at Ringwood, the EPA Office of the Inspector General (OIG) decided to use remote sensing technologies as an oversight strategy for other delisted Superfund sites (OIG, 2011). In addition, while the EPA conducted 5-year reviews as required by CERCLA, it failed to meet the requirement to notify the community of the reviews or their results. Between 1990 and 2004, Ford removed newly discovered areas of paint sludge. Then, for the first time in the history of Superfund, the site was restored to the NPL in 2006.

The New Jersey Department of Environmental Protection (NJDEP) began testing residential properties at the site in 2005, and by 2011 this sampling identified elevated levels of lead in the soil on some of the residential properties. The EPA subsequently removed contaminated soil from 23 residences from 2011-2014. This timeline indicates that people lived for close to 40 years in homes built on toxic sludge - forty years of intimate contamination.

## ILLNESS AND THE BURDEN OF PROOF

It is important to understand that some Ramapough live *in* the Superfund site, not near it. The EPA removed contaminated soil from 23 *residential* properties. Residents recall playing with the sludge as children - making mud pies in the woods and sledding down “Sludge Hill” (now the SR-6 removal site). Despite the sustained, long-term, extreme proximity to toxic sludge the Ramapough have had a difficult time making the case that their illnesses are connected to the toxicants. It is up to citizens to prove that health conditions are caused by pollution, and there are many challenges to making this case, since ailments can be attributed to other factors such as diet or lifestyle. Exposure from many decades ago could have affected people's immune systems, as well as other organ systems, while there may be nothing detectable in their blood today.

Of particular relevance for the mixture that composes paint sludge, expertise is lacking in analyzing effects of chemical synergy and understanding the consequences of chemical reactions. Some cell culture studies, such as that by Jagannathan et al. (2017) of the synergistic effects of mercury and 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) indicate that toxicity can be increased with binary mixtures of chemicals that have also been shown to have existed simultaneously in upper Ringwood at the Superfund site.

The September 2018 report prepared for Ford Motor Company by Cornerstone Environmental Group, LLC, describes the results of the Baseline Human Health Risk Assessment (BHRRA): “Under existing conditions, the potential human health or ecological risks are not significant, and therefore, the alternatives [for remediation] are protective.” This finding is consistent with the assessment of regulatory bodies regarding Ringwood over the years, where the residents' symptoms have been connected to other issues related to social injustice, lifestyle, and ailments that often affect low income communities. Chuck Stead raises an important point: “A community of Ramapoughs living no more than thirty miles from the Ringwood site



(at Stag Hill in Mahwah New Jersey) subjected to similar economic deprivation indicate few of these symptoms; the only difference is this community lives apart from the paint sludge exposure. It would stand to reason that a comparison study of the Turtle Clan in Ringwood with the Wolf Clan on Stag Hill would put the "life-style" diagnosis to rest" (Stead, 2015 p.88). Health survey studies with the Wolf Clan in Mahwah are planned by the New York University (NYU)-National Institute of Environmental Health Sciences (NIEHS) Core Center, Department of Environmental Medicine over the next few years.

The CDC's official stance is that "the presence of a chemical does not imply disease. The levels or concentrations of the chemicals are more important determinants of the relation to disease, when established in appropriate research studies, than the detection or presence of a chemical" (Quoted in Hoover, 2017 p.101). Scientists must be very careful to not jump to conclusions that cannot be supported by sound science and research data. While there may be demonstrated connections/associations between particular chemicals and certain illnesses, they are often not able to connect them directly to exposure to the contaminants.

It is doubtful that scientific inquiry will ever be able to conclusively trace present day illnesses in Ringwood directly back to the paint sludge. Particularly, as many chemical exposures in utero and/or during early infancy and childhood can increase the risk for a number of adult diseases, including (but, not limited to) obesity, asthma, behavioral modifications, and heart disease. Thus, it is difficult to track the relationship between these later life disease outcomes with their early life exposure roots. Nonetheless, Dr. Judith Zelikoff, NYU-NIEHS Community Engagement Core Director and Toxicology Professor in the Department of Environmental Medicine will say that chemical contamination in upper Ringwood where the Ramapough continue to reside over many decades likely contributed to, or exacerbated, some of the health issues and/or disorders that were self-reported by the Ramapough and non-Native Americans in Ringwood.







## THE COVER UP

DIANA RANDJELOVIC

Dumping of the waste took on various forms of clever trickery. Trucks with sludge were authorized for dumping by the appropriate authorities. The municipality would test the trucks carrying the sludge with soil probes. Trucks would be filled halfway with soil that rested on top of wooden planks that rested on the surface of the sludge layer. This method allowed test probes to confirm the lie that trucks were only dumping soil.

***“If it wasn’t for the town or the state, Ford wouldn’t have dumped or been able to dump paint sludge.”***

***- Chief Vincent Mann***

However, the odor was so strong that people could smell it from inside their homes. Fumes could even be seen coming off of the sludge in warm weather. These distinct smells meant that the authorities knew what was really being dumped. Sludge, drums, car parts, and additional waste from the plant were dumped in the Ramapo Mountains and in the abandoned iron mine shafts.

Today, a Sheraton Hotel and Sharp Electronics factory mark the landscape that once housed the Mahwah Ford Plant. The factory may now be gone, but the sludge and the damage still remain in the Ramapo mountains.

# sup · er · fund site

(noun) any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because it poses a risk to human health and/or the environment. These sites are placed on the National Priorities List (NPL). The Superfund program was created through legislation in 1980, via the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Several important changes were made to the Superfund program through the 1986 Amendments and Reauthorization Act (SARA). Since 2001 the program has suffered from underfunding, and most of the money for cleanup now comes from tax payers and potentially responsible parties (PRPs).

## the process



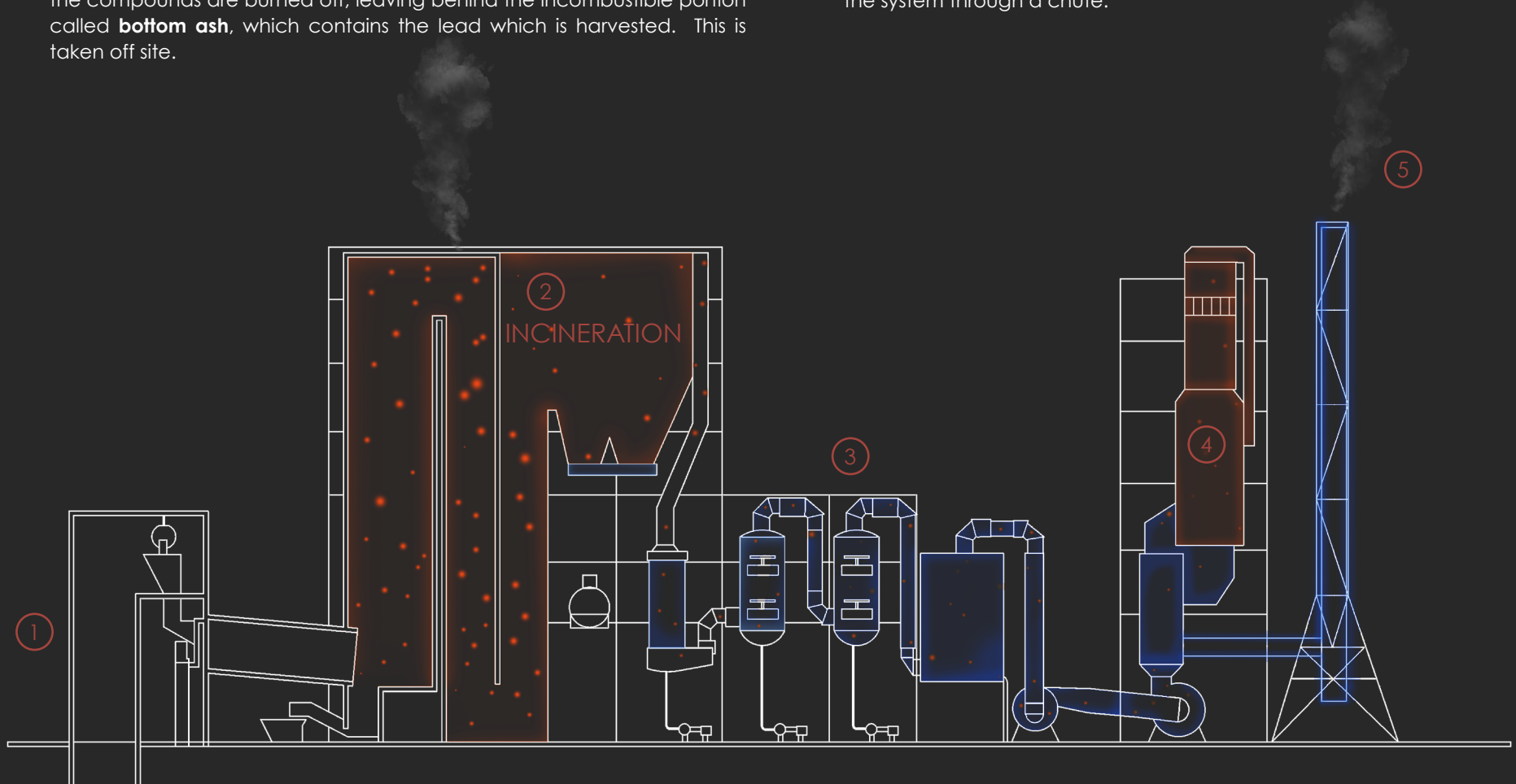
“Although Superfund was intended to allow government to act independently on contaminated sites, in fact, the paucity of funding and the complexity of governmental involvement has meant massive delay and the reliance on potentially responsible parties (PRPs) to conduct studies and develop remedies. This pattern raises what should be obvious issues of vested interests where consultants paid by the PRPs do the key work with minimal independent oversight, quality control and corroborative information. The process commonly fails to provide affected residents with a trusted measure of exposure, any consequences, and the best protective actions.” - Michael Edelstein (2004 p.187)

## FROM CRADLE TO GRAVE

Through the Resource Conservation and Recovery Act, the EPA established a regulatory and management program to ensure that hazardous waste is dealt with from 'cradle to grave.' This ensures oversight from its creation through transport, storage, and disposal.

- 1 **Waste storage** occurs here until it is brought into the incinerator system by the crane. Then it enters a condenser and is passed through turbines, which help carry the waste through to the furnace.
- 2 The incineration process takes place within the furnace. This heats up to as high as 2000°F, which is considered excessive. Normal temperatures range between 1,600°F - 1800°F. Here, almost all combustible portions of the compounds are burned off, leaving behind the incombustible portion called **bottom ash**, which contains the lead which is harvested. This is taken off site.

- 3 After leaving the furnace, the remaining contaminants are pushed to the precipitators for **particulate extraction**. This process lowers the temperature to approximately 280° to 400° F so that these can pass through fabric filters. A byproduct from this process is called **fly ash**.
- 4 Before leaving system, the flue gas, which is combustion exhaust from the process, is put through another process that extracts **sulfure dioxide** which may have entered the gas through a previous cleaning process within the incineration process. Desulfurization creates the byproduct **gypsum**, an industrial material for plaster.
- 5 Once it meets the standards for environmental protection, the gas leaves the system through a chute.

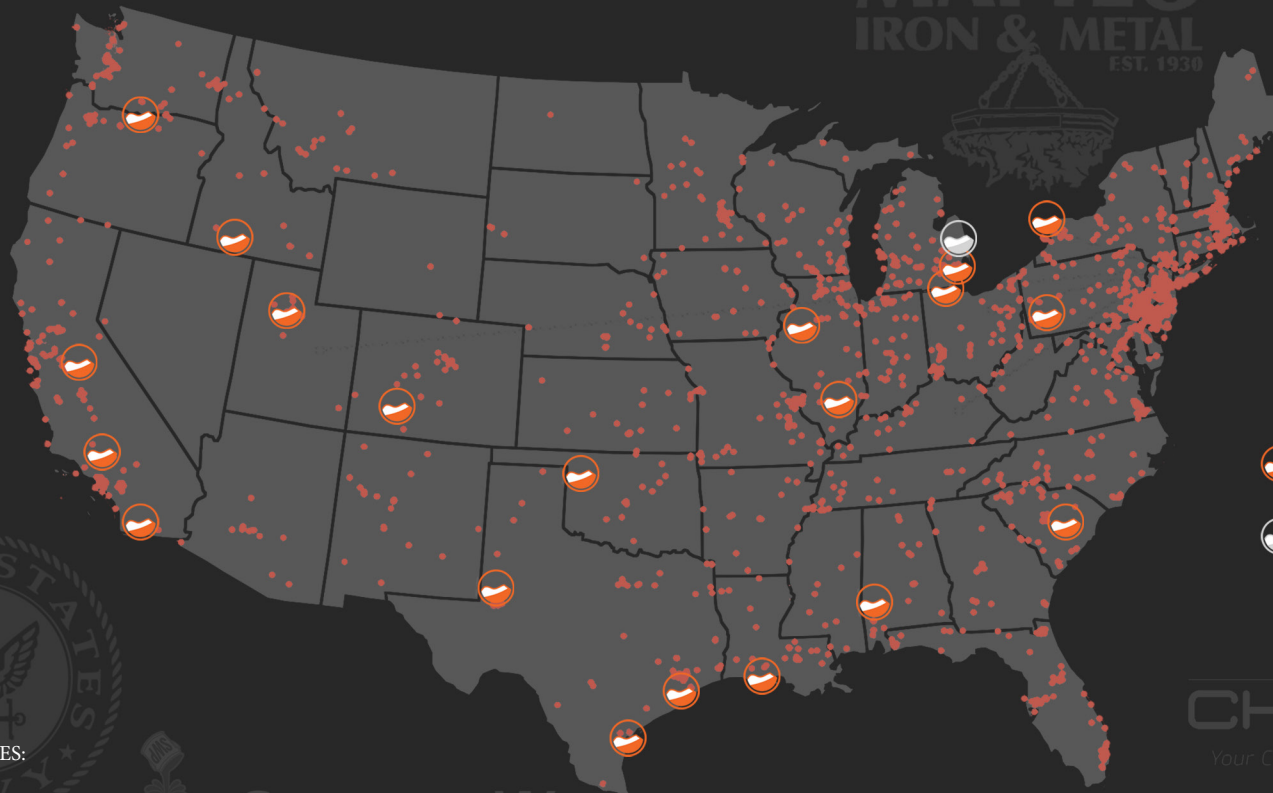


# SUPERFUND SITES ACROSS THE USA

In 2005, the Dearborn, Michigan landfill stopped accepting contaminated waste from the Ringwood Superfund Site because it was considered still too contaminated after going through the initial decontamination process. Instead, the waste went to a site in Canada.

EPA Solutions for the Ringwood Superfund Site:

- Engineered Cap
- Consolidate (On Site)
- Cover Soil
- Wetland Restoration
- Institutional Control
- Groundwater Monitoring
- Pumping
- Recycling Offsite
- Engineered Control
- Revegetation
- Excavation
- Disposal Offsite



- Subtitle C Hazardous Waste Landfill
- Hazardous Waste Landfill (Dearborn, MI)



SOURCES:

[https://www.nj.com/news/index.ssf/2017/04/the\\_most\\_toxic\\_sites\\_in\\_each\\_new\\_jersey\\_county.html](https://www.nj.com/news/index.ssf/2017/04/the_most_toxic_sites_in_each_new_jersey_county.html)  
<https://www.epa.gov/superfund/search-superfund-sites-where-you-live>



U.S. AIR FORCE



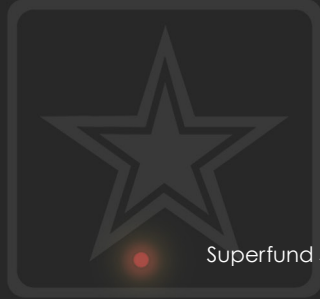
INDUSTRIES, INC.



# SUPERFUND SITES IN NEW JERSEY

New Jersey has more Superfund sites than any other state in the nation. As of 2017, federal data showed that New Jersey has 115 active Superfund sites as well as 35 additional sites that have been removed from the program. The NJDEP lists over 10,000 other active sites with confirmed contamination, in addition to Superfund sites.

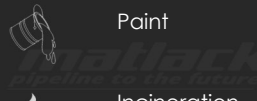
<https://www.state.nj.us/dep/srp/kcsnj/>



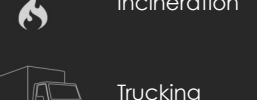
Superfund Site



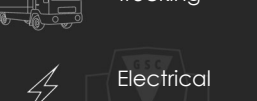
Plexiglass



Paint



Incineration



Trucking



Electrical



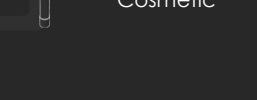
Motorvehicle



Masonry



Aerosole



Cosmetic



Dumping Site



Steel & Metalworks



Chemical



Laundry Services



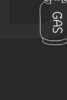
Paper Mill



Armed Forces

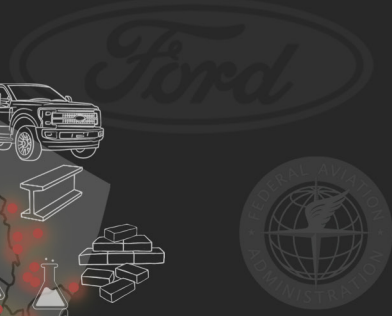
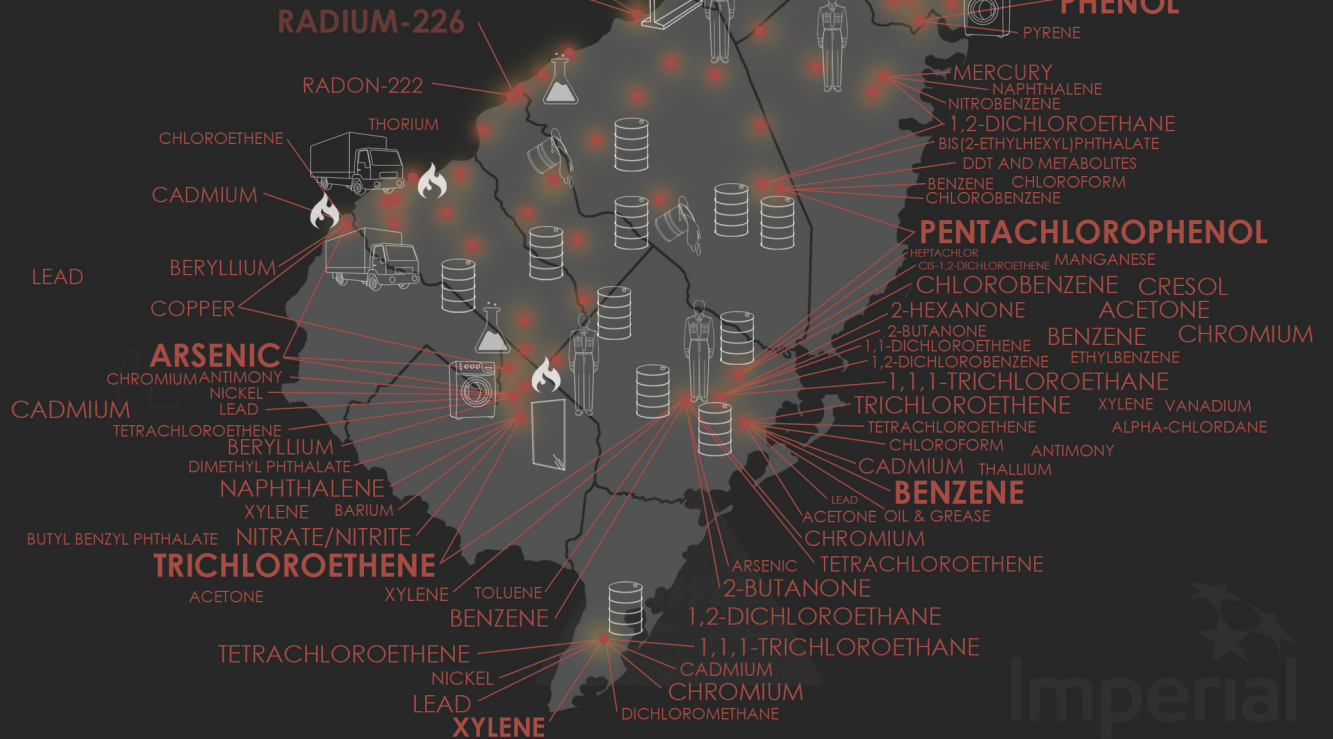


Farm



Gas

Curcio Scrap Metal Inc.



**CONTAMINANTS AT RINGWOOD MINES**

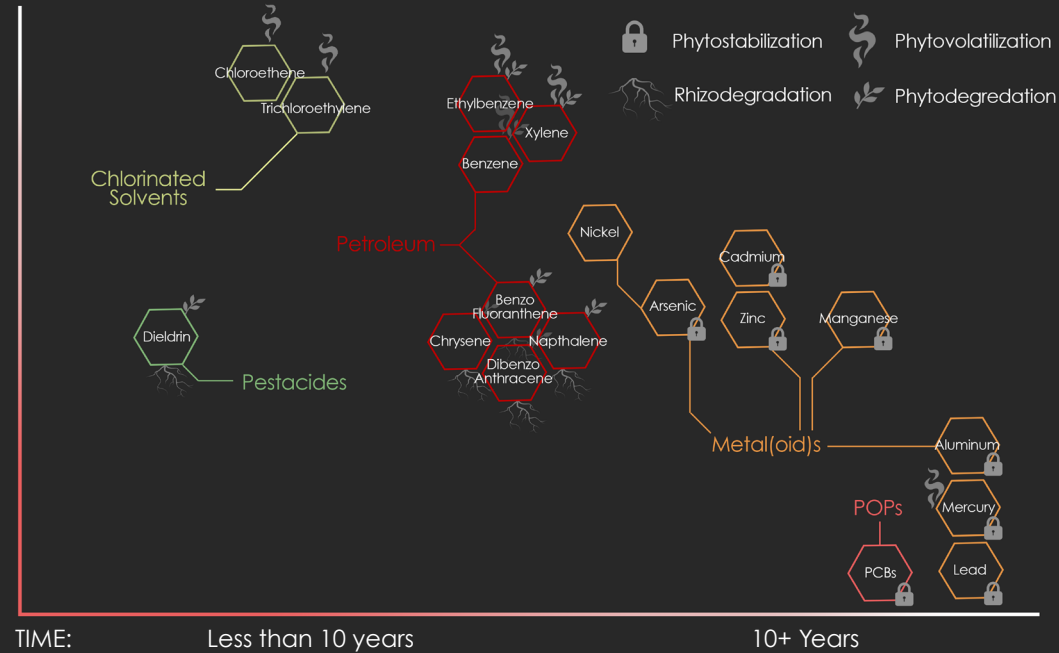
**CHEM. FORMULA**

**WHERE ON SITE?**

**NATURALLY FOUND?**

Tetrachlorodibenzo-p-Dioxin	C <sub>12</sub> H <sub>4</sub> Cl <sub>4</sub> O <sub>2</sub>	Debris	Yes
Aluminum	Al	Soil	Yes
Antimony	Sb	Soil	Yes
Arsenic	As	Soil Ground Water	Yes
Barium	Ba	Soil	Yes
Benzene	C <sub>6</sub> H <sub>6</sub>	Soil	Yes No (Industrial)
Benzo Fluoranthene	C <sub>20</sub> H <sub>12</sub>	Soil	No
Cadmium	Cd	Soil Ground Water	Yes
Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	Soil	No
Chloroethene	C <sub>2</sub> H <sub>3</sub> Cl	Soil	No
Chrysene	C <sub>18</sub> H <sub>12</sub>	Soil	No
Dibenzo Anthracene	C <sub>22</sub> H <sub>14</sub>	Soil	No
Dieldrin	C <sub>12</sub> H <sub>8</sub> Cl <sub>6</sub> O	Soil	No
1,4 - Dioxane	C <sub>4</sub> H <sub>4</sub> O <sub>2</sub>	Surface Water, Ground Water	No
Ethylbenzene	C <sub>8</sub> H <sub>10</sub>	Soil	No
Indeno Pyrene	C <sub>22</sub> H <sub>12</sub>	Soil	No
Lead	Pb	Soil Ground Water	Yes No (Inorganic)
Manganese	Mn	Soil	Yes
Mercury	Hg	Soil	Yes
Napthalene	C <sub>10</sub> H <sub>8</sub>	Soil	No
Nickel	Ni	Soil	Yes
Polychlorinated Biphenyls (PCBs)	-	Soil	No
Thallium	Tl	Soil	Yes
Total Petroleum Hydrocarbons	-	Soil	No
Trichloroethene	C <sub>2</sub> HCl <sub>3</sub>	Soil	No
Vanadium	V	Soil	Yes
Xylene	C <sub>8</sub> H <sub>10</sub>	Soil	No
Zinc	Zn	Soil	Yes

**Phytotechnology Opportunities**



**Phytoremediation Diagram**

This diagram shows different options for phytoremediation (using plants to clean soil). Specific strategies are shown here for particular contaminants.

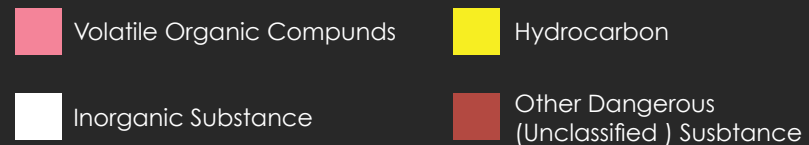
**RHIZODEGRADATION:** Soil microbial organisms associated with plant roots break down the organic contaminants into harmless forms.

**PHYTODEGRADATION:** Plants degrade organic pollutants in the soil or within the body of the plant.

**PHYTOEXTRACTION:** Plants accumulate and store contaminants in the above ground, harvestable biomass of a plant.

**PHYTOVOLATILIZATION:** Plants remove contaminants from the soil or water and release them into the air through transpiration.

**PHYTOSTABILIZATION:** Plants hold contaminants in place and prevent mobilization.





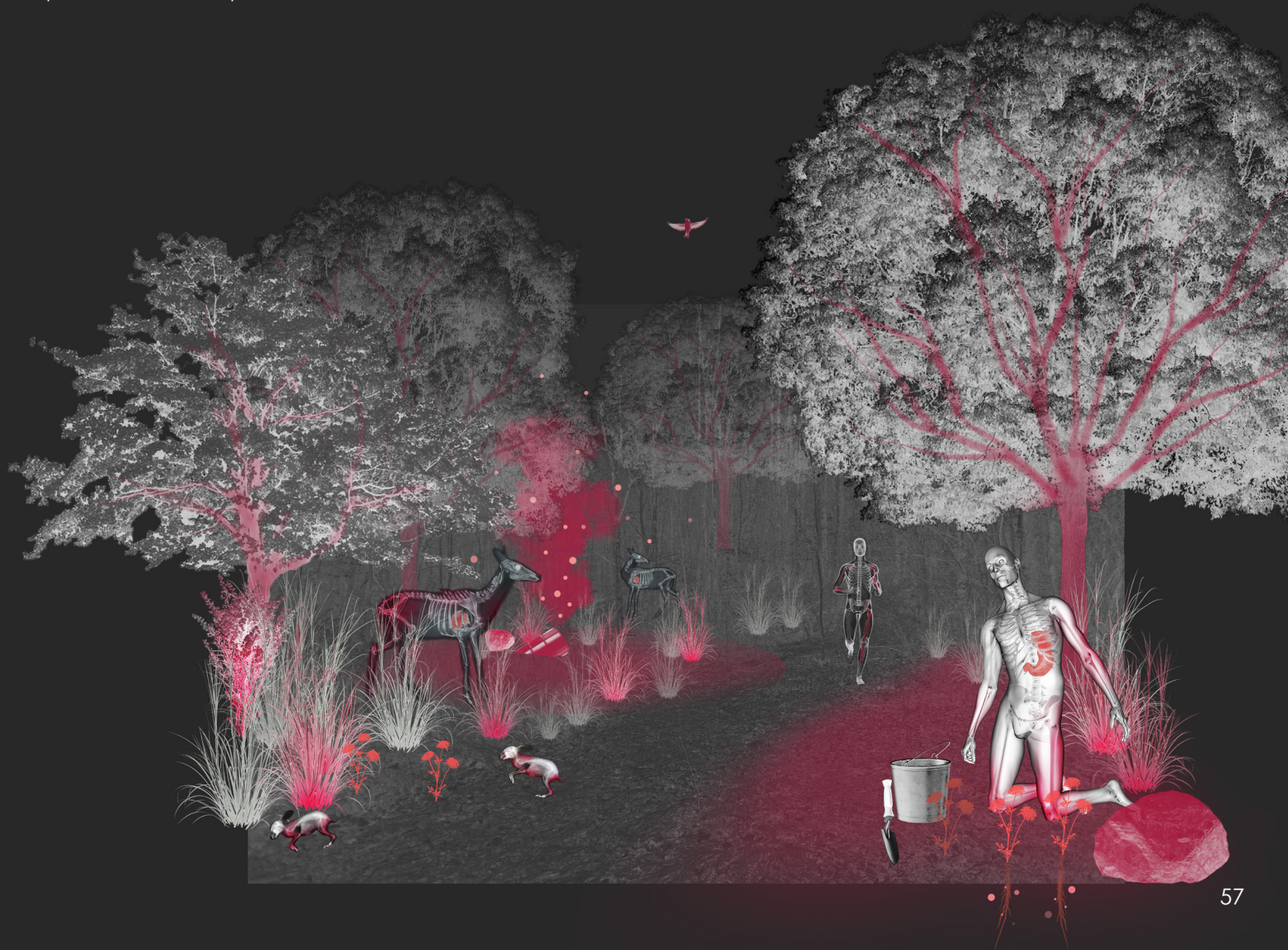
## CONTAMINANTS & PLANTS

**Phreatophytes**, such as the Red Maple found on site, have deep root systems that reach depths of 20 feet. This allows them to help remediate the groundwater they use for their water source. Depending on the contaminants, the tree might extract and release it as a gas into the atmosphere, or store it in its shoots and leaves until harvest.

Queen Anne's Lace, also known as wild carrot, used to be part of the Ramapough diet. Because of its large taproot, it can easily absorb contaminants from the ground.

A few compounds, including Dioxin and PCBs, easily attach to the fat tissues of animals. There they can sit for approximately 7 - 11 years and **bioaccumulate**.

The smell of **acetone** comes from the paint sludge that was dumped by Ford Motors. The smell creates a burning sensation in one's nasal cavity. With high concentrations, inhaling its vapors can cause a slow down in body functions including heartbeat, respiration, and metabolism.



# HUMAN HEALTH IMPACTS

These diagrams illustrate the links between the contaminants found at the Ringwood Mines Superfund Site and diseases.

## BASELINE HUMAN HEALTH RISK ASSESSMENT

According to the *OU-3 Site-Related Groundwater Focused Feasibility Study* from September 2018:

A calculated potential cancer risk of  $2 \times 10^{-4}$  (USEPA acceptable risk range is  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ ) for the hypothetical future resident, reasonable maximum exposure scenario for groundwater as a potable supply, primarily as a result of potential exposure to arsenic in groundwater

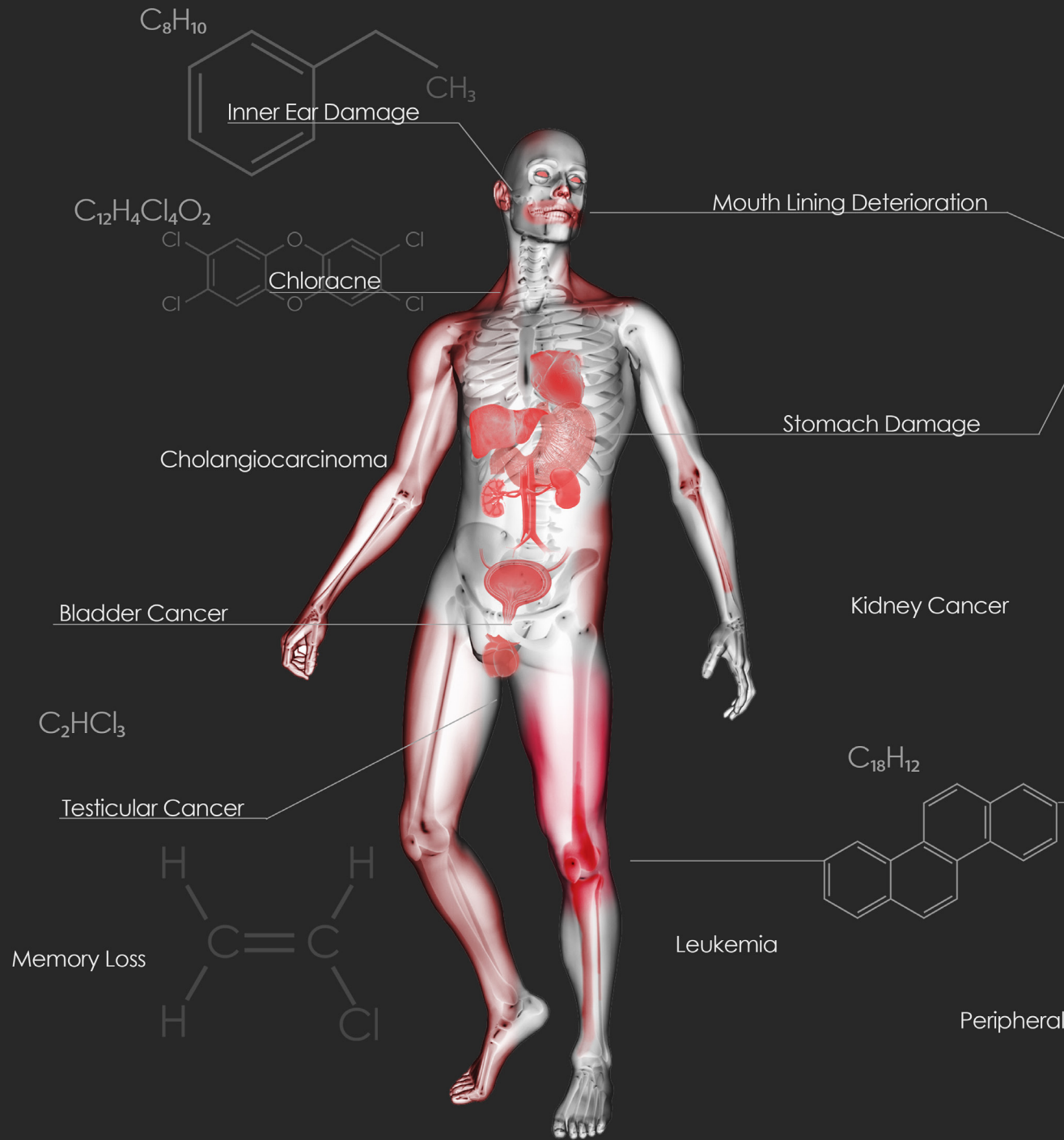
A calculated potential cancer risk of  $4 \times 10^{-4}$  for the hypothetical future resident reasonable maximum exposure scenario assuming mine water in the PMP Air Shaft is used as a potable water supply" (p.27).

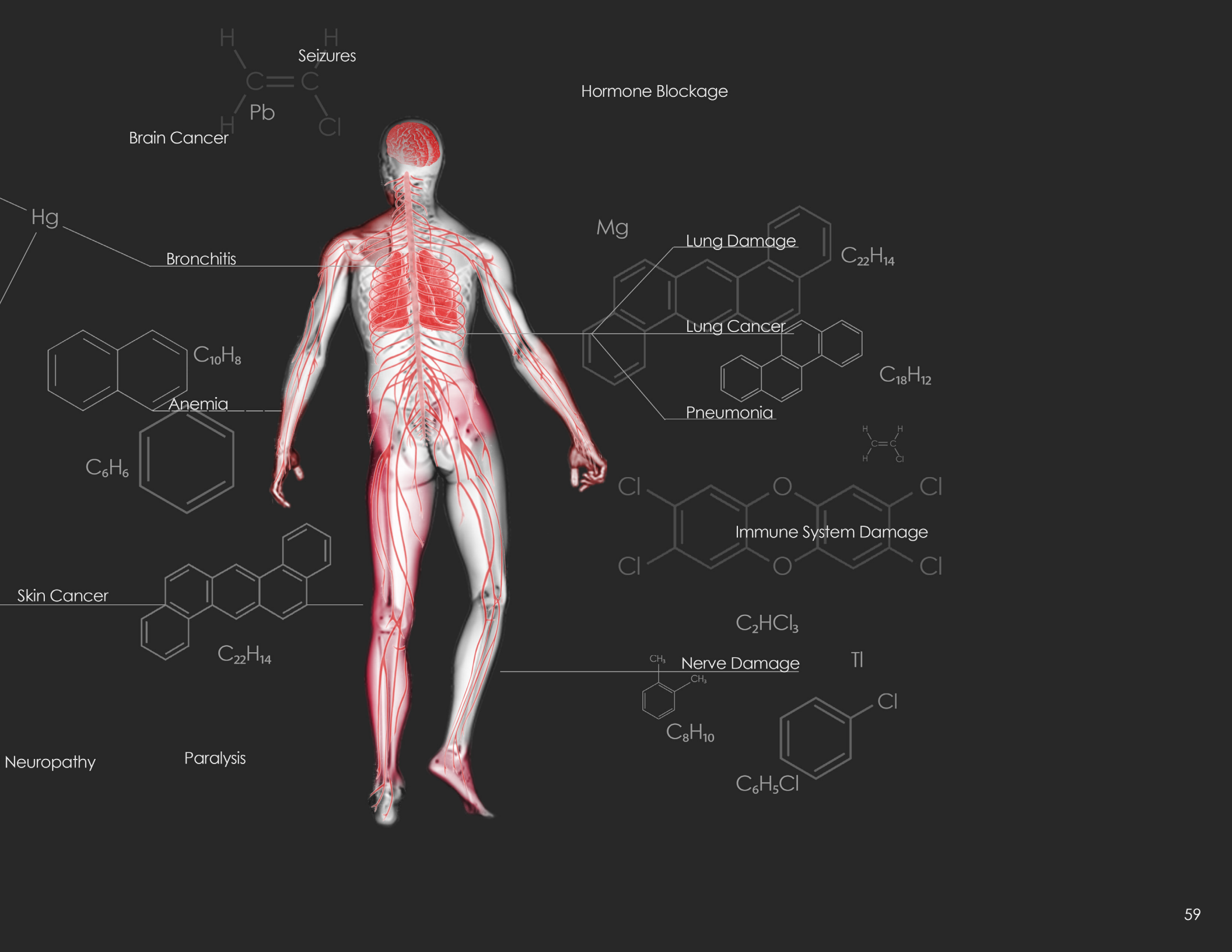
## BREAKDOWN

This means that a resident who uses groundwater as a potable source from the Site has an increased potential cancer risk anywhere from **2 to 200** times the USEPA acceptable risk range.

Also, if a resident uses mine water in the Peter's Mine Pit Air Shaft as a source of potable water, the calculated cancer risk raises from **4 to 400** times the acceptable risk range.

The potential that a resident will use groundwater or water from the Air Shaft as a potable source for drinking and showering are very slim to none. However, knowing that the increased risk for cancer exists allows for the deduction that contamination still exists at the site and any kind of exposure to that contamination is a very real part of the daily existence of residents living nearby.





## TIMELINE Superfund Cleanup and the EPA

### 1979 Site Discovery

### 1982 EPA test results show heavy metals in ground and surface water

### 1983 EPA places the site on the National Priorities List (NPL)

Ford identified four areas for potential remediation; three were designated disposal areas and the fourth was suspected due to lack of vegetation during preliminary site survey.

EPA's Environmental Photographic Interpretation Center issued analysis to support site investigation, but EPA site managers did not take advantage of aerial photography, and could only speculate about locations of potential disposal sites.

EPA requested information. Ford submitted incomplete documents and did not submit required information about hazardous substances disposed. EPA did not follow up or enforce.

### 1984 EPA identified Ford as a potential liable party for site contamination

### 1984- Ford conducts initial site investigation

### 1988

Ford concluded lack of ground water contamination but suggested paint sludge might be leaching into shallow ground water.

### 1987 EPA asked Ford to assess risk associated with contamination

Ford concluded risk of possible exposure to hazardous substances, including arsenic and lead. EPA ordered Ford to remove paint sludge and contaminated soils.

### 1988 EPA issued a record of decision (ROD)

ROD provides a long-term monitoring program. EPA believed Ford had complied with orders to remove all contaminants and issued a "no further action remedy," which included a monitoring program.

### 1989 EPA instructed Ford to perform long-term monitoring on areas of concern identified during initial site inspection

The first year yielded acceptable test results. EPA and Ford agreed to reduce number of wells tested and substances/chemicals tested for in potable and ground water. Ford discontinued surface water monitoring because no pollutants exceeded acceptable levels. EPA approved.

### 1990- Ford removed an additional 600 cubic yards of waste

### 1991

54 drums were also removed along with waste discovered during construction-related activities. EPA officially identified the Borough of Ringwood as a potential liable party for contamination at the Site.

### 1993 EPA published a Notice of Intent of Deletion from the NPL

Detection of contaminants in ground water was sporadic and inconsistent, and no contamination was detected migrating from the site. There are no records showing EPA notified public of intention to delist and no 30 day public comment period.

### 1994 EPA deleted the Site from the NPL

### 1998 EPA conducted its first 5-year review for the Site

They did not notify the community of the review or its results. EPA concluded the site was "protective of human health and the environment." EPA recommended another review on or before September 30, 2003 due to the continued paint sludge removal and monitoring occurring at the time.

### 2001 Ford released its final long-term monitoring report

They recommended discontinuing the monitoring program. Sample results from wells that showed sporadic levels of arsenic and lead above acceptable levels between 1990-1995 were tested again and levels were shown to be "protective of human health and the environment."

**2003 EPA issued an addendum to the 1998 5-Year Review**

They recommended discontinuing the monitoring program and 5-year review process. EPA conducted supplemental reviews and declared the site "protective of human health and the environment." EPA concluded results of long term monitoring showed decreased levels of contamination that no longer warranted ground water monitoring.

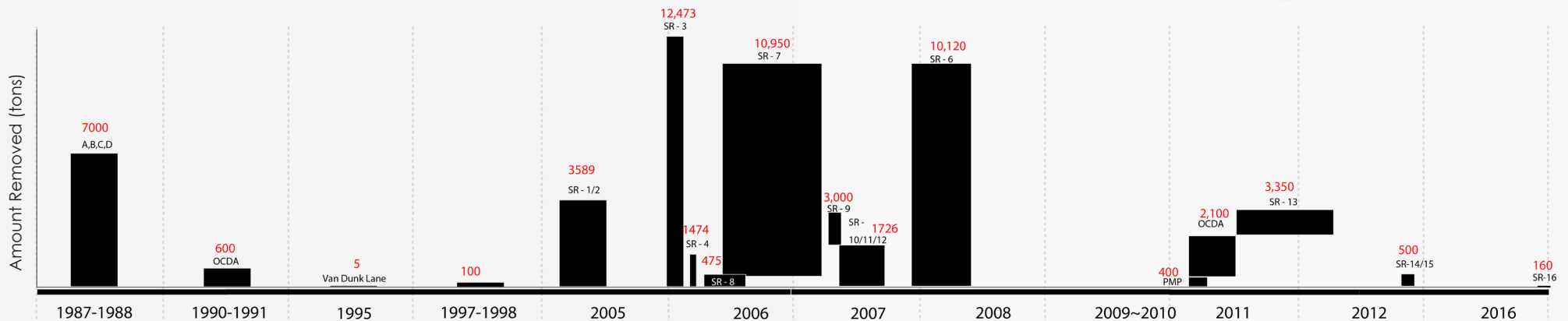
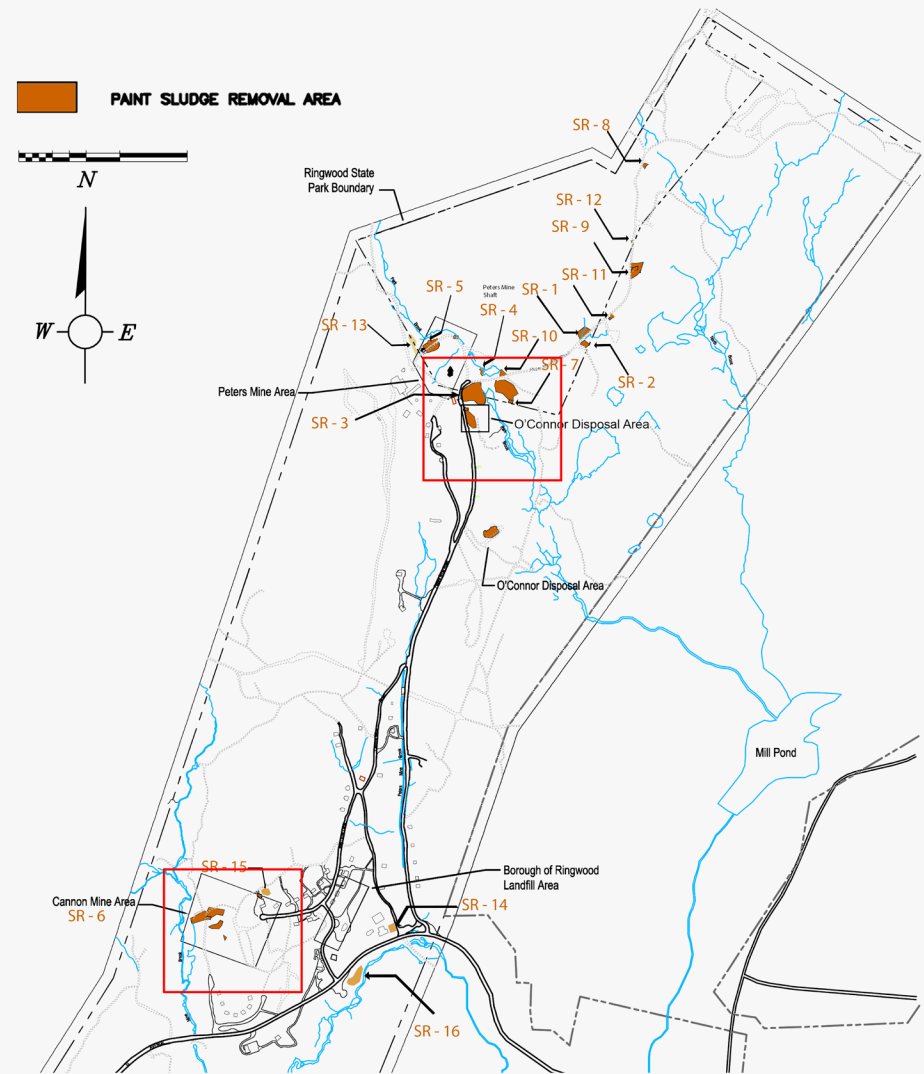
**2004 Renewed interest in the site**

Ford initiated removal actions in December and removed over 24,000 tons of waste. Due to renewed interest in the site, Ford turned over documents not included during the initial request of 1983.

**2005 Toxic Legacy Series is published in The Record**

**2005 EPA issued orders to Ford and the Borough of Ringwood for a supplemental Site Investigation to determine the nature and extent of remaining contamination**

**2006 EPA restored the Site to the NPL**



**REMEDIATION CALENDAR**



## THE BUTTERFLY STORY

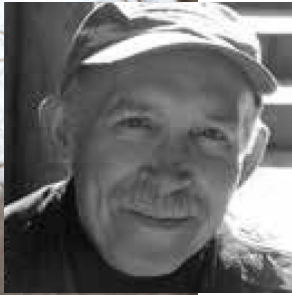
Butterfly says to me, you can't help, but  
change, oh you can fight it but that just slows  
it down, it don't stop it.

I look at all your young faces and I see  
Butterfly telling you to accept and move with  
change.

You know Butterfly tells us about shape  
shifting and you are all shape shifting all the  
time. When you feel them wings coming on  
you ask yourself what change are you in  
now?

Are you truly ready to fly? Can you learn the  
wind's message? Grandmother wind will  
direct you, will you fight her or move with  
her?

*Butterfly Story as recounted by Ramapough elder Cindy Fountain to Chuck Stead in 2009. Photographs are of a dance by Cindy Fountain in 2018.*



## TOXIC LEGACY DISCOVERIES

by JAN BARRY

I first saw paint sludge in a residential backyard in Ringwood in 1995 on a tour with environmental protection officials. We looked at a pile of grayish lumps that a man who lived there said he unearthed near his backyard garden. An EPA representative said it was just a small clump overlooked in the 1987-90 cleanup of a Superfund site, and Ford would remove it. With the EPA on the case, my newspaper assignment editor told me the real story was a profile of the Ramapough Mountain People who lived in the neighborhood.

Paint sludge was a small part of the feature story I wrote on the Ramapoughs, a group of dark-skinned people with Dutch names who claim Native American ancestry. I described a close-knit community living in mountainside homes overlooking a scenic state park, whose members complained of being dumped on. Residents talked of deaths and danger living amid abandoned iron mines, industrial waste dumps, municipal landfills, high-voltage electrical lines, and midnight dumping of tires and other debris.

Nine years later, I found myself on another toxic tour of Upper Ringwood. Residents showed EPA inspectors multi-colored, lead-based, chemical-reeking paint sludge among the fallen leaves in several places in the forest near their homes and then guided the group to the front yard of the home where sludge was found in the backyard in 1995. That day in February 2004, EPA officials gave the same assurances as before – that some small amount of sludge got overlooked and Ford would take care of it.

I was astounded. I reviewed my 1995 story and realized I'd been had. And I had not known enough to dig deeper, to ask more focused questions. Working with my colleague Barbara Williams, and then a team of investigative reporters, we set out to pin down the facts. Williams interviewed residents on health issues and found many in the community of about 400 people had cancer and other serious illnesses; many talked about family members who had died of cancer. I dug into EPA and DEP files on the original cleanup and then took a hike with a fellow reporter with a community newspaper and photographed rusted drums and moss-covered deposits of paint sludge in and beyond where the clean-up work was said to have been done. Among the files were early state investigators' reports, which we used to help locate tons of paint waste at several sites that had not been cleaned up.

Consequently, the Ringwood residents' health issues and the extent of industrial contamination in and around their community were extensively reported in a 2005 series of newspaper articles, accompanied by an in-depth website, titled "Toxic Legacy" published by *The Record* of Bergen County, NJ. A large portion of the once-hidden contamination was removed over the next decade. What to do with the rest, much of it in deep



mine shafts, is still being debated by officials, environmentalists and residents.

Ringwood residents continue to tell their stories, reaching wider and wider audiences via documentaries, social media and networking with environmental groups. As a result, a more extensive cleanup of paint sludge was done in recent years by Ford contractors at several sites in the neighboring town of Ramapo, NY, just upriver from the former manufacturing plant in Mahwah.



*This photograph was taken by Jan Barry in early 2005. Such documentation convinced editors at The Record to take a closer look at the remediation efforts and remaining contamination at Ringwood.*



## ENVIRONMENTAL HEALTH IN RINGWOOD AND THE RAMAPOUGH LENAPE NATION

by DR. JUDITH T. ZELIKOFF, KRINA SHAH, GABRIELLA MELTZER,  
OYEMWENOSA AVENBAUN, DRS. YU CHEN AND FEN WU

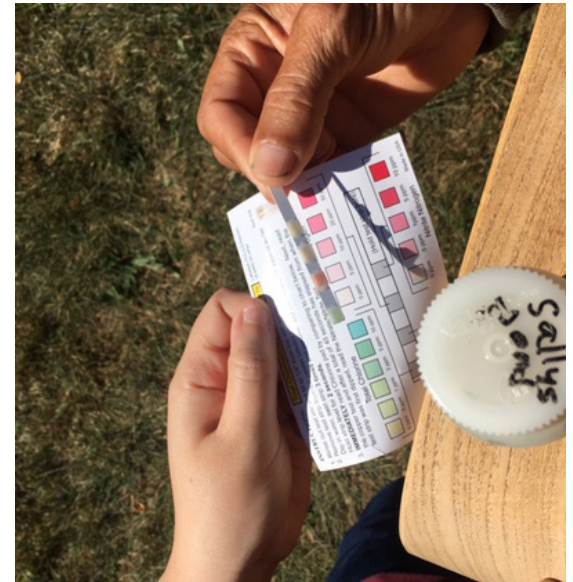
Zelikoff's lab has been working with the Ramapough Turtle Clan (residing in Ringwood, NJ) since 2013 and as of 2018 has established a partnership with the Ramapough Deer Clan from Hillburn, New York, another Ford dumping ground. Several major goals were sought for their community-based initiative. The first was to administer needs-assessment surveys that would help define the specific needs of the Ramapough Turtle Clan as seen by the community members themselves. Another goal was to procure self-identified diseases of community members and their live-at-home children and to assess whether and when they worked, lived, or played on or near the 500 acre Superfund site in Upper Ringwood, about 7.5 miles from the Wanaque Reservoir that provides drinking water to over two million people. Moreover, working with other New York University Medical School, Department of Environmental Medicine scientists, Dr. Zelikoff and her staff addressed the community's concerns regarding personal exposure and contamination levels associated with their air, and water. Citizen scientists from the community in partnership with Dr. Zelikoff's graduate students and staff, collected water from fishing ponds and home faucets, soil, and air to measure the levels of four toxic/carcinogenic metals, including mercury, lead, cadmium, and arsenic. Blood was collected from 20 residents who lived on or near the Superfund site and levels of the same contaminants were measured. Their results were first individually delivered to each participant by telephone and postal letter and then provided in aggregate form in report-back community meetings. Additional goals of their studies were to inform and educate impacted Ramapough community members and others living in or around the Ringwood Superfund site with scientific facts and health implications about heavy metal contamination, as well exposure prevention and protection tools and crucial intervention strategies.

The results of these studies, which belong to the Ramapough Lenape Turtle Clan, are being prepared for publication in a scientific journal. While the soil and air data are currently being analyzed by the NYU National Institute of Environmental Health Sciences (NIEHS) Department of Environmental Medicine's Core Center facilities, the pond water samples measured by two different NYU laboratories revealed trace levels of all four metals which could be associated with a number of possible factors including the geology in the area, or from residual dumping run-off. With this information, we have advised the community to refrain from fishing or recreating in this particular pond. Water from faucets inside the homes of 20 volunteers were below acceptable EPA standards, except for one home which was the result of housing infrastructure. Blood levels of mercury, cadmium, arsenic and lead in 17 Ramapough Turtle Clan volunteers were below federal/state standards, which was a great relief to us all. Currently, we are working with NYU epidemiology colleagues to sort out

possible associations between working, living, recreating on/near the Superfund site and health outcomes. Preliminary data suggest a possible link between the aforementioned parameters and certain pulmonary health conditions. However, further research is needed to confirm these results. Working with Mt. Sinai, five volunteers from the Ramapough Turtle Clan were also examined for bone lead measurements and all members of this small group had measurements within an acceptable range for their age and sex. This is only the beginning of our environmental health partnership with the Ramapough Lenape Tribe who experience the 'toxic legacy' on a daily basis. While a great start in capacity building, our sample sizes are small and cannot provide sufficient power to reach any definitive conclusions. More epidemiological, exposure assessment measurements, and toxicological studies are needed to provide the Tribe with the scientific information they need to regain their sovereign rights, and develop a greater infrastructure that protects them from what has transpired in the past and what could emerge in the future.

On numerous occasions, the Ramapough Turtle and Deer Clan members have asked us whether it is possible that the chemicals they were exposed to as children or during fetal development, even though they have since moved away, could be responsible for their current illnesses. The answer to that question is yes! We know as scientists that early exposures to many chemicals can increase the risk for later life chronic illnesses such as cardiovascular disease, asthma, attention deficit hyperactivity disorder (ADHD) and a variety of other diseases. The question is, what intervention strategies can be developed to protect the health of these Ramapough members.

Environmental contamination issues are not unique to the Ramapough Lenape Tribal Nation. Native Americans, all throughout the country, face disproportionate levels of hazardous environmental contaminants. Nearly 25% of all U.S. Superfund sites (1,322) are in Indian Country and about 16% of all Native Americans live within three miles of a Superfund site. In 2013, roughly 7.5% of Native American homes had no safe drinking water or basic sanitation. In 2013, 61% of all air-permitted facilities on tribal Lands appear to have never been inspected. Moreover, despite federally protected tribal sovereignty, and water rights, over 600,000 Native Americans continue to be subjected to large amounts of toxic waste as a result of: living near nuclear test sites, uranium mines, power plants and toxic dumpsites. Taken together with the many quality-of-life issues they face on a daily basis, partnerships that can provide essential goods and programs that foster self-reliance, are critical.



*Citizen scientists testing the water at Sally's Pond in Ringwood.*

## VISIONS INTO THE PAST

ROBERT COOK

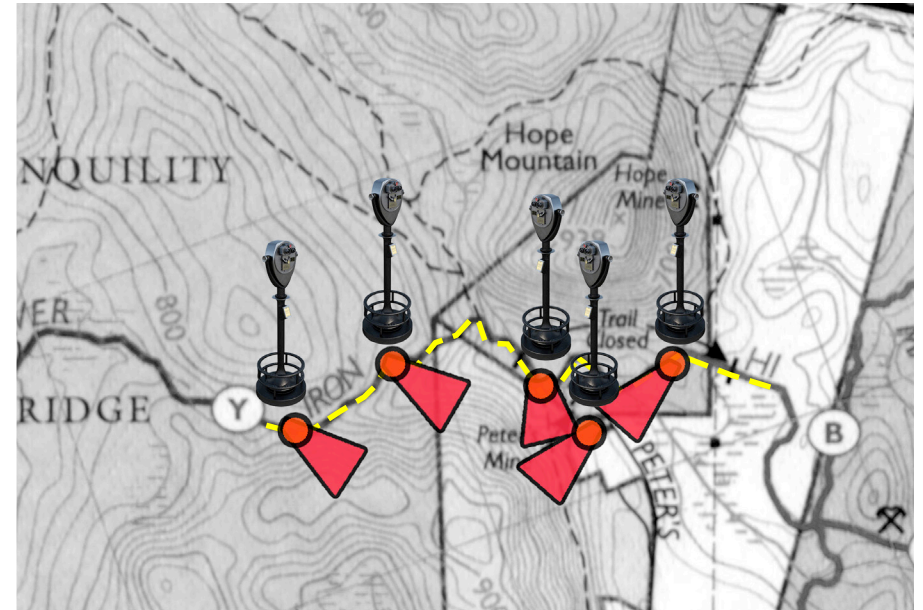
FOCUS: industrial history, contamination, and landscape memories

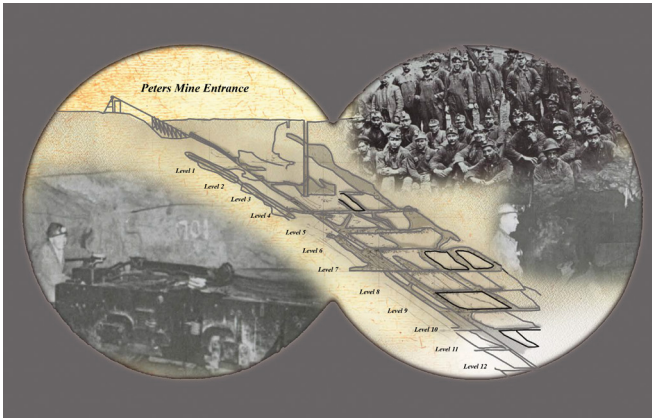
*These design studies by landscape architecture students, shown in each section of the book, present a range of ideas for creating memorials to mark the environmental losses experienced at Ringwood.*

Visions into the Past will serve as an educational glance into an alternate reality. Hikers that use the connecting path from the Hasenclever Trail to the Ringwood State Forest will be able to peer into the landscape of the past with the use of Tower Viewers located along the trail. They will appear similar to the classic viewers, with the important exception that they will contain slides that offer a view into the past and the present, and will compare images by overlaying transparent layers and photos. Each will have layers that visitors can manually flip through when they interact with the Viewers. The slides will include brief captions at the bottom that display a written message, fact, or quote. The first impression is intended to be one of surprise, when hikers see a “seemingly random” Viewer in the middle of the woods. They will approach these out of curiosity and discover the hidden history of the land and its inhabitants. There will be 5 viewers along the trail so that hikers will be able to notice them on their walk.

Viewer Themes and potential focus locations:

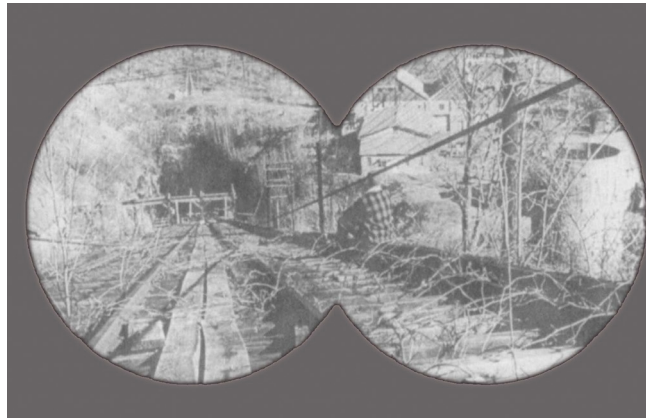
1. Ringwood Mine Area  
Water, Connection, Recharge basin.
2. Looking down Mine shaft  
History, Ramapough Workers, Peters Mine, Industry
3. Peters Mine Processing Plant  
Contamination, Disease, Destruction, Sludge
4. Double Shaft Entrance  
Environment, Impact, Plants
5. Woods  
Disappearing Stories, Local Traditions of Ramapough





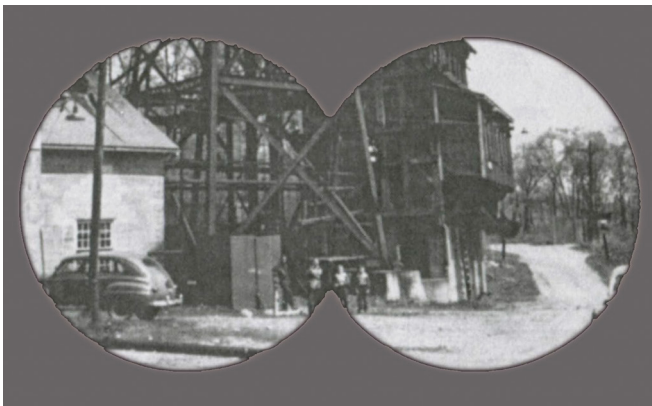
### INSIDE PETER'S MINE

"The Mine below you spans almost 1,800 feet down with 17 levels. Today they are inaccessible, filled with water, toxic sludge, and other waste that was dumped down the shafts by Ford Motor Company in the 1960s and 1970s."



### PETER'S MINE DOUBLE SHAFT

"Peters Mine has left a lasting impact on the landscape, as well as the environment."



### CANNON MINE TOWER

"The Tower of Cannon Mine is no longer here but the mine shafts underneath your feet remain. There have been a few recent collapses and sinkholes at this location due to these shafts."



### CANNON MINE TODAY

"Along Cannon Mine Road today there are areas fenced off from collapsed ground. Though not as deep as Peter's Mine, these sink holes have been measured at over 200 feet."



### POND MEMORIES

"The local community once enjoyed this pond with activities like swimming, fishing, and ice skating. The memories remain for those who can remember but not many that can are left today."



### POND TODAY

"The pond today smells of acetone and is stained a cloudy orange from the old mining slurry, and the toxic legacy of paint sludge contamination. To this day it is working its way through the soil and water."



# FLORA & FAUNA

## FOOD SYSTEMS & SUBSISTENCE

Wrongful disruptions of food systems can have great impact on communities where health and well-being are collective. According to Kyle Powys Whyte, "Indigenous food systems referred to specific collective capacities of particular Indigenous peoples to cultivate and tend, produce, distribute, and consume their own foods, recirculate refuse, and acquire trusted foods and ingredients from other populations" (Whyte, 2015 p.44). For Harris and Harper, "Because tribal culture and relation are essentially synonymous with and inseparable from the land, the quality of the sociocultural and ecocultural landscapes is as important as the quality of individual natural resources or ecosystem integrity" (1997 p.793).

***"Returning to the land is the return that actualizes these remembering and reconnections. However, if Indigenous nations remained forcibly removed from their traditional territories, memory and belief will continue to be severed, for it is primarily in connection to the land that the stories and healing practices come."***

***- Laura Hall, Environmental Studies***

Environmental disruptions affect Native American communities in a number of ways as traditional relationships with the land are compromised, along with the ability to eat healthy food through a subsistence lifestyle. The Ramapough speak of traditional foraged food sources, such as wild carrot and watercress, which are no longer safe to eat, as well as game they have long hunted in the woods. The Transference Diagram on page 74 illustrates potential impacts of such food sources. According to 84-year old community elder Shirley Van Dunk, families in Ringwood used to can and preserve a lot of food from their gardens, including blueberries, peaches, and green beans. She remembers a stash of 200 cans of

food prepared for the winter months. When she was growing up everyone had big gardens, her grandfather had chickens and a pig, and livestock would be preserved in barrels of brine. Others foods were foraged in the woods. Her and her husband moved out of Ringwood in 1968, and she remembers, some time in 1969 or 1970, her husband grabbing a bunch of watercress when he visited Ringwood from their nearby home. After eating it, they felt unusually itchy, and then stopped foraging in the woods and along the streams. This was one of the first signs that something was wrong.

## CONNECTIONS TO THE LAND

*Manitou* refers to a spiritual force or energy filling the natural world. "Manitou was both natural and supernatural and was present in all things including the land, rock, plants, animals, celestial bodies, water, thunder, lightning, wind, rain, snow and ice" (Lenik, 2011 p.59). The depiction of the White Deer Story on page 90 illustrates one story of connection to the Keeper of the Game. There are many such traditional stories, and we have depicted just a few throughout the book. The next page depicts several traditional medicinal plants and elements from the natural world used in ceremonies. A well-known practitioner of traditional medicine was "Uncle" Will de Frees, who in 1938 was 77-years old and was known as "the only surviving doctor" in the area. He employed traditional cures such as a poultice made from plantain used to treat boils; calamus root for the treatment of stomach aches; and a compress made from "sod with roots" wrapped in cloth and sprinkled with vinegar to relieve pain from toothaches (Lenik, 2016 p.177). In the nearby town of Ramapo, Phoebe Jane was a well-known medicine woman, born around 1792, who travelled all over the area to treat the ill. She used witch hazel to treat fevers; mullein tea to treat asthma; plantain leaf for infections; and tansy tea for stomach aches (Lenik, 2011 p.35).







## PLANT

## AILMENT

## PREPARATION

*Nepheleum semiglaucum*  
Black Ash

Sore Eyes

Cut limb off tree; put end in fire to get juice out, put a drop or two into eye

*Arctium minus*  
Burdock Leaf

Fever

Juice from leaf with a drop of sugar taken internally; also apply leaf itself to the joints of the body

*Amygdalus persica*  
Peach Tree Leaves

Fever

Apply to ankles

*Ferula asafoetida*  
Asafetida

Fever

Put in sack and hang around neck

*Verbascum thapsus*  
Mullein Leaf

Piles

Use leaf instead of toilet paper

*Castanea dentata*  
Chestnut Leaves

Poison Ivy

Rub leaf to get out the juice and apply to irritation

*Balsamorhizon gileadense*  
Balm of Gilead

Infection

Make a salve from buds

*Ulmus fulva*  
Slippery Elm

Sore Throat

Put bark around neck

*Sassafras albidum*  
Sassafras

Sore Eyes

Break sassafras and split it open; scrape the inside juice in palm of your hand; add a drop of water and stir with match stick; apply to eye

*Hamamelis virginiana*  
Common Witch hazel

Sore Joints

Apply as liniment

*Pinus rigida*  
Pitch Pine

Back Pain  
from Kidneys

Roll pine balls into pill and take internally

*Impatiens biflora*  
Silver Leaf

Poison Ivy

Rub leaf on hand to get out juice

*Heuchera americana*  
Alum root

Sprue (Babies)

Scrape down the turnip and apply with alum

*Acorus Calamus*  
Calamus Root

Stomach Pain

Chew on root

*Symplocarpus foetidus*  
Skunk's Cabbage Root

Sore Throat

Stew the root and gargle with juice



*"I used to be able to live off the land,  
now I'm forced to live off grocery stores"*

*-Vivian Milligan, Ramapough Elder*





## TRANSFERENCE

BARBRA WALKER

The contaminated areas in Ringwood are not clearly delineated or cordoned off as a Superfund site. There are trails that run throughout the woods and hikers are periodically spotted in or near contaminated zones. To the left is a visualization of the **Hasenclever Iron Trail**. Despite evidence of contamination absorption, residents are still using nearby sites for hunting.

A public health assessment completed by the NJDHSS in 2011 concluded that there were completed exposure pathways between contamination and human ingestion/absorption. Lead levels tested in children have shown dangerously high exposure rates. However, the high rates have been attributed to incidental ingestion of contaminated soil, sediment, paint sludge and surface water, not direct ingestion of animal and plant tissue (NJDHSS, 2011).

Deer, squirrel, rabbit, and turkey were tested for contamination. The EPA concluded that even though contaminants present in animal muscle tissue tested higher than the reference tests, they were not considered high enough to harm people's health if consumed. Test results vary widely between laboratories. The EPA states that the risks of adverse health effects from contaminated animal products are low in comparison to existing background cancer risk, and eating contaminated game "should not harm people's health" (NJDHSS, 2009).

Squirrels from the site were tested by four different agencies: NJDHSS, ATSDR, NJDEP, and USEPA. NJDEP issued an advisory requesting consumption of squirrels to be limited due to the high levels of lead present in tissue samples. The EPA rejected the findings by blaming a defective blender used to process tissue samples as the reason for the high levels of lead found in the squirrel (NJDHSS, 2009).

Wild carrots from three different contamination sites were tested for metals and synthetic organic chemicals by the USEPA and NJDEP. Even though tests showed lead levels many times higher than in the control tests, the tests were determined inconclusive because the amount of lead found in the carrots collected at contamination sites did not correlate to the low levels of lead found in the soil. They claimed the differing amounts cast doubts on the accuracy of the reference area and site data. The organizations cannot say conclusively whether consuming wild carrot will cause harm to human health.



## THE CREATION STORY

In the beginning, there was a great darkness. Within that darkness existed a spirit, the Great Creator, who dreamed of a world with mountains and birds, of man and of ceremony. And he desired these things to be true.

The Great Creator then created four Spirit Beings, the Keepers of Creation, to help him with his task. Grandfathers North, West, East, and Grandmother South were given abilities to guide the four elements of Nature. Upon the Earth, they created balance between all living things.

Over time, Grandmother Moon became lonely and wished for a companion. With Grandfather Thunder, she conceived twins – the first man and woman.

An evil Spirit in the form of a horned snake was envious of the Great Toad, who controlled the waters over Earth. He attacked the Great Toad, and fought such a terrible battle. Grandfather Thunder came to scare the serpent away and flooded the Earth in one great sea.

A kind and benevolent spirit, Nanapush, saw the rising waters and escaped to the tallest mountain. The waters kept rising, and Nanapush began to climb a tree at the top of the mountain, saving all the animals he found by tucking them into his shirt along the way.

As he climbed, he broke twigs and tucked them into his waist. The waters kept rising, and Nanapush became tired. He grabbed the twigs and tossed them into the water where they became a large raft. Nanapush climbed onto the raft with the animals he saved.

Over time, Nanapush wished for soil to grow new land. He asked each animal to dive down and bring back earth. The otter and loon were unable to dive far enough, but the tiny muskrat was down a very long time and came up, near death, with a little bit of soil in his paw. Nanapush spread the earth on the back of a turtle and a new world grew from it.

*The Creation Story is adapted from The Grandfathers  
Speak: Native American Folk Tales of the Lenape People by  
Hitakonanulaxk*



## THE ROOT DRINKER

by CHUCK STEAD

About a year after my grandfather passed, it was observed that I had become a sullen and moody soul. Apparently, I was still waiting for him to return. My dad, Walt started to take me on his 'rounds' in the evening when he paid calls upon village elders. I listened to their stories, their gossip, and their lives. It was time, according to my mother, that I learn about other things. But all things, for me were connected to grandpa whom we called Heebie Jeebie. Along with my dad, my uncle Mal took me around to 'learn about other things' and this is how I met the root drinker. In the drive up to his house, Mal talked about how he had been diagnosed by doctors that he had incurable cancer and little time left to live. Mal said, "That was twenty years ago and he's doing just fine still." I asked how he was doing fine and uncle Mal said proudly, "He's a root drinker!"

The house we came up to had bundles of twigs and dried flowers and heaps of grass tied in long braids all hanging from the open ceiling of the front porch. As we walked under the porch roof, I looked up and saw the sky, and I realized there were only roof rafters for tying plants in the air and no roof cover on the porch. Mal called out to the man that we had arrived and next I saw the door open and we were greeted by a very healthy looking man who smiled a very gritty set of teeth at us. He was happy to have us visit and he told us to come in and to sit down. We walked in and it was very dark and kind of musty smelling and then I looked up and saw the roots: thousands of different roots hanging from the ceiling. They were so clustered together that I felt we had gone underground and were now looking up at the very bottom of a forest. These roots were tied in bunches, some of them caked with clumps of earth and others clean and dry.

He called us over to his table and showed us his book. It was an old tattered notebook and it had been his grandmother's root drinking recipe book. He had kept it as a family heirloom and then when he was diagnosed with cancer he poured through the scribbled pages and detailed recipes left to him by a woman from another time. There were even little drawings to help identify the different plants and to show how to scrape the root skins and how to chop and shred the different roots. He was very proud of his grandmother who he told us lived to be over a hundred years in age. She told him of when she heard about Lincoln being killed. She told him about learning of the death of Chief Sitting Bull. And she told him about hearing Mark Twain tell stories of his adventures in the Sandwich Islands. But it was her root drinking recipe book that told him the most valuable thing: how to live.

He poured us both a cup of lukewarm tea that had stuff floating in it that tasted like mud. But Mal insisted I drink it. I did. The taste of dirt lasted in my mouth for days after. And the image of roots hanging from the ceiling has lasted with me ever since.



## RINGWOOD MEMORIAL PARK SYSTEM

JOSEPH TIDONA

**FOCUS:** healing the landscape through phytoremediation (using plants to clean soil)  
*These design studies by landscape architecture students, shown in each section of the book, present a range of ideas for creating memorials to mark the environmental losses experienced at Ringwood.*

The main intention behind the design for a memorial park system is to give the land back to the community in a condition that is acceptable for use by opening up the mining sites as public open space. The history of the mining operations of the sites will be exposed and displayed in the form of a path layout, with various layers of the underground tunnel systems overlaid with one another to create the surface trail system. Depending on the location, different trails lead to areas that provide vantage points overlooking the region. Gathering spaces allow for the community to use the parks in the ways that best suit them. Native plantings assist in phytostabilization in the parks. Various phytoremediation gardens would be managed and rotated through the sites by local community groups. These trails connect to the overall trail network throughout Ringwood, Ringwood State Park, and Sterling/ Tranquility Forest.



### PHASE 1: MINE SAFETY AND CLEAN UP

This phase involves locating and securing all existing mine shafts and underground tunnel systems in order to prevent future collapse and hazards. Any mine shafts that were dumped in would require cleaning out before securing. Securing the mines might include rebuilding the support systems within or simply filling in.



### PHASE 2: SURFACE CLEAN UP

This phase requires the removal of all debris and trash off of the ground surface of the parks. This would also include removing any paint sludge as well as debris such as old mining equipment and other waste.



### PHASE 3: PARK ESTABLISHMENT

This phase includes the layout of paths and signage throughout the park and would include opening the park to the public. Signage would include trail maps, historical information, and most importantly, signage about any health hazards that may still exist in the landscape.

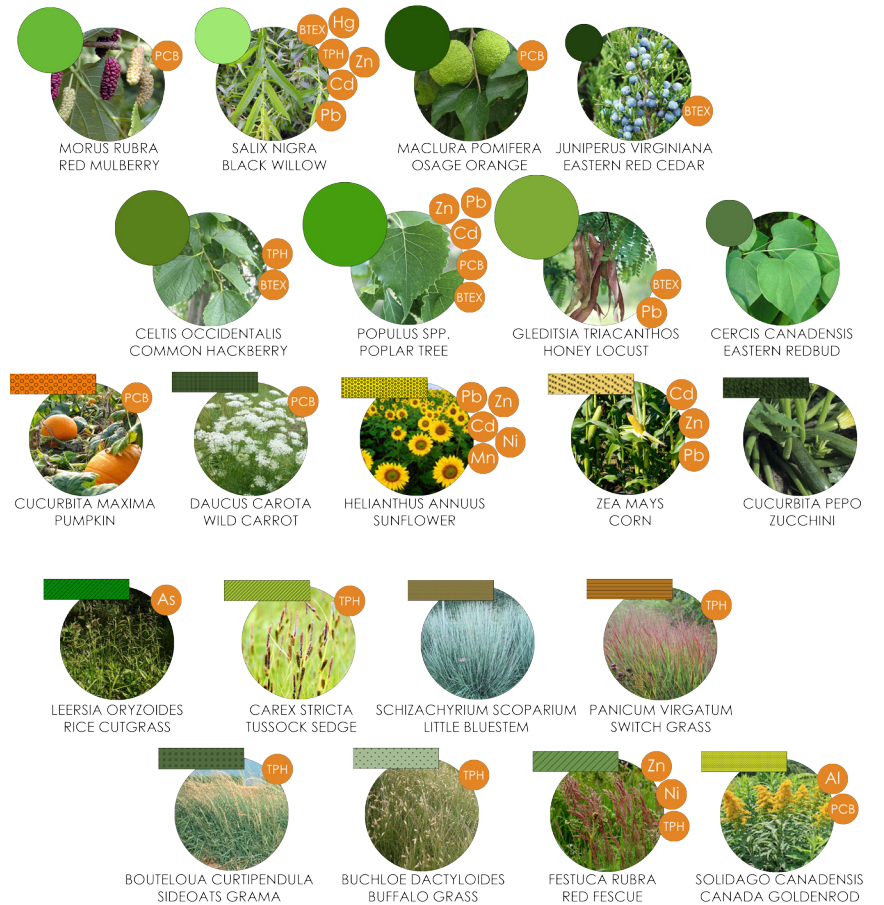


### PHASE 4: REMEDIATION PROCESS

This phase will continue after the park is opened and would include using the process of phytoremediation to control any contaminants in the soil within the parks.







**PHYTOREMEDIATIVE PLANTS**

The plant palette above shows plants with phytoremediative capacities. The orange circles next to the plants illustrate what types of contaminants they can help remediate.

**CANNON MINE TUNNELS AS PATHWAYS**

The path network is composed by extruding the location of all of the layers of the mining tunnels to the surface. The voids between the paths create the different spaces within the park.

A wide, calm lake with a small boat in the distance and forested hills in the background under a cloudy sky. The water is dark and still, reflecting the overcast sky. In the distance, a small boat with two people is visible on the right side of the lake. The background consists of rolling hills covered in dense, dark forest. The sky is filled with soft, grey clouds. The overall mood is quiet and serene.

**WATER**

## DRINKING FROM THE BROOKS AND PLAYING IN THE STREAMS

Ramapough elder Vivian Milligan's home movies show beautiful scenes from the past. Friends gather, lean on cars and talk, children play, teenagers wade through the brook on a hot summer day, babies are held with their feet dangling in the water. Water was interwoven into their lives, brooks and streams winding through their woods, swimming holes and ice-skating ponds an integral part of social life. In the past, residents would drink from the Canon Mine Road Spring. Today it provides the opportunity to test the quality of ground water as it becomes surface water. Walking through the woods today on the Hasenclever Trail near Peters Mine, the surface of ponds and streams we come across at times looks perverse, exhibiting an unnatural sheen, a kaleidoscope of refracted colors on an oily substrate. (See photos on pages 84-85).

## MOVEMENT OF CONTAMINATED WATER

Water entered the Peters Mine Shaft after it was abandoned in the 1950s, pooling above the cap that Ford claims to have installed before any dumping took place. It laps around barrels, boxes, a discarded bulldozer, and other waste. In their analysis of 16 water and soil samples near the mine pit, the Edison Wetlands Association found "strong evidence that buried hazardous waste is the source of contaminants to the stream, seeps, pond, and other surficial water flowing out of Peters Mine and the immediately surrounding area" (Washburn, 2005). Testing by *The Record* found lead, arsenic, chromium, cadmium, Freon, and benzene in streams and pools, as well as lead, nickel, antimony, arsenic, chromium, and copper in the sediments at the bottom of the Ringwood River (Ibid).

The Ringwood Mines Superfund Site sits upstream from the Wanaque Reservoir. Rainwater falls over the sludge-contaminated soil and moves downhill through wetlands, brooks, and rivers before entering the reservoir. Along the way wetland

plants serve as filters and beaver ponds work as sedimentation tanks, helping to clean the water and allowing some of the volatile compounds to evaporate. Therefore the North Jersey District Water Supply Commission states that the runoff is clean by the time it reaches the reservoir, after which it is diluted in a 30-billion gallon holding tank before being sent to a water treatment plant. The EPA has been monitoring groundwater and surface water since 1989.

"Results continue to indicate that contamination at the site has not impacted the Wanaque Reservoir. Groundwater sampling has shown limited and sporadically elevated levels of some contaminants, including benzene, arsenic and lead. 1,4-dioxane has also been detected in groundwater at the site" (EPA Superfund website, November 2018).

## DRINKING WATER SUPPLY IN NEW JERSEY

Peters Mine lies just a few miles from the Wanaque Reservoir, which provides drinking water for over 2 million New Jersey residents in towns as different as Newark, Nutley, Montclair, and Wayne. Concerns have been raised by several parties that contaminants might migrate into the reservoir. If this does occur, it would impact nearly every resident of northeast New Jersey, since some portion of their water supply comes from the Wanaque Reservoir or the Ramapo River. All the major water suppliers draw from these sources including: United Water, Passaic Valley Water Commission, and the North Jersey District Water Supply Commission. In Ringwood, 8 million gallons of water per year are drawn from the Wanaque Reservoir, at an average of 22,000 gallons a day. 3,251 properties in Ringwood are on aging borough utility lines, drawing water from 4 public wells and 3 tanks (Zimmer, 2017). Houses which are not on the public water system draw from private underground wells, which are expensive to test and maintain, possibly making them even more susceptible to water contamination. While there may

not be evidence of contamination of the Wanaque Reservoir today, concerns remain about contamination in the near or distant future. This is because there is limited knowledge about the underground movement of water in the mines or the nature and extent of percolation through fissures and cracks in the bedrock.

***“Underground water movement, given the altered cavernous terrain of the mining area, along with the ever changing nature of the surface water runoff due to erosion and other soil disturbances, could change the flow of contaminants into the reservoir. And there is still the mystery of knowing the true nature of the underground materials.”***

***- Chuck Stead, PhD Environmental Studies***

“Obviously you don’t want to see anything like this in your watershed,” stated Michael Barnes, the water commission’s chief engineer, in 2005. “Right now we don’t see an impact. But is it a concern? Absolutely. Will it continue to be a concern, even when they’re done with the next set of sign-offs? Absolutely” (Washburn, 2005). But it is difficult to remove the hundreds of thousands of gallons of water now flooding the mines. Pumping mechanisms would be required, and there is the question of what to do with the water once it is removed since it cannot be released. Removal would be required if the mines were capped.

One proposed option is “Closure/Treatment in the PMP Air Shaft.” This calls for permanently sealing the shaft and remediating the enclosed water. This strategy would place filtration devices at the base of the shaft (granular activated carbons and resin) that would help adsorb (not absorb) any COCs (Constituents of Concern) located within. In addition, slabs of non-calcerous stone would be placed inside and used as a stabilizing base for grout. The insertion of these filters would cause displacement of the water, which would need to be filtered and subsequently released into the immediate area, compliant with the New Jersey Pollutant Discharge Elimination System (NJPDES) Rules. Finally, a slow-drying grout mixture would be used to line the interior of the shaft and coat any debris inside, before pouring a concrete top to permanently seal the shaft opening. Because this closure would be permanent, there would be no need to monitor the site; but this option is by far the most expensive (Cornerstone, 2018 pp.60-64). The Groundwater ROD (Record of Decision) will soon be released by the EPA to announce the course of action that will be taken.

## **1,4 DIOXANE CONTAMINATION**

Tests have discovered 1,4 dioxane in Park Brook, flowing from the dump site downstream into Sally’s Pond, which flows into Ringwood Creek, then discharging into the Wanaque Reservoir. 1,4 dioxane is a colorless and man-made chemical; long-term effects of exposure include liver and kidney damage, and cancer.



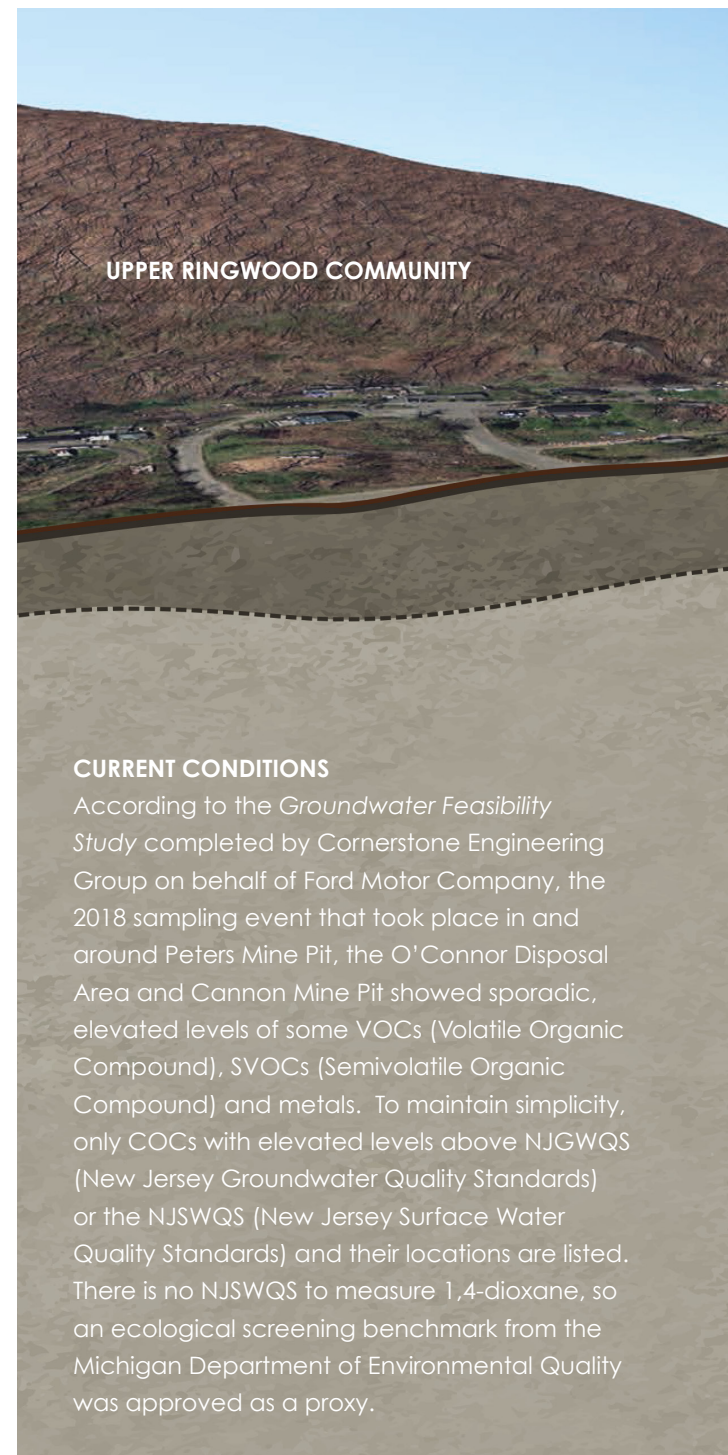
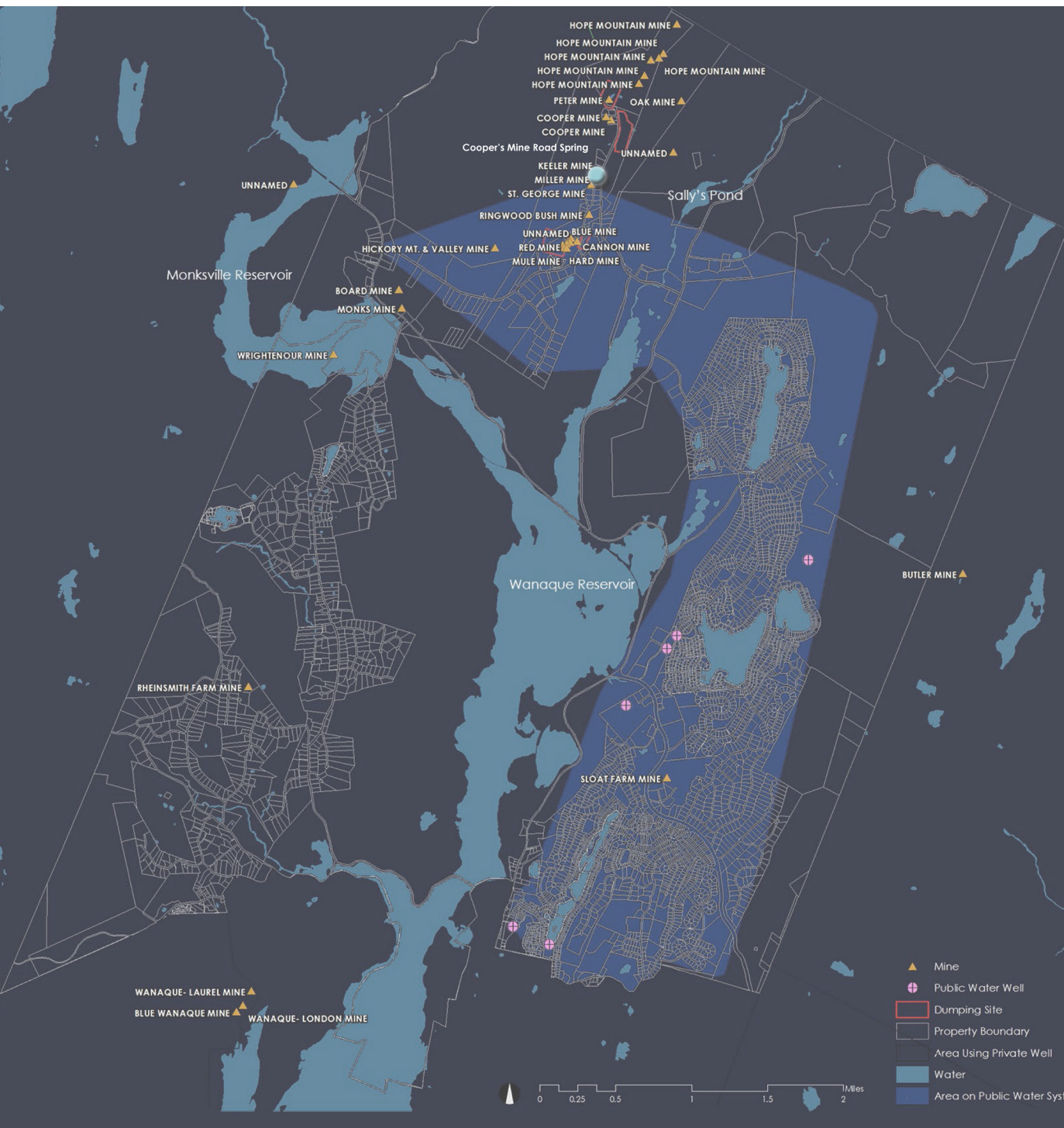
According to the EPA's Technical Factsheet, this chemical "may migrate rapidly in groundwater, ahead of other contaminants." It is difficult to remove it from water or to decompose it in water due to its high water solubility and non-volatility from water, although oxidation and granular activated carbon processes have proven effective in some cases (Zenker et al., 2003).

The February 2018 Superfund site Factsheet indicates that the highest level of 1,4 dioxane was found in the Peters Mine Air Shaft at a depth of 230 feet below the surface, and was found in 17 monitoring wells in the area, as well as in 2 wells near Canon Mine (TASC Factsheet, 2018). The report concludes that "it appears that there is little risk that site contaminants will affect drinking water from the reservoir. However, 1,4-dioxane contamination is not properly defined in the deep bedrock and it is not clear whether it extends off site." This is because it is unknown whether even the furthest well (RW-15D) goes deep enough to allow for testing in the deep bedrock groundwater. The September 2018 report by Cornerstone suggests that "Monitored Natural Attenuation" (MNA) would be enough to deal with this deep problem. MNA includes routine, active monitoring of groundwater quality and the natural attenuation processes that are expected to reduce chemical concentrations in groundwater over time. They claim MNA would be an effective solution since there is "no significant potential risk to human health" from water on the site since it currently is not used as a potable water supply, and there is "no unacceptable ecological risk to surface water based on COC concentrations in comparison to EBSLs [Ecologically-based screening levels] ..." (2018, p.39).



Above: A photograph taken of a pond off of the Hasenclever Iron Trail in February 2018.  
Below: Images from Vivian Milligan's home movies, taken in Ringwood.

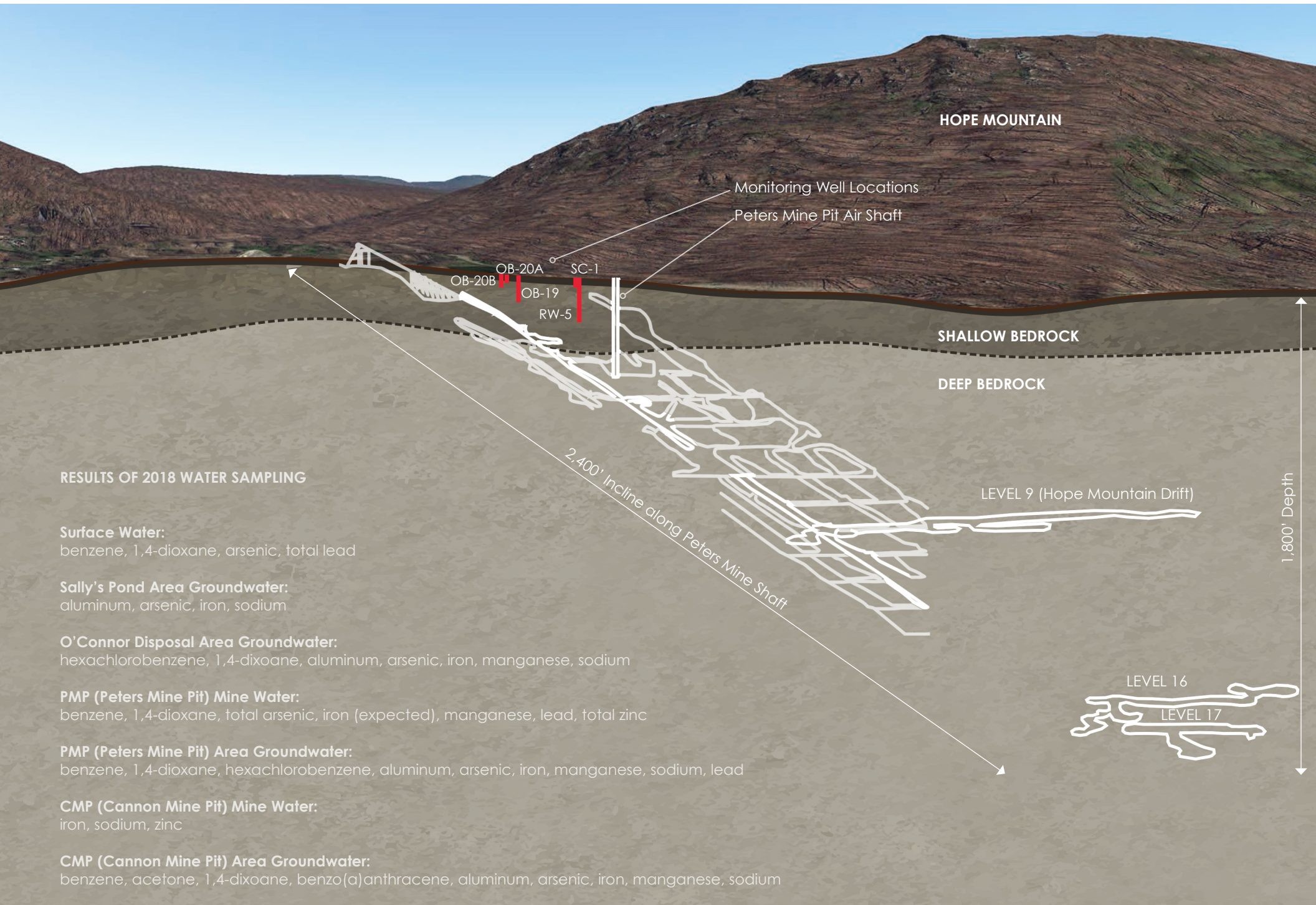




## UPPER RINGWOOD COMMUNITY

### CURRENT CONDITIONS

According to the *Groundwater Feasibility Study* completed by Cornerstone Engineering Group on behalf of Ford Motor Company, the 2018 sampling event that took place in and around Peters Mine Pit, the O'Connor Disposal Area and Cannon Mine Pit showed sporadic, elevated levels of some VOCs (Volatile Organic Compound), SVOCs (Semivolatile Organic Compound) and metals. To maintain simplicity, only COCs with elevated levels above NJGWQS (New Jersey Groundwater Quality Standards) or the NJSWQS (New Jersey Surface Water Quality Standards) and their locations are listed. There is no NJSWQS to measure 1,4-dioxane, so an ecological screening benchmark from the Michigan Department of Environmental Quality was approved as a proxy.



# RINGWOOD ENVIRONMENTAL JUSTICE MEMORIAL

JUN WANG

FOCUS: water, balance, justice, attention, and vigilance

*These design studies by landscape architecture students, shown in each section of the book, present a range of ideas for creating memorials to mark the environmental losses experienced at Ringwood.*

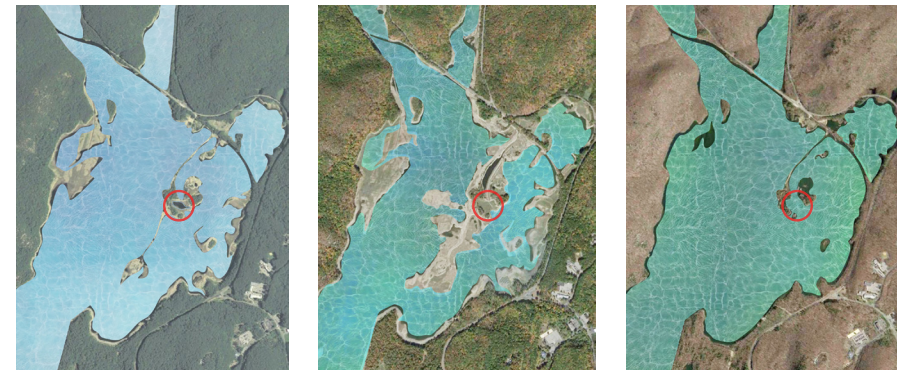
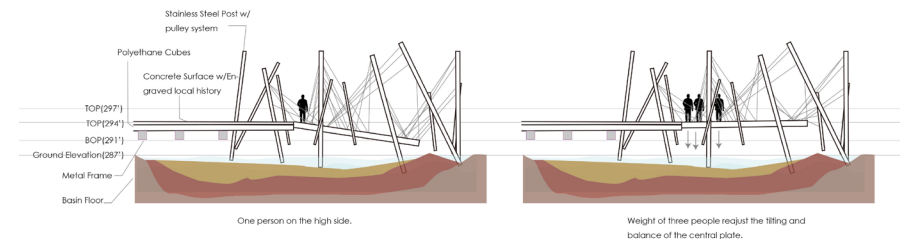
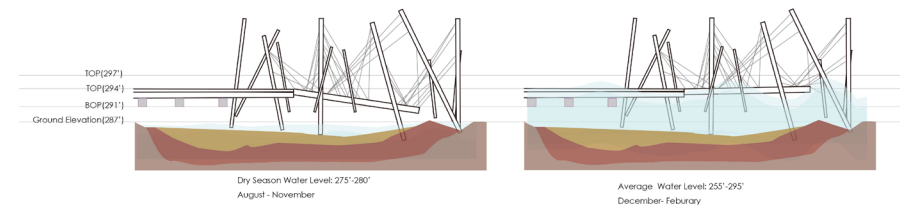
There is no national public memorial dedicated to commemorating lives lost to environmental contamination caused by human activities. The Ringwood Mines Superfund Site epitomizes industrial contamination in America. What happened in Ringwood is not unique; much land and water has been contaminated by hazardous waste, posing a risk to human health and environment, especially in minority communities.

Therefore, the creation of a national public memorial outside Ringwood would help raise awareness. This public memorial can serve as a national iconic marker of environmental justice. The piece is defined by two narratives. First, the central plate is a metaphor for a corrupted and failing justice system. It expresses criticism of the government's inaction in protecting its people. It is engraved with information about environmental contamination cases in the United States. The broader message of the memorial is to inspire action against environmental injustice.

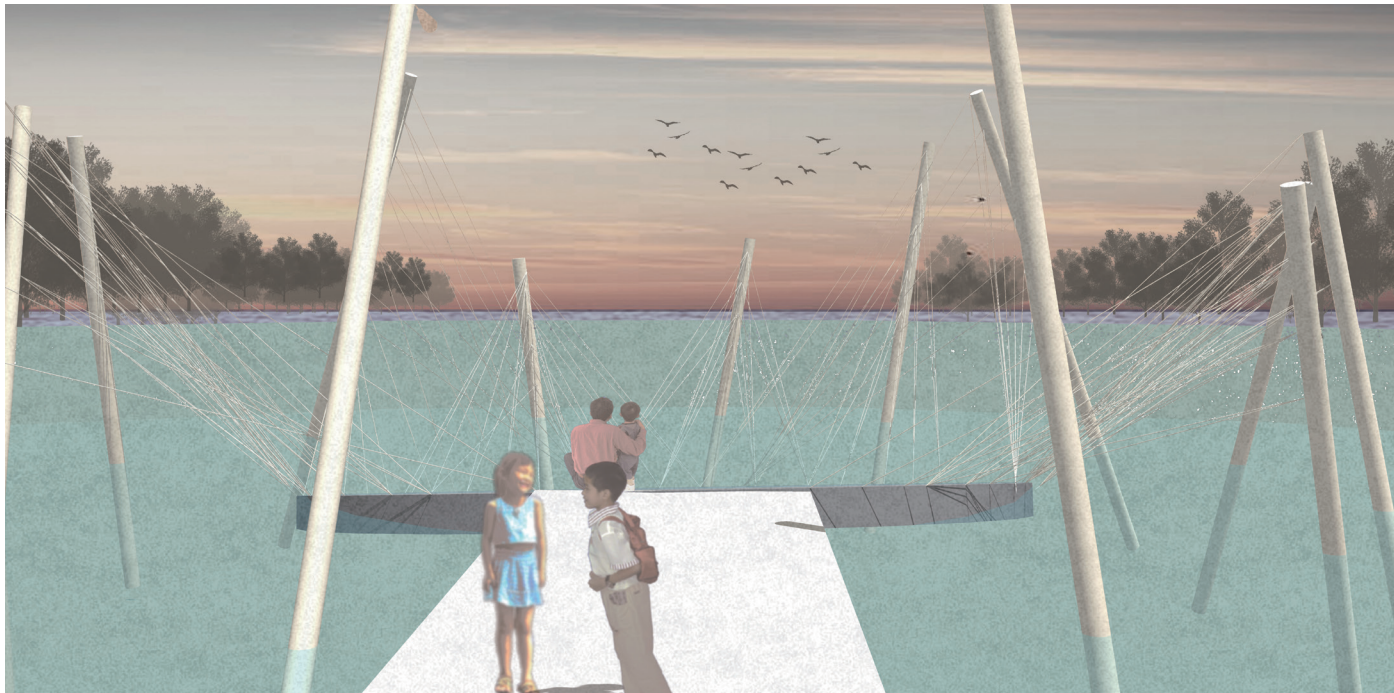
Visitors will access the memorial from a sloping boardwalk engraved with the history of the Ringwood Mines Superfund Site. The declining slope of the walkway will cause people to slow down, pay attention to their feet, and look at the engraved history. The center plate will shift as the body weight of the visitors causes the plate to tilt, revealing the submerged engravings on the plate. This will draw connections between Ringwood and other sites. Hopefully, the space can elicit conversation and reconciliation.

The memorial is designed to sit in the Wanaque Reservoir in a small section where the water level is always changing (as shown in the maps). The engraved platform that people can walk on changes height along with the water, and tips in various directions to balance the weight of the people. This attempts to draw attention to how fragile environmental victories have been; some are currently being overturned and are under threat. Examples include the reinterpretation of the Migratory Bird Treaty Act (2017), the reduction in size and opening to mining and drilling of two National Monuments (2017), and the reduction of US waterways that now fall under the protection of the Clean Water Act (2017).

This National Memorial to Environmental Justice aims to remind people of the need for constant vigilance and action to protect our environment and our land.









## THE WHITE DEER STORY

As he moved along into forests that were not familiar to him he noticed that fresh animal sign was really not there, in fact it seemed this area was lacking in life. They eat, they rest, the young man sleeps but is in fact awakened in time to see Old Mantake, our White Deer.

White Deer is the Game Keeper who observes how the dependent and weak ones of the earth go about taking the life of game and whether or not they do proper ceremony as in asking Great Spirit for the gift of life and celebrating in thanks for this gift when they take a life; and most important treating the remains appropriately and with respect after they have eaten.

If not, and the hunter does these things poorly and with disrespect, he will only absorb the animal's negative soul or stories and nothing good will come of this exchange. The boy realizes that Old Man keeping White Deer captive has impaired this delicate balance.

He then carries White Deer back to his home land but as White Deer's life slips away the land around him comes alive with wildlife and beautiful plants. White Deer reminds him of the need to respect ceremony and all things and then White Deer dies.

Since that time, White Deer emerges from time to time to remind us of this.

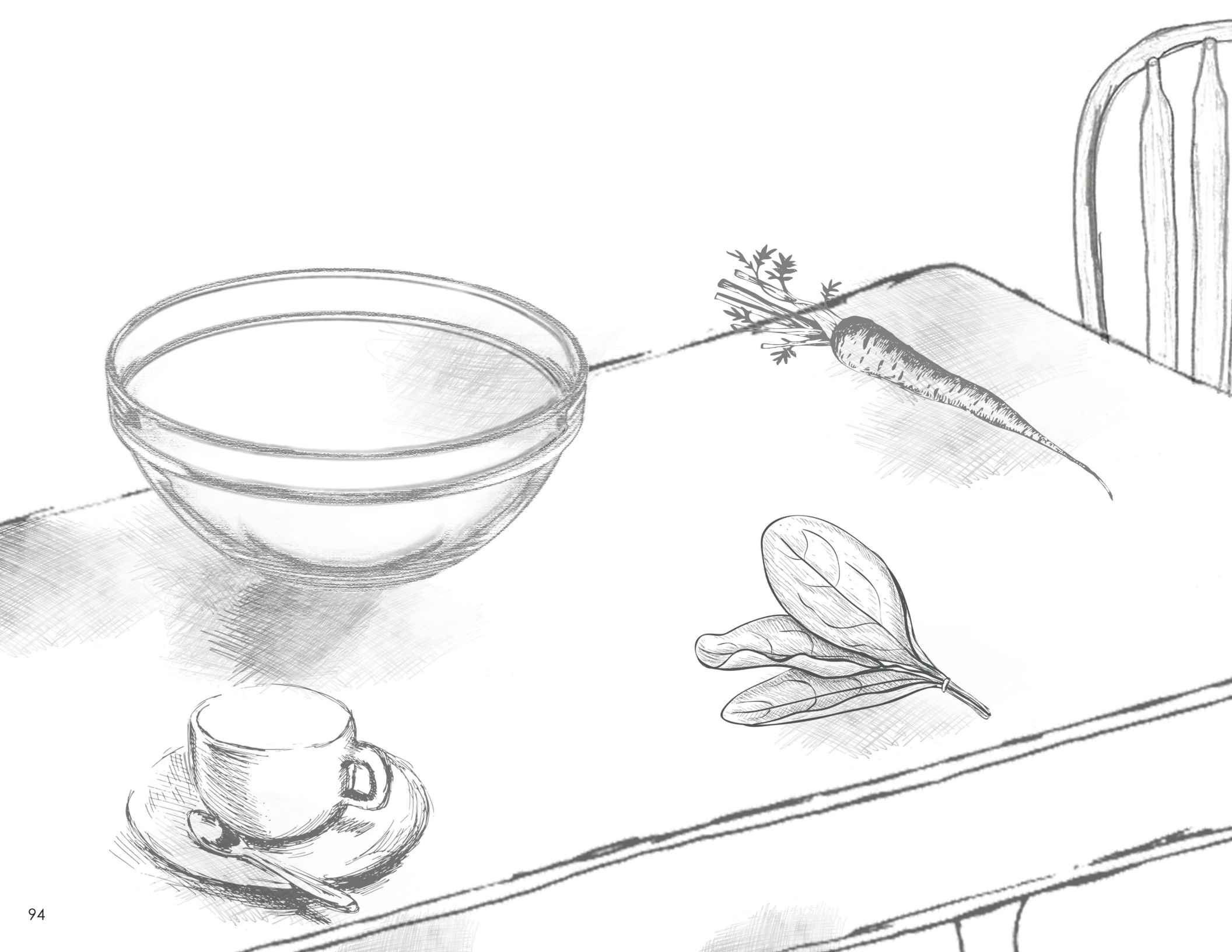
*The White Deer Story is adapted from John Bierhorst's "The White Deer" (1995).*

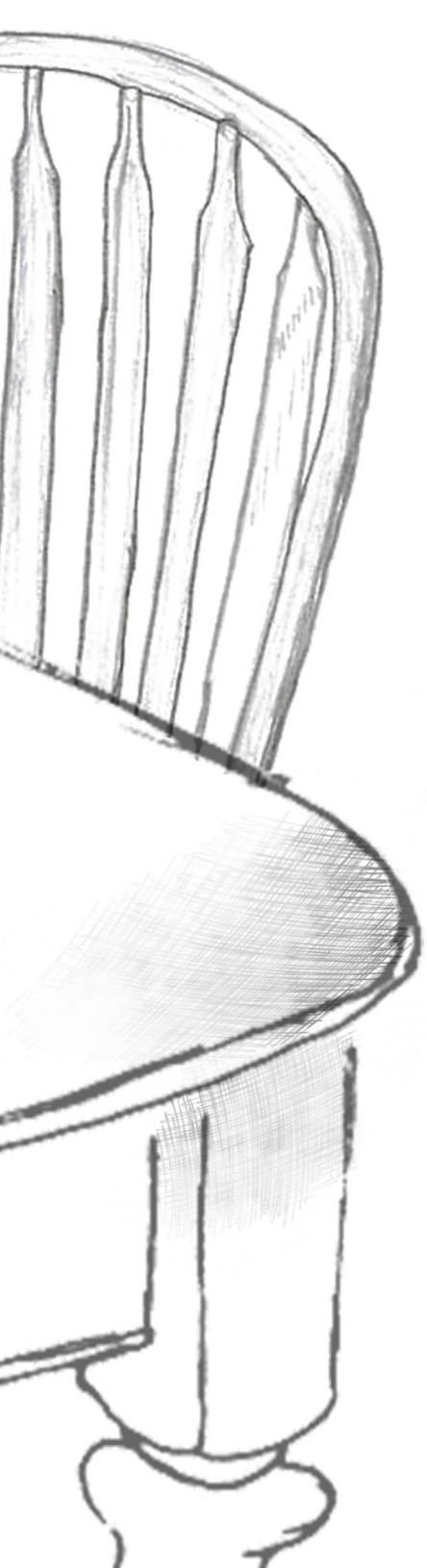


## **Storytelling Circles**

**What environmental connections or losses have you experienced on Your Land? Write Your Story in the storytelling circles in the forest.**

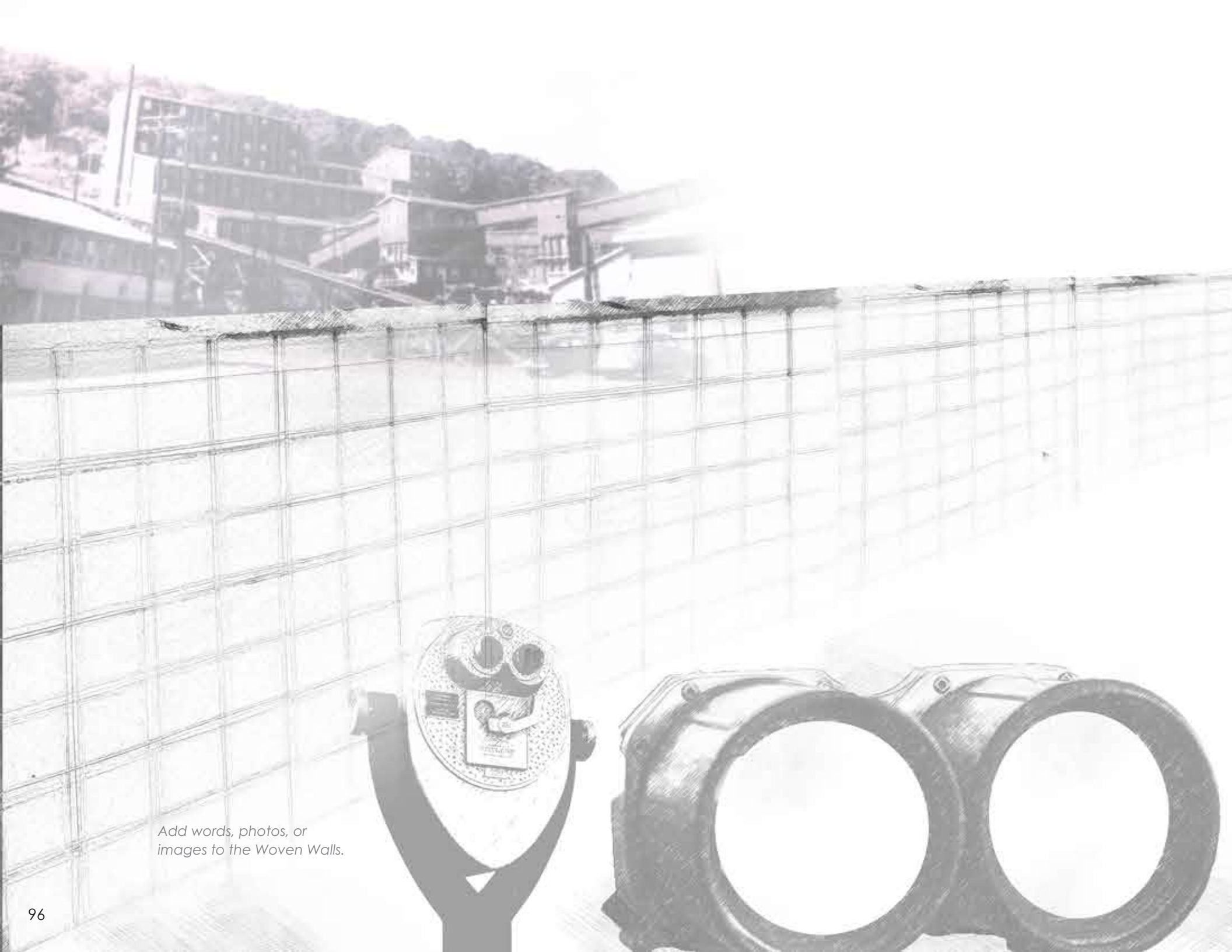






## **Traditional Recipes Foraged Foods Family Cures**

*Write your traditional recipes and cures below.  
Sketch plants and ingredients on the table  
or in the bowl or the cup.*



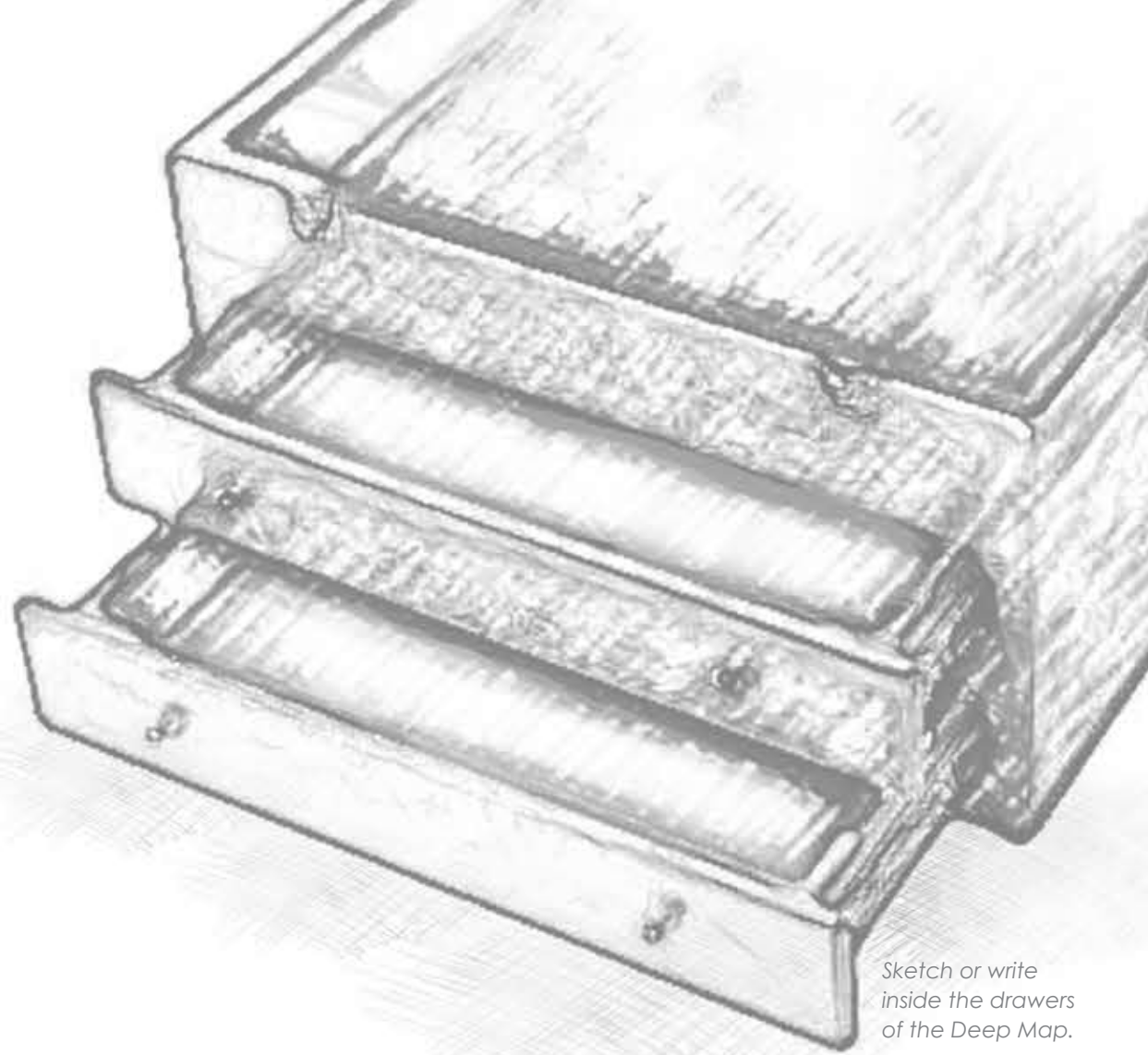
*Add words, photos, or images to the Woven Walls.*







*Draw here the statues, artwork or gathering spaces that you would add to the landscape.*



*Sketch or write inside the drawers of the Deep Map.*

## **Create Your Memorials**

**How would you mark environmental connections or losses?  
How would you commemorate the histories and memories described in this book? What would you add to the Deep Map, the Tower Viewers or the Woven Walls, either for Ringwood or for Your Land? Sketch your ideas here.**

*Draw or write about what you want people to see when they look inside the Tower Viewers.*

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## Quotations in Text

Page 9	Ronald Redbone quoted in Stead, 2015 p.170
Page 11	Wayne Mann quotation from interview in Mann v. Ford, 2010.
Page 15	Barry, et.al., 2005.
Page 17	King, 2012, p.218.
Page 19	Akwesasne ERAC quoted in Hoover, 2017 p.26
Page 35	Jody Van Dunk quoted in Futterman (1988, p.26).
Page 37	Barbara Williams quotation from interview in Mann v. Ford, 2010.
Page 39	Jan Barry quoted in Stead (2015, p.109).
Page 47	Stead, 2015 p.99.
Page 71	Hall, 2015 p.285.
Page 84	Stead, 2015 p.31.

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## GLOSSARY OF ACRONYMS

ATSDR	Agency for Toxic Substances and Disease Registry
BHRRRA	Baseline Human Health Risk Assessment
BIA	Bureau of Indian Affairs
CDC	Center for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CMP	Cannon Mine Pit
COC	Constituent of Concern
EBSL	Ecologically-Based Screening Level
MNA	Monitored Natural Attenuation
NIEHS	National Institute of Health Sciences
NJDEP	New Jersey Department of Environmental Protection
NJDES	New Jersey Division of Water Quality
NJDHSS	New Jersey Department of Health and Senior Services
NJGWQS	New Jersey Ground Water Quality Standards
NJSWQS	New Jersey Surface Water Quality Standards
NPL	National Priorities List
OCDA	O'Connor Disposal Area
OIG	Office of Inspector General
PMP	Peters Mine Pit
PRP	Potentially Responsible Parties
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SWQS	Surface Water Quality Standards
SVOCs	Semi-Volatile Organic Compounds
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

## NOTES ON CONTRIBUTORS

**Anita Bakshi** teaches in the Department of Landscape Architecture at Rutgers University. She has worked on community commemoration projects both internationally (in Nicosia, Cyprus), as well as with local partners in New Jersey. She has explored the documentation and mapping of contested histories in her doctoral and professional work. Her book, *Topographies of Memories: A New Poetics of Commemoration* (2017), explores new approaches for developing memorial and heritage sites.

**Jan Barry** is a poet, author and journalist. A co-founder of Vietnam Veterans Against the War, his poems and essays on the war have appeared in diverse publications. Featured in the HBO documentary *Mann v. Ford*, he was lead reporter for the "Toxic Legacy" series published by *The Record* (Bergen Co., NJ). In a journalism career that included a stint at CBS News and writing for weeklies, dailies and national news publications, Jan Barry is a recipient of several journalism awards. He was a member of an investigative project team at *The Record* that received a Grantham Prize for Excellence in Reporting on the Environment.

**Edwin Gano** is a junior landscape architect at MKW+Associates, LLC in Rutherford, New Jersey. He has worked in publishing, winning several awards for his ability to capture and edit media, as well as layout and design.

**Chief Vincent Mann** is chief of the Turtle Clan of the Ramapough Lunaape Indian Nation. In 2016 he won the Russ Berrie Award for his work on preservation of land issues in the Ramapo Mountains. He has worked to establish new connections and partnerships to address the long-standing problems with contamination in Ringwood, and to share his community's story.

**Diana Randjelovic** is a graduate student in the Department of Landscape Architecture at Rutgers University. Her interests are writing, story-telling, and photography. Her Masters thesis explores these aspects of connecting people to place and nature through sharing and documenting personal histories. Her goals are to understand people and their landscapes to create inclusive spaces.

**Chuck Stead** has led the long fight for the remediation of a Superfund site in New York's Torne Valley. He has documented the region's history and built the Ramapo Saltbox Environmental Research Center to teach future generations. He received his doctorate in Environmental Studies from Antioch University, New England and served as an environmental educator with Cornell Cooperative Extension. He has long worked as a storyteller, activist, and researcher, and is a model for the role that academics can play in the healing of communities and ecosystems. He is Adjunct Professor of Environmental Studies at Ramapo College in Mahwah NJ.

**Wenke Taule** was Mayor of Ringwood from 2004-2005, and a Council Member from 2002-2008. As mayor, she organized the first meeting between the Ramapough, Ford, EPA, NJDEP, and the Ringwood Boro. She has been a member of the Community Advisory Group (CAG) for over 12 years.

**Barbra Walker** comes from a construction background, having worked for renovation companies in addition to owning and operating one herself. She has had professional experience coordinating multi-million dollar projects throughout the tri-state area. After a brief sojourn from her professional life, she decided to pursue her education in a field related to her passions - environmental sustainability - and recently graduated from the Landscape Architecture program at Rutgers. She now works as a Landscape Designer for a firm that focuses on sustainability and the preservation of local landscapes in New Jersey.

**Judith Zelikoff** is NYU-NIEHS Community Engagement Core Director and Toxicology Professor in the Department of Environmental Medicine. Zelikoff's lab has been working with the Ramapough Turtle Clan in Ringwood, NJ since 2013 and as of 2018 has established a partnership with the Ramapough Deer Clan from Hillburn, New York, another Ford dumping ground.



The Ramapough Lunaape Turtle Clan, have called Ringwood, New Jersey home for centuries. The surrounding landscape features iron mines, Native American rock shelters, and a forest that provides food for hunters and foragers. But it also contains a stew of different chemical toxicants from the former Ford manufacturing plant, deep pockets of contaminated soil, streams that now flow with orange water, and the Ringwood Mines/Landfill Superfund Site. The people live in the Superfund site, just upstream from the Wanaque Reservoir, which provides drinking water to millions of New Jersey residents. This book illustrates the connections between scientific data, environmental remediation reports, and personal narratives of the cultural and spiritual traditions of the Ramapough community. It presents visualizations of traditional Lenape stories and imaginative design proposals for memorials that mark environmental losses. An interactive section at the end of the book provides space for you to write about your land and your story.

