

BEYOND  
HUMAN

ON BECOMING IN A MORE-THAN-HUMAN WORLD  
BY AMY SUZUKI





On a warm day in my first fall in New York, I traveled to Broad Channel Beach to visit my client. I was nervous—I had briefly glimpsed them before at a distance, but this would be my first time seeing them up close. When I finally walked up to the cordgrass, growing sparsely on the beaches, I could barely contain my excitement. They grew much taller than I expected, and there were clusters of ribbed mussels at their base just as I had researched. My encounter with this salt marsh grass, my precious client for the fall semester studio, was a quiet one. I was alone on the beach, far from the usual bustle of Manhattan, and I quickly got to work.

I had come all this way to collect plastic specimens. Our assignment was to conduct an inorganic analysis, and I came here to study the trash that washed ashore. I put on gloves, grabbed my trash bags, and began picking up litter. After about an hour, I came across a peculiar object. A bright blue plastic fragment, half-buried at the base of a cluster of cordgrass. I reached through the blades to tug it free, only to find that it was completely tangled with the rhizomes. I pulled, and a small piece ripped off, but I decided against removing it entirely as I figured it would harm the plant. What's more, I found small juvenile ribbed mussels and periwinkle snails nestled in the detritus. Could it be possible that plastic, too, can be alive? Excited by my findings, I left behind an almost clean beach, except for that one stubborn piece of blue plastic, still part of the wetland's strange, entangled landscape.

Seven months later, I still sometimes think about this day. But what stayed with me more were my on-the-ground encounters with the more-than-human: the swaying cordgrass, the rising tides, the enduring plastic. My exchanges with the vibrant matter of the wetland shaped me, just as much as I would shape them with my project in the coming weeks. My time at GSAPP, the specific places and concerns I researched, the architectures I created in response, was an unfolding process of mutual transformation. This must be what Bruno Latour refers to as *learning to be affected*, and JK Gibson-Graham refers to as *becoming world*. We, as architects and designers, have the capacity to build the world. But we must also open ourselves to being changed by these embodied encounters, only then can we become.

The title “Convivial Matter” refers to my desire to find joy and belonging in the more-than-human world. From this framework, I am interested in the following questions: What does it mean to design for a more-than-human world? What does it mean to recognize the material world as kin, and how might such recognition shift our understanding of mutual transformation between ourselves and the world? How can an exploratory, place-based design approach construct better futures? How can convivial matter act as resistance to current structures of power? And how do we—as designers in the Global North—enact a different mode of humanity? This portfolio is the becoming of an architectural practice that seeks to engage with these tensions and explore new ways of being in the world.





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ENTANGLED SHORELINES: BRAIDING FOUND MATERIALS TO PROTECT THE SALT MARSH  
Adv V Studio: Wet Land

JEROME L GREENE SCIENCE CENTER  
Architectural Photography



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LOCALITEA  
Edible Summits



# ENTANGLED SHORELINES

Broad Channel, New York

Wet Land  
Michael Wang

Fall 2024  
Adv V Topic Studio



AMY SUZUKI



Fall 2024 Adv V Topic Studio: Wet Land  
Critic: Michael Wang  
Teaching Associate: Aishwarya Garg

*Entangled Shorelines: Braiding Found Materials to Protect the Saltmarsh* proposes a living shoreline using found materials typically considered toxic or invasive—phragmites and plastic waste—to protect against storm surge and erosion, expand the wetland edge by growing cordgrass, and accumulate materials including macro and microplastics.

Cordgrass, a salt marsh grass, acts as an edge condition to New York wetlands and creates a condition of material accumulation. The ocean currents bring all types of materials to the shore, which the cordgrass endlessly embraces as its architecture traps floating debris.

The shoreline gathers an eclectic mix of materials: sediment, ribbed mussels, gender reveal party balloons, snails, heavy metals, single use plastic utensils, Hindu flower garlands, fish bait containers, seaweed, commercial fishing nets, fiddler crabs, phragmites, hot cheeto bags, nitrogen, diamondback terrapins, and more.

While channelization and the hardening of Jamaica Bay shorelines have reduced the sediment supply necessary for wetland expansion, the cordgrass collects a new assortment of materials, blurring the boundary between the natural and human landscapes. Overtime, the cordgrass roots grows, weaving the assemblage in place as the organic matter decomposes and turns into peat. The collected debris and entangled materials are buried—returning to the Earth from which they came from—and the salt marsh grows.

IMG 01. (p. 06-07) Entangled Shorelines, constructed out of phragmites and found materials including water bottles, plastic bags, acrylic clothing, rope, balloon ribbon, plastic Hindu ritual garlands, and shellfish trap netting.

IMG 02. Plastarium scan, showing a portion of the blue plastic waste removed from the plant shown in IMG 03. Juvenile ribbed mussels and a snail were found on the detritus once removed.

IMG 03. Blue plastic waste was found entangled with cordgrass roots and could not be removed without damaging the plant.



AMY SUZUKI



Inorganic Analysis / Wetlands Studio

Poly(ethylene terephthalate)  
Polyethylene Terephthalate (PET)  
Mylar balloon, Ribbed Mussel & Periwinkle Snail

United States: New York: Kings County (Brooklyn) & Queens County (Queens):  
Gateway National Park: Broad Channel American Park  
40°35'43.41"N, 73°49'22.20"W

Low Tidal Salt Marsh - Common on low tidal salt marshes with dunes, with *Spartina alterniflora*, *Spartina patens*, *Geukensia demissa*, *Littorina littorea*, littered marine biomass, marine detritus and upland tidal shrubs. A few planted trees scattered throughout.

Collector: A. Suzuki  
No. 04

06 October 2024





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09



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IMG 05. A salt marsh, at Jamaica Bay Wildlife Refuge, NY.

IMG 06. Cordgrass during low tide, at American Broad Channel Park, NY.

IMG 07. A blanket, used in Hindu ritual offerings to the ocean, which was left behind on the sand.

IMG 08. Cordgrass during sunset, at American Broad Channel Park, NY.

IMG 09. Detritus of a Hindu ritual offerings to the ocean, which washed up on shore and got caught in the cordgrass, at American Broad Channel Park, NY.

IMG 10. Repaired cordgrass at Sunset Cove Park, NY.

IMG 11. Various materials accumulate at the base of the cordgrass at low tide, including ribbed mussels, snails, seaweed, blue crab, and plastic waste.





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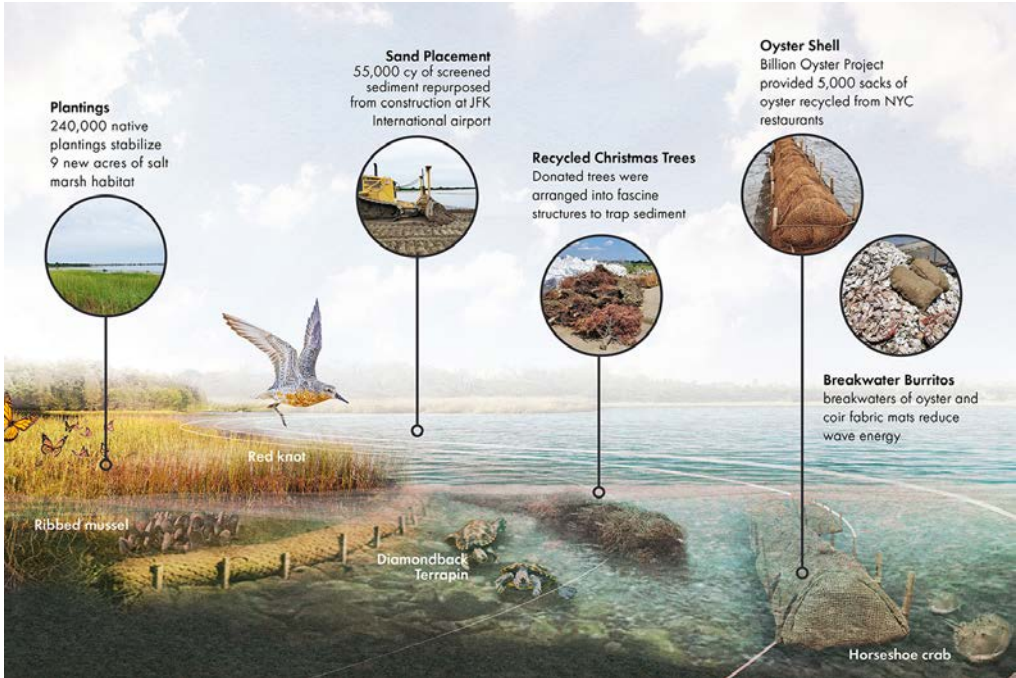
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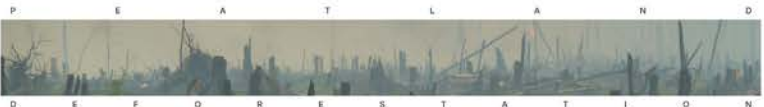
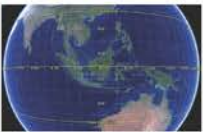
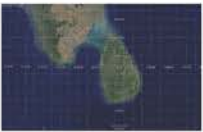




14 West Pond Living Shoreline is designed by Dirtworks. Image by Dirtworks.



15 Coir erosion log are used as sustainable solution to protect shorelines from erosion, using a material that eventually decomposes and help with cordgrass succession. Yet coco coir is imported from the countries like India or Indonesia, who often have unsustainable coconut agricultural practices, as seen in IMG 16 to the right. The coco coir is not called out in sustainability diagram by Dirtworks, shown above.



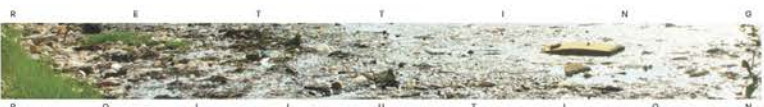
Indonesia faces high rates of deforestation of peatlands, which is considered a vital carbon sink. Riau has the most loss cover loss with 4.20 Mha compared to an average of 925 kha.



To maximize fruit production, a row planting technique called "double-hedged row" is used for tree spacing. This results in coconut palms that are planted at a density of 220 palms/ha for dwarf and Ponder coconut.



Kerala's Ashtamudi lake faces pollution from anthropogenic causes, including organic pollution from the retting of coconut husks. During this process, husks are soaked in water for 6-12 months.



Coconut farming provides a livelihood for many communities in Southeast Asia, but it is often accompanied by challenges such as poverty wages and worker exploitation.



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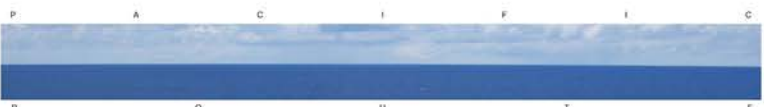
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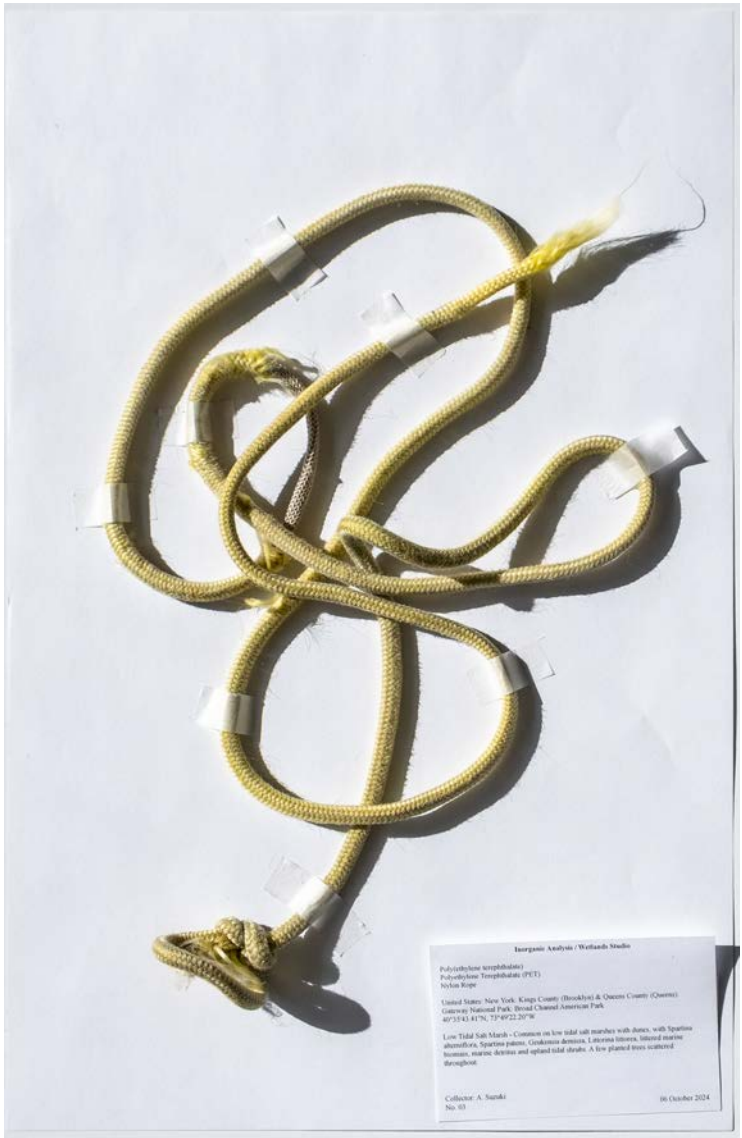
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Plasterium 17: Polypropylene (PP), Polyethyle Terephatalte (PET). Mylar Balloon and Balloon String.

Plasterium 18: Polyethyle Terephatalte (PET). Mylar Balloon, juvenile Ribbed Mussel, and Periwinkle Snail.

Plasterium 19: Poly(1-methylethylene), Polypropylene (PP) or High Density Polypropylene (HDPP). 16. oz Deli Container Lid, Spoon, and Water Bottle Cap.

Plasterium 20: Polyethyle Terephatalte (PET). Nylon Rope.



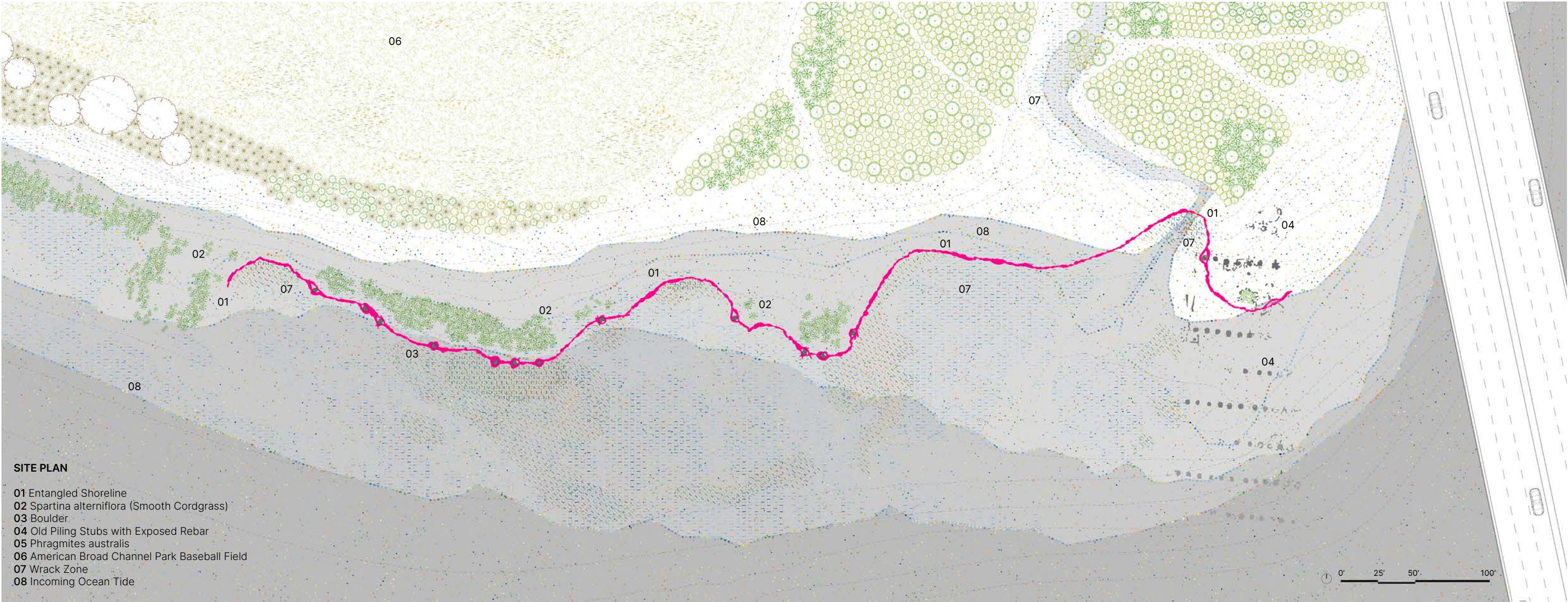
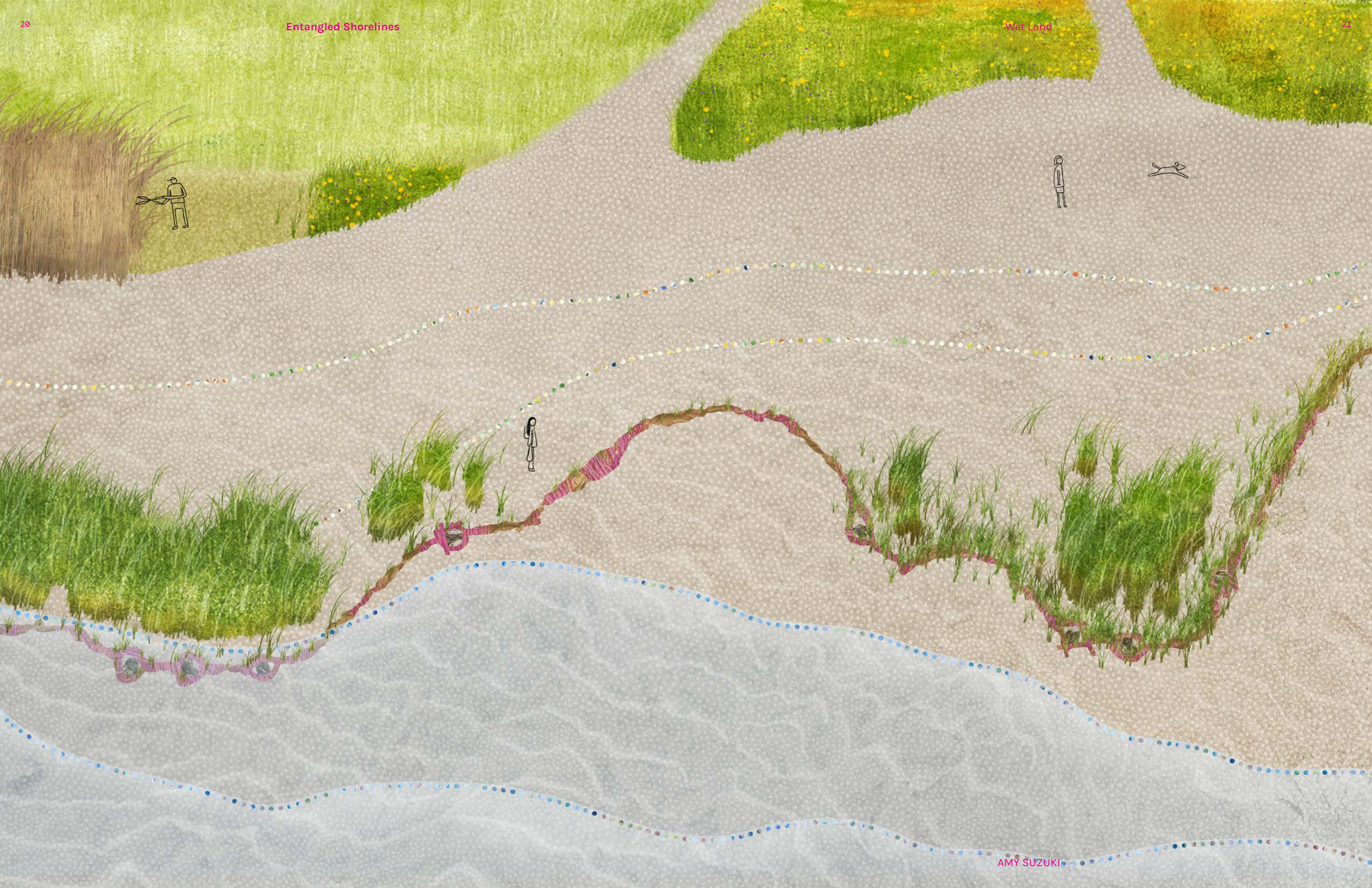


FIG 21. Site Plan, situated at American Broad Channel Park. The form is shaped by the existing cordgrass and wrack zone. Marine wrack, detritus, and other materials are carried in the intertidal zone by the high tide, and is deposited when the tide goes out. Entangled Shorelines intends to catch these materials and encourage accumulation to help grow cordgrass and expand the salt marsh.









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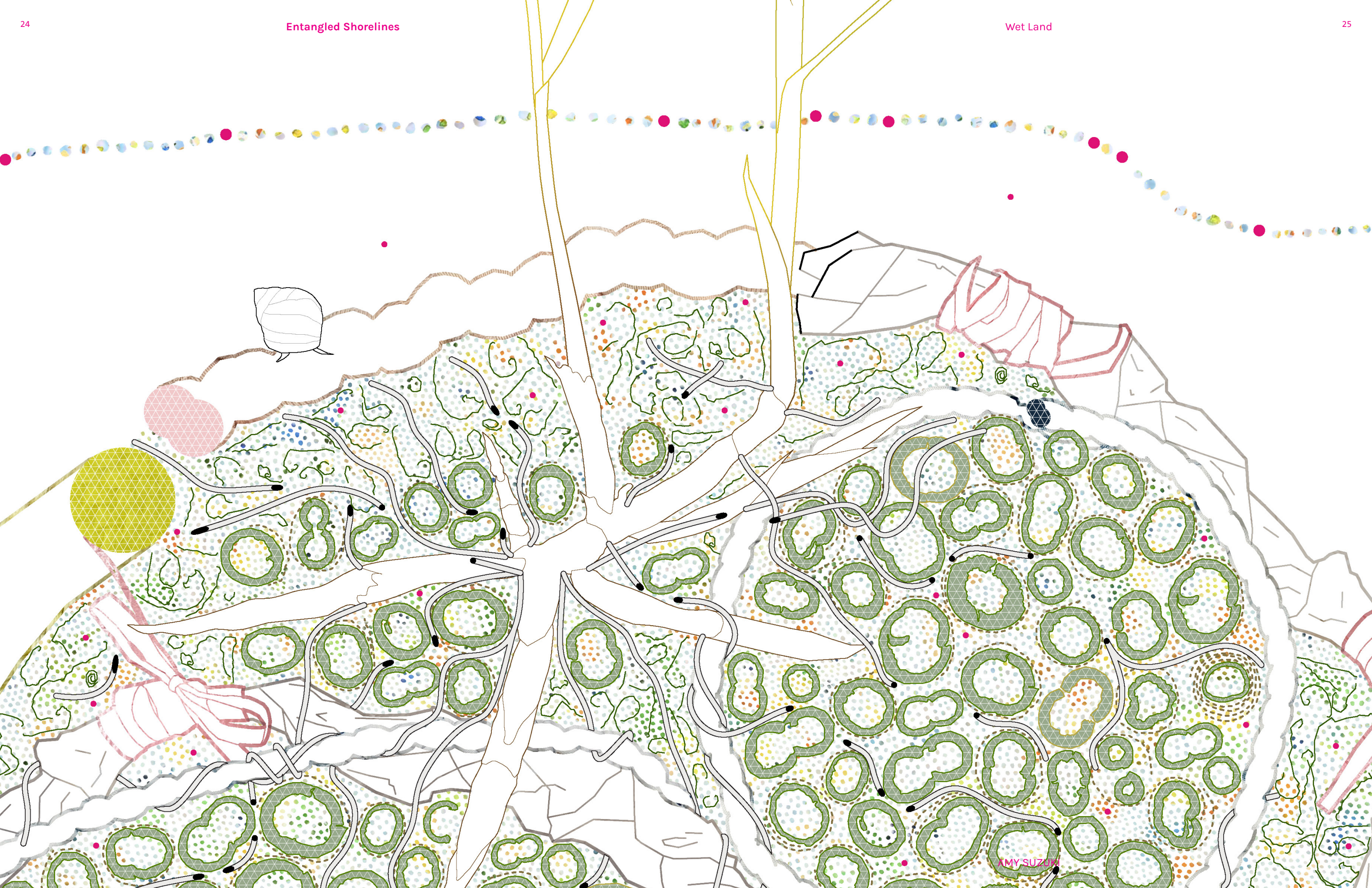
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IMG 22-25. Perspectival collages illustrating Entangled Shorelines over-time, from low tide to high tide, from installation to eventual decay, and from seeded cordgrass to salt marsh succession.

FIG 26. Detailed Section, during high tide.











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wetland studio

entangled

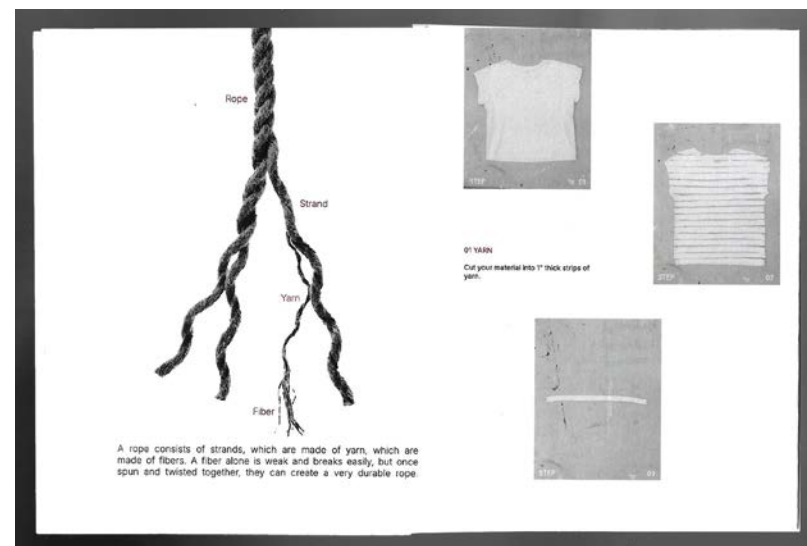
shorelines

IMG 27-30. Scans of a tutorial zine, "Braiding Plastic to Protect the Salt Marsh", which explains how to create a rope out of found materials.

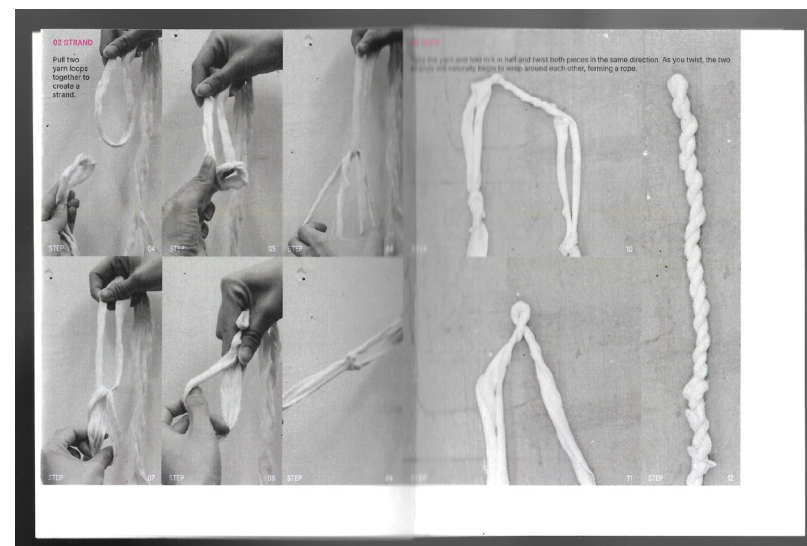
IMG 28. The anatomy of a rope consists of fibers, yarn, and strands. If a material can be turned into fibers or yarn, it can be manipulated and combined to create a thick and sturdy rope. This includes spinning, cording, braiding.

IMG 29. A t-shirt can be cut into 1" strips, which can be looped together to create a strand. When twisted in the same direction, the strands will naturally twist together to create a rope.

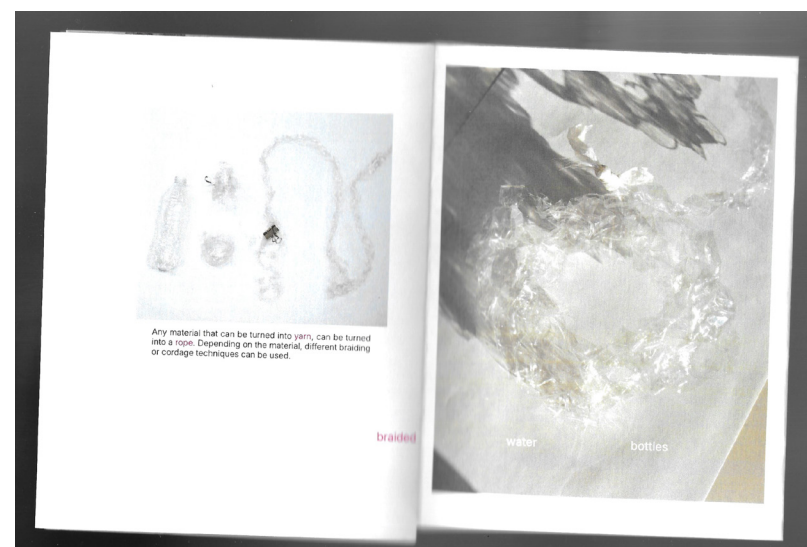
IMG 30. For harder materials such as plastic water bottles, the strands can be braided to create a rope.



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# Wasting These Borders: A Political Ecology of the Tijuana River

**Keywords:** climate crisis, objectivity, more-than-human, eco-politics, assemblage, speculative ecologies, ecofeminism

## Introduction

**The Tijuana River reveals that the US-Mexican border is a permeable line repeatedly undermined by ecological entanglements, shared bodily vulnerabilities, and the persistent flows of waste.** By examining the material conditions of the river, the border emerges as a contested space which complicates our understanding of national separation and geopolitical boundaries. This essay challenges the nature/culture binary and androcentric biases of objectivity and containment by feminizing the nonhuman and drawing from feminist space and technoscience studies, ecofeminism theories, and feminist speculative ecological frameworks. In particular, I engage with theorists such as Evelyn Fox Keller, Donna Haraway, Anna Tsing, Jane Bennett, JK Gibson-WGraham, and Nancy Fraser to examine how the river's vital materialism disrupts the myth of an impenetrable border—a fiction that enables and legitimizes a violent enforcement of a border regime underpinned by patriarchal values of control, purity, and hard boundaries.<sup>1</sup> **This essay reframes contamination and ecological ruin as sites of knowledge production that illuminates how power, environment, and migration co-constitute one another within the US-Mexico border infrastructure.** In doing so, I aim to propose an eco-politics of interdependence grounded in shared vulnerability and relational care.

## The Materialization of a Line

Following the Mexican-American War (1846-1848), the Treaty of Guadalupe Hidalgo established the US-Mexico border through a straight line that prioritized geometric simplicity over cultural or ecological boundaries. The border between California and Mexico, a line drawing from the Colorado River to the Pacific Ocean at approximately 32nd parallel north, was surveyed using tools of imperial abstraction that relied on latitude and longitude. **This border has never been a reflection of natural or social realities but a product of a patriarchal impulse of spatial control.**

Yet what was once an abstract, fictional treaty line has since materialized and concretized through fences, walls, earthen berms, surveillance, and armed border patrols. Over time, these elements have transformed a line on a map into a militarized landscape of infrastructure and power. **Concrete and steel fencing cut through wetlands and canyons, disrupting human passage, animal migration routes and hydrological processes.** Surveillance towers and drones dot the horizon, their thermal cameras and motion sensors enforcing a constant architecture of visibility designed to assert control over the movement of bodies. On the ground, earthen berms redirect floodwaters to protect security installations from inundation.

The border thus materializes through a patchwork of spatial interventions that aim to fix and divide, yet remain perpetually undermined by the very landscape they attempt to control. Fences sink in seasonal floodplains, and patrol vehicles erode berms over time. Sewage from the Tijuana river causes health risks to even border patrol agents.<sup>2</sup> **These failures reveal the underlying contradictions of supposed objectivity of geopolitical boundaries and the dynamic living systems that it intersects with.**

Meanwhile, uneven conservation strategies further materialize the border. On the Mexican side, the river has been channelized, encased in concrete to allow for and protect urban expansion. This hard edge reflects an effort to domesticate the floodplain, to make an unruly river submit to urban rationalization. In contrast, the US side has prioritized ecological restoration, preserving the remaining wetlands

as part of the Tijuana River National Estuarine Research Reserve (TRNERR). But this preservation is protected only so long as the pollutants from across the border are not let in. Yet they pass through, because the river is interlinked to Tijuana’s urban development, meaning that the wetland is being shaped by the urban conditions of the border city. This land management reflects what Keller critiques as the objectivist illusion where scientific rationalism and geopolitical power reinforce each other to render the landscape as gendered.<sup>3</sup> The differing environmental politics on either side reveal the impossibility of containing ecological systems within national borders. The US-Mexican border is human-made and violently ignores the material, social, and ecological realities it slices through.

## Entangled Ecologies

The Tijuana River is a transnational watershed that originates in the US, flows south into Mexico, and returns north again before emptying into the Pacific Ocean. **The river refuses the line, carving a fluid geography that resists the androcentric logic of the border.** Infrastructures fail to account for this fluidity as real estate typically considers wetlands and floodplains as non productive land and are systematically devalued. Meanwhile, efforts to preserve the estuary on the US side are persistently undermined by upstream urban development in Tijuana. Sewage, sediment, waste, and runoff flow downstream and cross the border with ease, especially during heavy rain events or atmospheric rivers, overwhelming infrastructure and contaminating the protected wetlands.

While human institutions strive to enforce division, the river reveals the impossibility of purity. As Haraway argues in her notion of “sympoiesis,” systems are always co created.<sup>4</sup> The estuary cannot be separated from its polluted inputs, and yet this entanglement is not purely destructive. **Despite decades of contamination, the estuary continues to serve as a habitat for diverse species and a vital stopover along the Pacific Flyway for migrating birds.** Here, we see evidence of pollution reshaping life. From the framework of Tsing’s ideas on precarity, the wetland, though degraded, becomes a site of ecological persistence and a landscape of survival within ruin.<sup>5</sup>

Wetland remediation efforts by the TRERR have primarily focused on infrastructure upgrades and habitat restoration, spearheaded by US-based institutions and agencies. These include the completion of the South Bay International Wastewater Treatment Plant and its ocean outfall pipe in 2000, dry-weather canyon water diversion systems, and ongoing support for improvements to Tijuana’s sewage infrastructure.<sup>6</sup> While these interventions have addressed some pollution issues, they underscore a broader pattern of US-led management over a fundamentally binational ecosystem.

**Conservation discourse within TRERR’s management frames native, threatened, and endangered species as key agents in the preservation narrative, while invasive species are framed as ecological threats subject to plant control programs.** This binary logic (protect, control) mirrors the broader border regime’s treatment of migrants and other “unwelcome” crossings. Institutional agency is granted to U.S. federal, state, and local authorities, as well as to scientists and environmental NGOs. Yet the absence of Mexican voices in official documentation suggests a conservation framework that mirrors geopolitical asymmetries, privileging sovereignty over ecological reciprocity.

**The presence of the US-Mexico border complicates restoration efforts further.** Border infrastructure managed by the Department of Homeland Security has direct and ongoing ecological consequences. While illegal foot traffic through the estuary has declined since the mid-1990s, the tools of enforcement remain highly disruptive. Off-road vehicles and road construction required for border policing are major sources of erosion and habitat loss in the southern portion of the Re-

### Notes

1. Vital materialism refers to Jane Bennett’s framework from her book *Vibrant Matter: A Political Ecology of Things* (Duke University Press, 2010), which argues that all materials have vibrancy and agency.
2. E. S. Joshua, “U.S. Border Agents Join Bipartisan Call for Trump to Address Tijuana River Pollution,” in *TCA Regional News*. May 19, 2017.
3. Evelyn Fox Keller, “Feminism and Science,” in *Feminism and Science*, ed. Evelyn Fox Keller and Helen E. Longino, 32. Oxford University Press, 1996.

4. Donna Haraway, “Ch. 3: Sympoiesis: Symbiogenesis and the Lively Arts of Staying with the Trouble,” in *Staying with the Trouble: Making Kin in the Chthulucene*, 58-98. Duke University Press, 2016.
5. Anna Tsing, *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruin*. Princeton University Press, 2015.
6. Tijuana River National Estuarine Research Reserve Comprehensive Management Plan, (Tijuana Slough National Wildlife Refuge Border Field State Park, 2010) page 47.
7. Philip Musegaas, “Understanding the Tijuana River Sewage Crisis - An Overview of Causes and Consequences” *San Diego Coastkeeper*, May 2, 2024.
8. Nancy Fraser, “Climates of Capital: For a Trans-Environmental Eco-Socialism,” *New Left Review* 127 (Jan.-Feb. 2021).
9. Nancy Fraser, “Climates of Capital: For a Trans-Environmental Eco-Socialism,” *New Left Review* 127 (Jan.-Feb. 2021): 120-124.
10. J. K. Gibson-Graham, “A feminist project of belonging for the Anthropocene” *Gender, Place & Culture: A Journal of Feminist Geography*. Vol. 18, no. 1 (2011).

IMG 01. US-Mexico Border between Tijuana and Imperial Beach. Image from Google Earth.

IMG 02. Earthen berms and fences can be seen separating the urban landscape and preserved wetlands.

IMG 03. A trash boom rigged to a galvanized steel cable is installed in the Tijuana River Valley to catch detritus before it reaches the ocean. Image by Nelvin C Cepeda.



serve. Even as TRERR works with DHS to implement these structures “in the most environmentally sensitive manner possible”, the inherent contradiction remains: **militarized surveillance and ecological preservation are enacted side by side on the same terrain.** Together, these overlapping ecological, political, and infrastructural forces expose a key tension: the act of preservation is never apolitical, and in this context, is entangled with a securitized border regime that often places environmental concerns after natural security priorities. Yet the estuary, as a living system, disobeys the rigidity of the human-imposed border.

Waste as Political Matter

Rather than positioning nature as an Other, it becomes more productive to consider everything as materials operating within a shared field, thereby deconstructing traditional hierarchies. Jane Bennett’s theories on vibrant matter challenges the nature/culture divide by looking at the world through its assemblages, and the various vibrant materials that they are made of. Within this framework, the political ecology of waste-matter of the Tijuana River demands critical attention. **Waste actively asserts itself by resisting containment, by crossing borders, by making bodies sick, by altering ecosystems, and by demanding recognition.** As a material widely reviled, waste commands attention precisely because of its perceived abjection. It reveals the fractures in the infrastructures from which it overflows from, and its lingering stench sobers us from the illusion of an environmental crisis that can be solely from maintenance or removal. **At the US-Mexico border, often framed as a site of security and division, sewage acts as a material witness to the failures of the border regime and the asymmetries of power.**

Shared Vulnerabilities

If the river undermines the border through its materiality, so too do the people who cross it. Despite the militarization of the border zone, migration continues: people cross, are detained, deported, and return again. Rather than functioning as a definitive border, it functions more as a circular system designed to regulate the flow of bodies, in which some are encouraged while others criminalized. Migration is therefore framed as a movement of bodies to be controlled, yet the river and the sewage that flows within it present a counterpoint to the human-focused control, creating a more complex assemblage of human and nonhuman materials that push against the possibility of the divisiveness of this border.

In contrast to the surveillance and immobilization of human movement, nonhuman flows move mostly unimpeded. Raw human waste, plastic, tires, and chemical pollutants pour downstream from Tijuana into San Diego after heavy rains. In 2024, 31 million gallons of raw sewage and other toxins flowed directly into the Pacific Ocean, causing the closure of numerous beaches and natural reserves.<sup>7</sup> This toxic flow is compounded by the rapid expansion of the Mexican border city. Combined with extreme weather and chronic neglect of infrastructure on both sides, the ongoing sewage crisis releases dangerously high levels of fecal bacteria into shared bodies of water that pose a serious health risk to humans and nonhumans alike.

**The border's ground reality reveals shared vulnerabilities that link human and nonhuman bodies through exposure, displacement, systemic neglect, and ecological disruption.** These overlapping harms reveal the interdependence of these bodies, defying the political categories that typically divide species, citizens, and geographies. Both human and nonhuman ingest and absorb contaminants with long term consequences. Bioaccumulation in marine species threatens human health through the consumption of local seafood, while also impairing reproductive functions and causing mass die-offs in marine ecosystems. As the river and coast degrade, essential habitats and communal spaces disappear:



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public beaches and recreational spaces close, and coastal ecosystems like reefs and seagrass beds collapse. Invisible pollutants further disrupt biological systems; aerosolized sewage bacteria threaten respiratory health in human communities, while oxygen-depleting algal blooms devastate aquatic life. Finally, the neglect of binational infrastructure amplifies harm from these toxic ecologies for both humans and nonhumans, especially those already marginalized such as low-income residents and endangered or threatened species. **These shared vulnerabilities reveal the unequal burden of environmental ruin to the marginalized, but also create an opportunity to support a new form of eco-politics.**

As such, the sewage in the Tijuana river delivers devastating levels of toxicity to the health of humans and nonhumans alike. But pollution, as an environmental issue, cannot be fixed without disrupting the institutional framework and structural dynamics of the border regime and capitalist society.<sup>8</sup> While US conservation groups frame the root of the pollution issue as the urbanization of Tijuana, what drives the rapid population growth precisely is the fact that Tijuana is a border city that houses many migrants who were deported. The issue of pollution is entangled with immigration politics. Addressing riparian pollution requires an eco-politics that is more embodied by the different systems complicit in environmental degradation. An eco-politics capable of preventing catastrophe must confront the capitalist structures and become trans-environmental.<sup>9</sup> We must move beyond isolated environmental frameworks of landscape preservations and border infrastructures and move towards transnational, interconnected thinking of care and reciprocity.

Geographies of Belonging

Creating better environmental futures requires a shift towards a feminist spatial imaginary.<sup>10</sup> I argue for a rethinking of geographies as a way of belonging differently in the world. In the world of climate crisis, we cannot see these landscapes as human-centered. However unequal, the US and Mexican citizens, the human and non-human, are entangled through this shared geography of the Tijuana River. In recognizing these binaries, JK Gibson-Graham argues for connection and interdependence over separation and autonomy so that “we may imbue our categories and practices with a ‘different mode of humanity’”. Here, connection could be recognizing kinship with nonhuman, even waste. **To make oddkin with toxicity is to recognize its embeddedness in our socio-political systems and shared ecologies.** It asks us to consider how even waste bears relational significance and agency in shaping our environments. While environmentalists often center on stewardship of nature from a human perspective, Bennett’s vital materialism asks us to see matter-waste, rivers, bacteria—as vibrant forces entangled with us. We may love endangered wildlife like the Western Snowy Plover, can we also extend our love to fecal bacteria? As Gibson-Graham calls it, it is about working in a more sensitive, experimental mode of assembling within the textures of our living environments.

Conclusion

**The polluted Tijuana River encourages reckoning with the ecological contradictions of national separation and geopolitical boundaries.** As a transnational living system, the river undermines the border’s permanence through its material flows within a larger ecology of estuaries, infrastructures, and consequences. The political ecology of waste-matter exposes the failures of border infrastructure, the limitations of nationalist environmental policies, and the deep entanglement of ecological degradation with systemic injustice and power asymmetries. **Addressing such entanglements requires an eco-politics that is both trans-environmental and transnational, grounded in interconnectedness, reciprocity, and care.**









01

**Keywords:** Environmental justice, water management, pollution

“Green River” (1998), a series of public interventions by Danish-Icelandic artist Olafur Eliasson, uses Uranine as a visualization tool to raise questions about pollution and ecological preservation.<sup>1</sup> Eliasson’s work emphasizes the crucial role of visibility in confronting ecological issues. Yet in Los Angeles, the intervention went largely unnoticed, revealing the paradoxes and challenges of water management. **Eliasson’s fluorescent green intervention not only visualizes pollution but also exposes the intertwined social and environmental injustices within the landscape, challenging the viewer to reconsider the long-term implications of urban water management.**

The channelization of 52 miles of the Los Angeles River was once celebrated for mitigating flood risk to the region.<sup>2</sup> Prior to channelization, the river was a turbulent and uncontrollable force, its unpredictable floods sweeping through the landscape and wreaking havoc on property. **Following a series of economically devastating floods in the 1930s, U.S. Army Corps of Engineers (USACE) encased the river in concrete, replacing its volatility with a rigid, engineered channel.** Under the Flood Control Act of 1936, the district undertook the massive task of pouring more than 2,000,000 cubic yards of concrete, transforming the river from its natural, meandering state into a rigid, engineered channel. However, this design reflected the flood risks of the 1930s and 1940s, not those of today.

With urbanization and the spread of impervious surfaces, the region today faces heightened runoff. Where once natural vegetation and soil absorbed rainwater, moderating floods, the intensified runoff now exacerbates flood risks and disrupts the river’s delicate hydrological balance. Adding to these challenges, climate change has reshaped precipitation patterns, intensifying both the frequency and severity of extreme weather events. The region is particularly vulnerable to atmospheric rivers—narrow bands of concentrated moisture in the atmosphere that can deliver intense rainfall in brief bursts—and this phenomenon can lead to rapid and severe flooding due.<sup>3</sup> **Recent events, like mudslides and flooding in Southern California, have**

- Emily Mendez, “Review of A Climate Expert Explains Why Atmospheric Rivers Are Causing Historic Rainfall in California.” Columbia Climate School Lamont-Doherty Earth Observatory, February 5, 2024.
- The study “Photolytic transformation products and biological stability of the hydrological tracer Uranine,” investigated the biodegradability of Uranine (UR) and its transformation products (TP), and found that photo-TP was recalcitrant to microbial degradation. The results suggest that more research is necessary to fully grasp the risks associated with UR use.
- Trainer, Vera L. Trainer et al, “Pseudo-nitzschia Physiological Ecology, Phylogeny, Toxicity, Monitoring, and Impacts on Ecosystems.” Harmful Algae 14, 2012, Pages 271-300.

IMG 02. Engineering reports of the Los Angeles River, following a flood in 1938.

**shown that past water management strategies, once sufficient, are now proving inadequate against the intensified runoff and more extreme weather patterns wrought by climate change.** Thus, the historical flood control measures, once deemed a triumph, now underscore the pressing need for a new paradigm in managing Los Angeles’ evolving environmental challenges and current climate conditions.

Eliasson’s use of Uranine in his work addresses the invisibility of pollution. Fluorescein (C<sub>20</sub>H<sub>12</sub>O<sub>5</sub>), commonly known as Uranine (UR) in its disodium salt form, allows for the visualization of the hydrologic landscape, revealing what might otherwise be invisible to the naked eye. UR, considered an effective flow tracer in hydrological studies, is generally deemed non-toxic to aquatic and human life at low concentrations. However, it poses a long-term risk of environmental contamination at high levels. The transformation processes of UR have not been extensively studied, and its pollution risks remain uncertain. One study found that while UR undergoes minimal degradation, it is resistant to microbial breakdown and is therefore not fully biodegradable.<sup>4</sup> **Although Eliasson believed he was using a non-toxic medium to create “Green River,” his intervention likely contributed to the pollution of the river.** The fluorescent green hue, initially intended as an abstraction, ultimately embodied the Los Angeles River’s environmental degradation. This suggests that ecological interventions, like “Green River”, intended to heighten environmental awareness, might carry unintended consequences that remain unrecognized, or perhaps, deliberately overlooked.

The significance of “Green River” lies not just in its vibrant color but in what it reveals about other hidden realities of the Los Angeles River. Tucked away between industrial zones and residential neighborhoods, **the marginalized communities of East LA—historically Hispanic and Asian populations as well as unhoused individuals who often seek shelter along the top of the channel—bear the burden of living near the polluted water source that is largely hidden from public view.** Industrial activities, urban runoff, and inadequate infrastructure have concentrated pollutants in these areas, resulting in poorer air quality and serious health issues, including respiratory problems, skin conditions, and other chronic illnesses.<sup>5</sup> The limited access to healthcare in these communities exacerbates these health challenges. The segregation of the riparian landscape has effectively obscured the harsh realities of industrial pollution, waste disposal, and even the



02

Notes

IMG 01. *Green River* by Studio Olafur Eliasson, 1998, uranium and water, Los Angeles.

- Green River* (1998), by Studio Olafur Eliasson, is an artwork using uranium and water, executed in various locations including Stockholm, Norway, Germany, Tokyo, and Los Angeles.
- U.S. Army Corps of Engineers, “Los Angeles River Frequently Asked Questions.” U.S. Army Corps of Engineers, Los Angeles District.



misuse of Uranine. As a result, these environmental harms remain hidden, while those who live closest to the river’s edge, distanced from the concerns of the wider public, quietly endure the consequences.

Eliasson’s fluorescent intervention aimed to provide visualization of these environmental and social injustices. But in Los Angeles, the green dye faded quickly, leaving behind little more than a fleeting memory. The public’s indifference back in 1998 reflects a broader tendency to overlook the struggles of those living on the margins. **While “Green River” succeeded in drawing attention to ecological concerns, it fell short in confronting the deeper human stories embedded in the river’s decline.** The work raises a critical question: Can interventions like this truly grapple with the complexities of environmental justice if they fail to give voice to those most affected? In the case of East LA, the pollution remains, as do the people enduring it. The limitations of Eliasson’s work point to a need for something more, as ecological art should also engage with the communities at the core of these crises.

Olafur Eliasson’s “Green River” employs Uranine to provide representation of the injustices within the Los Angeles River’s polluted waters and mismanaged infrastructure, while ironically adding to the river’s pollution it critiques. It highlights how ecological interventions can have unintended consequences, emphasizing the need for transparent and effective environmental policies. **The gaps within the current frameworks of river management, shaped by outdated infrastructure and compounded impacts of climate change, reflect deeper societal failings rooted in segregation and injustice.** The fluorescent green intervention reveals the transient nature of urban landscapes and the persistent need for adaptive, effective water management. Through this work, Eliasson advocates for ecological justice and fosters a discourse for a more nuanced approach to environmental stewardship.

IMG 03. A researcher pours Uranine tracer into the estavelle in Schwarzwasser Valley, Austria

IMG 04. Studio Olafur Eliasson dying a river with uranium in Bremen, Germany. Image by Helmut Wieben (1998).



03



04







**Adv IV Topic Studio:** CLIMATES ↔ MODELS ↔ IMAGES  
**Critic:** Elise Misao Hunchuck (transmediale) & Marco Ferrari (Studio Folder)  
**Teaching Associate:** Vaishnavi Chandra Kumar  
**Partner:** Minhan Lin

Who could ever calculate the path of a molecule? How do we know that the creations of worlds are not determined by falling grains of sand?  
—Victor Hugo, Les Misérables

Despite its granular size, river sand is integral to creating the world around us. Its chemical composition and geometry make it ideal for structural concrete, rendering it a desirable material commodity. For its significance, sand lacks agency and is susceptible to the forces that make and move it. Mekong River currents transport it 4,200 kilometers from its glacial origins to the estuary, where it meets the sea, and gravity forces it to settle and form a delta. Mining companies dredge it—sometimes legally, sometimes illegally—from the riverbanks for profit. The very processes that make river sand so particularly desirable to the global sand trade are also what complicate the efforts to monitor its distribution and regulate the illegal activities that surround the trade itself.

The temporal disparity between the slow geological formation of sand and its now-rapid consumption reveals the transition from a renewable resource to a finite one. The unsustainable, uneven distribution of sand underscores a dark reality: without better monitoring, we are on the path to exhausting an element once taken for granted. The global consumption of sand is captured in a 2013 photograph from China by Singapore-based artist Sim Chi Yin, featured in Shifting Sands (See image 01). The uncanny landscape, scarred by extractivism, signaled its material transactional relationship with Singapore and became this project’s starting point of research.

The rapid pace of urban development and land reclamation fuels the relentless global depletion of sand. Singapore stands out as one of the largest sand importers per capita. Projects like the Tuas Port Terminal, an estimated 20 billion USD endeavor, depend on river sand to construct the colossal caissons that eventually form a retaining wall to support the piers where the ships will dock. Yet, in focusing on these monumental sites of material consumption, we overlook the less noticeable, often hidden sites of material production like the Vietnam Mekong Delta (VMD).

The VMD is increasingly plagued by illegal sand mining, bringing along consequences such as coastline retreat, land subsidence, and crumbling homes. These landscapes, inextricably linked to sites of material consumption, remain obscured from our gaze, and their repercussions are often overshadowed by the spectacle of their end-use destinations. Illegal mining operations continue to expand, and these material movements prove challenging to monitor effectively.

The scale and gravity of the issue are difficult to document and comprehend—even river currents tamper with the evidence left behind by illegal mining operations. Invisible Sands: The Landscapes of Sand Extraction in the Mekong Delta examines the dynamic landscapes of extraction that render the material displacement of sand invisible. Obscured by international shipping routes, complex legal frameworks, and seasonal dredging activity, its journey through space and time reveals the transient nature of sand. While sand may play a fundamental role in shaping human and natural landscapes, it remains at the mercy of forces it cannot influence. Without effective monitoring and sustainable practices, the substance that shapes our world will continue to be seized for use elsewhere, and the little left will quietly erode.



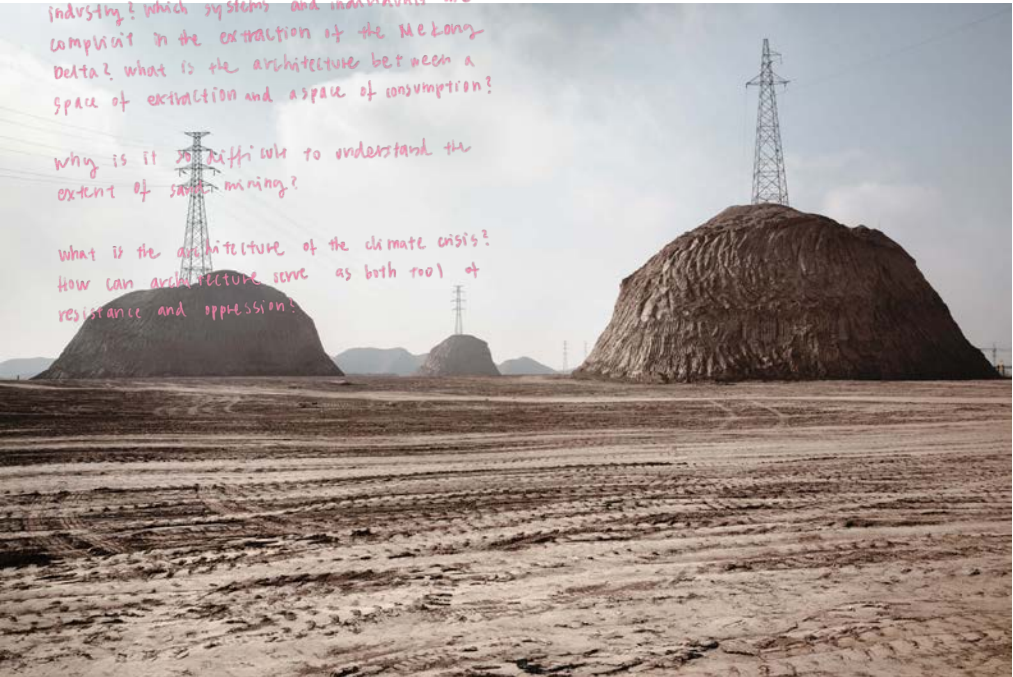
01

What is an image? How does one document, model, and understand the climate crisis? How does one challenge the existing narratives of the climate crisis?

What is the architecture of an extractive industry? Which systems and individuals are complicit in the extraction of the Mekong Delta? What is the architecture between a space of extraction and a space of consumption?

Why is it so difficult to understand the extent of sand mining?

What is the architecture of the climate crisis? How can architecture serve as both tool of resistance and oppression?



02



03

IMG 01. A study of sediment deposit in the VMD.

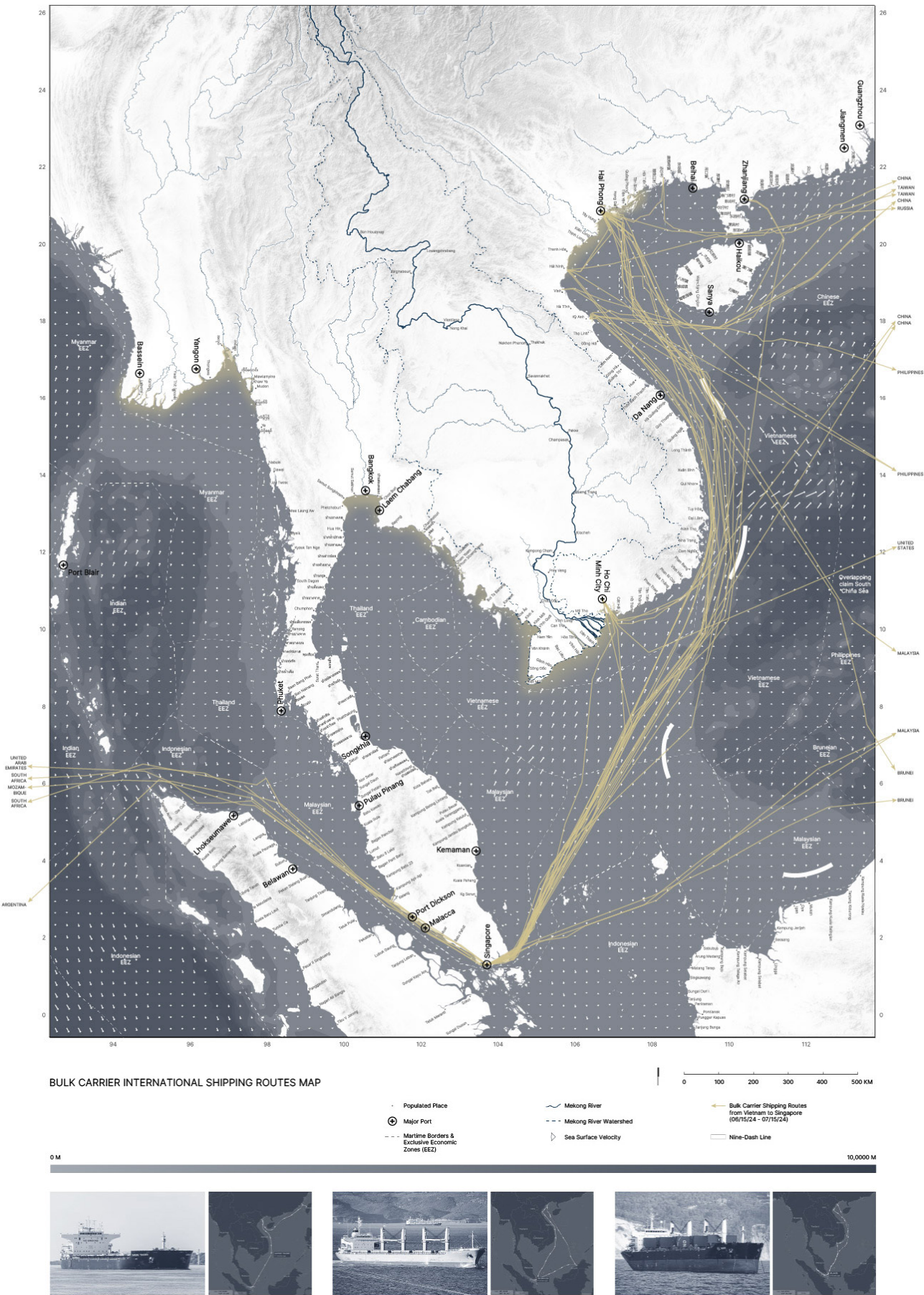
IMG 02. Large piles of sand are prepared for extraction in the Lanzhou New Area, China. Image by photographer Sim Chi Yin (2013).

IMG 03. A study model, formed by casting concrete in sand, showing a small portion of the Mekong River.

MAP 04. (p. 44) Sand is transported across international waters on bulk carriers, capable of carrying large loads of raw materials. The map tracks bulk carriers traveling from Vietnam to Singapore over a period of 30 days, revealing the routes sand takes after extraction.

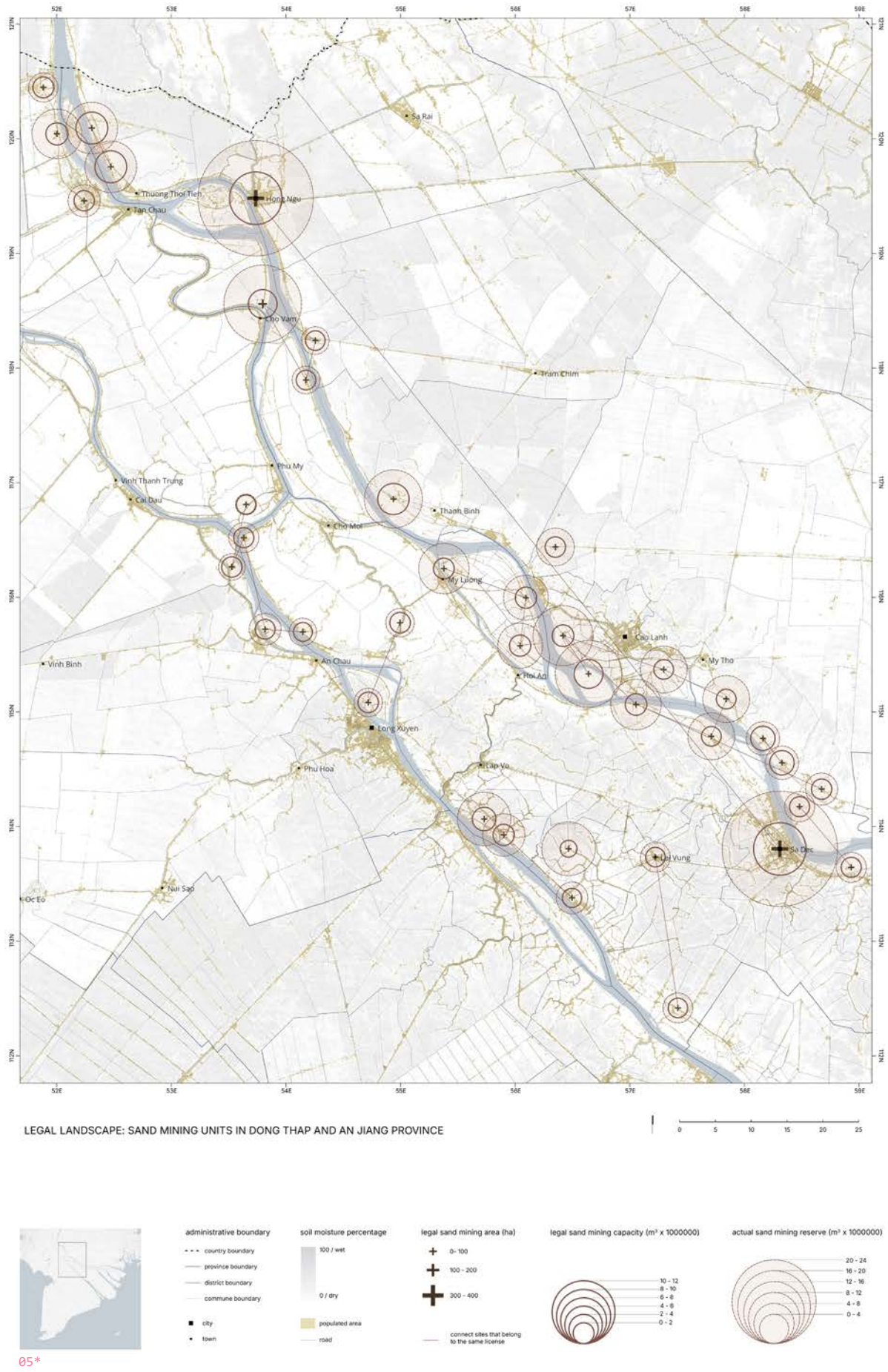
MAP 05. (p. 45) The extent of illegal sand mining in the VMD is reflected in the discrepancy between the actual volume of sand extracted and the rate permitted by the provincial government.





04

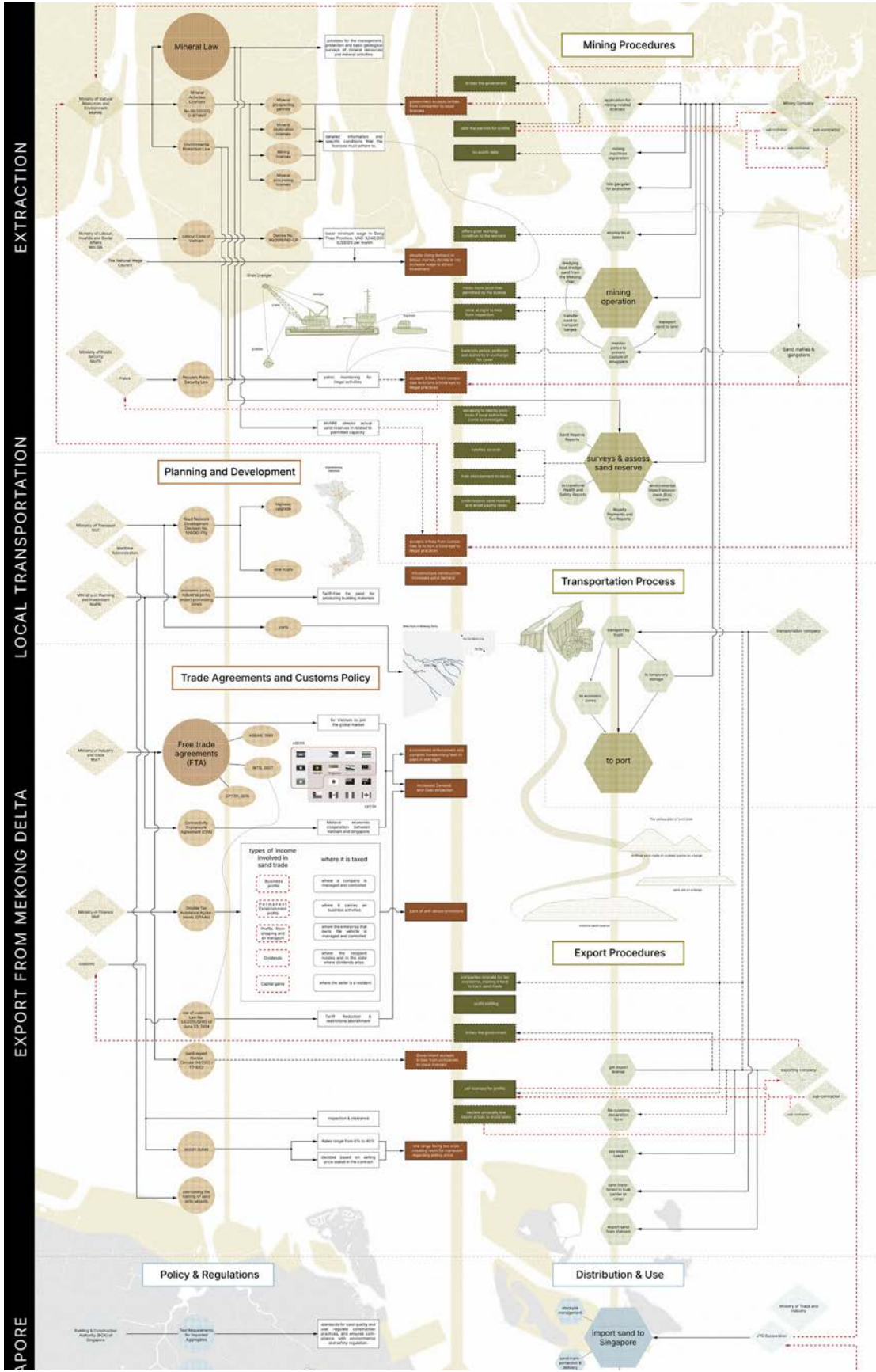
Drawings by Minhan Lin are marked with an \*



05\*

AMY SUZUKI





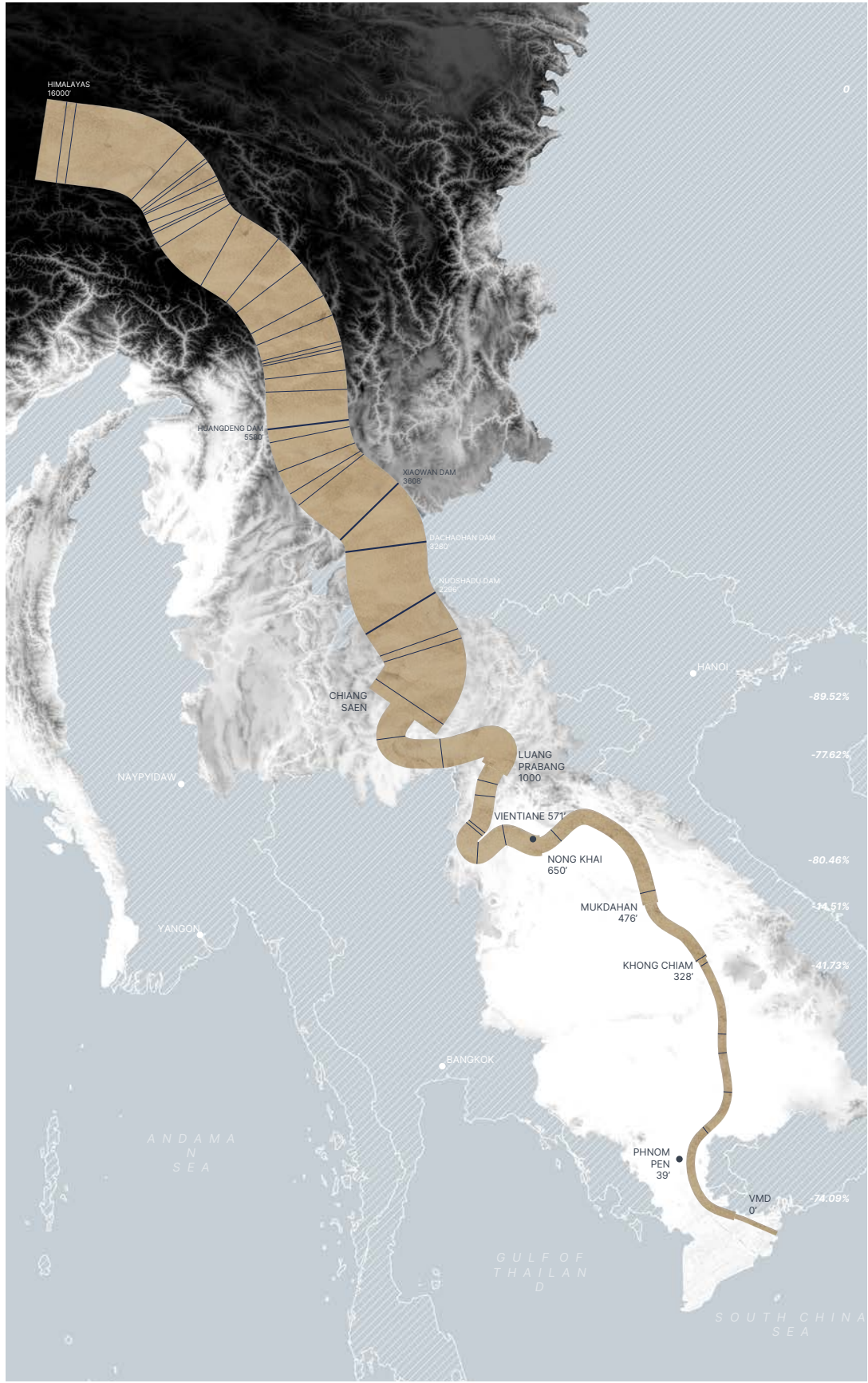
06\*

IMG 06\*. Diagram of the sand supply chain, from extraction in the VMD to transportation to end users in Singapore.

MAP 07. Sediment load is retained by hydropower dams along the Mekong River, contributing to the slowing of the delta formation in the VMD.

MAP 08\*. The Thanh Binh district sees high activity of illegal sand mining along the administrative border. Dredging activity shifts with the wet and dry seasons over the years.

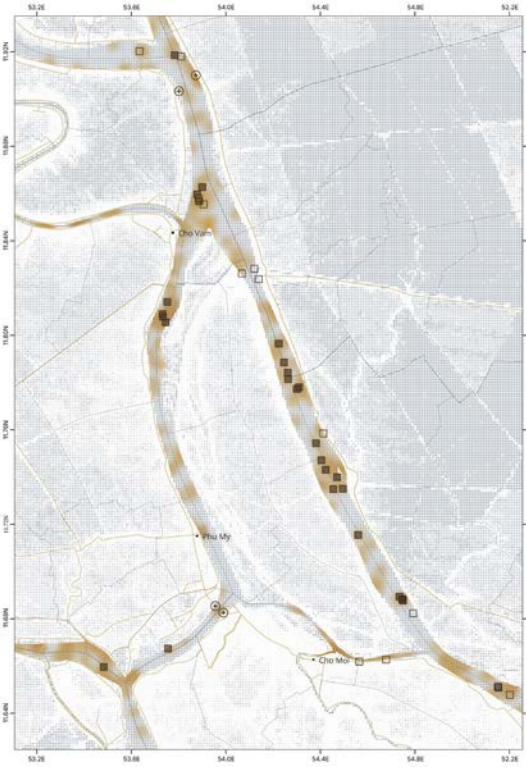
IMG 09\*. Catalog of active and inactive dredging boats, located with satellite imagery.



07



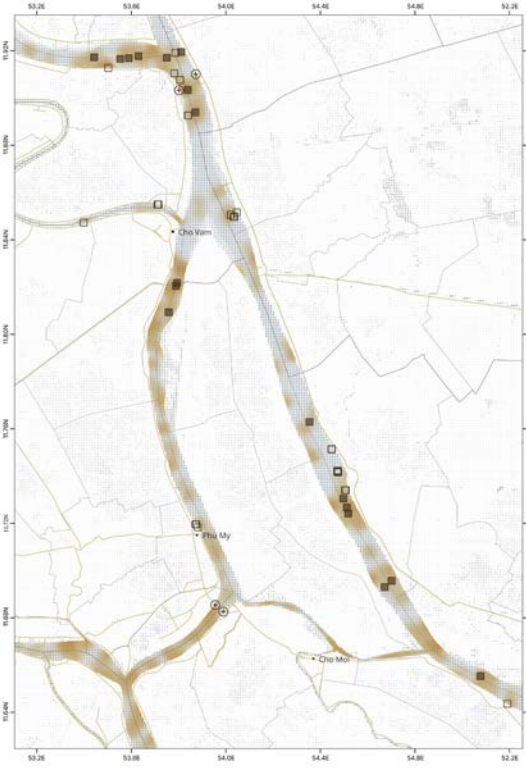
Invisible Sands



201411 WET SEASON

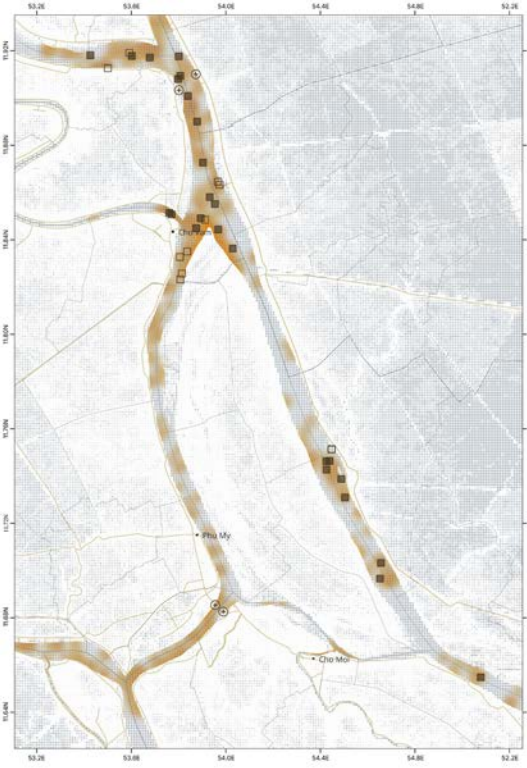


201501 DRY SEASON



202002 DRY SEASON

08\*



202011 WET SEASON

Drawings by Minhan Lin are marked with an \*

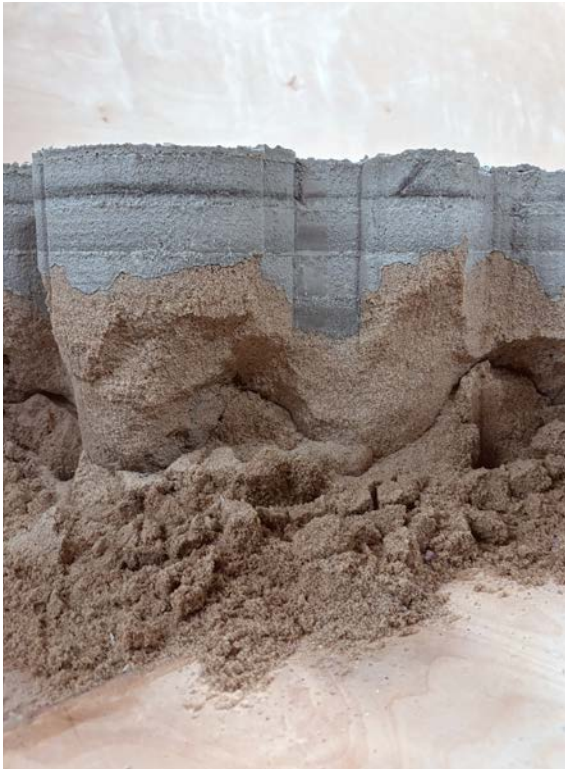


09\*





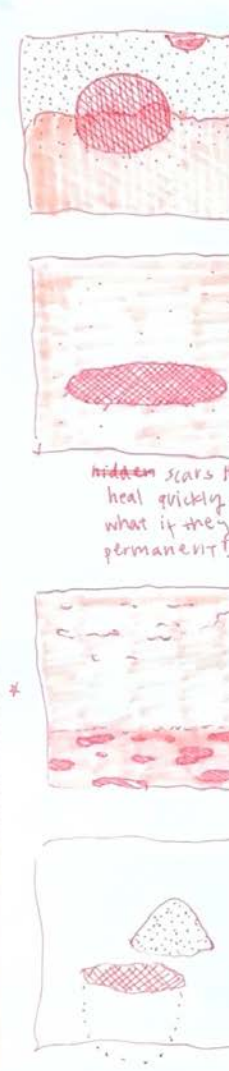
10 Cartographic concrete model gives shape to the invisible voids left behind by sand mining.



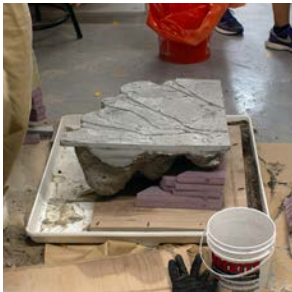
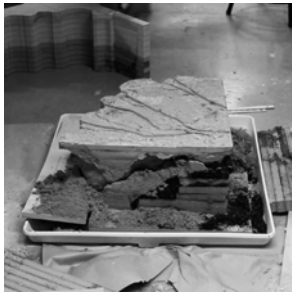
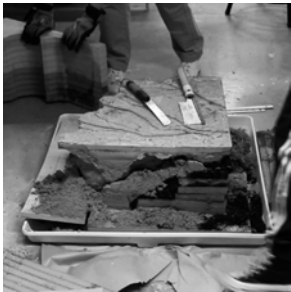
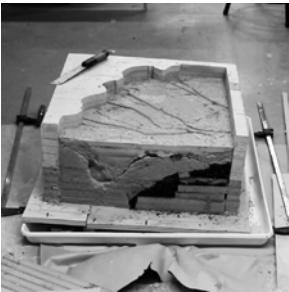
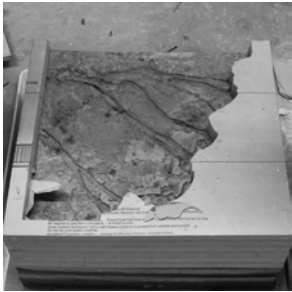
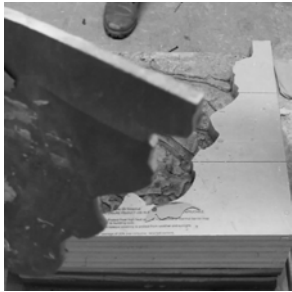
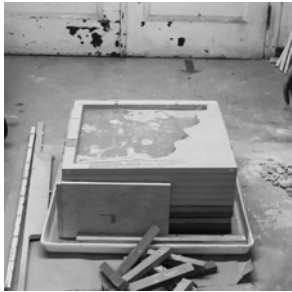
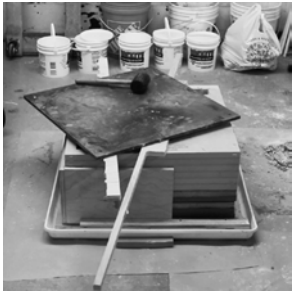
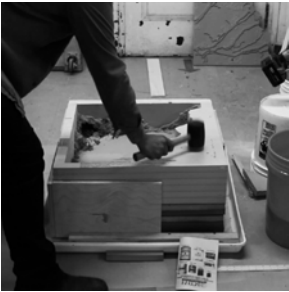
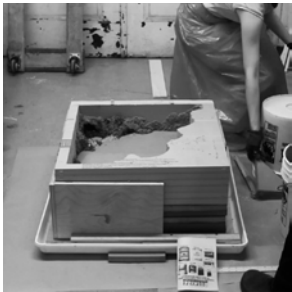
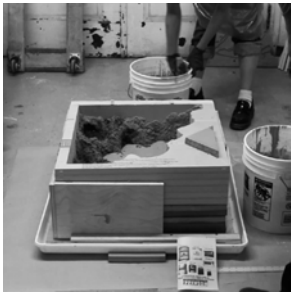
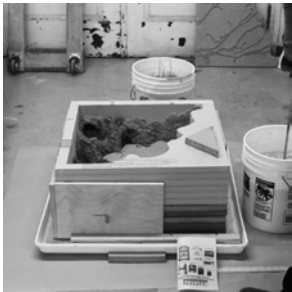
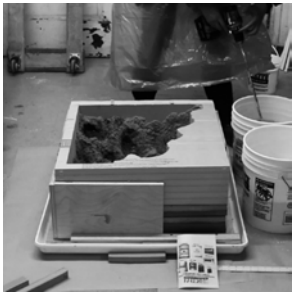
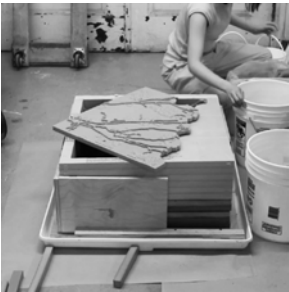
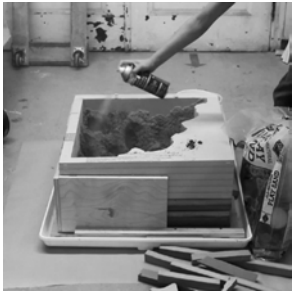
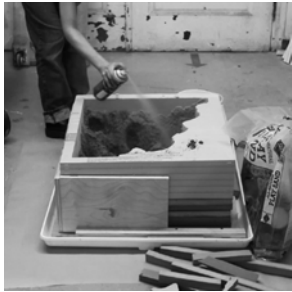
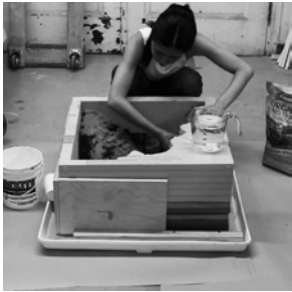
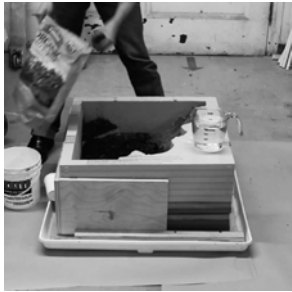
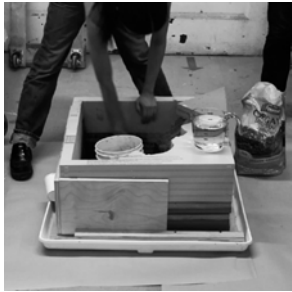
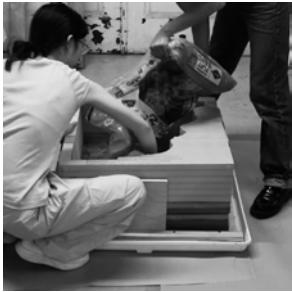
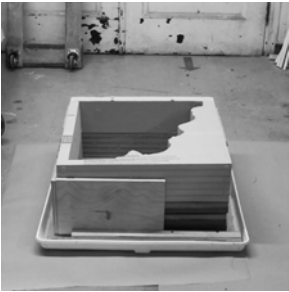
12



13







IMG 14. Model making process: Concrete was cast in formwork constructed with wood, foam, sand and soil. A CNC'd lid was used to create an imprint of a map of the VMD on the top surface.





01

Notes

IMG 01. Alison Crisciello, Director of Canadian Ice Core Lab, at University of Alberta, holds an ice core. Image by Susan Schuppli, 2019.

1. A paper that helped me in framing these questions of various realms of knowledge was Christine J Walley’s “They Scorn Us Because We Are Uneducated: Knowledge and Power in a Tanzanian Marine Park.”
2. Knowledge within Inuit communities stem from their culture which has long depended on the ice to survive and thrive. In this essay I will refer to this as experiential knowledge or Indigenous knowledge, which refers to their understanding of climate and land through inter-generational observations. Sheila Watt-Cloutier’s *The Right to be Cold: One Woman’s Story of Protecting Her Culture, the Arctic and the Whole Planet* (Minneapolis: University of Minnesota Press, 2015) helped me understand the ingenuity of Inuit knowledge.

My studio’s visit to Lamont Doherty Earth Observatory of Columbia’s Climate Science school took us to a basement containing one of the world’s largest ice core collections, highlighting the scale and significance of material-based climate research at Columbia. This experience was contrasted with Susan Schuppli’s recent lecture and her works *Moving Ice* (2024), *Climate Signals from Svalbard* (2024), and “Ice-Core Media.” Susan’s work engages with materials such as ice as a mediator between various realms of knowledge production, understanding these materials in their highly localized situations. I observed her work questioning the prevailing epistemologies surrounding Arctic climate science. After my time at the Earth Observatory and looking at Schuppli’s work, I am concerned with the following tensions: Why are these science spaces determining the climate conditions of the world? Why can’t Indigenous spaces also create influential climate science knowledge, one that influences policy and broader mainstream discourse?<sup>1</sup> In facing such questions, this paper challenges the knowledge production of climate science.<sup>2</sup> Environmental sciences have long ignored Indigenous communities’ long-term climate observations.<sup>3</sup> Schuppli’s work explores data proxies, both technoscientific and cultural, and questions the epistemologies that surround ecology.<sup>4</sup> **This paper examines the tensions between Western climate science and indigenous traditional knowledge and consider how art, particularly Schuppli’s work, can challenge and expand our understanding of climate knowledge.**<sup>5</sup>

Ice cores, alongside tree rings and ocean sediments which are also studied at Columbia’s climate science school, are considered data proxies which help model climate patterns and give access to information about climatic history going back 100s of years, long before the inventions of measures. Ice is a material that provides “earth evidence” in helping us understand the temporal and spatial evolutions of

- lis: University of Minnesota Press, 2015) helped me understand the ingenuity of Inuit knowledge.
3. A pivotal work that shaped my understanding of the marginalization of Indigenous knowledge within climate science is Susan Schuppli’s “Ice-Core Media”.
4. The epistemologies of Arctic climate science and Inuit knowledge represent distinct ways of understanding and interpreting the environment. Arctic climate science is rooted in the scientific method, driven by data collection and experimentation, whereas indigenous knowledge is a holistic method developed through generations living closely with the Arctic environment.
5. This essay employs terms like “indigenous knowledge” and “scientific knowledge” for simplicity and ease of understanding. However, this lexicon is problematic, and I do not intend to imply the associations typically linked with these terms. A work that helped shape my understanding on this issue is Arun Agrawal’s “Dismantling the Divide between Indigenous and Scientific Knowledge” (*Development and Change* 26, no. 3 (07, 1995): 413-440.)
6. The extraction of ice cores from Arctic glaciers demands intricate infrastructure, a large workforce, and substantial funding. While this process significantly advances our understanding of climate science, its impact on the surrounding landscape and local communities must not be overlooked.
7. Material evidence, as it pertains to Susan Schuppli’s work, refers to the objects, substances, or environmental elements that bear witness to conditions or events as it relates to climate or crisis. She uses these materials to connect various perspectives and offer new ways of understanding and addressing environmental issues and social injustices.

IMG 02. Photo of cores displayed at the Lamont Doherty Earth Observatory.

the climate, almost like a time machine. However, this reliance on these data-driven methodologies reveals a significant gap: the lack of consideration for cultural proxies, such as detailed climactic observations by Inuit communities. Schuppli’s work critiques this oversight. **In “Ice-Core Media,” she questions the lack of consideration for indigenous knowledge or input in studying ice cores in the Arctic.** Her film *CAN THE SUN LIE?* explores the first-hand claims made by indigenous communities who recognized the changes in the atmosphere through their observation of the difference in the location of the sun, a phenomenon that modern science confirmed years later. These Indigenous observations, deeply rooted in oral traditions and a profound connection to the landscape, offer valuable insights that are often less resource-intensive compared to the costly and resource-heavy process of ice core extraction.<sup>6</sup> **By highlighting cases where Indigenous observations preceded scientific discovery, Schuppli advocates for integrating this experiential knowledge into climate science.** This integration could address gaps in our climate understanding and offer a more comprehensive and sustainable approach to climate research.

**The observational knowledge of Indigenous communities requires material evidence to be bestowed with legitimacy and integrated into mainstream scientific frameworks and climate policies.**<sup>7</sup> In recent years, Inuit hunters of the Canadian territory Nunavut noticed changes in the formation of sea ice, which affects their seasonal hunting activities. This knowledge was shared with scientists, who later verified it with satellite data to create a more accurate model of sea ice changes. In *CAN THE SUN LIE?*, observational claims of changes in the sun were presented to a jury in the form of photographs. “Human observations may be tainted, but photographs of the sun provide evidence that no jury could dispute.” While Inuit observational knowledge reflects deep ingenuity and a profound understanding of the climate developed over generations, it is often perceived by mainstream science as subjective and lacking empirical validation. To bridge this gap in perception, integrating this knowledge with material evidence—such as photographs, satellite imagery, or ice cores—solidifies these observations as credible evidence, thereby increasing their influence within scientific discourse and policy-making.

**In addressing these tensions, art plays a crucial role in challenging traditional frameworks of knowledge production in climate science by offering alternative narratives and exposing injustices that conventional science may overlook.** The framework of science is closely tied to academia and funding, which has a certain type of stakeholders involved in driving their research. Susan’s work, as an artist-researcher operating outside of these frameworks, provides a unique



02





03

IMG 03. CAN THE SUN LIE? Image by Susan Schuppli, 2014.

8. Anooradha Iyer Siddiqi’s “The University and the Camp” was critical in helping me understand the spaces outside of academic institutions in creating knowledge, and decoloniality in universities.

perspective that critiques these systems. Climate Signals from Svalbard (2024) documents the unusual landscapes of technology infrastructure established to support the climate research occurring on the island of Svalbard. By critically examining how these landscapes are transformed by science activities, Schuppli’s film prompts a discussion on the broader implications of such interventions on the natural environment. CAN THE SUN LIE? interrogates why photographic evidence was required for the trial, questioning why climate observations from those deeply familiar with their landscapes—those who should be considered experts—are not trusted on their own. While art cannot produce transformative politics or dismantle entrenched systems, it plays a crucial role in initiating a discourse, marking a step in the right direction.

The challenges of decolonization aren’t limited to Arctic climate science, but also includes the institutions that support it. Columbia University, home to one of the world’s largest ice core collections, maintains sophisticated infrastructure backed by significant financial investment to preserve these materials in sub-zero temperatures, essential for advancing critical climate research. However, amid student protests—particularly the “Decolonize the Curriculum” movement from the late 1960s and the recent “Gaza Solidarity Encampments”—the University administration’s response reflects the difficulties in decolonizing these spaces.<sup>8</sup> **The continued unmet demands of the Gaza Solidarity Encampments reflect the resistance from those in power to relinquish their authority or disrupt the system that they benefited from, underscoring the complex challenge of changing the University.** Yet, given the urgency of the climate crisis, adopting a decolonial approach in climate science is crucial. This involves recognizing Inuit spaces in the Arctic as centers of climate expertise and important knowledge production, ensuring their influence on climate policy. As Inuit activist Sheila Watt-Cloutier once stated, what happens in the Arctic does not stay in the Arctic. These changes are indicative of larger atmospheric shifts we now recognize as the climate crisis.

For now, artists like Scuppli will continue to use art to advocate for this non-traditional knowledge. Her works “Ice-Core Media” and CAN THE SUN LIE? examines data and cultural proxies as they mediate between epistemologies, helping the integration of Inuit experiential knowledge with Western data-driven methodologies. **However, these Indigenous spaces should be recognized as legitimate hubs of knowledge production, not merely a supplement to material evidence but valid in its own right.**









How to Create the Universe

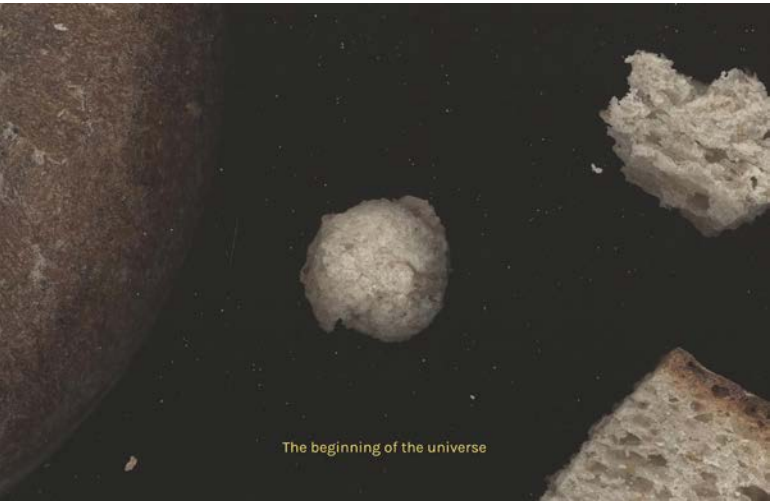
INGREDIENTS

Yeast  
Water  
Flour  
Salt  
Hand  
Time  
Heat

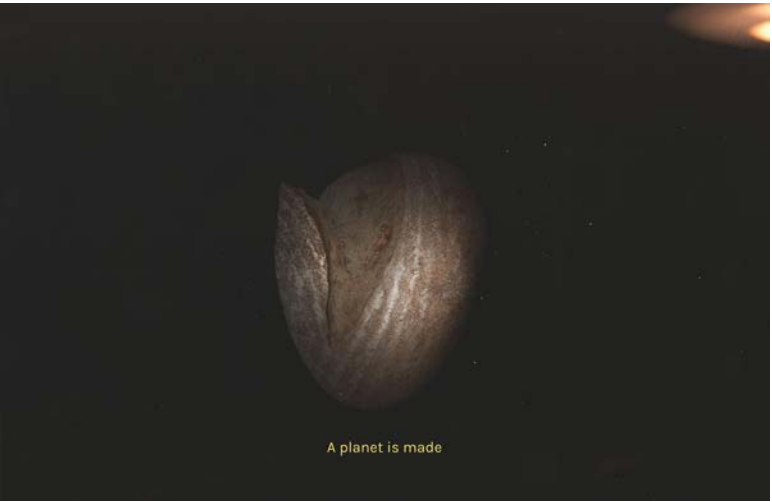
INSTRUCTIONS

01. Extracting  
Buy organic flour made from artificial circular agricultural landscapes. Take warm Ashokan Reservoir water from the tap. The water might contain minerals, fluoride, and tiny crustaceans.
02. Feeding  
Mix flour and water in a clean jar. Stir until combined, loosely cover with a lid, and leave it at room temperature. Let yeast come from the air of your kitchen so that life can begin. Feed daily around the same time to maintain a happy and active micro-bial ecosystem.
03. Combining  
Mix the active starter and water in a large bowl. Whisk until cloudy. Combine the flour and whole wheat flour and mix with your hands until it forms a planetary mass. Cover and let the dough rest for one hour. Wet your hands, and pick up the dough on one side and stretch it up and over itself. Turn the bowl a quarter turn and repeat this step until you have turned the bowl in a full orbit. The dough should form a tight orb as the glucose matrix forms after each stretch and fold. Repeat this every 20 minutes for an hour.
04. Fermenting  
Cover the bowl and let the yeast ferment for 7-10 hours.
05. Exhaling  
Let the yeast eat the carbohydrates and exhale carbon dioxide until the dough has risen about 50-75%. Lightly flour your work surface. Punch down on the dough and shape into an orb. Turn the dough over so that it is seam-side down.
06. Dying  
Preheat the oven and dutch oven at 450°F for 1 hour. Score the dough with a sharp knife. Transfer to the dutch oven with a sheet of parchment paper. Bake with lid on for 20 minutes. Remove the lid and bake an additional 25-30 minutes until all of the yeast has died.
07. Eating  
Cool the baked bread before slicing. Thank the yeast and enjoy the universe with some butter.





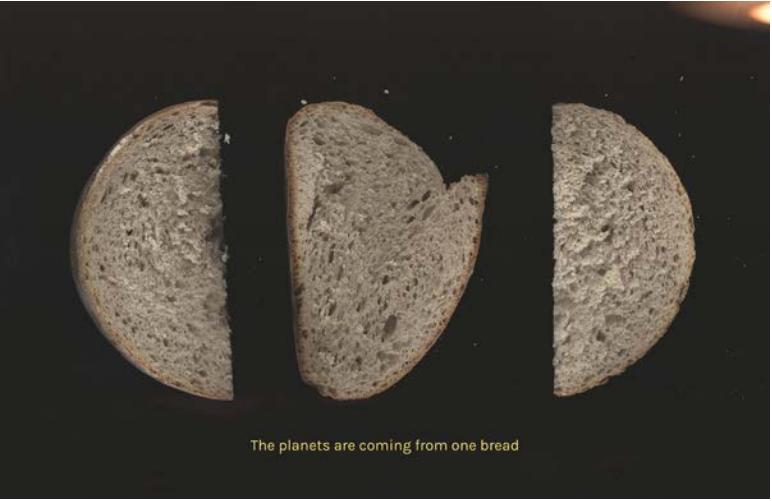
The beginning of the universe



A planet is made



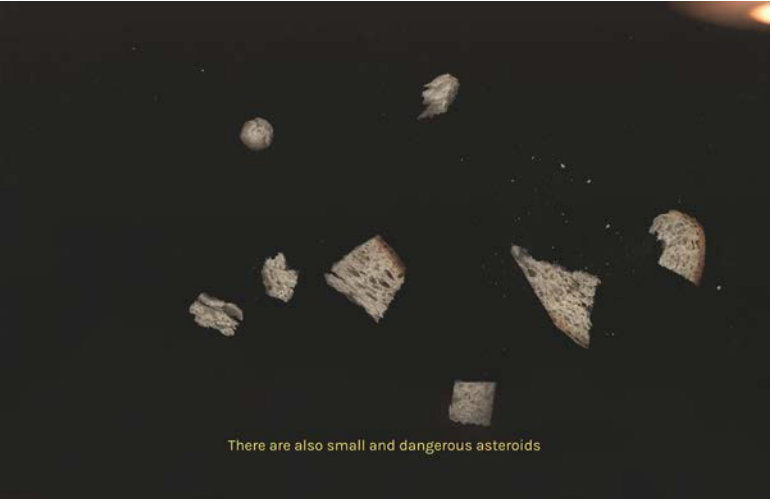
It is composed of 50% air



The planets are coming from one bread



and have different celestial silhouettes



There are also small and dangerous asteroids



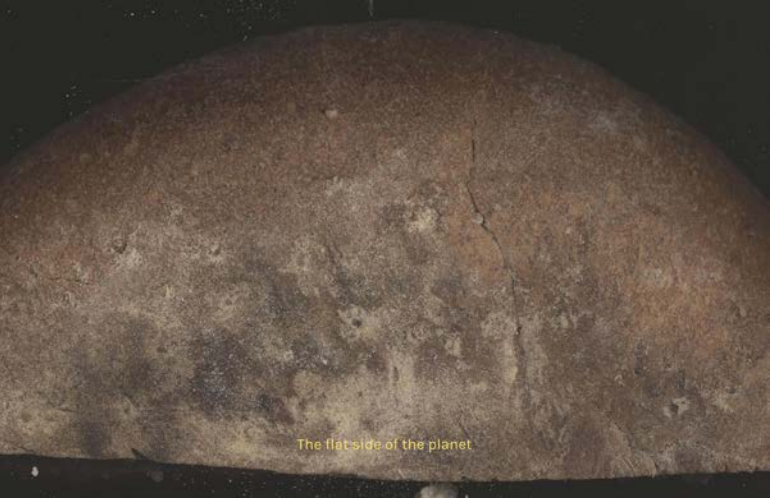
They have creeks and valleys on their crust



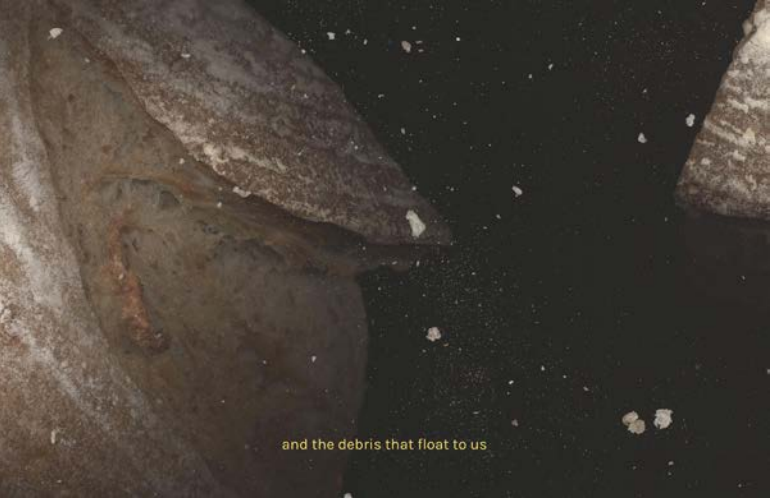
and geographies that have traces of time and heat



The desert from primordial time

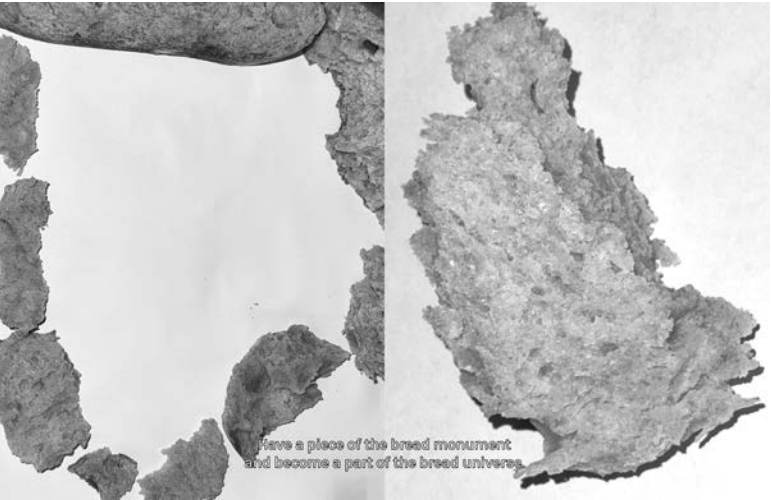
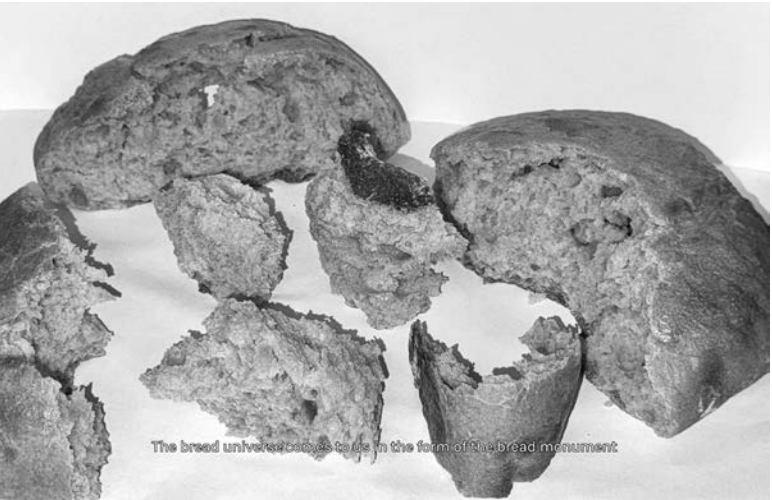
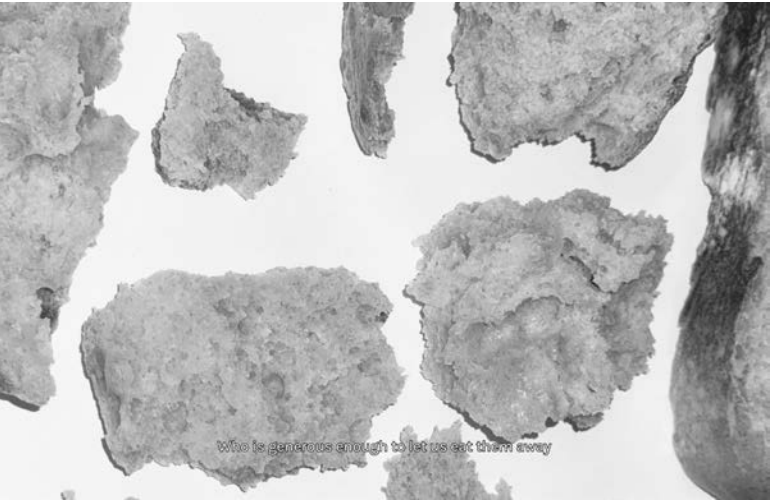
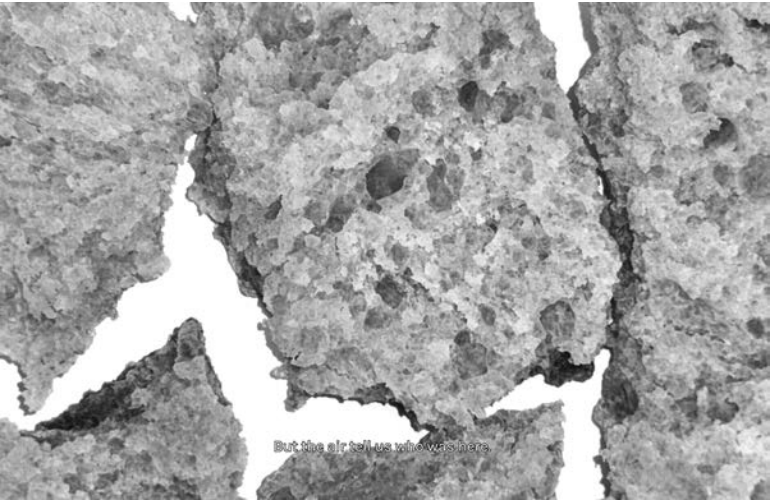
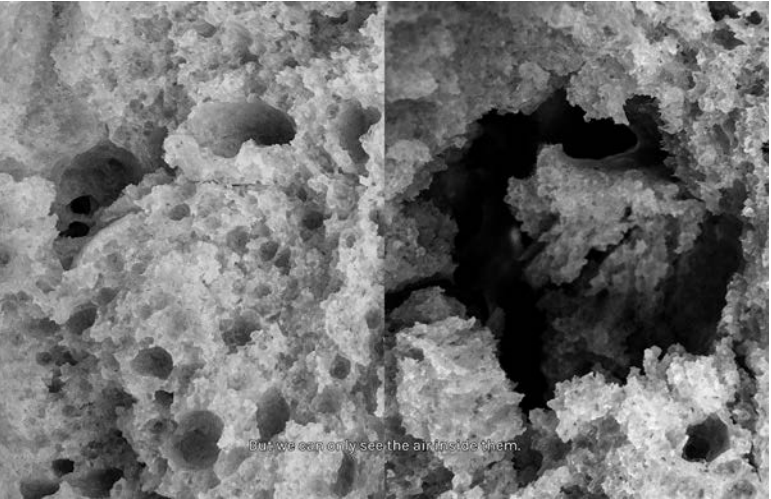
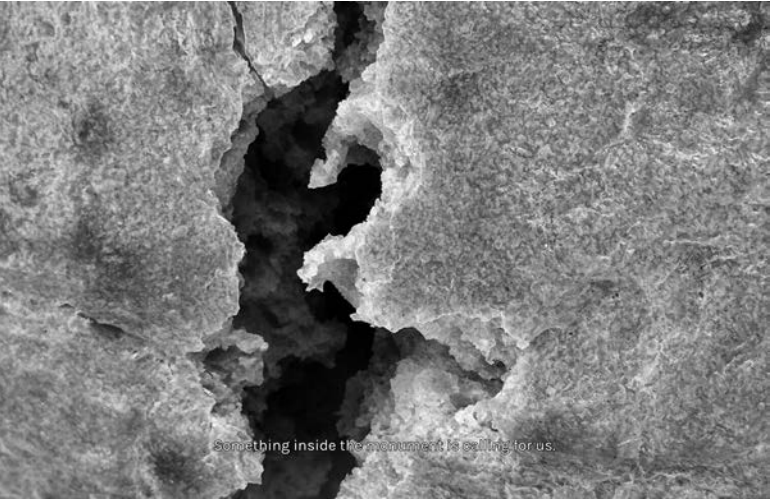
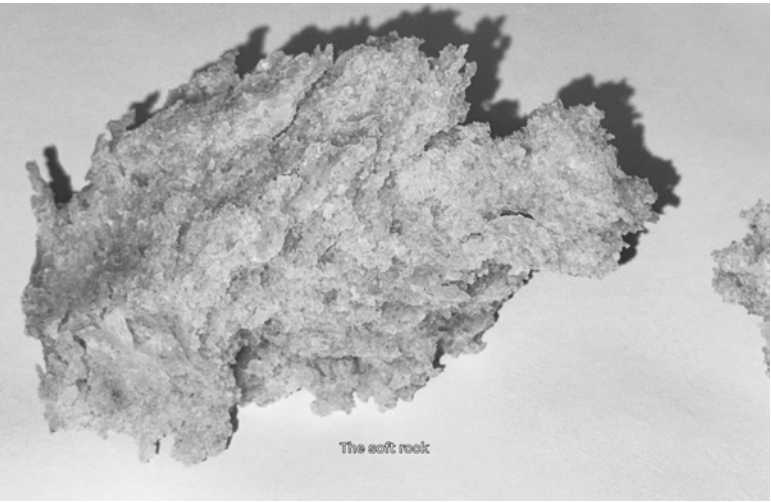
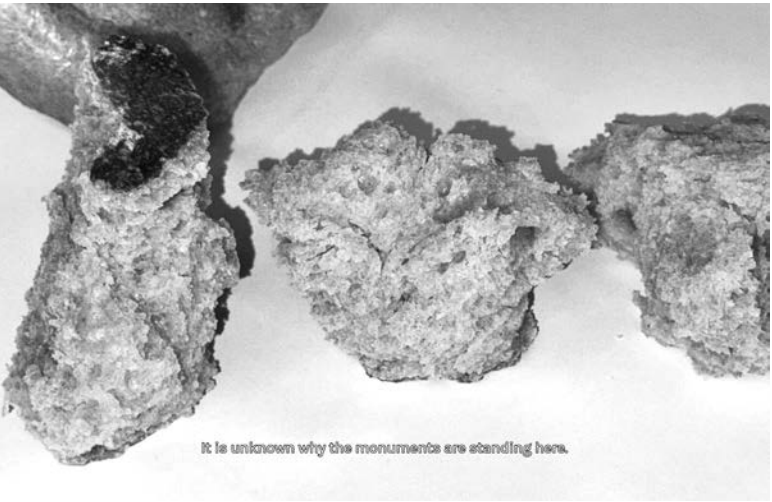
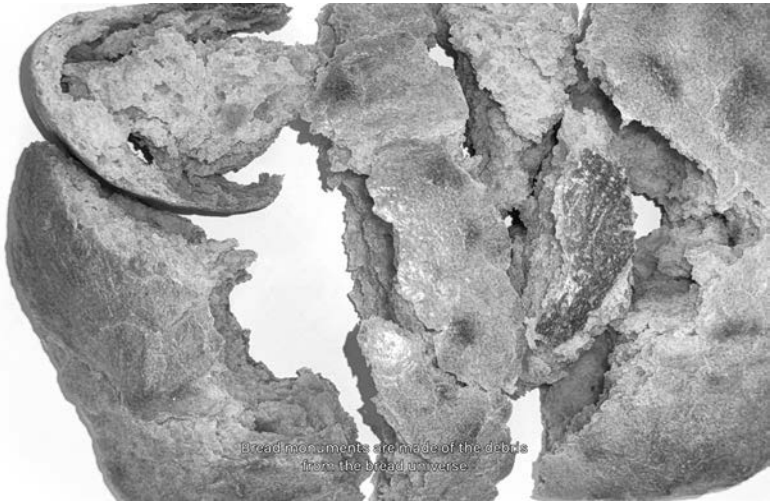
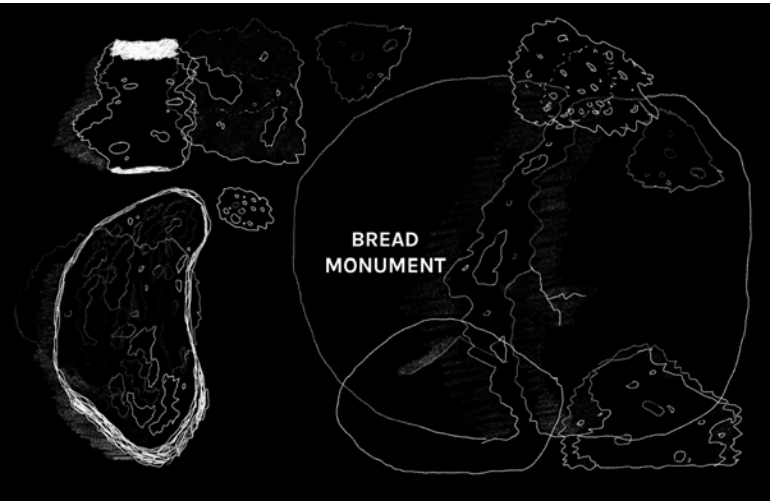


The flat side of the planet



and the debris that float to us













**Curator:** Lydia Kallipoliti & Xiaoxi Chen  
**Team:** Minhan Lin, Rudain Almulla, Sewon Min, & Yeonjin Kim

What does it truly mean to eat locally? LocaliTea reimagines locality not just as a matter of geography but as an intimate entanglement of bodies, environments, and food cycles. It challenges the conventional experience around tea drinking by integrating food production directly into consumption and transforming the table from a passive surface into an active participant in the local food cycle.

The design features four repurposed tables from our local space, each representing a phase of the food process: gardening, sorting, brewing, and decomposing. Tablecloths serve as architectural devices to transform ordinary tables into elements that explore food locality. There is no dedicated dining table; instead, dining spaces are embedded within these stations, blurring the boundary between consumption, production, and decomposition.

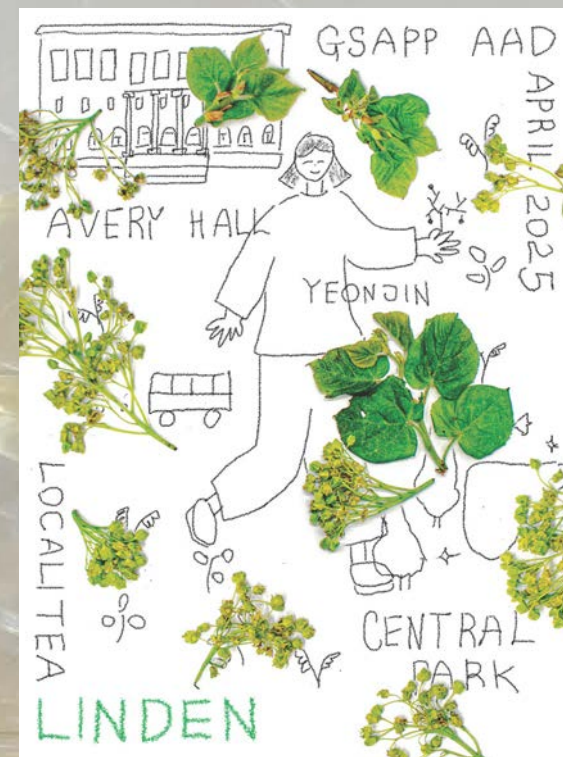
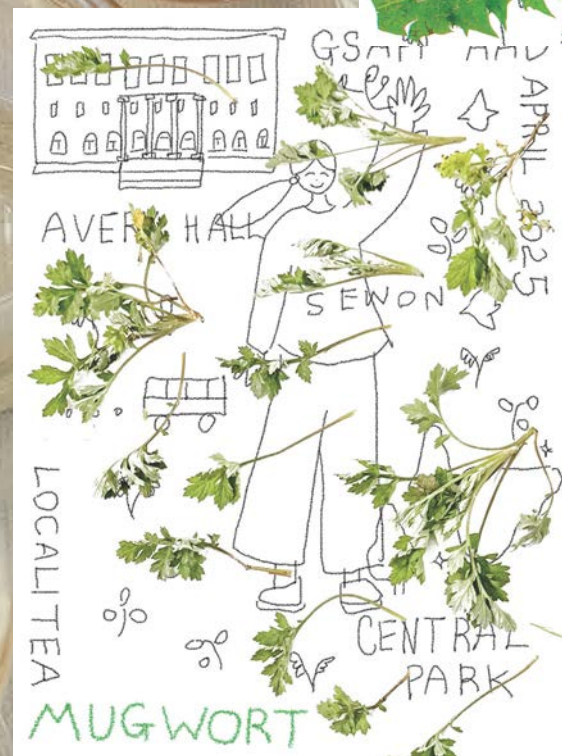
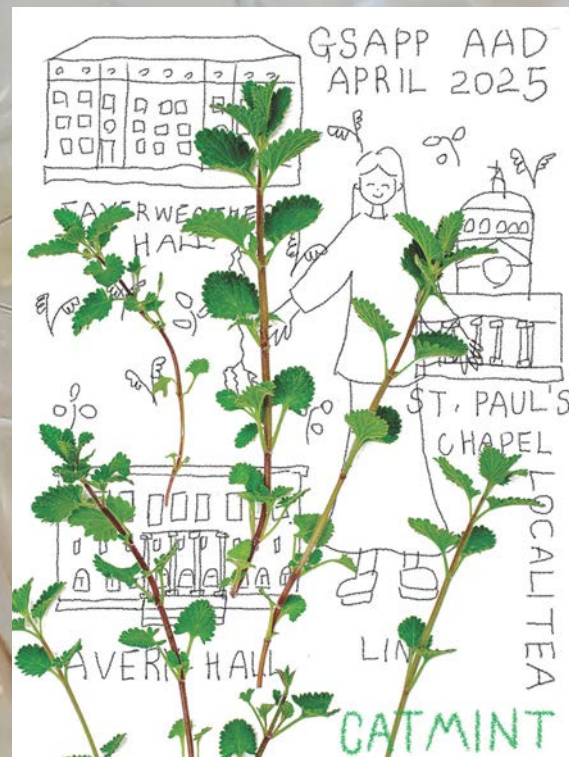
The gardening table introduces a new way to define local food—focusing on plants that have adapted to New York City’s urban landscape. It invites diners to forage, fostering an awareness of shared microbiomes between humans and their environment. The sorting table exposes the labor behind food preparation while recognizing interspecies alliances—what we discard still holds value for others. The brewing table highlights the often-overlooked transformation of food through time. Brewing is not just preparation but an act of mediation—water extracts flavors, nutrients, and histories from plants. Here, diners witness the invisible process of metabolism, the way water dissolves, infuses, and transforms ingredients. The result is a brew whose flavor not only reflects its material origins but impacts our bodies physiologically. Finally, the decomposing table makes food waste visible, allowing discarded matter to imprint itself on tablecloths, leaving ever-changing patterns that reframe waste as an aesthetic and conceptual force.

By moving between these tables, the act of eating becomes communal, participatory, and forward-looking. Locality is no longer just about proximity—it is a shared, evolving practice sustained by the relationships we cultivate.

IMG 01. (p. 66-67) LocaliTea installation of the Wasting Table, which reimagines tea waste as a creative and collaborative practice.

IMG 02. Collage of LocaliTea set in Avery 100.









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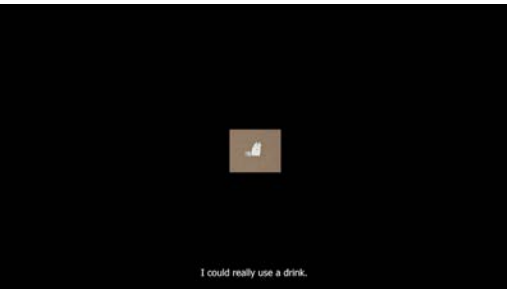
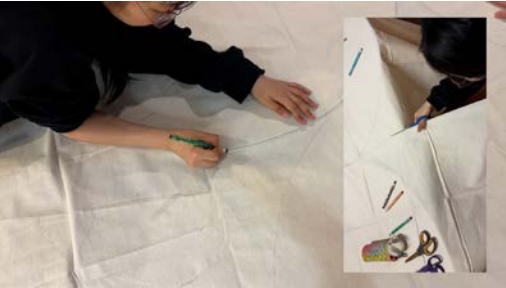
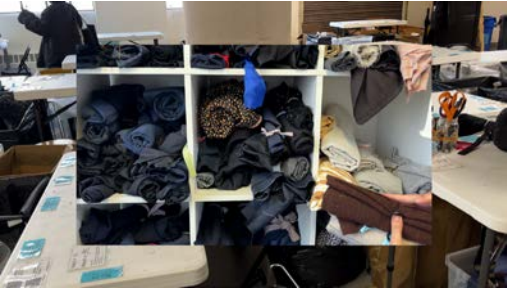
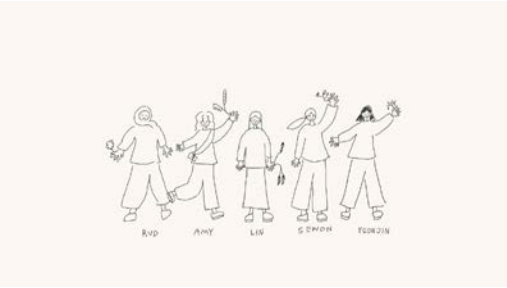
IMG 04. (p. 70-71) Tea labels highlight each blend's ingredients made from locally available edible plants, alongside the sites of collection.

IMG 05. Menus list the available tea blends and provide a souvenir for creative wasting. Image by Jordan Howard.

IMG 06. The Sorting Table contains a tablescape of baskets containing various foraged edible plants collected from the Columbia Campus, Riverside Park, and Central Park. Image by Jordan Howard.

IMG 07. The Brewing Table hold ten varieties of local tea blends. Image by Jordan Howard.











IMG 08. (p. 74-75) Stills from *LocaliTea* capture the labor behind the installation, documenting acts of volunteering, sewing, foraging, preparation, and assembly. The film highlights the often-invisible efforts that sustain collaborative and communal practices.

IMG 09. Film screening of *LocaliTea* in Avery 100 during the AAD Edible Summits Installation.

IMG 10-11. The Wasting Tapestry is a collaborative textile created from and with tea waste. Initially a blank tablecloth, it became a living canvas as participants stained it with remnants, transforming acts of consumption into marks of expression. Through this process, we reimagined waste as material—capable of holding memory, gesture, and shared experience.







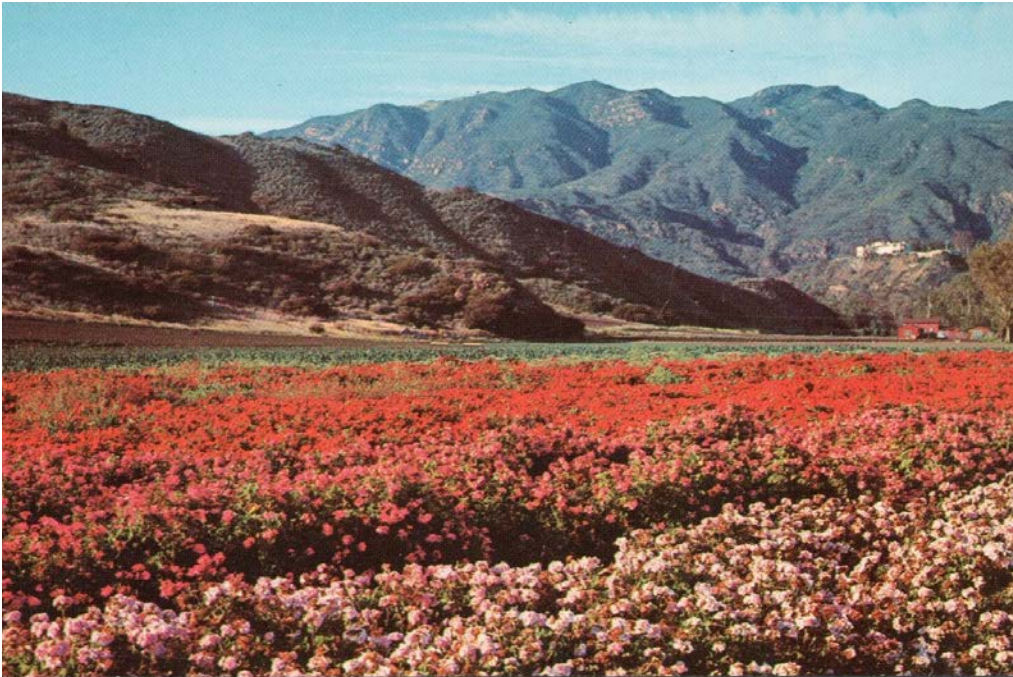


**Adv VI Topic Studio:** Moments to Cross  
**Faculty:** Jayden Ali & Chloe Munkenbeck  
**Teaching Assistant:** Devansh Shah

This project was, in many ways, the most challenging project of my time at GSAPP. While most of my previous work pursued issues surrounding the climate crisis (something I’ve always understood as one of the most urgent and far-reaching problems of our time, and a crisis larger than myself), this project marked my shift towards a more intimate and localized history, particularly rooted in diasporic identity and familial experience. And so after a very inspiring Kinne Week, where we listened to artist Alvaro Barrington spoke about navigating tensions within his community and how those tensions shape his practice and create sense of responsibility as an artist, I too felt a responsibility to engage with a particular history during these times. But this meant to dive into my own heart, let myself be vulnerable and expose it to the world.

This work emerged from observations of how inherited cultural norms, particularly stoicism and emotional restraint within East Asian households, can obscure political and ideological divides across generations. I began to examine the complexities of intergenerational communication and cultural divergence within immigrant families. In a moment of heightened national tension, with news of discriminatory policies and state violence dominating the media, I encountered a growing disconnect between progressive movements and certain members of older immigrant communities, shaped by differing lived experiences and environments.

Faced with the inadequacies of verbal language, complicated by cultural, generational, and linguistic gaps, I turned to ritual and material as alternative forms of communication. The act of cutting and peeling fruit became a quiet, embodied gesture of care familiar across many East Asian households. These domestic acts were materialized into sculptural forms—fruits and vegetables wrapped in shimenawa cords using colors of flowers once cultivated by Japanese American farmers in California. These strange, yet familiar objects act as monuments channeling memory, tenderness, and the labor of care. They offer an alternative language of connection that transcends the limitations of speech, inviting reflection on how love, memory, and resistance are carried through everyday acts. Though modest in scale, these monuments carry a quiet, divine presence, with my hope that they will offer guidance and care to those who encounter them.



02



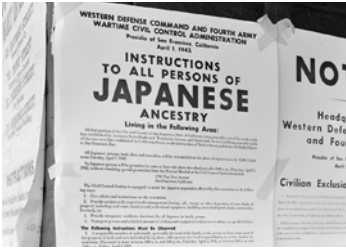
03

IMG 01. (p. 80-81) A display of edible stones.

IMG 02. A postcard of a Japanese geranium farm in Malibu, California.

IMG 03. Prototypes of apple slices, made of various materials and techniques.





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IMG 04. General John L. DeWitt's first order mandating the removal of all Japanese individuals (citizens and non-citizens) from San Francisco. The paper reported they would be relocated to a remote site called Manzanar. Image from Courtesy of the National Archives and Records Administration (NARA)

IMG 05. Nagaishi family stands outside a graffiti covered garage. Image from Haruko Nagaishi Collection, Densho.

IMG 06. Image by Dorothea Lange.

IMG 07. The storefront of a business

owned by Japanese Americans that was forced to close after the issuance of Executive Order 9066. Image from Sanoian Special Collections Library.

IMG 08. Japanese American evacuees from Assembly Centers prepare for transfers to War Relocation Centers in 1942. Image by LOC.

IMG 09. The Mochida Family poses for a photo while waiting for evacuation. Image from NARA.

IMG 10. In 1942 at the Santa Anita Assembly Center in Arcadia, California, Japanese American internees wave

to friends departing by train. Image from LOC.

IMG 11. Japanese Americans arrive with their luggage at Salinas Assembly Center. They will later be transferred to a War Relocation Authority center. Image from NARA.

IMG 12. Two plainclothes men remove two Japanese men from their homes on Terminal Island in 1942. Image by Ira W. Guldner.

IMG 13. Manzanar War Relocation Center. Image from NARA.

IMG 14. Tom Kobayashi is photographed

by Ansel Adams in the Manzanar Relocation Center, 1943. Image by Ansel Adams/LOC

IMG 15. A farmer prepares soil to transplant tomatoes in Alameda County, California, a few weeks before evacuation is due. Image by Dorothea Lange/NARA.

IMG 16. A family of Japanese ancestry working on their strawberry farm to prepare for the harvest season, with evacuation due in a few days. Image from NARA.

IMG 17. A Japanese American family

stands in front of their strawberry farm in Mountain View, CA. Image by Dorothea Lange/NARA.

IMG 18. Potatoes are harvested by Japanese Americans and loaded onto a truck at Tule Lake Relocation Center. Image by Francis Stewart.

IMG 19. A young field worker at the Tule Lake incarceration camp loads potatoes grown on the farm. Image from NARA.

IMG 20. A view from the Ishibashi Farm in Rancho Palos Verdes. The site today houses a Trump Golf Course. Image from the Palos Verdes Library.

IMG 21. Women at the Manzanar Relocation Center make camouflage nets for the War Department. The nets will be used to hide large military equipment in the war. Image by Dorothea Lange/NARA.

IMG 22. Many flyers were found all over Avery Hall following the arrest of green card holder Mahmoud Khalil.

IMG 23. Flyer found in the women's restroom of Avery 600.

IMG 24 - 26. Flyers found on a bulletin board of Avery 100.





Executive Order 9066  
Issued by President  
Franklin D. Roosevelt  
2/19/1942

Meeting  
Between Lieutenant  
General John L. DeWitt  
and Representatives of the  
Department of  
Justice and the  
Army at the Office of  
Commanding General,  
Headquarters, Western  
Defense Command and  
Fourth Army, in San  
Francisco, 1/4/1942.

A1 Snap Pea (*Pisum sativum*)  
A2 Hands of a farmer  
preparing soil for trans-  
planting juvenile plants.  
B1 Potato (*Solanum tuberosum*)  
B2 Japanese American  
farmers were associat-  
ed with soil exhaustion  
due to their cultivation  
of labor intensive,  
soil-depleting crops like  
potatoes.  
C1 Tomato (*Solanum*  
*lycopersicum*)  
C2 Japanese American  
working on a farm in  
Manzanar War  
Relocation Center.  
D1 Strawberry  
(*Fragaria x ananassa*)  
D2 Ishibashi family farm  
looking to the west toward  
Catalina Island.  
E1 Geranium  
E2 Japanese  
American  
geranium  
farm near  
Malibu.  
F1 Beach  
Pansy  
(*Viola x*  
*wittrockiana*)  
F2 Luggage  
at Salinas, California, 1942.  
G1 Kentucky Bean  
(*Phaseolus vulgaris*)  
G2 A crowd of Japanese  
Americans stand behind  
a barbed wire fence in  
Santa Anita, California.  
H1 Poppy (*Papaver somniferum*)  
H2 "At this hour of evacua-  
tion when the innocents  
suffer with the bad, we  
bid you, dear friends of  
ours, with the words of  
beloved Shakespeare,  
"PARTING IS SUCH SWEET  
SORROW." A farewell letter  
posted in a window in San  
Francisco, April 1942.  
H3 A funeral was held for  
James Wakasa, who was  
shot by a military policeman,  
at the Topaz Relocation  
Center in Utah, on April 19,  
1943. Fellow evacuees  
protested the shooting and  
demanded the right to  
hold a public funeral.





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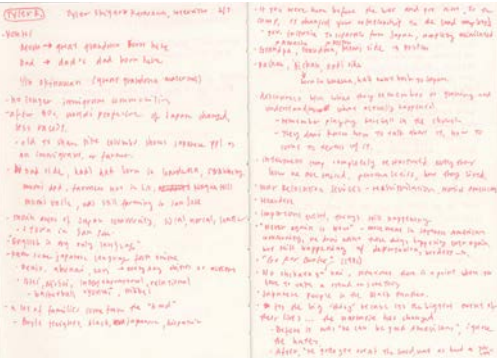


31

IMG 28. Vegetables on display at the Manzanar farm exhibit, with two women visible in the background. Image by California State University Japanese American Digitization Project.

IMG 30. Iteration 2. Tomato, sand, soil.

IMG 31. A display of farm products arranged in the corner of a building for the Manzanar farm exhibit. Image by California State University Japanese American Digitization Project.



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IMG 32. Notes of an interview with my friend Tyler Karasawa, who is a 4th generation Japanese American, or Yonsei. His grandparents were interned during WW2.

IMG 33. Iteration 3. Cut apples in an origami bowl made from a flyer.



34



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IMG 34. Iteration 4. Cut apples, flyers, images of a Japanese American flower farm.

IMG 35. Iteration 5. Rockite, satellite images of a Japanese American flower farm in Rancho Palos Verdes that no longer exists today.









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- IMG 37. Green beans
- IMG 38. Kabocha
- IMG 39. Apples
- IMG 40. Lotus Root
- IMG 41. Lotus Root
- IMG 42. Apple
- IMG 43. Apples
- IMG 44. Sumo Orange









Alexandra Quantrill  
Andre Santos  
Andres Jacques  
Bart-Jan Poleman  
Chloe Munkenbeck  
Devansh Shah  
Elise Misao Hunchuck  
Jayden Ali  
Jean Im  
Lydia Kallipoliti  
Lydia Pilcher  
Marco Ferrari  
Michael Vahrenwald  
Michael Wang  
Minhan Lin  
Ranjani Srinivasan  
Reinhold Martin  
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