Sabal Palm and Stiltgrass

By

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Table of contents

Exhibition Statement................................................................. pg. 4

Restoration Ecology.................................................................pg. 5

Dumpster Agriculture (Lowboy).................................................pg. 6

Billboard Fields........................................................................pg. 8

Stiltgrass Chateau......................................................................pg. 10

Stiltgrass Lap Siding.................................................................pg. 15

Sabal Palm Lap Siding............................................................pg.19

Bibliography.............................................................................pg. 22

Index of Images.......................................................................pg. 22
Exhibition Statement

As we build new communities and heal old ones, we are presented with opportunities to collaborate with existing ecosystems. How can infrastructure be modified to promote resilient ecological communities that support each other and the overall biodiversity of the spaces we inhabit? *Billboard Fields, Dumpster Agriculture, and Lap Siding* are all examples of ways we can heal the socio-ecological disturbances that generally support humans but interrupt the ecology of the surrounding area. *Lap Siding* embraces vernacular architecture as a point of entry into both new and historically old material relationships with the land we build our homes on.
Currently, there are countless artists, architects, designers, engineers and engaged citizens working to address a rapidly changing planet Earth. I find myself among many other visual artists who engage with environmental issues in their artwork in response to the world we currently inhabit and the impact we have made on it. There is a consensus among us that there is a sense of urgency to imagine and create more symbiotic relationships with our environment instead of perpetuating the human behavior that is damaging the very ecosystems that sustain our survival on this planet. The research presented here is inspired by the problematic relationships we have developed with our environment and the sociological structures which lead to its’ degradation. Billboard Fields, Dumpster Agriculture, and Lap Siding reference the multiplicity of disturbances western cultures created on Earth and the potential applications of foundational theories of restoration ecology. Moreover, papermaking is presented as traditional ecological knowledge and a more sustainable method of creating potential building materials. This process of making is employed as an alternative to those created by dominant modes of modern production. If we embrace ideas like these, not only could we create more intimate relationships with local ecologies, but these relationships could benefit the environment by increasing biodiversity. If we consider the ecological impact of those material choices, we may find that our celebration and application of ecological knowledge will lead to more harmonious relationships in the Hudson Valley region and beyond.

The term Restoration Ecology was introduced as a subfield of ecology by John Aber and William Jordan III in the late twentieth century. Restoration Ecology is the study of restoring the relations of organisms to their original relationships. The Society for Ecological Restoration defines "ecological restoration" as "the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed". Some of the theoretical foundations of restoration
ecology that I’m interested in researching in my art practice include habitat fragmentation, disturbances, and succession. Habitat fragmentation occurs when ecosystems are broken up into smaller pieces due to changes in how the land is used. A common example would be the migratory paths for animals being altered because of roadway construction or housing/community development. Disturbances are these changes in the environment that disrupt the functioning of an ecosystem. Fires, flooding, construction projects, species extinction, invasive species could all be considered disturbances in ecosystems. Succession is how the ecosystems adjust to these disturbances in the environment over time. As an artist, I'm interested in how my work can use these foundational ideas to challenge our current relations with the ecosystems around us.

Figure 1 Dumpster Agriculture (Lowboy)
*Dumpster Agriculture* is a series of prints that represent the potential uses of dumpsters outside of their original function. Instead of being receptacles for our waste they could become interventions that nourish communities. Dumpsters are icons of waste streams societies create and indicative of how social systems handle the problem of waste. Conceal it, burn it, or transport it out of sight. However, the dumpsters themselves and the systems designed to transport them are not necessarily bad. It’s what we as communities choose to fill them with that reflect who we are or aspire to be. In *Dumpster Agriculture (Lowboy)* the painted fabric mounted in the print contrasts with the ink of the print, both in color and in texture. The stark difference between a vessel that receives waste and one that provides sustenance. The dumpsters in the prints are symbolic of soil vessels or planters used to support a community’s agricultural needs. The benefits of using these potential modified dumpsters are multifold because of the supporting systems and infrastructure associated with them. One of the several types of dumpsters present in this series of prints is the lowboy dumpster. This type of roll off dumpster is easily transported by flatbed truck and exemplifies the mobility of these containers. They hold great potential to transport either viable soil or established gardens. Just as dumpsters were designed to transport waste out of sight they could be used to transport healthy earth to communities in need.
Billboard Fields is another series of prints that explores how infrastructure might be modified to improve the ecologies of urban spaces. In urban environments billboards are ubiquitous. These structures may be found on buildings, parking garages, underneath major bridges and more. They are designed to be highly visible to the public and many employ various innovative engineering techniques to do so. Similar to the Dumpster Agriculture series, painted fabric is mounted to the print. The texture and vibrant green hues of the fabric call attention to what is on the billboard, plants. Billboards in particular have an existing framework that could be used to support new green spaces where there are none. In some cities vertical gardens have already been implemented but they are few in numbers. Although they could be used for agriculture they may better suited to support a field ecology which evolves overtime. One of the
many reasons cities create ecological disturbances is that they fragment habitats. Wild spaces are transformed into cities with boundaries which inhibit the migration of plant and animal species and effectively become like dead zones. This effect could be minimized by using billboards to create habitats to support other plant and animals species. By using old field succession the billboards could develop their own ecology over time. Imagine a soil membrane mounted to the framework of a billboard. Low-growing grasses would then be planted first and over the course of two to ten years perennial grasses and woody shrubs would begin to grow. The process of old field succession would probably not continue past shrubs to support pioneer species of trees like red cedar and pines or long-lived hardwoods such as mixed oaks, hickories and maples because of the lack of soil, nutrients, and structural integrity of the billboard. This phenomena is what inspired the title of this series, *Billboard Fields*. Across the urban environment transformed billboards would create vertical fields that could not only sustain themselves but potentially host other animals. An urban prairie.
*Stiltgrass Chateau* is site specific lithographic print. The site specificity is determined by the location of the building and the speculative materials that could be used to clad the exterior of it. For the viewer, the line work in the print reads like an architect’s draft and presents the general shape of the building. Perspective lines are extended beyond the structure to help locate the building in space to compensate for the lack of background imagery. The focal point of the print is the Japanese stiltgrass mounted on the side of the building like beveled lap siding. Because this building already exists, the print is less about the design of the space and more of a material study for potential cladding for the building. The building presented is an image of a small cabin on my landlord’s property and is a structure I have a direct relationship with. The siding currently on the cabin is similar to T1-11, a type of exterior siding made from wood and commonly found at big-box hardware stores. This print proposes a new type of siding made from
Japanese stiltgrass that is harvested on site. On the thirty acres of land the cabin sits on, stiltgrass has a major presence and negatively effects the biodiversity of the environment. By using the grass fiber instead of purchased wood siding it is possible to improve the surrounding ecology.

The title of the print is significant because it equates home with protection from something. According to the Oxford dictionary a chateau is a castle or large country house in France. In addition to this definition there is an interesting British proverb that states that, “an Englishman’s home is his castle”. Although the Stiltgrass Chateau is clearly not a castle, I’m interested in this idea of providing protection for the occupants. How will we build our homes in suburban communities to protect us from a rapidly changing climate? The Stiltgrass Chateau would use foundation theories of restoration ecology to provide climate resiliency. Invasive species could be harvested and transformed into experimental exterior siding that not only protects the occupants of the home but also the environment from which the material came from.
In Figure four, the Japanese stiltgrass on my landlord’s property is quite visible. This image was taken in early spring when the stiltgrass appears like straw and is a golden or tan in color. In a single year stiltgrass may grow up to several feet tall only to die back in the winter forming straw like blankets that cover the ground as well as the surrounding plants. Before it dies back, it propagates profusely. Thousands of seeds will lie dormant through winter only to emerge in the following spring. Successive cycles begin to kill the plants which cannot match the pace of growth to find the necessary sunlight to grow. This ecological disturbance effectively limits biodiversity of the surrounding ecosystem. Plants that create this phenomena have been labeled invasive species which at times may be problematic.

When you see this plant in person, the impact the plant has on other species becomes is more easily understood. Stiltgrass is considered an invasive species in the United States, but we should recognize the spectrum of invasiveness of various species. Since one species does not necessarily have the same impact on the surrounding ecology as another. There is an important conversation about invasive species and the pitfalls of plant classification that should not be overlooked. Although it is helpful to organize plants into native, non-native, and invasive categories, they often obscure the importance of the role time plays in the development of specific ecologies as well as the role of climate change. Working definitions of native and non-native are as follows:

native species, are species that have evolved to coexist with other species within a specific ecosystem and regions over time, non-native species are those that appear outside of the natural ranges they have evolved in but coexist with the native species. What are considered invasive species though? The New York Department of Environmental Conservation (DEC) states that “Invasive species are non-native species that can cause harm to the environment, the economy or human health. Invasives come from all around the world. As international trade increases, so
does the rate of invasive species introductions”. In addition to these ideas, Maria Thereza Alves has shown us in her ongoing project ‘Seeds of Change’, how many plant species have been transported from one continent to another through the shipping industry and the migration of species over hundreds of years. (Brown, 139) Her work exposes the idea that hundreds of years ago what could have been deemed an invasive or non-native species by today’s qualifications are now what we might consider native species.

In order to avoid troublesome labels and navigate the world of plants time should be spent with them to better understand them. All environmental relationships have something to teach us. Even when we find ourselves in foreign ecologies, in time it’s possible to discern the intimate relationships that weave ecologies together and our agency within them. In my desire to imagine creative solutions to ecological disturbances it was necessary to ground myself and acknowledge the peoples who were working outside these destructive systems and how they were doing it. Robin Wall Kimmerer identifies her ancestors as North Americans who lived sustainably here in the northeastern region of the United States in her book *Braiding Sweetgrass*. We read that over time these people learned to live this way through a specific cultural ontology. Throughout the book, anecdotes, scientific lessons, and indigenous wisdom help the reader contemplate how we might move forward and navigate through these dire moments in human history. Kimmerer shares with us the creation story of Nanabozho, the ‘Original Man’, “part man, part *manido*- a powerful spirit being- is the personification of life forces, the Anishinaabe culture hero, and our great teacher of how to be human”(Kimmerer, pg. 205). It’s a story that teaches the Creator’s original instructions given to Nanabozho, how time flows, and ways being in this world. We learn that, although First Man had no other human footprints to follow, he could follow the paths “made by those whose home this already was”(Kimmerer, pg. 206). All
the plants, animals and ecological systems that existed before Nanabozho educated him. And they still have so much to teach us, especially, in times when many of us have forgotten how to live harmoniously with each other and other species. Learning from Indigenous wisdom, scientific knowledge, and the teaching of plants can help us live, work, and create outside the current destructive ways of living. But more importantly, they will help us build more intimate and equitable relationships with the environment we find ourselves dependent on.

“If time is a turning circle, there is a place where history and prophecy converge -- the footprints of First Man lie on the path behind us and on the path ahead… maybe the journey of the First Man will provide footsteps to guide the journey of the Second.”

-Robin Wall Kimmerer
Suburban sprawl presents one of the greatest opportunities to reimagine how we build and organize our homes in western societies. Hand papermaking could help dissolve the borders we create between ourselves and wilderness. I ask myself how the home I will one day build for myself could allow me to coexist with others in more ecologically intimate ways. As you will see, papermaking is a process which holds the potential to create new building materials that detour from the current hazardous modes of production. The value of these building materials is that they are more than commodities that remove ourselves further from the environment. Instead of purchasing building materials that may travel thousands of miles to reach a large box store near you, what if we could harvest and create some of those materials on site? Not only could we create more intimate relationships with local ecologies, but these relationships could benefit the environment in a multitude of ways.

Throughout the majority of this research hand papermaking is a critical component of the methodology. It connects me to local ecologies and provides a vital connection to the materials seen in this exhibition. *Stiltgrass Lap Siding, Sabal Palm Lap Siding, Woodfire Stove, Beveled Lap Siding Mold,* and *Wekiva Papermaking* seen in the exhibition are all connected through this process. Depending on one’s culture, the papermaking process could be arrived at through indigenous wisdom, scientific knowledge, or the teaching of plants. As Robin Wall Kimmerer...
and Julia Watson might agree these areas of knowledge contribute to our understanding
environmental relationships and constitute the gift of traditional ecological knowledge. To
understand papermaking as traditional ecological knowledge is further supported by the long
history of papermaking and use of plants around the world. We find papermaking among these
pathways of study because it is a naturally occurring process found near water.

From a historical perspective there are arguably none more knowledgeable of papermaking
than the Japanese washi papermaker. The skill level required to make fine washi paper is
undeniable, but what is more intriguing is how well papermaking was integrated into Japanese
culture at the height of washi papermaking; all prior to western paper manufacturing processes.
Sukey Hughes explores the breadth of the Japanese relationship with papermaking in Washi, The
World of Japanese Paper. Her research illuminates that for the Japanese “paper became one of
the indispensable materials of everyday life” and they “cultivated the use of paper as if it was a
product of nature”(Hughes, pg. 36). This however, is not only a Japanese phenomenon.

As humankind made home for themselves across the world, many communities developed
sophisticated relationships with ecosystems like the Japanese culture’s relationship with washi
paper. Kimmerer tells us the Potawatomi, a community of Indigenous Americans, are one of
many communities still living across Earth’s continents with generational knowledge gained
from specific ecological relationships. Julia Watson surveys these various communities in her
book, *Lo-Tek Design by Radical Indigenism*. Every observed community confronts the dominant
western mythology of technology. Watson goes on to explain that “three hundred years ago,
intellectuals of the European Enlightenment constructed a mythology of technology. Influenced
by a confluence of humanism, colonialism, and racism, the mythology ignored local wisdom and
indigenous innovation, deeming it primitive”(Watson, pg. 16). Watson defines Lo-TEK as a
hybrid term. She describes it as an amalgamation of lo-tech and Traditional Ecological Knowledge (TEK). The Lo in Lo-tech refers to technology which is “simple, unsophisticated, uncomplicated, and pre-dating the industrial revolution,” (Watson, pg. 20) And TEK, Traditional Ecological knowledge, can be defined as “a cumulative body of multigenerational knowledge, practices, and beliefs” (Watson, pg. 20) Watson advocates that Lo-Tek is “a design movement to rebuild an understanding of indigenous philosophy and vernacular architecture that generates sustainable, climate resilient infrastructures”(Watson, pg. 21).

With all of these ideas in mind the physical manifestation of Stiltgrass Lap Siding felt necessary. Instead of just depicting speculative siding in Stiltgrass Chateau, I wanted to actually create the experimental siding proposed in the print. It became a matter of elevating the direct engagement with my surrounding environment in my art practice. And so, I harvested fiber, built molds, constructed fire pits to cook the fiber in multiple states and spent hours hand beating fiber to see if I could channel papermaking’s ancestry. It was a fantastic visceral learning process.

Figure 6 Woodfire Stove
Figure 7 Hand Beaten Stiltgrass

Figure 7 Beveled Lap Siding Fiber Molds
Both Stiltgrass Lap Siding and Sabal Palm Lap Siding embrace ideas found in vernacular architecture and are points of entry into both new and historically old material relationships with the land we build our homes on. They combine the application of ecological knowledge gained through papermaking and the appropriation of existing building material forms. Although they may be viewed as a criticism of the manufactured materials commonly used in commercial home building, I see them more as a creative experiment in developing more climate resilient home building practices which use novel ecological relationships to inform site specific vernacular architecture. In the Encyclopedia of Vernacular Architecture of the World, Paul Oliver delineates the types of homes humans have constructed for centuries across the globe. These type of dwellings include those created using fibers from palms, grasses and many others similar to the fibers used in these works.

To use paper as home building materials is not a new phenomenon either. Western skepticism of paper building materials might be assuaged by citing existing cultural examples. In Japan, shoji screens constructed with a wooden lattice structure and covered with cross laminated
sheets of paper were used both for exterior and interior walls. Again Hughes specifies that “a home was never built without it…Paper was a material of the architect as much as of the man of Tea, the painter, the calligrapher, or the student who practiced the shapes of characters on a sheet” (Hughes, pg.36). Now contemporary architects like Shegiru Ban, 2014 Pritzker Laureate, applies “his extensive knowledge of recyclable materials, particularly paper and cardboard, constructing high-quality, low-cost shelters for victims of disaster across the world” (ArchDaily). These brilliant temporary homes have lower carbon footprints since many of the materials can be sourced from within the country. Programs that use structures like these could provide crucial aid to people dealing with the worst of climate change. Another brilliant example of Ban’s use paper is seen at the L'Aquila Temporary Music Hall in L'Aquila, Italy. Ban further integrates his paper tubes as load bearing columns which support the roof of the building. These structures are certainly pushing the boundaries of what is possible with paper.

In the Lap Siding series, I’ve appropriated the beveled cedar lap siding form. Special open face paper molds were created to cast the stiltgrass and palm fibers into these forms. One of the great benefits of these forms is that they are transportable and can be used on site. The entire process of harvesting fiber, cooking, processing it, and then pouring it into the molds could happen out in the field. The use of locally sourced plant fiber with well-known siding forms qualifies these works as a vernacular cladding. This potential cladding reflects a site specific ecology as well as alters the ecological footprint of the object. Ideally, the carpenter familiar with these forms would not need to purchase materials that have traveled hundreds of miles to reach them. Although I’ve created physical siding forms, they still have yet to be tested in an outdoor environments. Further research is necessary to determine the best water and fire proofing methods for the siding. Architects like Shegiru Ban have already made great headway in this area
of research with the development of the paper tubes used in his buildings. Aside from the
speculative potential of this new type of home cladding, there are observable impacts made by
the use of these materials instead of siding made from plastics or wood shipped from thousands
of miles away.

In summary, this research visually explores possibilities of how we can alter our
relationships with ecosystems around us to reflect our interdependence. Ideas like these come out
of the necessity for building radically new socio-ecological structures while acknowledging
historically old symbiotic relations with our environments. These experimental vernacular
building materials attempt to envision how communities could construct, repurpose, reconfigure,
and implement possible solutions to the ecological disturbances western home building practices
create. They suggest new engagements with local ecologies, alternative modes of production
with a smaller ecological footprint, and more inclusive architectural designs. We have yet to
define the limits of what plant fibers are capable of. There is no treatise on the sculptural
limitations of plant fiber. Perhaps in the future, there might be. However, the works I make
contribute to this conversation and examine potential limitations. With this research, I seek
creative pathways to more ecologically harmonious relationships. Plant fiber, building materials,
and homes are as temporal as we are. If cared for, they may last generations.
Bibliography


https://www.archdaily.com/489255/the-humanitarian-works-of-shigeru-ban
Index of images

Figure 1.

*Dumpster Agriculture (Lowboy)*

15” x 11”

Intaglio, mounted fabric, acrylic
Figure 2.

*Billboard Fields (Grey building)*

15” x 11”

Lithograph, mounted fabric, acrylic
Figure 3.

*Stiltgrass Chateau*

15” x 11”

Lithograph, mounted stiltgrass, vapor barrier.
Figure 4.

*Dead Stiltgrass*

Digital photograph

Image of dead stiltgrass in my backyard.
Figure 6.

*Stiltgrass Lap Siding*

57” x 14”

Cast Japanese stiltgrass, vapor barrier, wood
Figure 6.

Woodfire Stove

24” x 48” x 48”

Concrete blocks, rebar.

Used to cook fiber.
Figure 7.

*Hand Beaten Stiltgrass*

After the fiber is cooked, it is beaten to further break down and separate fiber.
Figure 7.

*Beveled Lap Siding Fiber Molds*

8” x 96” x 1.5”

Wood, hardware cloth, patio enclosure screen

Sabal palm fiber can be seen in the molds
Figure 8.

_Sabal Palm Lap Siding_

96” x 36”

Cast Sabal palm, vapor barrier, wood.