

Ecology Final Project Summary

Seed Bombs

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One of the major environmental issues of our time is the introduction of invasive species and displacement of native species. Non-native species flourish due to human propagation and native species suffer.¹ This is especially notable in Brooklyn where urban development has created a vast maze of apartment buildings, roads and shops in place of natural landscape. In this concrete jungle nature is intensely regulated to the point where the only places where vegetation flourishes in abundance are parks and backyard. In backyard's owner often grow invasive plants from Europe or Asia without knowing the impact this has on native species. Parks are also often taken over by non-native species although there have been many conservation efforts to curb this encroachment.² The other places where plants can flourish often got unnoticed. In Brooklyn as well as any other major urban area there are a vast multitude of abandoned lots, side space in between apartment buildings and empty street planters just waiting to be filled with native plants. My project seeks to distribute and propagate native species in these unassuming patches of free soil.

For my project I created seed bombs formulated specifically for Brooklyn and informative, environmentally conscious packaging. Seed bombs are balls of seeds, fertilizer and soil compacted and coated in natural biodegradable clay.³ Each seed bomb is roughly the size of a Ping-Pong ball. The clay protects the seed from the elements, mold, fungi, birds and insect. The porous nature of the clays also allows moisture inside the bomb. This creates the perfect environment for the seeds to germinate. The soil and fertilizer give the seeds a head start and allow them to sprout inside the ball. As the plant sprouts it pushes its way out past the protective outer layer and into the environment where it then takes root and continue to grow. If placed in an area with adequate sunlight, rainwater and soil the plant should flourish. Seed bombs are a staple of the guerilla gardening movement⁴ as their compact format allows one to simply throw a bomb wherever there is an empty patch of soil and hope for growth.

In the seed bomb I used a blend of native seeds that I bought at a local gardening store. The seeds are perennial wildflower seeds native to the northeast region.⁵ The mix included Butterfly milkweed (*Asclepias tuberosa*), Perennial Lupine (*Lupinus perennis*), Gayfeather (*Liatris spicata*), Smooth Penstemon (*Penstemon digitalis*), Rigid Goldenrod (*Solidago rigida*), White Upland Aster (*Aster ptarmicoides*) and Brown Eyed Susan (*Rubecula triloba*). These seeds germinate and grow quickly which makes them ideal for the seed bomb method. I mixed the seeds in with soil and fish emulsion fertilizer and wrapped them in a mixture of soil and red clay. Then I let the bombs harden on my friend's roof overnight. After the bombs hardened I put them in my packaging so they were ready to be distributed to the masses.

The packaging I designed uses found glass jars to hold the seed bombs, recycled paper to print labels and information booklets on, and biodegradable twine. The found packaging decreases the environmental impact as it takes something that was going to be discarded and directly utilizes it⁶. If these were ever to go into mass production I would

purchase recycled glass jars rather than have jars made specifically for the product. The jars are decorated with an illustrated label printed on recycled paper. The other key part of the packaging is a small six page illustrated booklet that explains the ideology behind guerilla gardening, the importance of planting native species, the threat of invasive species and diagrams of the native wildflowers in the seed bomb. The booklet also gives suggestion for ideal places to put the seed bomb. The booklet is also printed on recycled paper and attached to the jar with biodegradable twine. This booklet is meant to inform the buyer about the product while educating with a interactive hands on approach.

The packaging and booklet uses images of fantastical snails and photographs of native plants. The packaging and whimsical illustrations are intended to appeal to children, parents, and Brooklyn hipsters and hippies. By prepackaging the seed bombs and providing clear instruction I hope to make science behind seed bombs clear and make the product accessible to the general public. The graphics are meant to inspire Brooklynites to become guerilla gardeners themselves⁷. By creating, branding and hopefully mass distributing seed bombs I hope to put native plants back in places that were once barren.

Seed bombs help restore native natural foliage, which also helps foster native species that depend on native plants for survival. Native birds and insects flourish in areas where native plants are abundant. In my neighborhood there are abandoned lots on nearly every block. It is in these abandoned lots that I see promise. These lots sit unoccupied for years, sometime decades at a time. Often they are strewn with garbage and are home only to non-native vines. By throwing seed bomb into abandoned lots one can single handily help restore native plants.⁸ My project aims to put that power into the hands of the masses and inspire grass roots change. Although the impact of one seed bomb is quite small the idea of being aware of native vs. non-native species is a key concept that the packaging of the seed bombs illustrates. As a product the seed bombs are meant to both educate and allow an individual actively participate in restoring native species in urban areas.

¹ SINDYA N. BHANOO, “After a 20-Year Mapping Effort, Hoping to Save Dozens of Native Plants”, <http://www.nytimes.com/2010/04/03/nyregion/03flora.html> Accessed 20-April-2012

² NATALIE O’NEIL, “Invasive species coats Prospect Park lake in green sheen”, http://www.brooklynpaper.com/stories/35/28/dtg_lakeslime_2012_07_13_bk.html, Accessed 20-April-2012

³ Colleen Vanderlinden, “How to Make Seed Balls”, <http://organicgardening.about.com/od/organicgardening101/ht/How-To-Make-Seed-Balls.htm> Accessed 18-April-2012

⁴ Emily Wax, “Guerrilla gardeners’ spread seeds of social change”, http://articles.washingtonpost.com/2012-04-14/lifestyle/35454538_1_guerrilla-gardeners-garden-store-social-justice, Accessed 20-April-2012

⁵ Mariellé Anzelone, “Gardening with New York City Native Plants”, http://nycwildflowerweek.org/nyc_native_plant.pdf, Accessed 18-April-2012

⁶ Peirce Owen, “Glass Bottle Packaging — Reuse vs. Recycling”. <http://www.grinningplanet.com/2005/10-18/glass-bottle-packaging-reuse-vs-recycling-article.htm> , Accessed 20-April-2012

⁷ Lisa Rovner “Pimp the Pavement: A Brief History of Seedbombing” , <http://www.good.is/posts/pimp-the-pavement-a-brief-history-of-seedbombing>, Accessed 20-April-2012

⁸ Leo Hickman, “Seedbombs are weapon of choice in war against wastelands” <http://www.guardian.co.uk/environment/blog/2011/apr/11/seed-bombs-derelict-land-flowers>, Accessed 18-April-2012

