

Flotsam + Jetsam = REDEMPTION

A low-tech solution to rising tides



THE BIG IDEA:

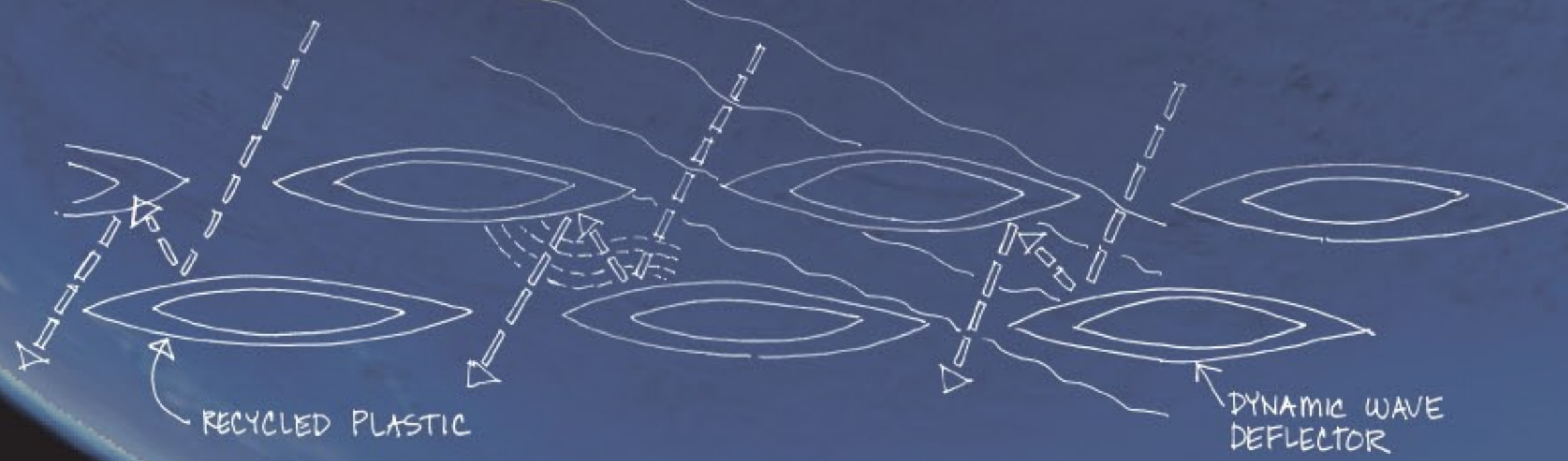
"One man gathers what another man spills"

To address the concerns of the San Francisco Bay Rising Tides Competition we envision a mutually beneficial union between the Great Pacific Garbage Patch and our design proposal that promotes the recycling of plastic and its use on various types of maritime infrastructure construction.

THE ISSUE: Sea Level Rise in the Bay Area

As an estuarine environment, San Francisco Bay functions as the lungs of the Bay Area and the surrounding counties. It provides a network of waterways, coves, flats and shorelines in a rich setting for transport and recreational use by people of all ages. The Bay and its tributaries also form a unique natural environment providing habitat for numerous creatures, including fish and migratory birds.

In recent decades a natural threat has materialized: the rise of sea level due to global warming. Recent studies have shown that as temperatures rise the sea level is likely to rise 16" by the year 2050, with a more serious rise of 55" by the end of the century. Although a 16" rise may sound inconsequential, the reality is that in the Bay Area there are great extents of valuable habitat, wetlands and buildings, located in low-lying areas. Many of these are in grave danger of inundation, which can result in property damage, population displacement, habitat destruction and even species extinction.

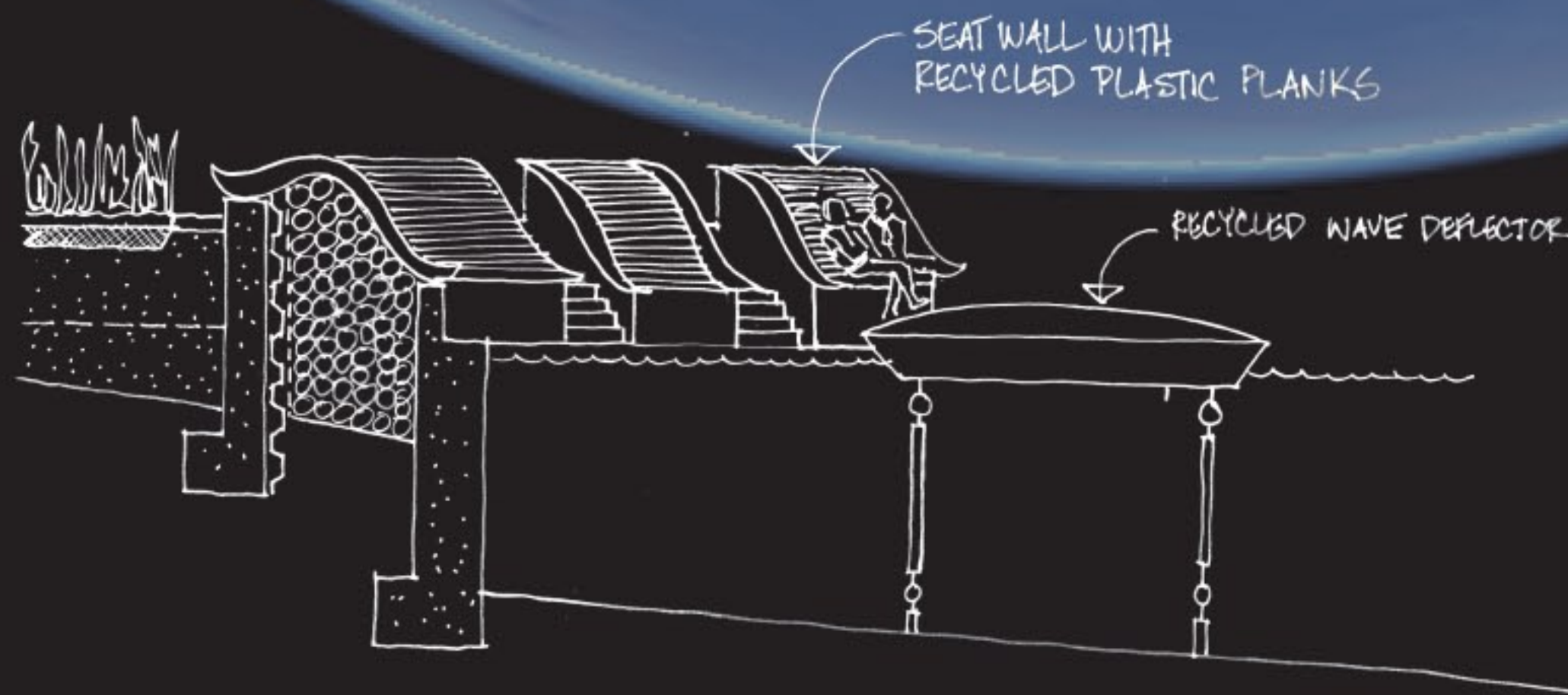


THE INTENT: "Think globally, act locally"

While the Rising Tides Design Competition focuses on the ecosystem that includes San Francisco Bay and its tributaries, this really is only scratching the surface regarding the stewardship of the Earth. Viewed from space, our planet is the only blue planet visible in the solar system - for now.

Unfortunately, largely due to population growth, the rate at which we consume the world's resources has increased exponentially. Human activities have damaged the environment in many ways. It is now common knowledge that issues such as global warming and environmental pollution are fundamentally related. Only by reducing consumption and recycling materials will we decrease our collective carbon footprint and restore the environment.

When we first started work on the competition we looked closely at the issues of San Francisco Bay relative to rising sea level. We also looked farther afield at other environmental issues in our region: this brought us to the Pacific Ocean and the Great Pacific Garbage Patch, located in the Northern Pacific Gyre, an "island" twice the size of Texas made of plastic and debris floating in the open ocean in between Hawaii and the California coast. For most people it is an "out of sight, out of mind" issue.



HOW IT WORKS:

This proposal is a low-tech engineering and design concept that addresses Bay conservation and issues related to sea level rise. It blends science and design to create beautiful and sustainable infrastructures that rely primarily on the use of recycled materials for constructing the bayside improvements that will protect the shores from flooding and storm surge. One of the sources for the recycled materials is the Great Pacific Garbage Patch. One may wonder how we would harvest these recyclable materials. During our research we discovered a non-profit organization that has plans already in place for an ocean-based station that harvests and reprocesses plastic on-site for reuse. From there, the recycled materials to be used in our design would then be taken to Stockton's yard, the same site previously used for manufacturing of the new Bay Bridge pre-cast pieces. Similar production and transport of those pieces would be "reused" with the intention to streamline production and absorb local labor as an economic stimulus.

The material is lightweight, impermeable, durable and easily shaped. These characteristics make it suitable for many custom infrastructures. Its potential use in maritime environments are numerous: seawalls, rip-raps, decking, seating, pleasure crafts, docks, floating swimming pools, dynamic wave deflectors, adjustable water barriers, to name a few.

