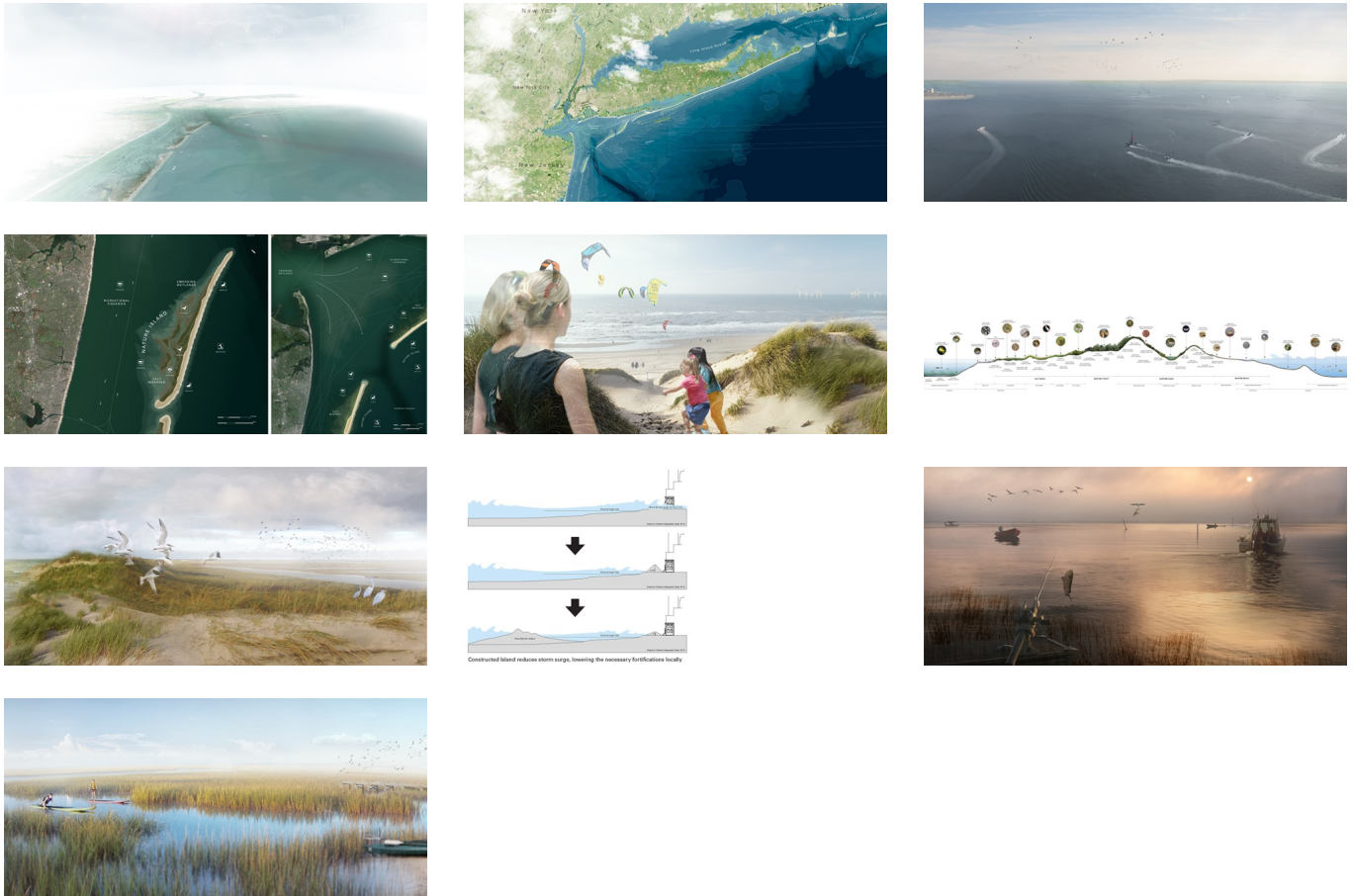


# BLUE DUNES: THE FUTURE OF COASTAL PROTECTION

2013-2014, The Eastern Seaboard, USA



Storms of the future are likely to be more intense and frequent and they certainly will be more costly to human settlement. While we cannot predict when the next big storm will come or what it will look like, we are learning about how oceans will behave, in terms of their physical dynamics (currents and waves), the habitats they support, and the interrelationship between coastal dynamics, geomorphology and habitats.

In June 2013, President Barack Obama announced the national competition, Rebuild by Design. Team WXY/West 8 responded with a bold, yet substantiated, approach to coastal protection. We asked ourselves: "if we had planned and designed our coasts with the dynamic effects of climate change in mind, would there have been a way to deflect storm-driven surges with a set of barrier islands located offshore?" The results demonstrated potential for saving lives and billions of dollars across the region.

The resulting proposal to create an offshore barrier island chain centered on the NY/NJ harbor is called "The Blue Dunes" - blue indicating their position in the open ocean and dunes for the natural landforms they mimic. The regional scale of Blue Dunes complements local projects and allows for economies of scale; complex and combined protection systems, physical coupling of on and off shore systems, enhanced feasibility of financial risk mitigation through more affordable pricing and more efficient supply of insurance, reinsurance and catastrophic bond products.

Today this proposal stands at a crossroads – we have discovered this potential for the future of coastal protection, but much work still needs to be done. The scientists, engineers, planners, economists and maritime stakeholders that have participated to date have identified the key issues that need to be addressed, including water quality, habitats, recreation, navigation, constructability, further planning and funding.

We propose the creation of an initiative, Blue Dunes Research Initiative – BDRI – to explore these issues and develop a new approach to coastal

protection. The initiative seeks to ensure the safety of the citizens who live in the coastal cities of New York and New Jersey and to guarantee to the extent possible, their quality of life in the face of climate change, and co-habilitation between man and the coastal environment.

The work needed to create the first phase of storm protection offshore will supply the regions coastal communities with new planning tools and resources; BDRI is a catalyst for creating a knowledge network and will include the entire region's urban coastal communities, from the organizations that serve them to the scientists invested in researching them.

#### client

Hurricane Sandy Rebuilding Task Force / U.S Department of Housing and Urban Development

#### partners

WXY Architecture + Urban Design

#### consultants

Stevens Institute of Technology, ARCADIS US, AIR Worldwide, Rutgers University (Kate John-Alder), BJH Advisors, Griffith Planning & Design, NowHere Office, CURE., Columbia University, Helen Han Creative, Verisk Analytics, Great Lakes Dredge & Dock Co. LLC

#### team

Adriaan Geuze, Lauren Micir, Claire Agre, Riette Bosch, Ela Chojecka, Janneke Eggink, Giulia Frittoli, Lauren Micir, Florentia van Gils, Daniel Vasini, Moniek Widdershoven