EXPANDING THE WATERFRONT PARK Not Just For Play: The Role of Parks in a Resilient City

NYC Parks Summit May 24, 2016

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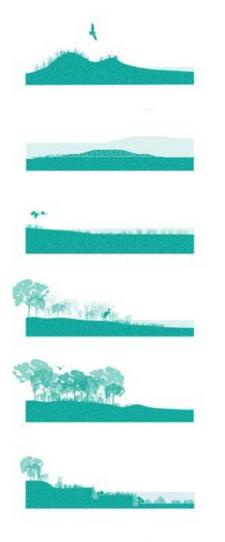
What is a park?

NYC PARK

NYC PARK

Anticipate climate change. explore resilient shorelines.

EXPAND YOUR DEFINITION OF SHORELINE

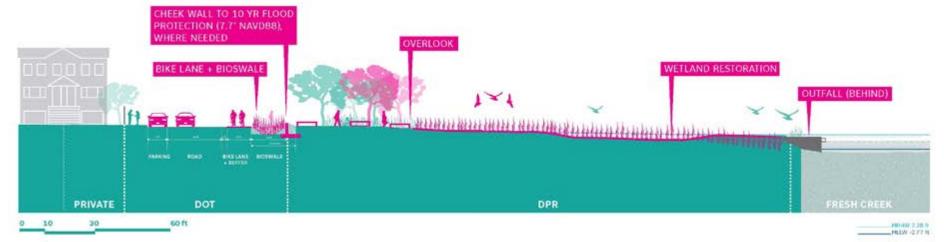




LOW SALT MARSH HIGH SALT MARSH MARITIME SHRUBLAND MARITIME FOREST MARITIME MUD FLAT BEACH DUNE SALT PANNE SALT SHRUBLAND DUNE SLACK SUBTIDAL REEF BARRIER ISLAND







think in layers. look beyond the land. design to encourage stewardship.

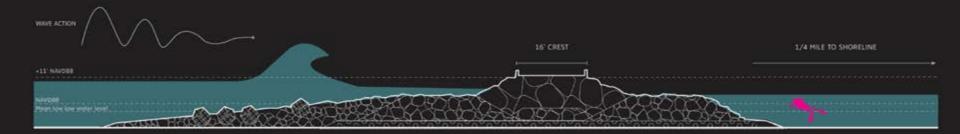
LIVING BREAKWATERS

Calm

STATEN ISLAND + RARITAN BAY HUD REBUILD BY DESIGN

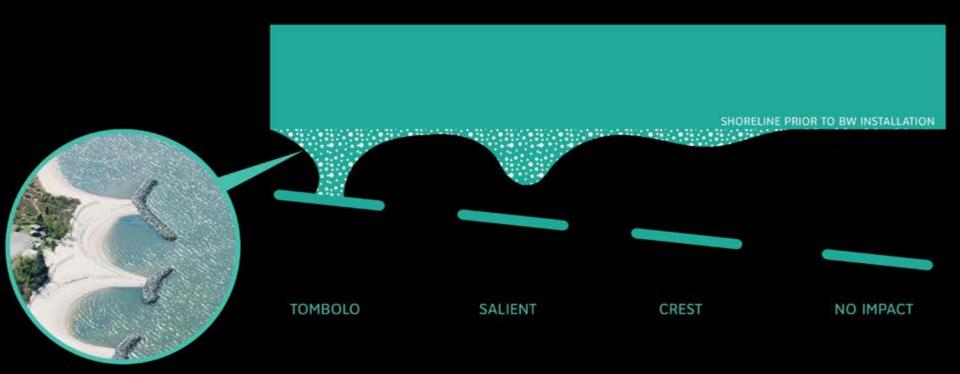
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BREAKWATERS REDUCE WAVE ACTION





BREAKWATERS BUILD BEACHES



HABITAT BREAKWATERS

DO:

REDUCE EROSION

LESSEN WAVE IMPACTS

PROVIDE HABITAT

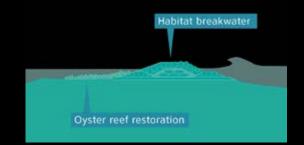
ENCOURAGE RECREATIONAL FISHERIES

BUILD BEACHES

DO NOT:

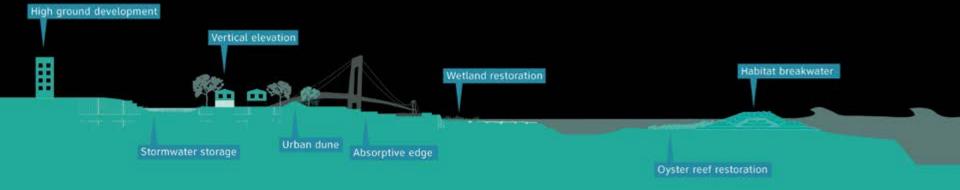
KEEP OUT FLOOD WATER

IT IS NOT JUST A LIVING BREAKWATER ...



... $\bullet \bullet \bullet$

100 YR FLOOD PLAIN COASTAL EDGE NAV. CHANNEL HIGH GROUND TIDAL FLATS INTERTIDAL I Т I



... IT IS A LAYERED APPROACH ...

... THAT BUILDS A CULTURE OF RESILIENCE.

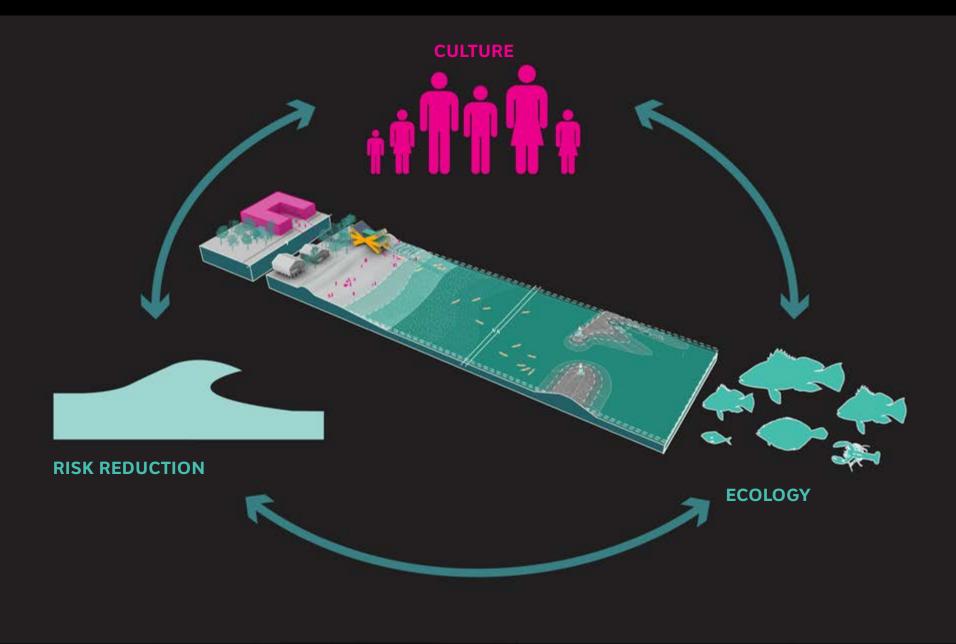


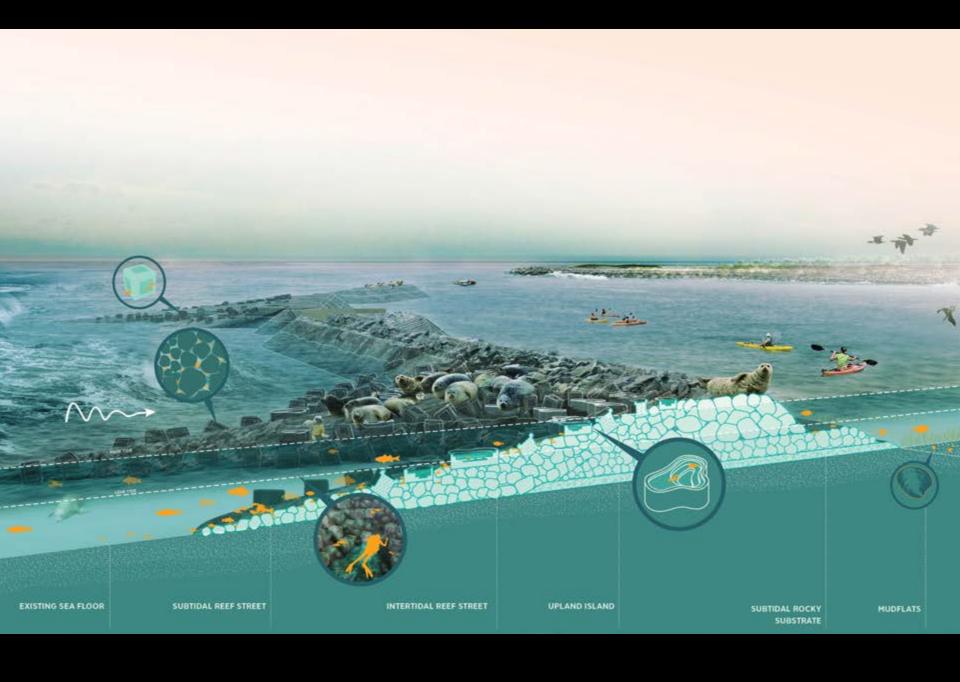
I HIGH GROUND I 100 YR FLOOD COASTAL TIDAL FLATS I INTERTIDAL I CHANNEL

THINK IN LAYERS

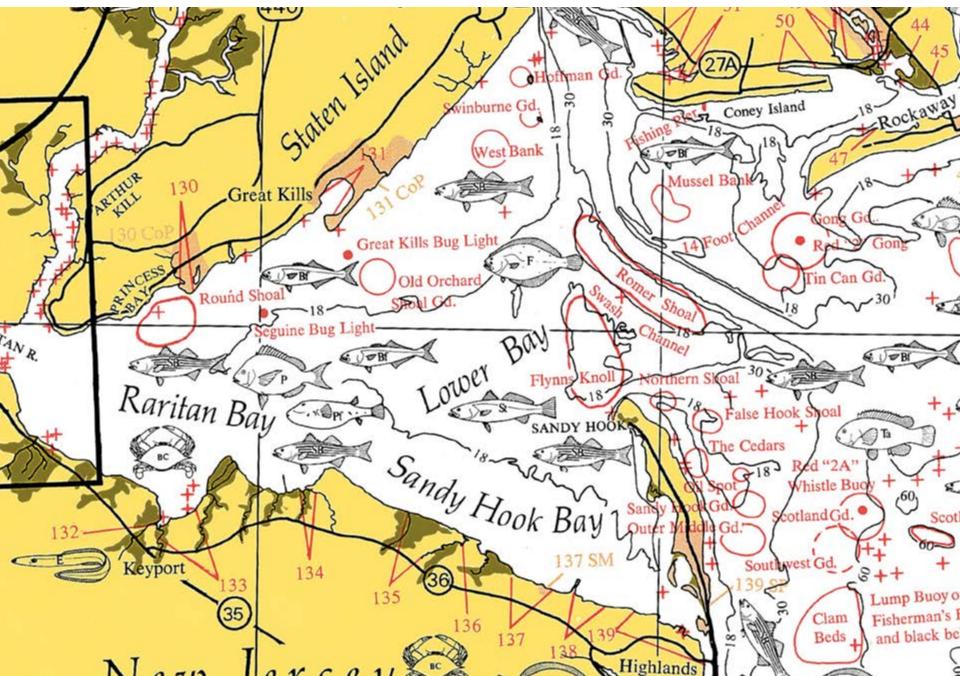




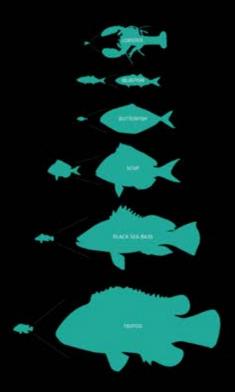




EXPAND WHO YOU ARE DESIGNING FOR

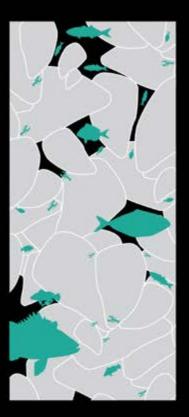


CREATE NICHES





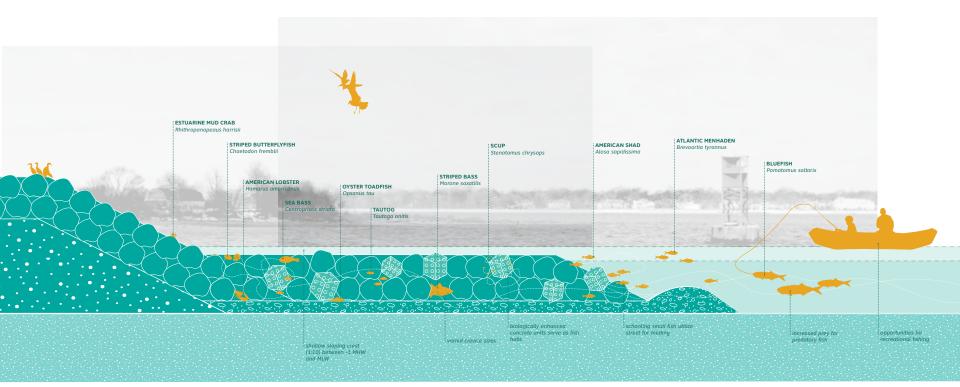




NEW SURVEYS



DESIGN FOR HABITAT



MATERIALS FOR HABITAT



OYSTER RESTORATION TECHNIQUES

REEF CONSTRUCTION TECHNIQUE: OYSTER GABION

> SPAT ON SHELL INSIDE MARINE GABION

NO ACCESSIBLE OYSTER RESTORATION AT OCCUPYABLE BREAKWATERS

NURSERY (SPAT SANCTUARY) (1) FLOATS MOORED TO MARINE PIERS AT MONITORED SITES; (2) FLOATING STRUCTURES IN THE LEE OF THE BREAKWATER

OYSTER CAM

LIVING SHORELINE

REEF CONSTRUCTION TECHNIQUE: IN SITU SETTING

SPAT



REEF CONSTRUCTION DISK TECHNIQUE: BIO-ENHANCING CONCRETE UNITS WITH "OYSTER DISKS"

LIVING SHORELINE

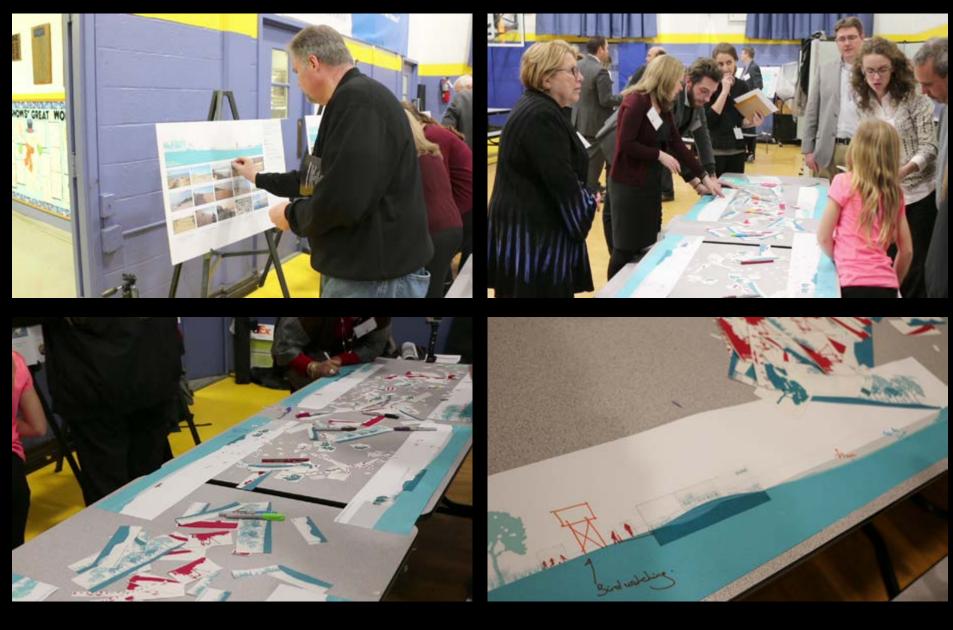
MARINE PIERS

REEF CONSTRUCTION TECHNIQUE: DISPERSAL OF LOOSE SPAT ON SHELL

NAVIGATIONAL GUIDE AND MONITORING CAMERA TO PREVENT POACHING

BILLION OYSTER PROJECT













STEP 1: PICK A PLACE ON THE MAP

FURTHER UPLAND

ON THE DUNE

ON THE BEACH

ON THE BEACH

STEP 2: PICK YOUR BREAKWATER



4' CREST ELEVATION

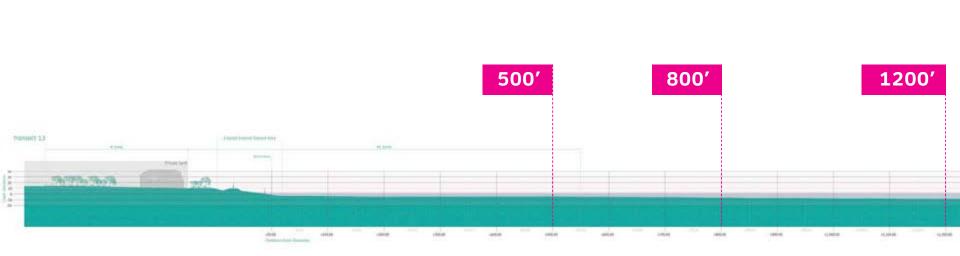


10' CREST ELEVATION



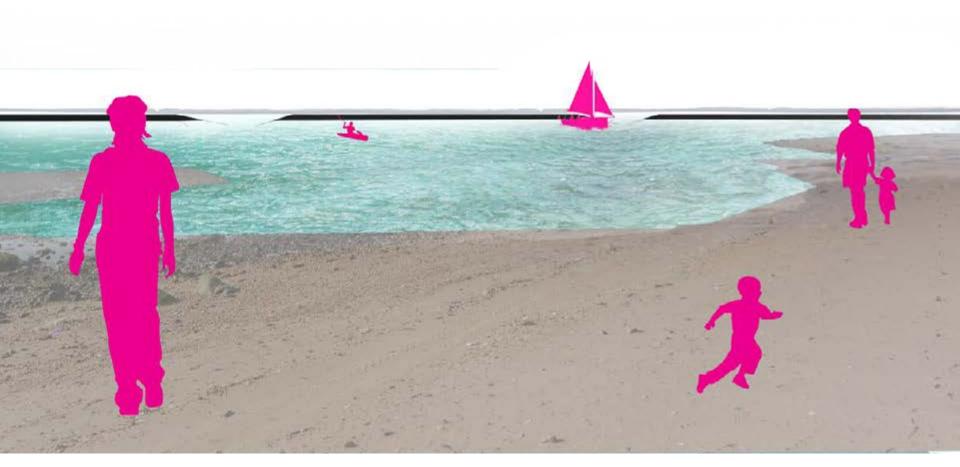
16' CREST ELEVATION

STEP 3: SELECT A DISTANCE FROM SHORE



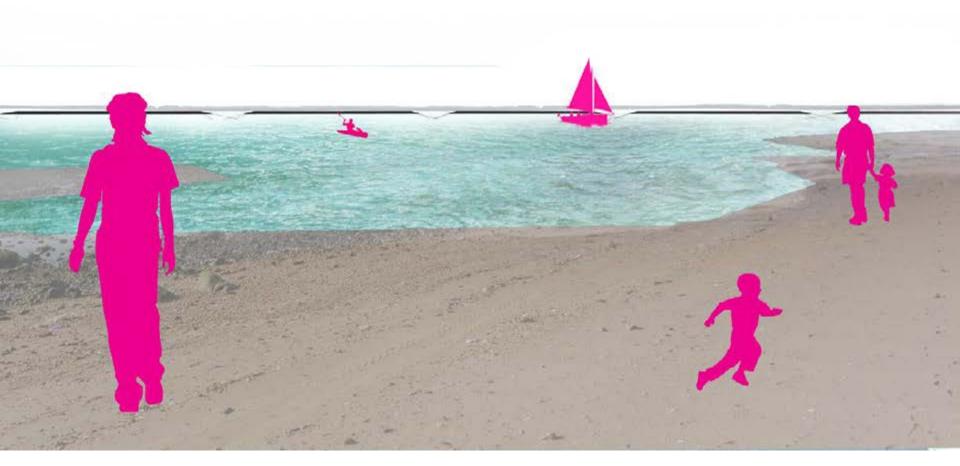
DISTANCE FROM SHORE: 500' CREST ELEVATION: 10'

ВАСК ТО МАР



DISTANCE FROM SHORE: 1200' CREST ELEVATION: 10'

ВАСК ТО МАР









Recognize parks = critical infrastructure. FUND! MONITOR! MAINTAIN!