



Building Vibrant Communities in a Time of Changing Climate

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Responding to Climate Impacts

Natural and Nature-based Approaches - actions to protect, sustainably manage, or restore natural or modified ecosystems as solutions to societal challenges.

Vibrant Communities

- ▶ Define outcomes
- ▶ Resilient
- ▶ Safety from hazards: flooding, wave driven damage, pollution
- ▶ Connection to nature through open spaces
- ▶ Publicly accessible connection to Public Trust waters
- ▶ Strong locally based economy
- ▶ Affordability

NATURE PROTECTS PEOPLE

CORAL REEFS
REDUCE 97%

of wave energy—
acting as a barrier
from storms

MANGROVES
REDUCE 66%

of wave height—easing
erosion and flood risk

NATURAL BARRIERS
SAVE MONEY

and reduce impacts of
storms, erosion and flooding
to coastal communities

OYSTER REEFS
save communities
\$85,000

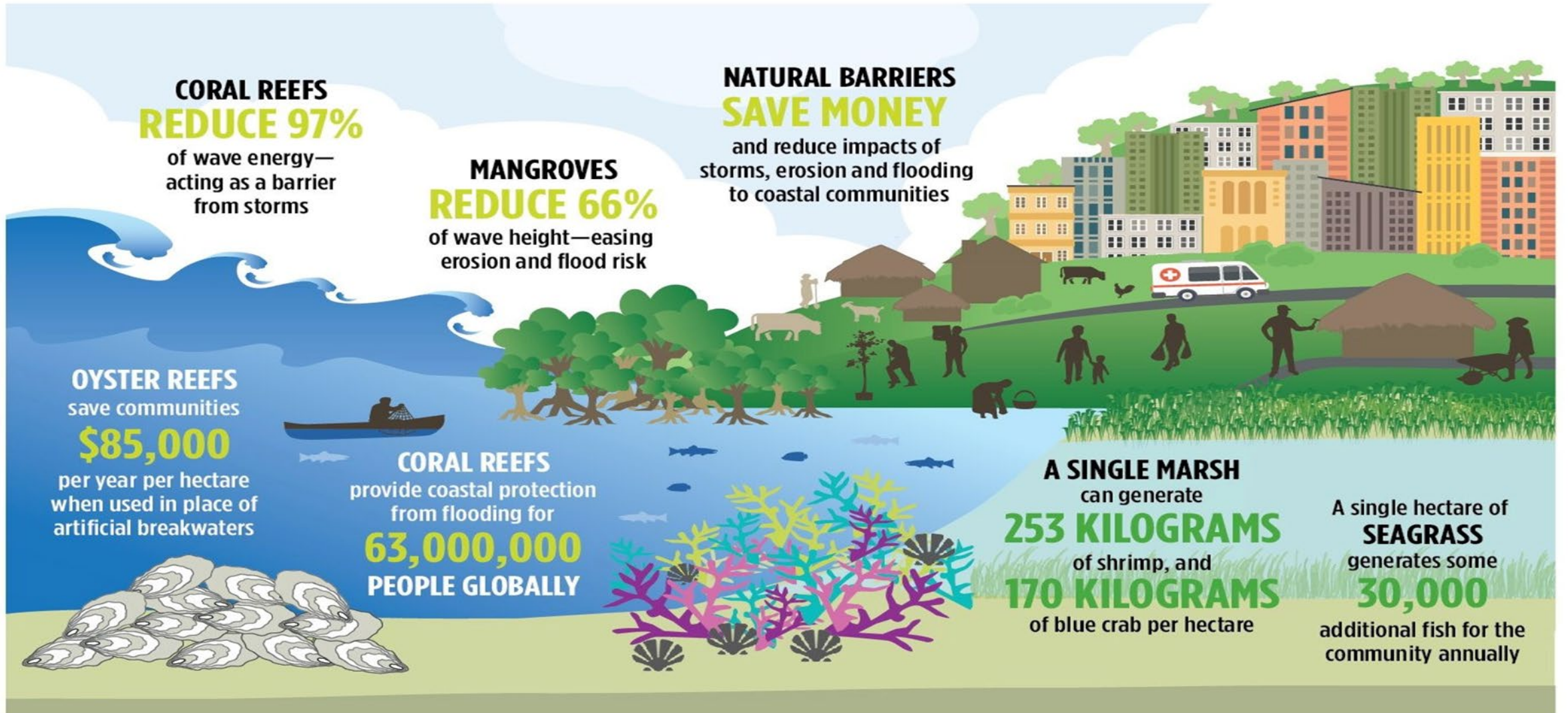
per year per hectare
when used in place of
artificial breakwaters

CORAL REEFS
provide coastal protection
from flooding for
63,000,000
PEOPLE GLOBALLY

A SINGLE MARSH
can generate

253 KILOGRAMS
of shrimp, and
170 KILOGRAMS
of blue crab per hectare

A single hectare of
SEAGRASS
generates some
30,000
additional fish for the
community annually



Wetland Restoration & Protection



Dunes



Greenways



Green Stormwater Infrastructure

Rain Gardens



Oyster Reefs and Offshore Structures



Blue Acres and Acquisition of Flood Prone Areas



Why Living Shorelines?

Primary reason = Shoreline stabilization

Secondary benefits:

- Flood mitigation
- Habitat
- Aesthetics
- Carbon sequestration
- Adaptability to changing conditions



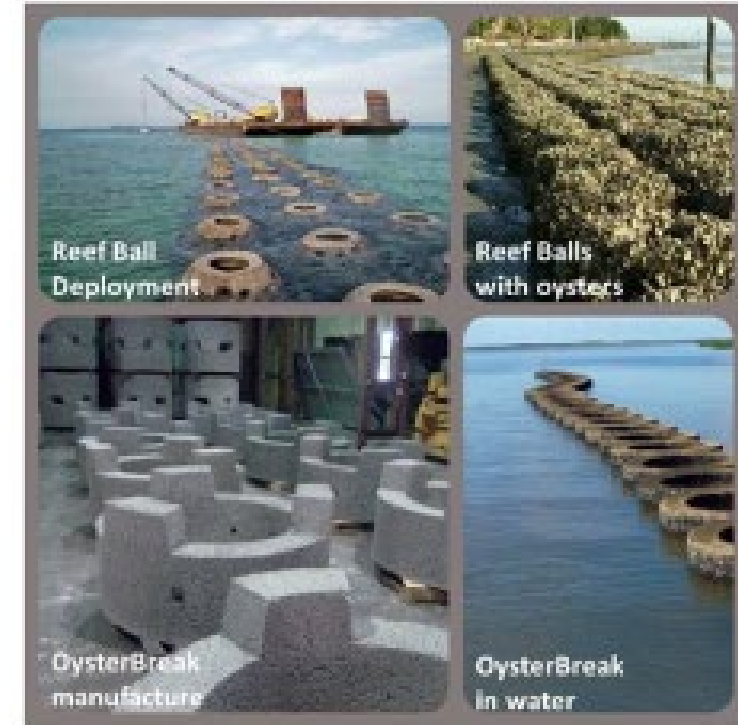
NOAA - Beaufort

Examples

Coir logs



Marsh sills made of oyster shell bag, used with revegetation.



Prefabricated oyster reefs

Mesh bags of oyster shells piled to form a breakwater

Starting Presumptions

- ▶ Practices are established and proven
- ▶ Adaptation to impacts of climate change and mitigation of carbon pollution through natural and nature-based approaches can provide significant co-benefits
- ▶ Strategies must be part of a comprehensive response & must take place at an unprecedented scale - think “space race”
- ▶ Connect people to nature - key to vibrant communities

Challenges

- ▶ Many of the most vulnerable communities disadvantaged
- ▶ Governance framework - plan, prioritize, focus areas
- ▶ Scale
- ▶ Offsetting continued sprawl and overdevelopment
- ▶ No consistent/stable public funding source

Opportunities

- ▶ Federal Bipartisan Infrastructure Act/Inflation Reduction Act funding
 - ▶ White House release of “Road Map for Nature-based Solutions to Fight Climate Change, Strengthen Communities and Support Local Economies” 11/08/22
 - ▶ FEMA Building Resilient Infrastructure and Communities (BRIC) grant program
 - ▶ Climate Ready Coasts Initiative (NOAA)
- ▶ Development/redevelopment ongoing
- ▶ Strong public consensus about need to act on climate
- ▶ Bills to expand Shore Protection Fund and create new funding in Legislature; Stormwater Utilities authorized
- ▶ Climate Change Resiliency Strategy and policies
- ▶ Resilient NJ program: planning at regional scale

Thank you

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