

Blue Solutions for Climate Action Planning

Sea-Level Rise & its Impacts on Coastal Communities



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Port of San Diego Jurisdiction

34

miles of waterfront

2,403

acres of land

3,535

acres of water



Port Tideland



Submerged Tideland





5

public piers



9

museums &
attractions



18

hotels



22

parks



70

artworks



74

restaurants



80+

sponsored
events

Drivers of Adaptation

Protect Public Trust Resources

- Commerce, Fisheries, Navigation, Recreation, Environmental Stewardship

Working waterfront

- Coastal-dependent infrastructure

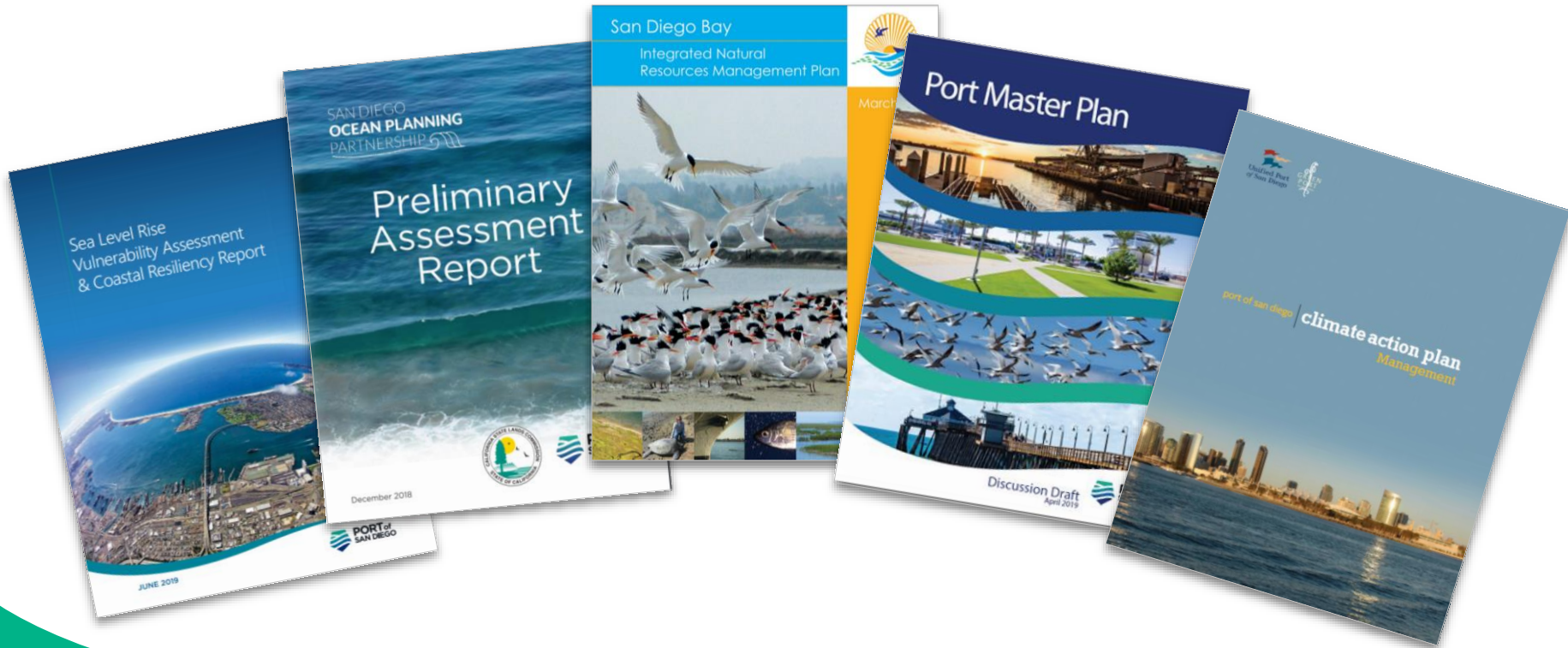
Regulatory directives

- AB 691
- Port Act
- Coastal Commission

Port Master Plan Update



Plans and Policies at the Port of San Diego



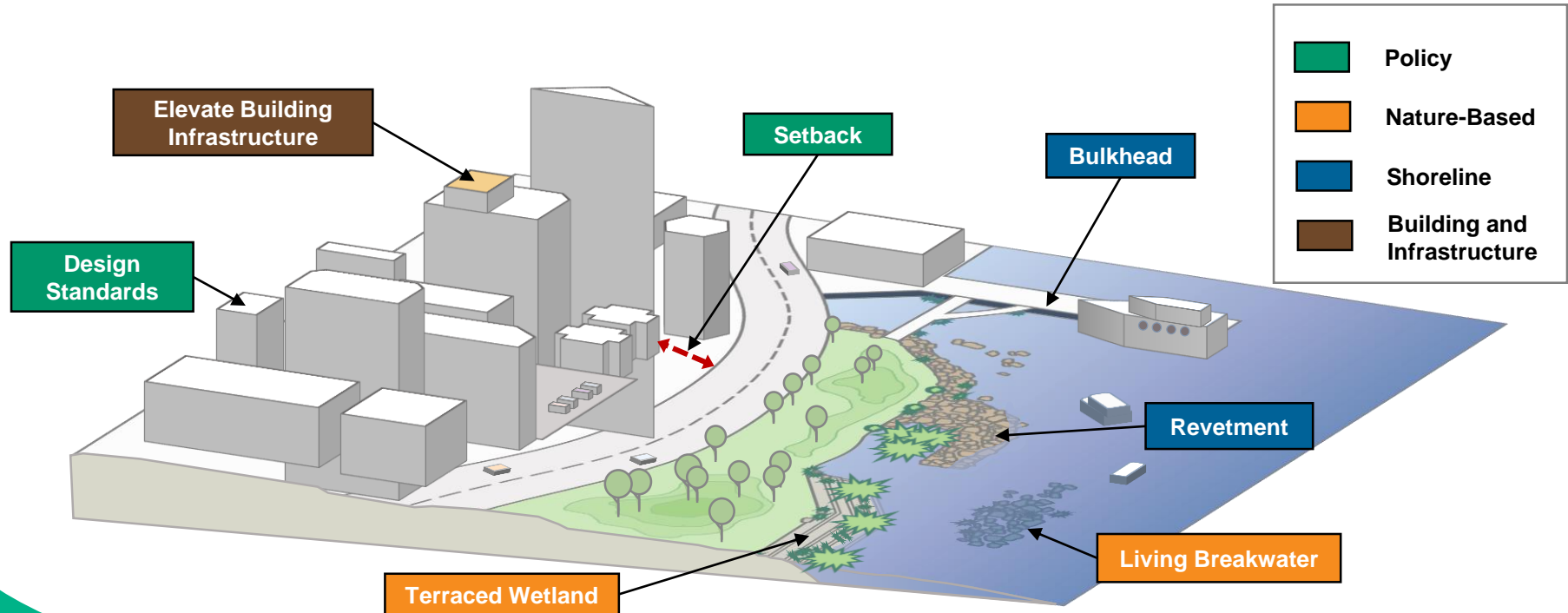
Assembly Bill 691

- Trustees of granted public trust lands
 - ✓ Submit a description of how trustee proposes to address sea level rise
 - ✓ Evaluate the impacts of sea level rise: 2030, 2050, and 2100
 - ✓ Estimate financial impacts
 - ✓ Collaborate with stakeholders
 - ✓ Identified monitoring indicators



Adaptation Planning

Visualizing Sea Level Rise Adaptation Strategies



Port of San Diego and the U.S. Navy

- The Port of San Diego is **one** of **seventeen** strategic ports
- Multiple collaborative efforts between the U.S. Navy and the Port of San Diego
 - **Integrated Natural Resources Management Plan**
 - **Memorandum of Agreement** to coordinate on sea level rise and coastal flooding around San Diego Bay
 - **San Diego Ocean Planning Partnership**
 - **Partnership Intermediary Agreement** to help drive Blue Economy Innovation in San Diego Bay and test pilot projects with Naval Undersea Warfare Center Division

San Diego Bay Wave Monitoring Pilot Project



- Measure wave activity
- Refine sea level rise modeling
- Develop flood forecast tools
- Inform resiliency measures

Natural Climate Solutions



Leading by Example: Investment and Innovation

Long-term Natural Resource Management

- **Restoration Efforts**
 - Seeks to restore lost habitat
 - Increases resiliency to climate change
- **Mitigation Banking**
 - Create wetlands habitat to offset future impacts

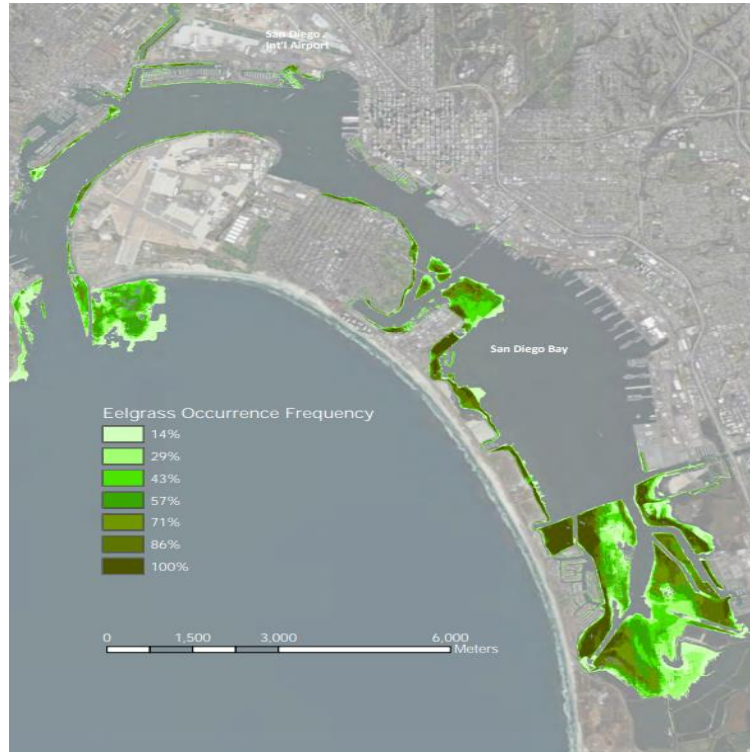


Coastal Carbon Sequestration



Salt marsh and eelgrass habitats are natural carbon sinks that bury carbon in the ground at much greater rates than terrestrial forests

Eelgrass



2017 San Diego Bay Eelgrass Inventory

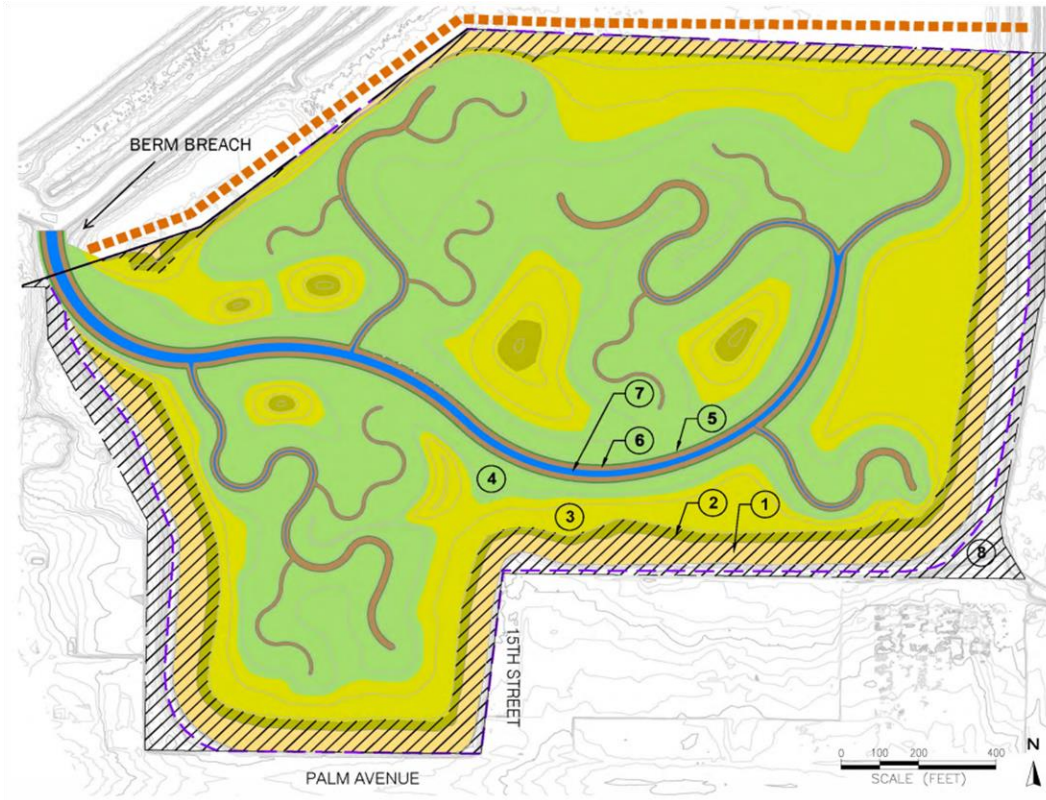
San Diego Bay accounts for:

- 50% of all eelgrass in Southern CA
- 15% in entire state

Restoration & Mitigation Banking



Mitigation Banking



Restoration
will result in
189%
increase in
carbon
sequestered
by the year
2100.

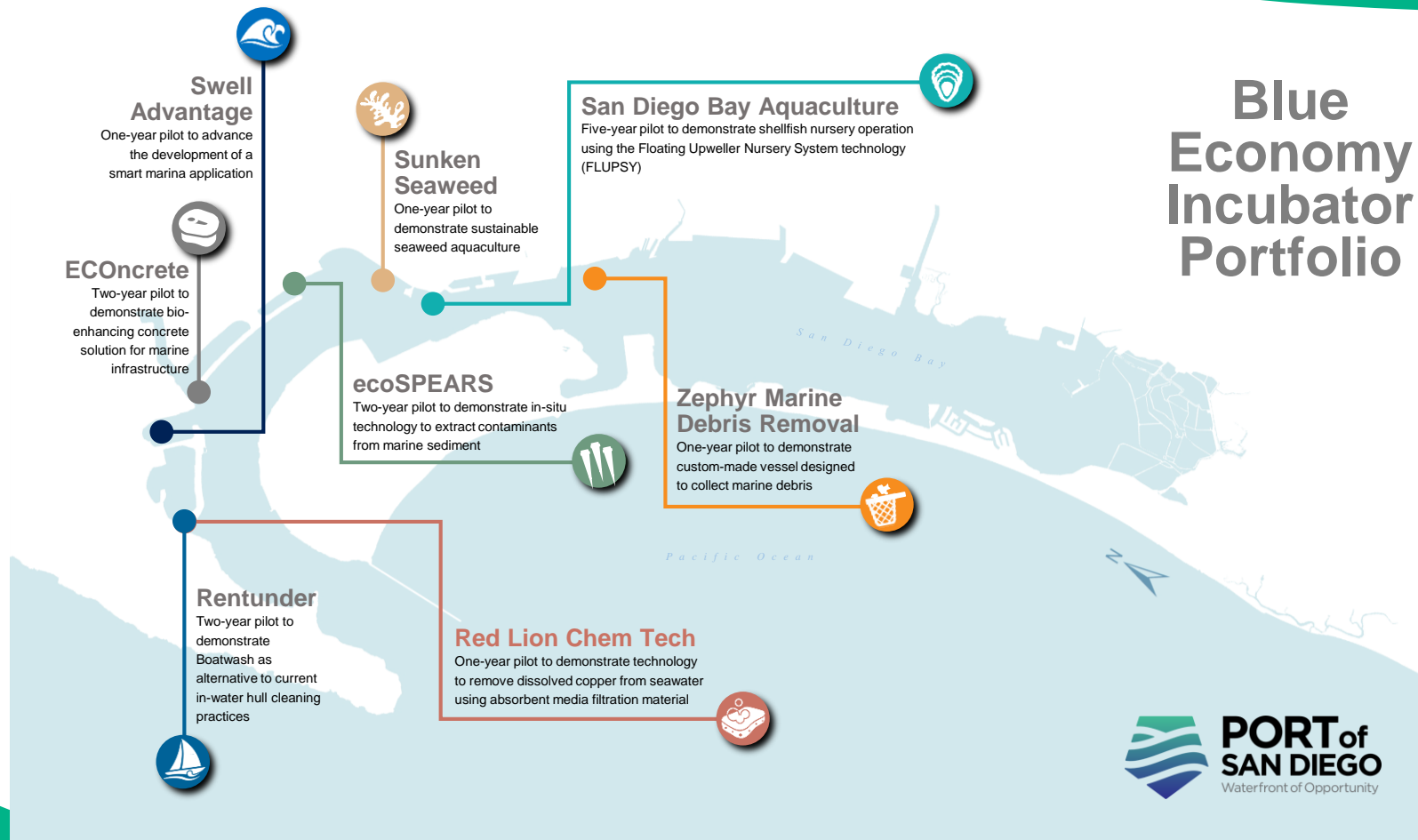
Blue Economy

- Pilot Project facilitation
- Permit-ready infrastructure
- Land and water entitlements
- Market access
- Strategic funding



Innovation Launching Pad

Blue Economy Incubator Portfolio



Leading by Example:

Investment and Innovation | Blue Economy Incubator



Zephyr Trash Skimming Boat



EConcrete



Sunken Seaweed



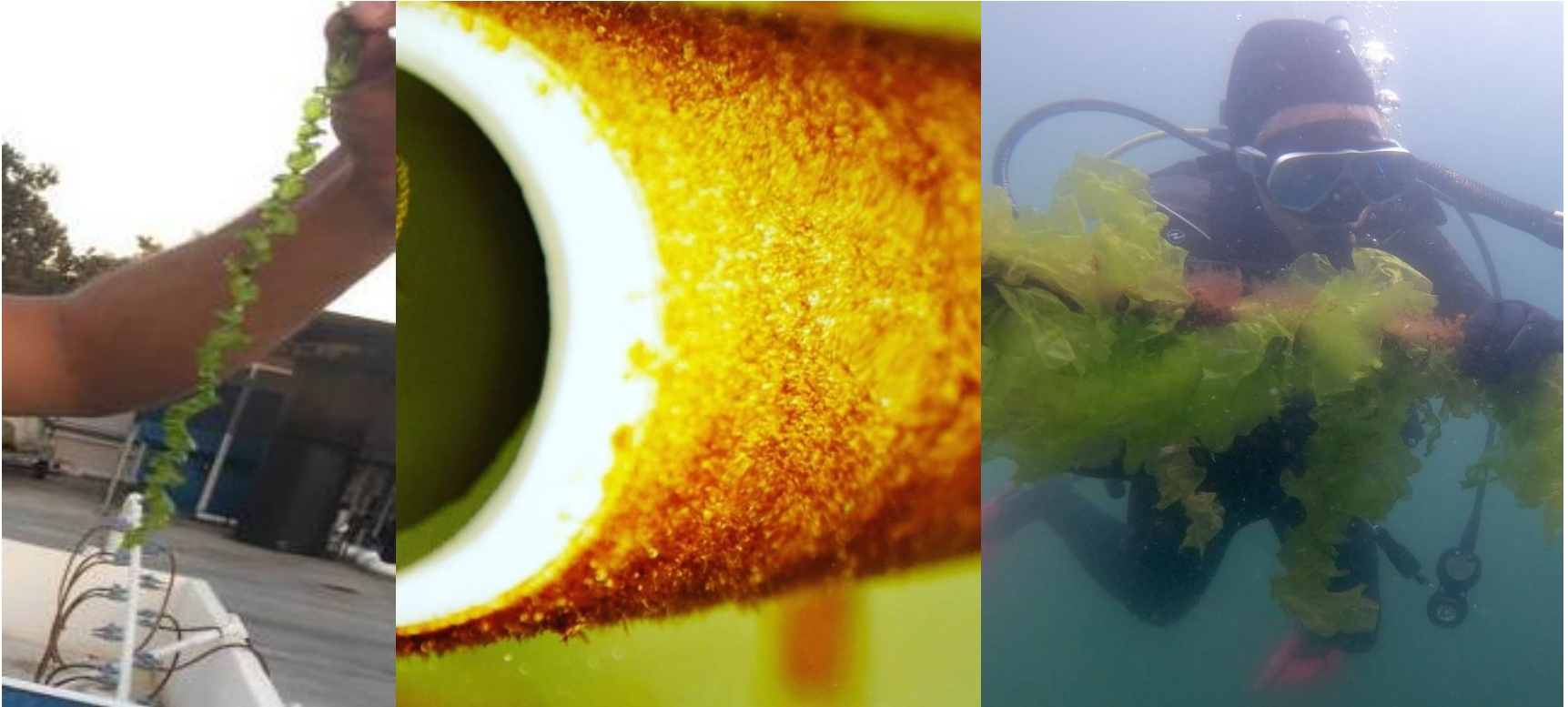
ecoSPEARS

3D Ocean Farming



- Bioremediation
- Carbon sequestration
- Food production
- Fisheries enhancement

Seaweed Aquaculture



EConcrete



- 3-year pilot project to demonstrate new design of an innovative bio-enhancing concrete solutions for marine infrastructure
- Comprehensive monitoring plan (biological & structural)

Conclusion



- Natural Resource Management
- Habitat Restoration
- Mitigation Banking
- Innovative Technology
- Aquaculture