



CA Artificial Reef Program Plan Open Listening Sessions



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Winter 2025 Online Listening Session

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What will we cover today?

Sea
Grant
CALIFORNIA

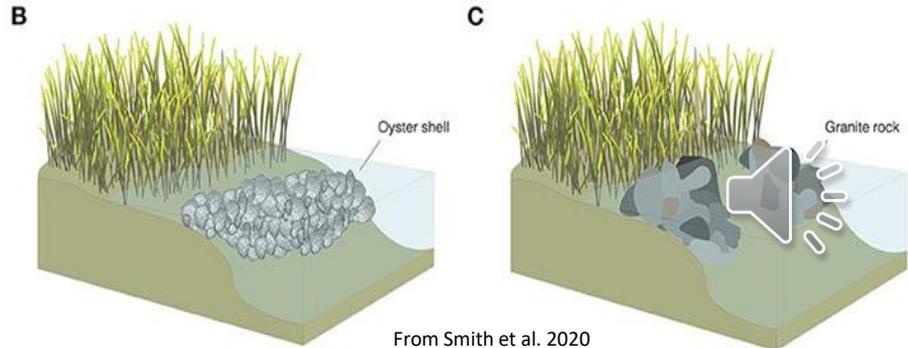


- What is an “artificial reef”?
- The CARP Plan Outline
- CARP Plan Key Concepts
- General recommendations materials, design, siting & monitoring
- Biological productivity, biodiversity and ecosystem services
- CARP Plan Timeline and next steps



What is an “artificial reef”?

- Intentionally placed by humans in marine environment
- Manmade or natural objects
- Duplicate conditions on natural reefs & rough bottoms
- Induce production of fishes and invertebrates
- Stimulate growth of kelp or other midwater plant life
- Creates natural habitat





CARP Plan Outline

Sea Grant
CALIFORNIA



1. **California Artificial Reef Program** – Purpose, CARP Plan use, definitions & history
2. **Science review to inform performance planning** – Artificial reef functioning, climate change, habitat conversion & other submerged structures
3. **General Guidance for artificial reefs** – Design, material, siting & performance monitoring
4. **Best Practices for Artificial Reef Development** – Case studies, maximizing benefits, mitigation & permitting, California Native American tribe engagement



Wheeler North/SONGS Mitigation Reef



Palos Verde Restoration Artificial Reef



Giant Marsh SF Bay



HMCS Yukon



CARP Plan Key Concepts



- Integrates the latest science on artificial reef functioning
- General recommendations on design, materials, siting & monitoring
- Establishes the foundational role of biological productivity & biodiversity in project planning
- Identifies challenges & opportunities
- Creates a permitting framework to guide regulators & developers



Materials – aligns with existing guides; inert, non-toxic, & durable

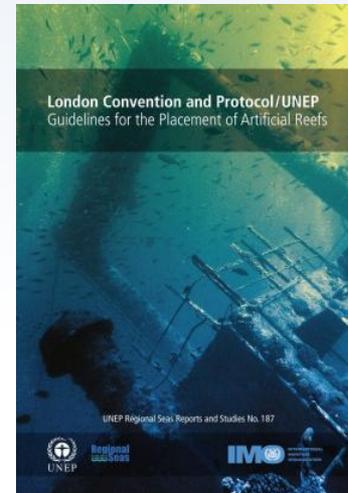
Design – build ecosystems; provide benefits across life stages & species

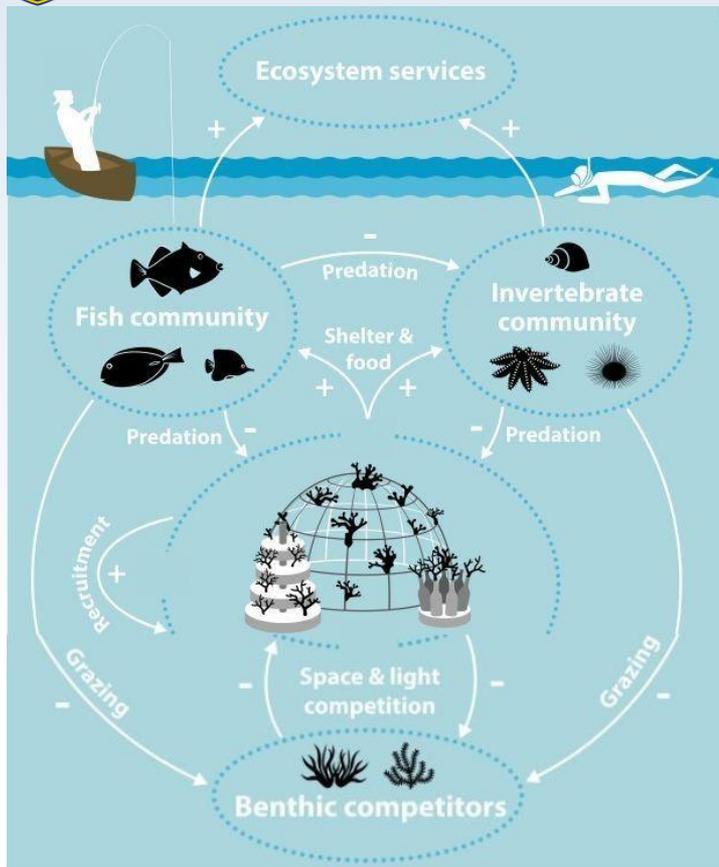
Siting/Location – maximize connectivity; determine appropriate conditions; plan for future conditions

Monitoring – linked to goals & objectives; aligned with variability; informs adaptive management

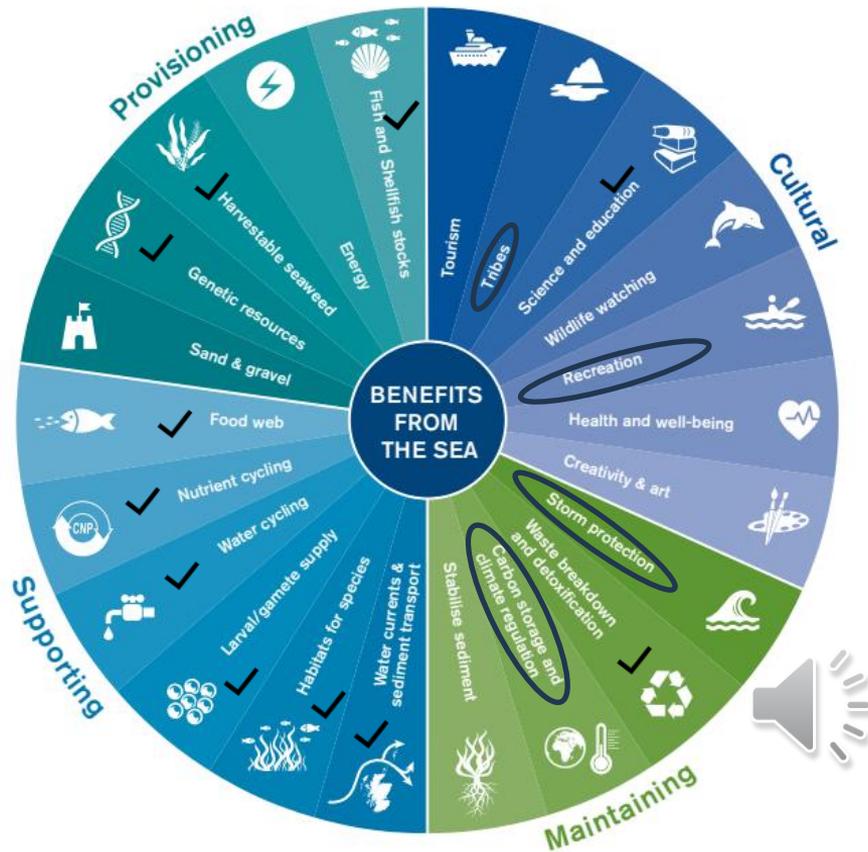
National Artificial Reef Plan (as Amended):
Guidelines for siting, construction,
development, and assessment of artificial reefs

United States Department of Commerce
National Oceanic and Atmospheric Administration
February 2007





Knoester et al. 2023



Modified from NatureScot

Maximizing Benefits – “The Layer Cake”



Research & Education

Carbon Sequestration

Shoreline Protection

Cultural Uses

Recreational Opportunities





CARP Plan Timeline





<https://wildlife.ca.gov/Conservation/Marine/Artificial-Reefs>

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