

California Rigs to Reefs: Summary & Update

Presented at the 2016 Prevention First
Symposium by:
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(CARE) Program

Photo Acknowledgments:
Platform Hilda, Santa Barbara Channel
Installed 1958
Removed 1996
Photos taken c1975
Credit: Bob Evans, diver & underwater
photographer, Santa Barbara





3.6m



3.6m



J. M.

California Marine Resources Legacy Act (AB 2503)

- Passed by California legislature in 2010
- Established California Artificial Reef Program administered by the Department of Fish & Wildlife
- Allows consideration for partial removal oil & gas platforms if, compared to full removal, there is:
 - Net environmental benefit
 - Substantial cost savings

Net Environmental Benefit

- First systematic surveys began in 1998 by Dr. Milton Love, UCSB
 - Annual surveys until 2010
 - Data available for independent analysis
- Periodic analysis and published reports:
 - 2003: *The Ecological Role of Oil & Gas Platforms and Natural Outcrops on Fishes in Southern and Central California: A Synthesis of Information*, by Love, et al.
 - Platforms have higher densities of fish and are more important as nurseries than natural reefs
 - Platforms act as de facto marine refuges
 - 2006: *Potential Utility of Offshore Marine Structures in Rebuilding an Overfished Species: Bocaccio*, by Love, et al.
 - Platforms are important to rebuilding stocks of Bocaccio
 - 2014: *Oil Platforms off California are among the most productive marine fish habitats globally*, by Claisse, et al.
 - California platforms are the most productive fish habitats in the world

Table 1. Estimates of secondary production of fishes from various marine ecosystems

Ecosystem	Fish production, $\text{g}\cdot\text{m}^{-2}\cdot\text{y}^{-1}$
→ Oil platforms, California, United States	104.7–886.8*
Coral reef, Moorea	74.2*
Estuary, Louisiana, United States	35.0–72.8*
Coastal lagoon, (Pacific) Mexico	24.6–66.7*
Artificial rocky reef, California, United States	66.5 ^{a,1,2}
Coastal lagoon, Texas, United States	12.1–57.6*
Estuary, South Africa	55.9*
Estuary, California, United States	37.6 ^{a,5}
Coastal lagoon, Mexico	34.5*
Salt marsh, New Jersey, United States	33.5 ^{b,6}
Salt marsh, Delaware, United States	32.4 ^{b,6}
Coastal lagoon, Cuba	22.0–27.6*
→ Deep rocky reef, California, United States	4.4–22.4*
Coastal lagoon, Mexico	20*
Eelgrass bed, North Carolina, United States	18.4 ^{a,3}
Estuary, Italy	9.0–17.0*
Chesapeake Bay, United States	11.2–16.4 ^{a,1}
Seagrass bed, southern Australia	2.7–15.8 ^{a,3}
Coastal lagoon, Texas, United States	15.4*
Mangrove habitat, Florida, United States	6.1–12.1 [†]
Salt marsh, Massachusetts, United States	6.4 ^{b,6}
→ Soft bottom, California, United States	5.9 ^{a,1}
Estuary, Scotland	4.3*
Coastal lagoon, Portugal	0.9–2.5*

Legislative Update

SB 233 – Cleanup bill

- Introduced in 2016
- Amend California Rigs to Reefs Program in important areas:
 - Donation timing
 - Funding mechanism for Department of Fish & Wildlife
 - Indemnity
 - Permitting process
- Broad support of legislators and the Governor's office
- Held by Chair, Assembly Appropriations Committee
- Options for 2017 under consideration

California Artificial Reef Enhancement (CARE) Program

- 501(c)3 non-profit public benefit corporation
- Founded in 1998
- Funded primarily by oil industry contributions
- Mission to support scientific research and public education on the benefits of artificial reefs
- Primary focus has been on the largest artificial reef complex on the West Coast, i.e., the offshore oil & gas platforms
- CARE Board of Directors
 - Don Kent, President/CEO, Hubbs SeaWorld Research Institute
 - Garry Brown, Executive Director, Orange County Coastkeepers
 - Chuck Cook, The Nature Conservancy (project leader for Sustainable Fisheries Group, UCSB)
 - Tom Raftican, President, The Sportfishing Conservancy
 - Bill Shedd, President, American Fishing Tackle Company
 - Jeff Nadler, Wildlife Photographer, formerly Industry & Governmental Affairs Executive, Professional Association of Diving Instructors (PADI)
 - Jenny Miller Garmandia, Marine Policy Consultant, formerly Executive Director, Project AWARE
 - KC Bishop, Government Affairs, Chevron Corporation
 - Del Clement, Offshore Decommissioning Expert, formerly Chevron Decommissioning Manager

California Offshore Decommissioning Costs

- 34 platforms installed in offshore California
- 7 decommissioned to-date
- 27 remaining platforms (23 in OCS, 4 in state waters)
 - Installed from 1962 (Eva) to 1989 (Heritage)
 - Water depths of 35 feet (Ester) to 1198 feet (Harmony)
- For full-removal of OCS platforms
 - ref: *Decommissioning Cost Update for Pacific Region Facilities*, Bureau of Safety and Environmental Enforcement, Department of Interior, 2014
 - \$1,460,000,000 estimated costs
- For partial removal of all platforms
 - ref: Cost estimate by Winmar Consulting Services, 2000 (updated for inflation)
 - Cost savings of up to \$1 billion (caution: wide range of uncertainty)