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# Overview of Rigs to Reefs: Legislation in California and the Gulf of Mexico

*Claire Gonzales,\* Emily Hazelwood,\*\* and Amber Sparks\*\*\**

## TABLE OF CONTENTS

|  |     |
|--|-----|
| Introduction .....   | 359 |
| I. California Rigs to Reefs Legislation .....  | 362 |
| II. Gulf Of Mexico Legislation: A Model for the Future<br>Decommissioning of Offshore Oil and Gas Platforms<br>in California ..... | 363 |
| A. Rigs to Reefs Methodology .....   | 363 |
| III. Discussion .....  | 364 |

## INTRODUCTION

There comes a time when the life of an oil or gas platform ends, at least when it comes to drilling for oil and gas. Currently, the Bureau of Safety and Environmental Enforcement (BSEE) requires oil and gas companies to remove their offshore platforms within one year of

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terminating an outer-continental shelf<sup>1</sup> land lease.<sup>2</sup> This process, known as decommissioning, is initiated by plugging and abandoning the wells and completely removing the drilling rig and all associated infrastructure and concludes when the seabed is restored to its original condition. However, decommissioning can be extremely costly, with risks to health, safety, and the environment, especially when one considers the marine life that has colonized the platform jacket. The “jacket” refers to the steel frame (steel pilings and supporting beams and crossbeams) supporting the deck and the topsides<sup>3</sup> of a fixed offshore platform. A jacket may weigh thousands of tons and can stand well over 1,000 feet (ft). For reference, the tallest offshore oil platform in California waters is 1,198 ft tall, compared to the Empire State Building, which is 1,250 ft tall. The beams and cross beams that make up the platform jackets have developed into a de facto marine reef, providing a home to local fish and invertebrate species. In fact, in California some platforms are considered to be among the most productive marine ecosystems on the planet.<sup>4</sup> Despite the mounting scientific literature that hails the ecological benefits associated with these platforms, California has yet to implement an alternative decommissioning strategy in place of complete removal.

Rigs to Reefs (RtR) is a process managed and maintained by a governmental agency whereby oil and gas companies may choose to modify a platform so that it may continue to support marine life. To implement the RtR decommissioning option, the legal infrastructure must be in place to facilitate the transfer of liability, oversee structural modifications, and establish a long-term management plan for the platform as an artificial reef. In the Gulf of Mexico (the Gulf) adjacent states of Louisiana and Texas, RtR program legislation is used to repurpose structures as artificial habitats to enhance local fisheries, mitigate

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1. The Outer Continental Shelf includes all submerged lands lying seaward of State coastal waters (3 miles offshore) which are under U.S. jurisdiction. Outer Continental Shelf Lands Act of 1953 (43 U.S.C. 1331–1356, P.L. 212, Ch. 345, August 7, 1953, 67 Stat. 462) as amended by P.L. 93-627, January 3, 1975, 88 Stat. 2130; P.L. 95-372, September 18, 1978, 92 Stat. 629; and P.L. 98-498, October 19, 1984, 98 Stat. 2296.

2. 30 C.F.R. §§ 250.1700–250.1754 (2018). Removal guidelines specify that platforms must be cut down to fifteen feet below the ocean mud line. 30 C.F.R. § 250.1728 (2018).

3. *Topsides*, 2B1ST CONSULTING (June 12, 2012), <https://www.2b1stconsulting.com/topsides/> [<https://perma.cc/8AC2-TUB6>].

4. Jeremy T. Claisse et al., *Oil Platforms off California are Among the Most Productive Marine Fish Habitats Globally*, 111 PROC. NAT’L ACAD. SCI. 15462–5467 (2014).

degradation of natural habitats, and manage a RtR fund in the State. These reefed platforms, like other artificial reefs, attract various encrusting organisms such as barnacles and bivalves, which colonize them and, in turn, attract fish and other marine life as found on natural reefs in the Gulf. Despite these benefits, only eleven percent of all decommissioned platforms in the Gulf have been reefed through a RtR program, as of 2016.<sup>5</sup> Converting an offshore oil platform into an artificial reef is frequently not the most economical option, a consideration which has likely influenced the low percentage of conversions to date (eleven percent).<sup>6</sup> Factors such as the size of the platform, distance from shore, water depth, price of scrap metal, and distance to the final reef site (if it is being moved to an alternative location after being decommissioned) can all influence the decision regarding whether or not a decommissioned platform should be reefed through an RtR program.<sup>7</sup>

Off the coast of California, 8 of the 27 offshore oil and gas platforms are located in federal waters<sup>8</sup> in depths deeper than 500 ft, a depth at which no fixed platform has ever been decommissioned before in California.<sup>9</sup> At these depths in the Gulf, the RtR program, per legislative standards, may significantly reduce an oil company's decommissioning costs. Further, implementation into the RtR program would absolve the oil company of responsibility for future damages and liability associated with the platform structure, while still maintaining liability for the oil well itself in perpetuity.<sup>10</sup> Unfortunately, California's current RtR legislation is unclear as to whether the liability for the platform structure would automatically be transferred to the state once reefed, making program implementation less attractive for companies, both legally and financially.

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5. Ann Scarborough Bull & Milton S. Love, *Worldwide Oil and Gas Platform Decommissioning: A Review of Practices and Reefing Options*, 168 OCEAN & COASTAL MGMT. 274–306 (2018).

6. *Topsides*, *supra* note 3.

7. Charles A. Wilson, Don Allen, Rick Kasprzak & Hal Osborn, *Habitat Planning, Maintenance, and Management*, 1997 PROC. INT'L WORKSHOP OFFSHORE LEASE ABANDONMENT & PLATFORM DISPOSAL: TECH., REG., & ENVTL. EFFECTS 129–143. Donna M. Schroeder & Milton S. Love, *Ecological and Political Issues Surrounding Decommissioning of Offshore Oil Facilities in the Southern California Bight*, 47 OCEAN & COASTAL MGMT. 21–48 (2004).

8. Waters greater than three miles offshore.

9. Jack McCarthy, *Site Clearance and Verification*, 1998 PROC. PUB. WORKSHOP DECOMMISSIONING & REMOVAL OIL & GAS FACILITIES OFFSHORE CALIFORNIA: RECENT EXPERIENCES & FUTURE DEEPWATER CHALLENGE, 78–79.

10. LES DAUTERIVE, U.S. DEP'T OF THE INTERIOR, MINERALS MGMT. SERV., MMS 2000-073, RIGS-TO-REEFS POLICY, PROGRESS, AND PERSPECTIVE (2000).

## I. CALIFORNIA RIGS TO REEFS LEGISLATION

The future of the 27 oil and gas facilities located offshore of California is quickly becoming an issue of public concern, political debate, and scientific evaluation. Historically, decommissioning in California has been carried out through the use of only one method: complete removal.<sup>11</sup> Complete removal involves the use of heavy machinery and industrial barges to sever the structures from their foundations and bring them onshore for recycling and disposal.<sup>12</sup> Although in some cases complete removal is the best option, it is costly, technically challenging, and directly impacts marine life.<sup>13</sup>

However, complete removal is not the only viable decommissioning option in California. In 2010, the California Marine Resources Legacy Act (Assembly Bill [AB] 2503)<sup>14</sup> was passed to create opportunities for alternative decommissioning strategies. Yet, implementation has not been realized due to the hurdles pertaining to liability, public perception, and financial considerations.

The Bureau of Ocean Energy Management (BOEM) estimates that it is likely that 23 of the 27 oil and gas platforms off the coast of California will be decommissioned by 2055.<sup>15</sup> If any of these structures are to be decommissioned through the alternative strategy provided by AB 2503, the state and oil company stakeholders must address inadequacies in California's RtR law and establish a feasible pathway forward to program implementation. It is important for California to recognize the value of learning from stakeholders in the Gulf and to use their insights as a starting point to actualize reefing as a viable and publicly supported decommissioning option for California's offshore oil and gas platforms.

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11. Bull & Love, *supra* note 5.

12. MICHAEL VINCENT MCGINNIS, LISA FERNANDEZ & CAROLINE POMEROY, U.S. DEP'T OF THE INTERIOR, MINERALS MGMT. SERV., MMS 2001-006, THE POLITICS, ECONOMICS, AND ECOLOGY OF DECOMMISSIONING OFFSHORE OIL AND GAS (2001), <http://ocpc.msi.ucsb.edu/pdfs/WTPap6/WP6.pdf> [<https://perma.cc/UD4C-R5S9>].

13. U.S. DEP'T OF THE INTERIOR, MINERALS MGMT. SERV., MMS 1988-0023, DECOMMISSIONING AND REMOVAL OF OIL AND GAS FACILITIES OFFSHORE CALIFORNIA: RECENT EXPERIENCES AND FUTURE DEEPWATER CHALLENGES (1998).

14. CALIFORNIA MARINE RESOURCES LEGACY ACT, CAL. FISH & GAME CODE §§ 6600–6621 (2010).

15. U.S. DEP'T OF THE INTERIOR, BUREAU OF OCEAN ENERGY MGMT., BOEM 2019-016, AIR EMISSIONS ASSOCIATED WITH DECOMMISSIONING OPERATIONS FOR PACIFIC OUTER CONTINENTAL SHELF OIL AND GAS PLATFORMS VOLUME I: FINAL REPORT A-10 (2019).

## II. GULF OF MEXICO LEGISLATION: A MODEL FOR THE FUTURE DECOMMISSIONING OF OFFSHORE OIL AND GAS PLATFORMS IN CALIFORNIA

RtR is a well-established decommissioning alternative in the Gulf of Mexico, with a history of over 20 years of repurposing decommissioned oil and gas platforms as artificial reefs.<sup>16</sup> Both the Texas Parks and Wildlife Department and the Louisiana Department of Wildlife and Fisheries have adopted legislation that manage state trusts to oversee their RtR programs.<sup>17</sup>

The RtR programs established by Texas and Louisiana do not receive state or federal funding.<sup>18</sup> These artificial reef programs are funded by contributions made by oil and gas companies and the subsequent interest that is earned on those payments. Oil companies participating in the RtR program will save money by abbreviating their decommissioning process and leaving a portion of the structure in place. The associated oil company will then donate roughly one half of the cost savings to the associated state RtR programs.<sup>19</sup> In turn, the designated state agency assumes liability for the artificial reef and the fund handles any ensuing maintenance costs.

### *A. Rigs to Reefs Methodology*

There are three methods for converting a non-producing oil and gas platform into an artificial reef: (1) partially remove the platform; (2) topple the platform in place; or (3) tow-and-place the platform into a reefing area.<sup>20</sup> Partial removal typically relies on non-explosive means to cut the platform at levels of no less than 85 feet below the mean waterline. The

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16. *Topsides*, *supra* note 3.

17. The Louisiana Fishing Enhancement Act of 1986 (LA REV STAT. § 56:639.1 et seq.; Act 100) has created a process by which ownership and liability pass from the oil and gas companies to the state for obsolete platforms that meet the Act's criteria. The Texas Artificial Reef Act of 1989 (Texas Parks & Wildlife Code 89.001 et seq.) is similar.

18. *Rigs to Reefs*, BUREAU SAFETY & ENVTL. ENFORCEMENT, <https://www.bsee.gov/what-we-do/environmental-focuses/rigs-to-reefs> [<https://perma.cc/CQ48-92TG>] (last visited Dec. 26, 2019).

19. *Artificial Reef Program*, LA. DEP'T WILDLIFE & FISHERIES, <http://www.wlf.louisiana.gov/fishing/artificial-reef-program> [<https://perma.cc/ZB89-MMVU>] (last visited Jan. 20, 2020). *Artificial Reefs Rigs-to-Reefs Texas*, TEX. PARKS & WILDLIFE DEP'T, [http://tpwd.texas.gov/landwater/water/habitats/artificial\\_reef/rigsto-reefs.phtml](http://tpwd.texas.gov/landwater/water/habitats/artificial_reef/rigsto-reefs.phtml) [<https://perma.cc/45PT-WYUM>] (last visited Jan. 20, 2020).

20. Bull & Love, *supra* note 5.

ultimate depth of the artificial reef is determined through a United States Coast Guard assessment and by the willingness of the liability holder to pay for any required navigational aids.<sup>21</sup> Compared to toppling in place, partial removals result in higher reef profiles and less trauma and loss of platform uses by associated reef organisms. Toppling in place, as the name implies, uses non-explosive or explosive severance to cut piles and lay the jacket on its side. The tow-and-place platform method entails removing the platform from the seafloor and towing it to a designated reefing area.

### III. DISCUSSION

Today, natural reefs are experiencing serious and unprecedented declines in worldwide abundance, brought on by a range of anthropogenic<sup>22</sup> impacts. However, in the wake of global climate change, the RtR program presents a promising alternative habitat for the offshore environment while also benefiting the American offshore energy industry.<sup>23</sup> The Gulf of Mexico has proven that RtR is a feasible and sustainable decommissioning solution, as over 500 platforms previously installed on the U.S. Outer Continental Shelf<sup>24</sup> have been repurposed as artificial reefs in this region.<sup>25</sup> However, there are still roadblocks to implementing this option in California, including a lack of public and political support, debate over the transfer of liability from oil companies to the state, and discussions regarding allocation of cost savings during the decommissioning process.<sup>26</sup>

California has not decommissioned an offshore oil platform since 1996. Since that time, several of the state's offshore platforms have begun to approach the end of their production lives, prompting oil and gas companies to once again evaluate removal options, including reefing platform structures through California's RtR program, enacted through AB 2503. However, obtaining approval to reef an oil and gas platform in California presents many challenges, and the reefing process remains untested and uncertain. Several regulatory, financial, and ecological

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21. Mark J. Kaiser & Allan G. Pulsipher, *Rigs-to-Reef Programs in the Gulf of Mexico*, 36 OCEAN DEV. & INT'L L., 119–34 (2005).

22. Anthropogenic impacts, or human impacts, as used here, include coastal development, pollution, increased carbon production and over-exploitation.

23. Peter I. Macreadie, Ashley M. Fowler & David J. Booth, *Rigs-to-Reefs: Will the Deep Sea Benefit From Artificial Habitat?*, 9 FRONT ECOLOGY ENV'T, 455–61 (2011), <https://doi.org/10.1890/100112> [<https://perma.cc/F9YV-CPD9>].

24. See source and accompanying text cited *supra* note 1.

25. Bull & Love, *supra* note 5.

26. MCGINNIS, FERNANDEZ & POMEROY, *supra* note 12.

complexities must be addressed before reefing can become a viable decommissioning alternative.

To embrace RtR as a feasible alternative to traditional decommissioning tactics, California must build upon the successes of RtR in the Gulf and use these lessons to both address the weaknesses in the existing legislation and develop a regulatory pathway. Since 2010, there have been four attempts by California's legislative bodies to update AB 2503. Multiple working groups have been formed to try to bring together federal, state, and private agencies to examine the viability of RtR in California; however, none have been successful.<sup>27</sup> Establishing a functional RtR program in California will require collaboration between research scientists, legislators, the public, and the energy industry in order to enable California to make informed decisions regarding its offshore resources.

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27. See *Artificial Reef Program*, *supra* note 19.