The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Appropriations

BILL:	SB 546
INTRODUCER:	Senator Avila
SUBJECT:	Restoration of Osborne Reef
DATE:	April 19, 2023
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Barriero	Rogers	EN	**Favorable**
2.	Reagan	Betta	AEG	**Favorable**
3.	Reagan	Sadberry	AP	**Pre-meeting**

I. Summary:

SB 546 requires the Florida Department of Environmental Protection (DEP) to submit a report to the Legislature on the status of the Osborne Reef cleanup and tire removal project. The report must include:

- A description of the condition of the remaining Osborne Reef structure;
- Any restoration efforts undertaken to restore the reef structure;
- The number of tires that have been retrieved and the number that still need to be retrieved; and
- The estimated timeline for the completion of the project.

The bill directs the DEP to develop a comprehensive restoration plan for Osborne Reef by July 1, 2024, upon completion of the cleanup and tire removal project. The restoration plan must include:

- A preliminary plan for the restoration of the existing reef;
- The restoration of any nearby natural reefs that were destroyed by the tire installation;
- The shifting of resources from tire retrieval to reef restoration; and
- Coordination with other coral reef restoration projects and resources.

Upon completion of the plan, the DEP must provide a report to the Legislature. The report must include an update on the status of the restoration plan and any recommendations for statutory changes necessary to achieve the identified restoration goals.

The bill also contains legislative findings regarding the enactment and purposes of the Act.

The DEP estimates a cost of approximately $500,000 to conduct in-water assessments for the development of the restoration plan.

The effective date of the bill is July 1, 2023.

II. Present Situation:

Coral Reefs

Florida is the only state in the continental United States with extensive shallow coral reef formations near its coasts.[1] The state's coral reef extends over 350 nautical miles from the Dry Tortugas to the St. Lucie Inlet in Martin County. Coral reefs create specialized habitats that provide shelter, food and breeding sites for numerous plants and animals. This includes ones important to fishing like spiny lobster, snapper, and grouper. Fish rely on corals to build the reef structure where they can breed and grow. Current medicines that combat cancer, pain, and inflammation have been derived from coral reef organisms. In addition, South Florida's economy is inextricably linked to the coral reef ecosystem: coral reefs are estimated to annually support 71,000 jobs in South Florida, and the total tourism value of Florida's Coral Reef is estimated at $1.1 billion annually.[2]

Healthy and resilient coral reefs safeguard against extreme weather, shoreline erosion, and coastal flooding.[3] Florida's Coral Reef provides more than $355 million per year in flood protection benefits to buildings and protects nearly $320 million in annual economic activity.[4]

Artificial Reefs

An artificial reef is a manmade structure that mimics some of the characteristics of a natural reef.[5] Submerged shipwrecks are the most common form of artificial reef. Oil and gas platforms, bridges, lighthouses, and other offshore structures also function as artificial reefs. Materials used to construct these reefs have included rocks, cinder blocks, wood, and old tires. Several companies specialize in the design, manufacture, and deployment of long-lasting artificial reefs that are typically constructed of limestone, steel, and concrete.[6]

The Florida Keys National Marine Sanctuary contains several decommissioned vessels that were sunk in specific areas for diving or fishing opportunities prior to the area's designation as a national marine sanctuary.[7] One such ship is the *Thunderbolt*, which was intentionally sunk four miles south of Marathon and Key Colony Beach in 1986. The ship is now home to sponges, corals, and hydroids that provide food and habitat for a variety of sea creatures.[8]

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[1] Department of Environmental Protection (DEP), *Florida's Coral Reefs*, https://floridadep.gov/rcp/rcp/content/floridas-coral-reefs (last visited Feb. 28, 2023); DEP, *Coral Reef Conservation Program*, https://floridadep.gov/rcp/coral (last visited Feb. 28, 2023).
[2] *Id.*
[3] *Id.*
[4] *Id.*
[5] National Oceanic and Atmospheric Administration (NOAA), *What is an artificial reef?*, https://oceanservice.noaa.gov/facts/artificial-reef.html#:~:text=Oil%20and%20gas%20platforms%2C%20bridges%2C%20lighthouses%2C%20and%20other,the%20fishes%20and%20invertebrates%20that%20live%20among%20them. (last visited Feb. 27, 2023).
[6] *Id.*
[7] *Id.*
[8] *Id. See also* Florida Keys National Marine Sanctuary, NOAA, *The Thunderbolt*, https://floridakeys.noaa.gov/shipwrecktrail/thunderbolt.html#:~:text=The%20Thunderbolt%20was%20intentionally%20sunk

Planned manmade reefs may provide local economic benefits because they attract fish to a known location and are therefore popular attractions for commercial and recreational fishermen, divers, and snorkelers.[9] However, the increase in illegal dumping for the purpose of creating habitat has led to significant poaching in the Florida Keys and subsequent high-profile arrests.[10]

The Osborne Reef Tire Removal Project

During the 1970s, between one and two million tires were placed in the ocean off Broward County to create an artificial reef.[11] Over the years, many of the tires—which were held together only with nylon rope and steel clips—came loose and were moved by tropical storms and hurricanes, causing damage to existing nearby coral reefs.[12] Several programs have attempted to remove the tires. For example, in 2001, a small tire retrieval program was conducted by Dr. Robin Sherman of Nova Southeastern University with a $30,000 grant from the National Oceanic and Atmospheric Administration (NOAA).[13] Approximately 1,600 tires were retrieved at a cost of over $17 per tire.[14] Due to the magnitude and cost of such projects, however, most of the tires have not been removed.[15]

In 2006, the NOAA Marine Debris Program was created to develop a plan for the removal and proper disposal of the tires.[16] The following year, a group of federal, county, and state agencies, including the Department of Environmental Protection (DEP), was convened to explore retrieval techniques, sample retrieved tires for processing suitability, and consider end uses and handling, staging, and transportation methods. Because there had not previously been a recovery of tires from the ocean of this scale, it was determined that a pilot program was needed to test diver retrieval productivity, loading and transport methods, and tire processing and use. It was also determined that complete removal required federal funding for military diver salvage operations and watercraft, as well as state funding for processing and disposing of the recovered tires.[17]

%20on%20March%206%2C,Key%20Colony%20Beach.%20History%20Archaeology%20Site%20Map%20History (last visited Feb. 27, 2023).

[9] NOAA, *What is an artificial reef?*

[10] *Id.*

[11] DEP, *History and Overview of the Osborne Reef Waste Tire Removal Project*, 1 (2016), *available at* https://floridadep.gov/waste/permitting-compliance-assistance/content/osborne-reef-waste-tire-removal-project.

[12] *Id.*

[13] *Id.*

[14] *Id.*

[15] *Id.*

[16] *Id.*

[17] *Id.*

The team designated approximately 30 acres containing 651,565 tires as the highest priority area for tire removal.[18] Based on the results of the pilot program, they estimated that approximately 20,000 tires could be recovered per month based on the conservative assumption that military divers can remove 1,000 tires per day using 40 divers and one Landing Craft Utility.[19]

Between 2008 and 2016, the program conducted dive operations to remove tires from the high priority area.[20] The operations were broken into three phases:

- In April 2008, approximately 66 military personnel worked 27 days to remove 44,000 tires.[21]
- In July 2009, approximately 50 military personnel worked 16 days to remove an estimated 15,000 to 18,000 tires.[22]
- Between May 2015 and August 2016, divers[23] removed an additional 67,000 tires.[24]

As of August 2016, an estimated 207,843 tires had been removed from Osborne Reef.[25] In 2019, the DEP completed a high-level survey map of the area, a process that took six months and cost approximately $300,000.[26] Additional in-water assessments of the affected habitats are needed to assess any movement of the tires since the 2019 survey and to plan for full restoration of the area.[27] The DEP estimates such a process may take six to nine months and cost approximately $500,000.[28]

III. Effect of Proposed Changes:

Section 1 provides the following legislative findings and intent:

- More than one million tires were deposited in the ocean off the coast of Broward County during the 1970s to create an artificial reef habitat by providing structures to which coral could attach and attract additional marine life; however, many of the tires have corroded, broken loose, and dislodged along the coastline, damaging the existing fragile coral reef system and prompting the Legislature to appropriate millions of dollars to retrieve the tires.
- Coral reefs are an important part of this state's coastal ecosystem, creating habitats that provide shelter, food, and breeding grounds for plants and animals.
- The Legislature intends to restore Osborne Reef to being capable of creating a habitat for plants and animals and dedicate resources toward restoring the artificial reef and the nearby natural coral reef systems once the cleanup of the site has been completed.

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[18] *Id.* at 2.
[19] Landing Craft Utility is a type of boat used by amphibious forces to transport equipment, troops, and cargo to the shore. They are also used to support civilian humanitarian/maritime operations. *See* America's Navy, Department of Defense, *Landing Craft, Mechanized and Utility – LCM/LCU* (2019), https://www.navy.mil/Resources/Fact-Files/Display-FactFiles/Article/2171588/landing-craft-mechanized-and-utility-lcmlcu/ (last visited Feb. 27, 2023).
[20] DEP, *History and Overview of the Osborne Reef Waste Tire Removal Project* at 2.
[21] *Id.* at 3.
[22] *Id.*
[23] DEP did not provide the number of days worked or personnel employed during this phase.
[24] DEP, *Osborne Reef Waste Tire Removal Project*, 2 (2016), *available at* https://floridadep.gov/sites/default/files/OsborneReefProject_09Aug16_0.pdf.
[25] *Id.*; DEP, *History and Overview of the Osborne Reef Waste Tire Removal Project* at 3.
[26] Email from Alex Kernan, DEP, to Senate Committee on Environment and Natural Resources (Mar. 1, 2023) (on file with the Senate Committee on Environment and Natural Resources).
[27] *Id.*
[28] *Id.*

The bill requires the DEP to submit a report to the President of the Senate and the Speaker of the House of Representatives on the status of the Osborne Reef cleanup and tire removal project. The report, at a minimum, must include:

- A description of the condition of the remaining Osborne Reef structure;
- Any restoration efforts undertaken to restore the reef structure;
- The number of tires retrieved since the project began and number of tires that still need to be retrieved; and
- The estimated timeline for the completion of the project.

The bill directs the DEP, upon completion of the cleanup and tire removal project, to develop a comprehensive restoration plan for Osborne Reef by July 1, 2024. At a minimum, the restoration plan must include:

- A preliminary plan for the restoration of the existing reef;
- The restoration of any nearby natural reefs that were destroyed by the tire installation;
- The shifting of resources from tire retrieval to reef restoration; and
- Coordination with other coral reef restoration projects and resources.

Upon completion of the plan, the DEP must provide a report to the President of the Senate and the Speaker of the House of Representatives. The report must include an update on the status of the restoration plan and any recommendations for statutory changes necessary to achieve the identified restoration goals.

Section 2 provides an effective date of July 1, 2023.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

None.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The DEP may incur costs to survey the Osborne Reef area, report on the status of the tire removal project, and develop a comprehensive coral reef restoration plan. The DEP estimates a cost of approximately $500,000 to conduct additional in-water assessments necessary for the development of the restoration plan.[29] Alternatively, the DEP could develop a restoration plan based on a 2019 survey of the reef; however, the plan would likely not be accurate because the tires have migrated beyond the scope of the 2019 survey.[30]

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This bill creates an undesignated section of Florida law.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

None.

B. Amendments:

None.

[29] Email from Alex Kernan, DEP, to Senate Committee on Environment and Natural Resources (Mar. 1, 2023) (on file with the Senate Committee on Environment and Natural Resources).
[30] *Id.*