

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 641 Restoration of Osborne Reef

SPONSOR(S): LaMarca

TIED BILLS: **IDEN./SIM. BILLS:** SB 546

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Agriculture, Conservation & Resiliency Subcommittee	17 Y, 0 N	Mamontoff	Moore
2) Infrastructure Strategies Committee	22 Y, 0 N	Mamontoff	Harrington

SUMMARY ANALYSIS

Coral reefs are valuable natural resources. They protect coastlines by reducing wave energy from storms and hurricanes, serve as a source of food and shelter, and provide a critical habitat for over 6,000 species, including commercially important fisheries. Florida's coral reef extends 330 nautical miles, from the St. Lucie Inlet in Martin County past Key West to the Dry Tortugas; and is the only coral reef system in the continental United States.

An artificial reef is a manmade structure that mimics some of the characteristics of a natural reef. Artificial reefs have been created by ships, army tanks, oil rigs and washing machines. What most of these materials have in common is a hard and varied surface that can provide shelter for fish and a substrate to which corals, sponges, algae, and mollusks can attach.

The Osborne Reef, better known as the Tire Reef, is 1.3 miles off the coast of Fort Lauderdale. In the 1970s, the Osborne Reef was conceived in an effort to resolve the overabundance of old tires in landfills in southern Florida. Nearly two million old tires were tied together and anchored to the ocean floor to create an artificial reef. Over the years, as hurricanes moved through each hurricane season, and other storms and currents pulled at the tires, the nylon and steel lashings eventually eroded, and the tires were spread over roughly 34 acres, damaging nearby natural reefs.

Beginning in 2007, efforts have been made to remove the tires; however, due to the magnitude of the project and its projected cost, not all of the tires have been removed. As of November 2019, it was estimated that between 500,000 and one million tires still needed to be removed.

The bill requires the Department of Environmental Protection (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 by December 1, 2023.

By July 1, 2024, the bill requires DEP to develop a comprehensive coral reef restoration plan for Osborne Reef to be commenced, subject to appropriation, upon the completion of the cleanup and tire removal project.

The bill may have a negative fiscal impact on the state.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Background

Coral Reefs

Coral reefs are valuable natural resources. They protect coastlines by reducing wave energy from storms and hurricanes,¹ serve as a source of food and shelter, and provide a critical habitat for over 6,000 species, including commercially important fisheries.² Many medicines, as well as other health and beauty products, are derived from marine plants, algae, and animals found on coral reefs.³ Coral reefs are vulnerable due to environmental changes, particularly those resulting from human activities.⁴

Florida's coral reef extends 330 nautical miles, from the St. Lucie Inlet in Martin County past Key West to the Dry Tortugas.⁵ It is the only coral reef system in the continental United States and is home to over 40 species of reef-building corals that provide shelter, food, and breeding sites for millions of plants and animals.⁶ The reef supports a rich and diverse assemblage of stony corals, octocorals, macroalgae, sponges, and fishes.⁷

Artificial Reefs

An artificial reef is a manmade structure that mimics some of the characteristics of a natural reef.⁸ Artificial reefs have been in use for over 2,000 years. For example, ancient Persians used reefs made of sun-dried blocks of clay to barricade the Tigris River from invading pirates,⁹ the Romans used lime-mortar reefs to trap the Carthaginians in battle during the First Punic War, and since the 18th century the Japanese have been world leaders in artificial reef technology for commercial fishery enhancement. Today, artificial reefs have been created by ships, army tanks, oil rigs and washing machines. What most of these intentionally placed materials have in common is a hard and varied surface that provides shelter for fish and a substrate to which corals, sponges, algae, and mollusks can attach.¹⁰

In 1984, the National Fishing Enhancement Act was enacted to promote and facilitate the establishment of artificial reefs to enhance commercial and recreational fisheries. The Act requires the development of a National Artificial Reef Plan to enhance fishery resources, increase fishery production, and benefit coastal economies by encouraging properly designed, constructed, and located artificial reefs based on the best scientific evidence. The Plan is intended to provide a framework for use by state, regional, and local planners in developing detailed site-specific plans.¹¹

The Osborne Reef

The Osborne Reef, better known as the Tire Reef, is 1.3 miles off the coast of Fort Lauderdale. In the 1970s, the Osborne Reef was conceived in an effort to resolve the overabundance of old tires in

¹ *Coral Reef Conservation Program 2011-2016 Strategic Plan*, (July 2011), p. 3, available at https://floridadep.gov/sites/default/files/CRCP_Strategic_Plan_2011-2016.pdf (last visited March 12, 2023).

² *Id.*

³ *Id.*

⁴ U.S. Coral Reef Task Force, *The National Action Plan to Conserve Coral*, p. 3, available at <http://www.coralreef.gov/about/CRTFAXnPlan9.pdf> (last visited March 12, 2023).

⁵ Department of Environmental Protection (DEP), *Coral Reef Conservation Program*, <https://floridadep.gov/rcp/coral> (last visited March 12, 2023).

⁶ Florida's Coral Reef, *Conserving Florida's Coral Reef*, <https://floridascoralreef.org/> (last visited March 12, 2023).

⁷ DEP, *Coral Reef Conservation Program*, <https://floridadep.gov/rcp/coral> (last visited March 12, 2023).

⁸ National Oceanic and Atmospheric Association (NOAA), *What is an artificial reef?*, <https://oceanservice.noaa.gov/facts/artificial-reef.html> (last visited March 2, 2023).

⁹ Currents, *Rubber Reef Recycled*, p. 7-8 https://irt.defense.gov/Portals/57/Documents/news/Currents_Magazine.pdf (last visited Feb. 28, 2023).

¹⁰ *Id.* at 8.

¹¹ *Id.*

landfills in southern Florida.¹² Nearly two million old tires were tied together with nylon rope and steel clips and anchored to the ocean floor to create an artificial reef.

Tires as reefs were appealing for two reasons. First, during the 1960s and 1970s used tires were accumulating in landfills after restrictions on other disposal methods were imposed.¹³ Second, by grouping large numbers of tires together, it was thought that the openings would provide shelter for fish and other species. However, tires have a certain amount of buoyancy that causes them to move and break loose of their restraints, and their surfaces are more attractive to a limited range of algae rather than coral and other more beneficial reef organisms.¹⁴

Over the years, as hurricanes moved through each hurricane season, and other storms and currents pulled at the Osborne Reef tires, the nylon and steel lashings eroded and, within three years of their placement, the tires had spread over roughly 34 acres and began washing up on beaches and damaging nearby natural reefs.¹⁵ For 30 years, Fort Lauderdale residents have seen these tires wash up on their shores.¹⁶

Cleanup and Tire Removal

In 2001, a small tire retrieval program was conducted by Nova Southeastern University after receiving a \$30,000 grant from the National Oceanic and Atmospheric Administration (NOAA).¹⁷ Approximately 1,600 tires were removed at an average cost of \$17.00 per tire. It was determined that the cost alone would make a project to remove all of the nearly two million tires cost prohibitive.

In 2006, the Department of Environmental Protection (DEP) began collaborating with Coastal America¹⁸ to remove the tires.¹⁹ It was determined that the project fell within the scope of The Department of Defense (DoD) Innovative Readiness Training (IRT).²⁰ The Governor recommended, and the Legislature passed, a \$2 million special appropriation for DEP to complete its share of the project.²¹ The project was expected to last for three years. In 2007, nearly 1,000 tires were removed each day from July to September. The project continued through 2009, but by 2010, other operations required the military to end their cleanup at Osborne Reef. The culmination of their work resulted in the removal of 72,000 tires.²²

In 2015, tire removal operations resumed after the state contracted with Industrial Divers Corporation (IDC), a commercial salvage dive company, to remove the tires. Between 2016 and 2019, the Legislature appropriated a total of \$4.3 million to the project. As of November 2019, IDC had removed between 2,000 and 5,000 tires per week, removing a total of 250,000 tires over the span of three years and still had somewhere between 500,000 and one million tires to go.²³

Effect of the Bill

The bill requires 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 by December 1, 2023. The report must include:

¹² *Id* at 7.

¹³ *Id* at 8.

¹⁴ *Id*.

¹⁵ *Id*.

¹⁶ *Id* at 13.

¹⁷ *Id* at 9.

¹⁸ The Coastal America program is a federal program that coordinates resources from various federal agencies to help address needs in coastal communities. *Id*.

¹⁹ *Id*.

²⁰ IRT provides the military with a way to gain hands-on training while providing benefits to communities. *Id*.

²¹ DEP, *History and Overview of the Osborne Reef Waste Tire Removal Project*, https://floridadep.gov/sites/default/files/OsborneReefProject_09Aug16_0.pdf (last visited March 1, 2023).

²² *Id*.

²³ Local 10.com, *Hundreds of thousands of tires being removed off Fort Lauderdale coast*, <https://www.local10.com/news/2019/11/14/hundreds-of-thousands-of-tires-being-removed-off-fort-lauderdale-coast/> (last visited March 1, 2023).

- 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 the number of tires that still need to be retrieved; and
- An estimated timeline for the completion of the cleanup and tire removal project.

By July 1, 2024, the bill requires DEP to develop a comprehensive coral reef restoration plan for Osborne Reef to be commenced, subject to appropriation, upon the 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.

The bill requires DEP to submit a report to the President of the Senate and the Speaker of the House of Representatives once the reef restoration plan is completed. The report must include an update on the status of the restoration plan and any recommendations for statutory changes necessary to achieve the restoration goals identified.

B. SECTION DIRECTORY:

Section 1. Creates an unnumbered section of law requiring DEP to submit a status report and develop a restoration plan for Osborne Reef.

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

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

The bill may have an indeterminate negative fiscal impact on DEP because DEP must submit a status report and develop a comprehensive restoration plan for Osborne Reef. These costs can be absorbed within existing resources.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to affect county or municipal government.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE CHANGES

None.