

**Title:**

**S-1: Remove tires and debris from failed Broward County (Ft. Lauderdale and Deerfield Beach) (a.k.a. Osborne tire reef) artificial tire reef projects and the reef tract to eliminate damage to existing corals.**

**Background:**

- This recommended management action relates to the coral reefs in Broward County, Florida.
- This recommended management action is being put forth because tires that were originally deposited offshore of Ft. Lauderdale and Deerfield Beach as part of an artificial reef project, have since become unbundled and are migrating onto and are damaging the reef tract during high wave energy events.

**Objective:**

- The intended outcome of this action is to eliminate impacts to reef resources by removing the approximately 700,000 tires from Broward County reefs and minimally remove the loose tires from the area adjacent to the reef edges. This will protect coral reef habitat and the ecosystem by helping to prevent ongoing and future damage by migrating tires. This will protect tourism in southeast Florida. Currently tourists return home with photos and stories of reefs littered with tires.

**Intended Benefits and/or Potential Adverse Effects:**

- A benefit of implementing this recommended management action includes eliminating ongoing damage to coral reef ecosystems.
- An issue that may arise with implementation of this recommended management action is the large cost of this effort, which may take away funds from other conservation efforts.
- The duration of the benefits of this recommended management action are long term.
- If this recommended management action is not implemented there will be continued impacts to the reefs in Broward County.

**Agencies/ Organizations:**

- The lead agency for implementation of this recommended management action would be Broward County.
- Other potential agencies or organizations who could be involved include the United States Military, Florida Department of Environmental Protection (FDEP) (solid waste disposal and permits), United States Environmental Protection Agency (may have provided a grant for the artificial reef), Broward County (technical oversight and permits), United States Army Corps of Engineers (permit), National Oceanic and Atmospheric Administration (marine debris and restoration programs), and non-governmental organizations.
- The key stakeholders for this recommended management action would be divers, government, academia, fishermen, and private business.
- The legislative considerations to take into account include a request for funding from the Tire Disposal Fee to put in the budget of the next legislative session.
- Volunteer organizations could organize and assume legal responsibility for the removal of tires on shallow reefs. A local governmental agency would then have to facilitate the disposal of tires.

**Permitting/ Enforcement Requirements of RMA:**

- Permitting requirements for this recommended management action include those already

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secured by Broward County for tires at 65' depth off Ft. Lauderdale. Other permits possibly needed include FDEP and United States Army Corps joint Environmental Resource Permit, and Broward County permits (if lead is not Broward County).

- There are no enforcement requirements with this recommended management action.
- A measurable way to show success with this recommended management action is the quantity of tires removed.

**Cost:**

- The estimated direct cost of implementing this recommended management action is \$3-5 million initially and then costs would need to be re-estimated based on numbers and locations of the tires. For example, it will cost approximately \$15 to remove each loose tire (does not include buried tires) followed by an additional \$3 disposal fee per tire.
- Potential funding sources include the State of Florida current collection of a \$1 disposal fee on all tires. This money was used to clean up used tire dump sites and is now put into the general fund. In 2010 the state collected over \$16 million in disposal fees. Now that most of the old tire dump sites have been cleaned up, a portion of this money should be used to clean up the offshore tire reef. However, this tax is used to fund multiple projects, and is not easily accessible. There will need to be a request for funding from the Tire Disposal Fee put in the budget of the next legislative session. Other agency groups that may be interested or should be approached regarding funding and the importance of funding include the Appropriations Subcommittee on Transportation Tourism and Economic Development, the Agriculture & Natural Resources Subcommittee, and potentially Goodyear or other tire companies.

**Time Frame & Extent:**

- The anticipated timeframe for implementation of this recommended management action should be in the next 1 - 2 years, but to actually complete the action would take 10 years. The timeframe includes securing funding, evaluating, planning, permitting and removal of the tires.

**Miscellaneous Info:**

- This recommended management action is not linked to other recommended management actions.
- Some uncertainties or gaps with this recommended management action include the confirmation of the actual number of tires still on the ocean floor and the location of loose tires.
- Supporting and relevant data includes the following:
  - Sherman, Robin L. and Spieler, Richard E., "Tires: Unstable Materials For Artificial Reef Construction" (2006). *Oceanography Faculty Proceedings, Presentations, Speeches, Lectures.* Paper 58. [http://nsuworks.nova.edu/occ\\_facpresentations/58](http://nsuworks.nova.edu/occ_facpresentations/58)
  - Waste Tires in Florida, State of the State, September 9, 2011
  - [http://www.dep.state.fl.us/waste/quick\\_topics/publications/shw/tires/2010\\_Tires\\_State-of-the-State.pdf](http://www.dep.state.fl.us/waste/quick_topics/publications/shw/tires/2010_Tires_State-of-the-State.pdf)
- Some removal efforts have taken place and additional efforts are ongoing.

**Goals/ Objectives to be Achieved:**

Refer to the [SEFCRI Coral Reef Management Goals and Objectives Reference Guide](#)

- FL Priorities Goal D2 / FL Priorities Goal D2 Obj. 3.
- SEFCRI LAS FDOU Issue 3 Goal.

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