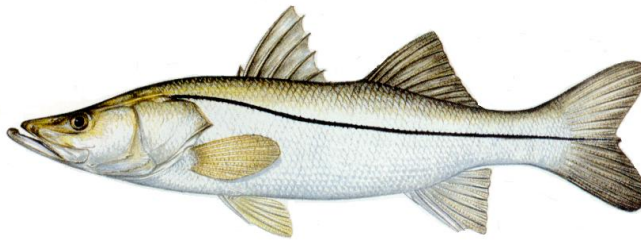


# **Artificial Reef Management Plan Tampa Bay / Hillsborough County, Florida**

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## **Preface**

The Artificial Reef Program is administered by the Environmental Protection Commission of Hillsborough County and was started October 23, 1986. The goal of the Artificial Reef Program is to increase hard-bottom habitat availability in Tampa Bay that, in turn, will encourage biological diversity and productivity by providing hard-bottom substrates and communities that might not otherwise be available. The reefs also provide additional recreational opportunities for the public in the bay area. When using this document as a management tool, keep in mind that conventional artificial reefs throughout the state have historically been used to promote recreational fishing and diving interests. Our program has extended this concept to include artificial habitats as restoration and mitigation alternatives. Experimental projects, such as oyster bar reefs in the Alafia River and the SWIM Program's use of reef materials in the Cockroach Bay Aquatic Preserve and other habitat restoration projects, show great promise for improving our knowledge of how these kinds of hard-bottom communities contribute to the Tampa Bay ecosystem.

A total of eight sites span the Tampa Bay estuary from as far north as the Courtney Campbell Causeway to as far south as Egmont Key. Each reef site can accommodate various types and amounts of material and each is in a different stage of development. The Ballast Point Pier Reef and the Picnic Island Pier Reef are considered complete, with no immediate plans to add material to them.

The Environmental Protection Commission of Hillsborough County is committed to the continued nourishment and protection of its reefs for the benefit of the local ecosystem and for the enjoyment of the public.

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## **1. GOALS AND OBJECTIVES**

### **1.1 Habitat Diversity**

The primary objective of the Artificial Reef Program is to increase hard-bottom habitat availability in Tampa Bay which, in turn, will encourage biological diversity and productivity by providing hard-bottom substrates and communities which might not otherwise be available. Once this substrate has been provided, surface area for potential larval settlement has been increased and, as a result, the number of invertebrate and vertebrate species which now occupy this area of the bay increases significantly.

### **1.2 Fisheries Enhancement**

A series of estuarine reefs, which are constructed in relatively shallow water, can be established to provide additional fishing areas as well as divert user pressure from more natural and ecologically sensitive locations in Tampa Bay. By providing additional habitat for many fish species, we also hope to increase the average fishing enthusiast's chances of fishing success. To date, more than 60 different species of fish have been observed on these estuarine reefs. A series of reefs built close to shore can also provide access to that type of fishing typically associated with deeper, offshore sites. This wreck-type fishing then becomes available to smaller boats and therefore more people overall.

### **1.3 Habitat Restoration**

Historical records of Tampa Bay suggest water depths much shallower than what is currently recorded and indicate the presence of oyster bars and live-bottom habitats which have since been silted over or dredged. The Artificial Reef Program can attempt to help mitigate for development-related habitat loss by constructing areas of hard, rocky-reef type substrate and oyster bars, thereby allowing algae and invertebrate organisms, which serve as the base of the food web, the proper habitat in which to become established and flourish.

### **1.4 Economic Benefits**

The establishment of such a public-oriented project can have great impacts on the local economy even though such impacts may not seem to be a direct result of the program. Fishing is one of the most popular recreational activities in the State of Florida and as such has a significant bearing on the health of the economy. Local sporting goods stores, bait shops, marinas, gas stations, hardware stores and all of those goods and services dealers stand to benefit from the fishing activities associated with artificial reef construction.

Commercial fishing interests, such as guides and charter captains, can also benefit if the reefs are successful in attracting baitfish and invertebrates that are fed upon by larger, more sought-after species of fish.

Local industries such as marine contractors, concrete manufacturers, demolition crews, and even local government entities that donate materials and services can often do so at a substantial savings compared to landfill costs for clean materials. In addition, this process often results in good public relations for private industry and can be tax deductible. Oyster bars have been known to stabilize shorelines and provide important feeding habitat for many species of fish and birds. All of this contributes to a healthy and attractive estuary for residents and tourists alike.

## **2. SITE SELECTION**

## **2.1 Bottom Type**

The selection of the reef site is dependent upon many factors including the physical properties of the sub strata. If the substrate is too soft or mucky, then it will most likely be unable to support the weight of thousands of tons of concrete. The result is a non-productive reef that has been silted over and is no longer functioning as the intended hard-bottom community. If the substrate consists of hard sand, shell-sand or rock, however, then it has been shown that, after a minimal amount of settling, the reef materials will become stable and act as the intended high-profile reef structure.

The Artificial Reef Program of Hillsborough County will, therefore, only consider sites for reef construction that have a firm base and can support the weight of the reef structures.

## **2.2 Depth/Navigation**

The natural bottom depth of the reef site is of crucial importance so as to construct a reef that will not present a navigational hazard. This is particularly true of reef construction in a relatively shallow estuary such as Tampa Bay. Each of the eight permitted artificial reef sites has its own minimal navigational clearance which must be maintained at all times for the safety of boaters and shipping traffic in the bay. With the exception of the Ballast Point Pier Reef and various oyster reef projects, at no time is a reef to allow less than half of the natural water depth for navigational clearance. The Ballast Point Pier Reef was constructed for the benefit of the fishermen on the pier and Tampa City Ordinance restricts boating within 250 ft. of the pier. Therefore, it was determined that no navigational hazard was present.

All depths, prior to, during and after reef construction are measured with a SONAR depth sounding device. Areas within the bay which have a natural depth of 15 ft. or more (MLLW) and are not within established shipping channels, will allow for a maximum amount of vertical profile without jeopardizing navigational clearance.

## **2.3 Fishing Piers**

The Ballast Point Pier Reef and the Picnic Island Pier Reef are the only two fishing pier reefs currently managed by the Artificial Reef Program. Additionally, experimental oyster reef units have been placed under the Williams Park pier on the Alafia River. These reefs were specifically built to enhance fishing from the piers. They also allow the fisherman who may not own a boat, to enjoy the benefits of the reef program. Boating within 250 ft. of the Ballast Point Pier is restricted by Tampa City Ordinance. Boating within the Picnic Island Park recreational areas adjacent to the pier is also restricted therefore, there should be no user conflicts associated with either of these sites.

## **2.4 Seagrasses and Existing Live-bottom**

The Artificial Reef Program will not consider any reef site that already has existing live-bottom or seagrass beds present. These resources are recognized as valuable habitats and are to be protected to the fullest extent possible. Any artificial reef construction that would threaten or disturb these areas would be counter-productive and contradictory to the mission of the program.

## **2.5 Accessibility**

While the primary goal of the program is to increase habitat diversity in Tampa Bay, the recreational uses of the reefs cannot be ignored. When siting of an artificial reef is considered, the proximity to the actual users of the reef needs to be addressed. In an estuary such as Tampa Bay it is much easier to locate reef sites within a reasonable distance of local boat ramps and marinas. Each of the artificial reefs in the bay is easily accessed from any number of boat ramps located in Hillsborough, Pinellas and Manatee Counties. Each of the eight sites is within 2 nautical miles of the nearest shoreline. This allows a maximum number of people to use the reefs. No one is to be denied access or reasonable use of the reefs.

Locating reefs in each area or section of the bay also allows the program to take full advantage of materials of opportunity. Many marine contractors or material donators are only interested, if the act of donating is not too inconvenient or costly for them. By having sites nearby, the program can make the idea of donating materials and services far more attractive to local industry.

## **2.6 Preserves and Refuges**

Areas designated as natural preserves or refuges will not typically qualify as potential reef sites due to their shallow depths and sensitive natural systems. Only when part of a larger habitat restoration or mitigation project would these areas be considered for artificial habitat creation.

## **2.7 Restricted Areas**

No artificial reef construction will be considered in militarily restricted areas such as the area surrounding Mac Dill Air Force Base. Construction will also be excluded from known quarantine and/or anchorage zones, shipping channels and areas within Tampa Bay and Hillsborough County waters of the Gulf of Mexico that have already been altered by existing spoil islands unless part of a larger habitat restoration effort.

# **3. PERMITTING**

## **3.1 County**

The following is a list of county and/or local authorities which must review and/or issue permits for the construction of artificial reefs within the waters of Hillsborough County including Tampa Bay:

- Hillsborough County Planning and Development Management
- Environmental Protection Commission of Hillsborough County
- Tampa Port Authority
- Hillsborough County City County Planning Commission

## **3.2 State**

The following agencies must review and/or issue permits for the construction of artificial reefs:

- Florida Department of Environmental Protection
- Florida Fish and Wildlife Conservation Commission

### **3.3 Federal**

The following is a list of agencies which must review and/or issue permits for artificial reef construction:

- United States Army Corps of Engineers
- United States Coast Guard
- United States Fish and Wildlife Service

## **4. OPERATIONS**

### **4.1 Materials and Acquisition**

All materials used by the Artificial Reef Program are either donated or are part of an enforcement settlement with local industries. Only clean concrete or steel products such as piling cutoffs, culvert pipes or old bridge decking are used by the program. Larger materials such as steel hull vessels, deck barges and industrial equipment have been used in the past and although they have made good reefs, these items will be considered only when other options have been exhausted. All vessels must be certified by the U.S. Coast Guard as free from pollutants and proven seaworthy enough to complete the journey to the reef site. Due to a barge's large size and relatively limited surface area, in addition to its local effect on water currents, these vessels will not be used in the future. All materials to be used for artificial reef construction must first be inspected by the Artificial Reef Coordinator or his/her designated representative.

All concrete that is used must be clean of loose dirt, debris and any coating which may be considered potentially toxic to marine life (i.e. paint, asbestos, petroleum products, etc.). Individual pieces should be large enough to assure that they are properly ballasted. They should also provide adequate living space without easily being silted over. There is currently no upper limit on size for individual reef units however, between six and seven tons seems to be a good, manageable size for most marine contractors. Exceptions to this will be special projects involving experimental materials or designs, natural limestone, oyster shell or student projects using concrete blocks or other prefabricated materials. All such exceptions must meet with the approval of the reef program coordinator and must comply with permit conditions.

Tires, automobiles, wood, fiberglass vessels and white-goods (i.e. stoves, refrigerators, washing machines) all require extensive preparation, are not stable in the marine environment and are not necessarily free of pollutants. These materials are no longer considered by the State of Florida to be acceptable artificial reef materials therefore, they have not and will not be used by this program.

### **4.2 Funding**

#### **4.2.1 Hillsborough County**

Funding for the Artificial Reef Program is provided for by the Rules of the Environmental Protection Commission of Hillsborough County, Chapter 1-9, Pollution Recovery Fund. Under Chapter 1-9, a percentage, not to exceed fifty percent of the funds collected in the previous fiscal year, may be used for the Artificial Reef Program budget. Salaries and capital expenditures may be included in this amount. Approval by the Commission of the proposed budget shall constitute approval of the designated expenditure of money from the Pollution Recovery Fund. Any money budgeted but not used for this program at the end of the fiscal year shall revert back to the Fund.

#### **4.2.2 State of Florida**

The Florida Fish and Wildlife Conservation Commission (FWCC) administers the Florida Artificial Fishing Reef Grant program under Chapter 16R-9, Florida Administrative Code, "Comprehensive Artificial Fishing Reef Program Control Code". The National Fishing Enhancement Act of 1984 (P.L. 98-623, Title II), also known as the Wallop-Breaux Fund Act, was originally designed to assist local coastal communities to enhance saltwater fishing resources and aid in the development and construction of artificial reefs.

The reef program coordinator must complete an application for Federal Aid in Sport Fish Restoration Funds which, upon approval, would be signed by the coordinator, the Director of Environmental Resources Management Division and the Executive Director of the EPC. Once approved by the FWCC, a Project Agreement Contract would be entered into between FWCC and EPC and funds would be allocated for the construction of artificial fishing reefs in Hillsborough County. This Project Agreement specifically limits the time period for project completion. Upon completion, the reef program must officially request payment / reimbursement as per the terms of the agreement. Similar funding is available from the FWCC for monitoring projects that would likely increase the scientific understanding of artificial habitats and their effect on the fishery, local economy and overall well being of the environment.

#### **4.2.3 Donations**

Donations of both materials and services will continue to be an important resource for the program. Reliance upon local industry support for the program in the form of donated materials and services allows for a great reduction in effort in terms of both dollars spent and man-hours exhausted.

Lengthy bid procedures, contract writing and negotiations, legal advertising and inter-departmental communications can all be avoided when materials and construction services are donated rather than paid for.

### **5. CONSTRUCTION AND BID PROCEDURES**

#### **5.1 Bid for Marine Construction Services**

Standard legal contracts must be written before the county and any prospective bidder can enter into an agreement for the purchase of marine construction services. A draft consisting of a standard "boilerplate" contract, used in most situations by the county, is incorporated with the Artificial Reef Program's Technical Specifications and submitted to the Purchasing and Contracts Department. This draft is then forwarded to the County Legal and Risk Management Departments for their review. Also involved in this review process is the EPC's own legal department.



Once the draft contract has been approved, it must then be sent on to the County Commission for approval to begin advertising for bids. Advertising of the approved contract for bids and bid opening dates is the responsibility of the county Purchasing and Contracts Department. On the bid opening date, sealed bids are read and recorded and the lowest responsive, responsible bidder is then notified. The contractor must then sign the contract and await approval of the Artificial Reef Program Coordinator and, finally, the Board of County Commissioners in open session. The Purchasing and Contracts Department then notifies the contractor by issuing a notice to proceed. It is at this point that construction of the reefs can commence.

## **5.2 Construction**

Materials are received and prepared for loading and deployment at the reef contractor's staging area. It is the responsibility of the Artificial Reef Program Coordinator to acquire the appropriate amounts and types of reef materials to successfully execute the current marine contract or grant contract. Estimates of reef materials ( their approximate weights and volumes) are initially provided by the donator's engineers. Final determination of actual weights of materials are calculated, as they are loaded onto the barge, based on their displacement in sea water. When an adequate amount of material has been collected (typically 300-500 tons of concrete), the program coordinator and contractor will decide on a tentative date to place the materials on the permitted reef site(s). No materials are to be placed on any reef site without the prior approval of the program coordinator or his/her designated representative. The program coordinator must be present on site for all construction activities.

On the day of construction, the program coordinator will rendezvous with the contractor's barge on the designated reef site. Once an area within the site has been established, the contractor will be given specific instructions on where to place the materials. Periodically, during construction, the contractor will be asked to stop so that SONAR verification of permitted reef heights can be obtained. This procedure will also take place upon completion of that day's construction prior to the contractor leaving the site. This allows for immediate corrective action should any material be protruding above safe navigational limits.

## **6. SITE MANAGEMENT**

### **6.1 Compliance Monitoring**

All reef materials are located within the boundaries of the permitted reef site and verified by GPS as to exact Latitude and Longitude. State and Federal agencies such as the Florida Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, the Tampa Port Authority and the U.S. Army Corps of Engineers, as permitting agencies, must share a role in the compliance monitoring of local programs to ensure quality control and consistency throughout the state.

### **6.2 Maintenance and Re-nourishment**

Routine maintenance of the marker buoys or day-marks for the reefs is an ongoing function of the program. The corrosive properties of seawater, storms and extreme exposure to the elements all take a toll on these buoys. Due to the expense of these devices, it is in the best interest of the program to ensure they are securely fastened and maintained in working order. A stray buoy can become a hazard to navigation. These aids to navigation are for the benefit of boaters as well as fishermen and without them the reefs may not be as easy to find.

Re-nourishment of the reefs may occur if it is determined that the previous reef material has become ineffective or silted over to such an extent that the desired high-profile hard bottom habitat no longer exists. Re-nourishment will also be considered if the reef is damaged by a recent storm event. Such damage would include scattering of reef material. By the same token, if a given reef or reefs is proving to be extremely effective for fisheries enhancement and it is shown that the reef site may accommodate more materials, additional deployments may be warranted.

### **6.3 Permit Renewal**

Build-out of the reefs is expected to continue as long as appropriate materials are made available and the reef sites have room to accommodate them. All Federal, State and Local permits will be kept current for each reef site so that materials of opportunity can be deployed with minimal delays.

When a given site is considered to be full and can no longer accommodate additional material, that site's permits may be allowed to lapse. That does not relieve the EPC's responsibility for maintaining required marker buoys or for continuing to monitor the progress of the reef (both physically and biologically). It does, however, mean that the agency does not intend to add any new materials to that site in the future.

## **7. PUBLIC INFORMATION AND EDUCATION**

### **7.1 Publications**

The EPC produces a pamphlet called "Artificial Reefs: Find 'em and Fish 'em in Tampa Bay". This pamphlet is a guide to locating and fishing the reef sites and provides additional information about the program. This guide is updated as needed and is made available to anyone requesting it.

### **7.2 Videos**

Many hours of underwater video footage have been collected by the program staff and can be edited down to short informational segments. Most aspects of the reef program have been documented and organized to demonstrate what is entailed in the construction and subsequent results of artificial reef construction. These videos are generally used for educational purposes. "Artificial Reefs: A Treasure in the Bay" was the first informational video on the program to be produced. This video has proven to be invaluable in promoting awareness and understanding of the program.

### **7.3 Public Speaking**

Many civic organizations, schools, media personnel and local television producers often request speakers from the reef program staff for lectures or topical stories for their audience. Quite often these presentations include distribution of pamphlets and narration of the videos available. These speaking engagements are an excellent opportunity to reach both large and small audiences with current information on the program and any future plans. They are also an important link between the public and their government, providing the opportunity to place a name and a face with the program when further information is needed.

#### **7.4 Public Involvement**

Once aware of the existence of the reef program, many people are eager to learn more and to become active in it's mission. The program is best served simply by having these supportive citizens "pass the word" to their fishing buddies or fellow students and colleagues.

The Hillsborough County Commissioners acting as the Environmental Protection Commission are also advised by a group of private citizens and industry representatives serving as the Citizens Environmental Advisory Committee. In addition to reviewing requests for Pollution Recovery Funds, this "watchdog" organization serves as a check and balance for the people of the county and receives periodic updates on the progress of the Artificial Reef Program.

#### **7.5 User Group Information**

Recreational fishermen are the principle user group for the artificial reefs in Tampa Bay and as such request and receive the "lions-share" of information on the program. Due to occasionally strong tidal currents and poor visibility, divers are typically reluctant to dive them for recreation. As a result, there are rarely any reported user conflicts among these groups. Issues involving boats crowding around the marker buoys are usually resolved by educating the users on the size and configuration of the reef sites. Once users realize the size of the reef area, they usually change their strategy to include more of the outlying materials, thereby increasing the spacing between boats.