

# **Mexico Beach Artificial Reef Association**

## **Memorial Reef Program**



## Introduction

There is no better statement of who we are than what we leave behind. For many that enjoyed fishing, diving, boating or just a general love of the Gulf, a personalized Memorial Reef is the perfect and permanent tribute to celebrate and remember a loved one – for hundreds of years to come. MBARA offers Memorial Reefs to the public that allow families to construct, personalize, and name a reef for your loved one(s). Memorial Reefs create unique ecosystems and provide a permanent and sustainable environment for all marine life.

For families and individuals that choose cremation rather than burial, MBARA Memorial Reefs offer a new memorial option that replaces cremation urns and ash scattering with a permanent environmental living legacy. Expected to last one hundred years, more than 275 reefs comprised of thousands of structures have been placed off the coast of Mexico Beach, Florida.

The Mexico Beach Artificial Reef Association Memorial Reef is a scientifically designed reef made of Florida Limestone and environmentally safe cast concrete that is used to create new marine habitats for fish and other forms of sea life. The cremated remains of an individual are incorporated into an environmentally safe cement mixture designed to create artificial reef formations. The cement is poured into three separate forms, cured and then welded and poured again to create the largest and strongest Reefs available today. The Reefs are deployed in our legally permitted areas, all within 35 nautical miles of Mexico Beach, FL. The MBARA dive team regularly monitors the condition of the reefs as well as the marine ecosystems.

### **The MBARA Memorial Reef includes:**

- ▲ Handling the cremated remains and incorporating into the Memorial Reef.
- ▲ Family participation in the creation of the Memorial Reef that may include a plaque and personal mementos.
- ▲ Deployment and placement in one of MBARA's authorized reef sites.
- ▲ A GPS survey to record the specific longitude and latitude of the Memorial Reef.
- ▲ The Memorial Reef will have a dedicated page on the MBARA website that will include a narrative, pictures, and coordinates of your Memorial Reef.
- ▲ Periodic monitoring by the MBARA dive with pictures, videos and surveys posted to MBARA website.
- ▲ Your donation is eligible as a tax donation.

To learn about pricing, Memorial Reef construction and more, click on the links above. If you would like to speak with someone regarding a Memorial Reef, please contact Brian Higdon at [mbmemorialreefs@gmail.com](mailto:mbmemorialreefs@gmail.com) or at 615.479.4762.

## **Memorial Reefs: A Truly Green Burial**

Memorial Reefs are a means of developing and stewarding natural areas. They reduce the use of vital land mass while providing a habitat for the life in our seas. With Memorial Reefs, death can make a difference.

A new form of green funeral has emerged that encompasses these growing trends. The MBARA Memorial Reef program will place your ashes into an artificial reef that is then lowered into the Gulf, to become a vital part of the rebirth of the ocean floor and the endangered sea life within begin to flourish. The Memorial Reefs are scientifically designed to mimic the endangered habitat housing many different forms of sea life and unlike a cemetery plot; these reefs are completely permanent. The Memorials Reefs are a fraction of the cost of traditional burials and they have significant ecological benefits. These reefs reduce species extinction rates, enhance biodiversity, and help to restore our over fished waters. Since MBARA is a 501(c) 3 nonprofit corporation, part of the Memorial Reef cost is considered a sponsorship due to the long term ecological benefits of the reef and its contribution to our oceans inhabitants. Therefore, a portion of the cost of the reef may be tax deductible. This form of green burial or green funeral is the next ecological step for the funeral industry and a positive step in the elimination of the ecologically harmful methods that have been traditionally used.



## **Constructing and Deploying MBARA Memorial Reefs**

# The Memorial Reef Experience

Creating a Memorial Reef is a rewarding and lasting experience. We have over 15 years of experience in designing, creating, deploying and monitoring Memorial Reefs, and we are proud to be affiliated with some of the most trusted and respected artificial reef makers in the Southeast. The Memorial Reefs have been designed and developed after decades of research and experience. Our Reefs have withstood the strongest storms the Gulf can produce, while creating vast and productive marine ecosystems.

Our Reefs are constructed at the Walter Marine facility in Orange Beach, AL. MBARA Memorial Reefs can be created in days and typically consists of initial casting pour, assembled/welded, corner pour and final cure. The facility is on the Intercoastals and provides a seamless transport from the construction location to the deployment vessel. We can create the Memorial Reef months before deployment and secure it at the facility until time of deployment. Please keep in mind that if you cannot attend an event, the MBARA staff will perform any or all of the construction and dedication events for you. The following is an illustration of how the Memorial Reefs are constructed and deployed.

## MBARA Memorial Reef Construction

Constructing Memorial Reefs is a 5 step process that requires a minimum of a week to complete. The key steps include:

1. Cast the forms
2. Insert Florida Limestone
3. Place personal affects: cremains, personal items, plaque
4. Assemble: weld and pour the corners
5. Cure







## Step 1: Cast the Forms

Memorial Reef construction begins with pouring of one of the three metal forms that will serve as the basis for the Reef. One-half inch rebar is placed in pre-formatted slots and is extended beyond the form – over 270 feet of rebar is used for each Reef. The rebar extension will be welded later in the process.



Each mold is poured and a full yard of concrete is used for each Reef.





## Step 2: Insert Florida Limestone

As the forms are poured, Florida Limestone is placed by hand directly into the concrete forming a permanent bond with the structure.



Limestone rock is believed to be the best artificial reef material and Florida Limestone is soft enough for marine worms to bore into, but hard enough to withstand the harsh environment artificial reefs must endure.



Each Reef contains more than  $\frac{3}{4}$  ton of Florida Limestone and provides more available surface for marine life than a single 5'x5'x5' Limestone boulder.







## Step 3: Place Personal Affects

Your Memorial Reef can be constructed with or without cremains. If you choose, you may permanently incorporate your loved ones' cremains into the Reef by mixing directly into the cement mixture.

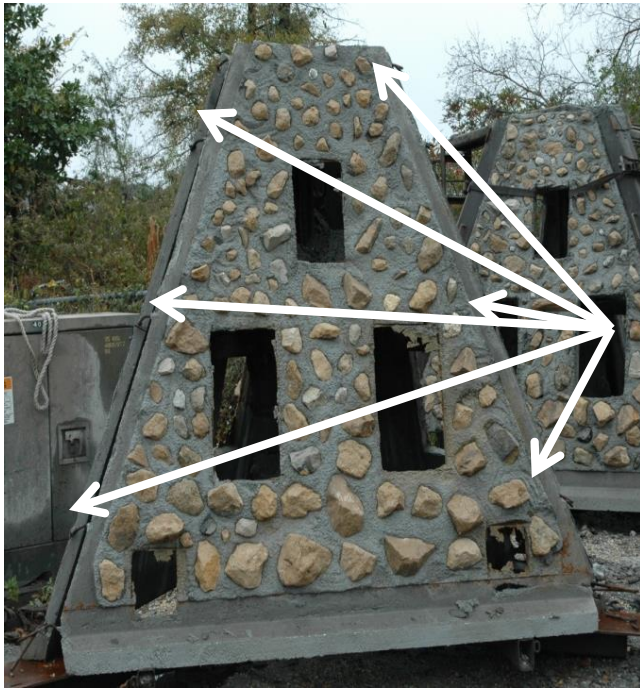
Additionally, family and friends are given the opportunity to personalize the Reef by creating handprints, inserting personal keepsakes and writing messages in the damp concrete Reef mixture before it dries. Items such as glass, metal, porcelain, rock, and granite can be placed in the cement to increase the personalization. Many loved ones feel this is a wonderful way to stay in touch for eternity.



A plaque can be placed directly in the concrete mixture at the center of the module, becoming a permanent part of the Reef.







## Step 4: Assembly

Once the sides have had time to cure in the metal forms, they are placed on a specially designed frame that prepares the structure for assembly. Rebar used during the initial pour is now welded on all sides, permanently locking the structure together.



After welding, metal forms are attached to the 3 corners and additional concrete is poured, secured and allowed to cure. Once the reef is cured, it is removed from the brace and is ready for deployment.

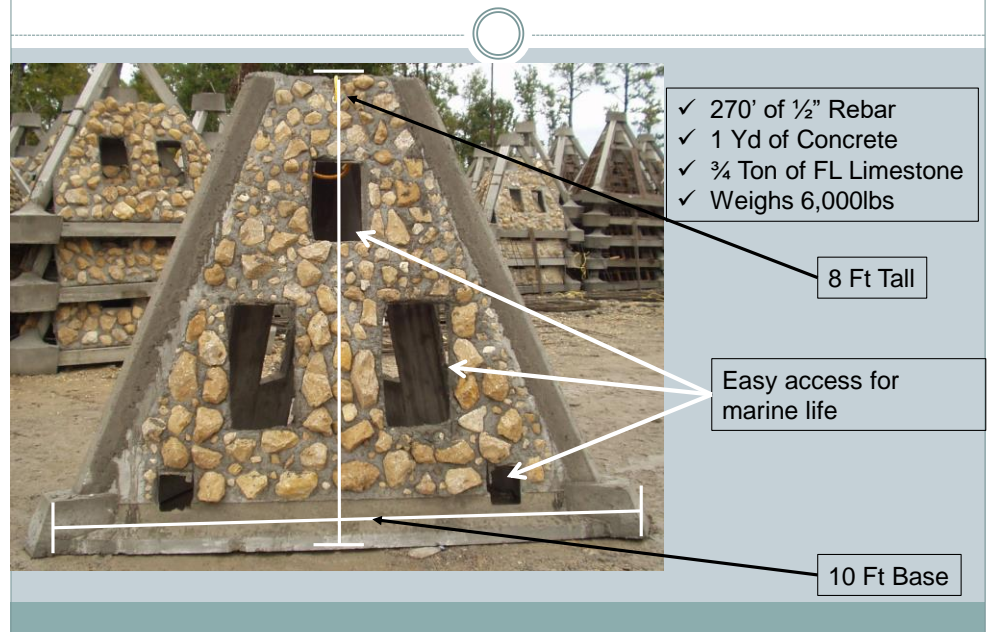


## Step 5: Cure

Once the Memorial Reef has been assembled, it has time to cure before deployment. Reefs will remain on site in a secure location until the scheduled dedication and deployment date.



### Each Memorial Reef Contains:







## Deployment

On the day of the scheduled deployment of your Memorial Reef, you can participate in the actual dedication/deployment ceremony. There are numerous charters available in the area that can provide transportation to and from the deployment location.



***PLEASE NOTE:*** There are a number of challenges that can impact our ability to deploy the Memorial Reefs on the day and time we have scheduled. Reef building is a marine construction project and it can be impacted by weather, equipment and is highly dependent on the government. Wind and waves are always an important consideration and even tidal fluctuations can cause delays and prevent the memorials being safely placed. **Our Commitment** is that we will work with you to identify the most appropriate location, type and the timing of deployment for your Memorial Reef.



# Florida Limestone

## Florida Limestone

**Comprised of  
Ancient  
Clamshells**

**Perfect PH  
for Seawater**

**Completely  
Natural**



**Soft Enough  
for Boring  
Animals to  
Attach**

**Durable**

The reef shown below is the result of years of developing artificial reefs. While all our reefs have alternate substrate, we discovered what a lot of marine scientists already knew; the best artificial reef material is natural soft rock. Here on the Gulf of Mexico and Atlantic coasts, Florida Limestone rock, comprised of ancient clam shells, is the perfect substrate for marine life.

## “Florida Limestone” Artificial Reef

**More than  
¾'s of ton of  
Florida  
Limestone is  
used in each  
Reef and  
provides  
more surface  
for marine  
life than a  
5'x5'x5'  
Limestone  
boulder**



Walter Marine, “Reefmaker”, developed and patented the process of attaching soft rock to a concrete structure. This produces a reef where the overall surface area of the rocks greatly exceed the surface area of the concrete structure, therefore attracting and providing habitat for all marine life associated with the natural reefs in the area, including

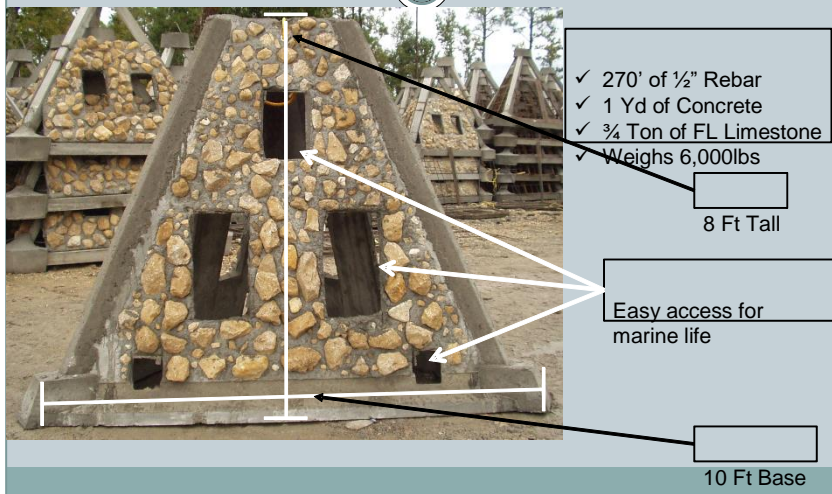
boring animals, never before seen on a manufactured artificial reef.





## **MBARA Memorial Reef Pricing and Options**

## Each Memorial Reef Contains:



## Large Memorial Reef: \$4,000

This is our largest and most popular Memorial Reef: weighs 6,000lbs and stands more than 8 feet tall.

- ✓ Handling of the cremated remains and incorporating into the reef
- ✓ Plaque with inscription permanently affixed to Reef
- ✓ Final placement and dedication
- ✓ A GPS survey to record the specific longitude and latitude of the Memorial Reef
- ✓ MBARA Memorial Reef Certificate displaying your reef's GPS location.
- ✓ MBARA dive team monitors condition of Reef
- ✓ Eligible as a tax deduction

## Large and Stable Footprint



## Existing Reef: Starting at \$2,500

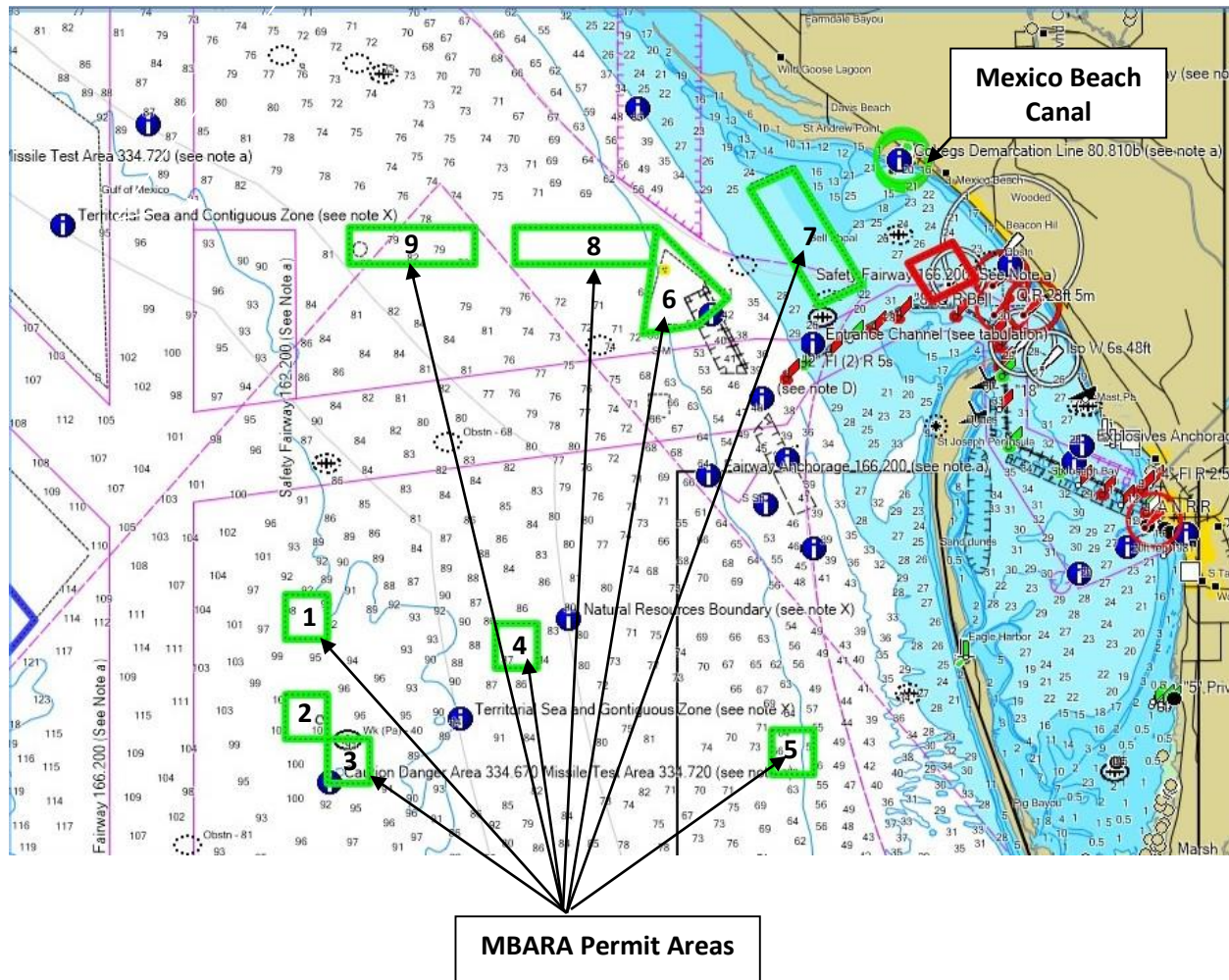
One of our Large Reefs that have already been deployed but are unnamed. We have various size Reefs available for naming.

- ✓ A GPS survey to record the specific longitude and latitude of the Memorial Reef
- ✓ The Memorial Reef will have a dedicated page on the MBARA website that will include a narrative, pictures, and coordinates of your Memorial Reef.
- ✓ MBARA Reefs Memorial Certificates displaying your reef's GPS location.
- ✓ MBARA dive team monitors condition of reef in future years



# MBARA Permit Areas

MBARA works with local, state and federal officials obtaining permits to legally place reefs. Currently, there are nine permitted areas, as depicted below in the green outlined numbered boxes. Memorial Reefs can be deployed in any of these areas (Bell Shoals is currently closed to new deployments). Since reefs are enjoyed by divers, the average depth and distance from the Mexico Beach Canal is listed in the table below.



Permit Area		Average Depth <i>Feet</i>	Distance from MB Canal <i>Nautical Miles</i>
1	North Site	90-100	16
2	Bridge Span Site	100-105	18
3	South Site	90-100	18
4	Bridge Rubble Site	80-90	13
5	Tower Site	60-70	13
6	Carbody Site	50-70	6
7	Bell Shoals Site (not available)	20	2.3
8	Crooked Island Site	60-76	5.8
9	Sherman Site	76-80	10.3