

About Artificial Reef Management



Artificial reefs provide important habitat for several commercial and recreationally important species and enhance fishing and diving opportunities in the region.

Florida has the largest complement of permitted reefs in the country. In addition to increasing or enhancing habitat, artificial reefs improve commercial and recreational fishing and diving opportunities, provide socio-economic benefits to local communities, minimize user conflicts, and facilitate reef research.

The concept of artificial reefs is not a new one; in the past objects such as car parts, bath tubs, refrigerators, tires and anything else that could provide structure were dumped on the sea bottom to attract fish and other marine

life with little or no supervision. However the days of individuals randomly dumping such materials to create their own private reef are long gone. There is an elaborate process involved in the permitting, deployment and management of artificial reefs. There are several rules and regulations in place that dictate where reefs can go and what type of materials can be used.

Who is eligible to get an artificial reef permit?

Although individuals and independent organizations such as fishing clubs were able to submit proposals in the past, FDEP and the ACOE now restrict applicants to local governments and academic institutions because of environmental concerns and liability issues. In some of the panhandle counties, there are still some private entities involved in the permitting process, but even these groups are designated by local governments.

What is the process to get an artificial reef deployed?

All artificial reef sites must be permitted before any deployment can take place. This process can take six to nine months to complete. The U.S. Army Corps of Engineers (ACOE) is the permitting authority for proposed reefs in federal waters, while both the ACOE and the Florida Department of Environmental Protection (FDEP) assume permitting responsibility in state waters. Although the Florida Fish and Wildlife Conservation Commission (FWC) does not issue permits for artificial reefs, they provide established guidelines for deploying reefs as outlined in the State of Florida's Artificial Reef Strategic Plan (<http://myfwc.com/docs/Conservation/FLARStrategicPlan2.pdf>.) During the permitting review process they consult with permitting agencies and provide comments on permit applications. FWC also provides funding for reef programs through construction and research grants.

What factors are considered for artificial reef deployment?



Managers must ensure that new artificial reefs will not damage sensitive bottom habitats

Proper site location is a critical factor in the reef development process. Before permit requests can be submitted to the ACOE and FDEP, a thorough bottom survey of the typical quarter mile by quarter mile square site must be conducted. Surveys are done to ensure bottom substrates are suitable to handle reef materials and that minimal settling and shifting will occur once reef materials are placed there. Ideally, managers look for shallow layers of sand over a limestone substrate that can support the weight of reef materials.

Surveys also ensure there is no sensitive habitat such as live hard bottom or submerged aquatic vegetation present that could be impacted by reef materials.

Managers incorporate their survey findings into a management plan that is submitted to authorities for review. Management plans must demonstrate that new reefs will have minimal impact on biological and cultural resources. They also take into account socio-economic factors such as proximity to passes, boat ramps and other access points as well as the likelihood of use by stakeholder groups such as recreational and commercial fisherman, guides, and/or diving operations. Equally important are navigation and safety considerations. Artificial reefs are prohibited from being placed in shipping lanes. Current regulations also state that an artificial reef's height cannot exceed one half the total water column depth at mean low water to ensure safe passage of recreational and commercial vessels.

Management plans must outline how reef materials will be laid out within a site including the types of spaces and crevices that will be created for potential habitat. Typically deployments consist of numerous small piles within a site rather than one large pile depending on the type of fish species targeted. Several research studies suggest that smaller deployments with adequate spacing increase overall production of an artificial reef compared to a single large deployment.

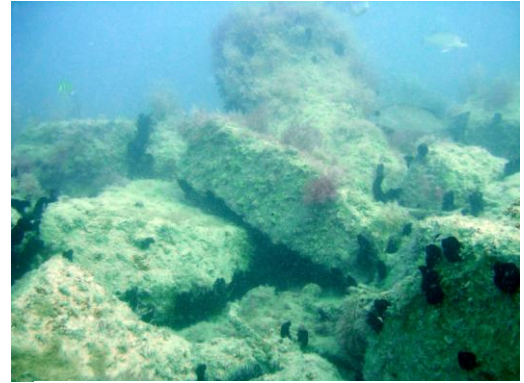


Culverts such as these are often deployed in small piles to allow adequate spacing between the structures; such layouts help increase the overall production of the reef site.

Additional deployments to a site may only be added if there is a current permit for that location. Permits from FDEP last for five years and ACOE permits last ten years. After this time period, managers must submit requests to renew permits to both FDEP and ACOE if additional deployments are desired within a permitted site.

What types of materials are allowed to be used for artificial reefs?

Due to environmental and public safety concerns, allowable materials now focus on heavy, stable, durable and non-polluting materials. The Florida Department of Environmental Protection (FDEP) will only allow clean concrete or rock, clean steel boat hulls, other clean, heavy gauge steel products with a thickness of ¼-inch or greater and prefabricated structures that are a mixture of clean concrete and heavy gauge steel to be used as artificial reefs in state waters. This eliminates fiberglass hulls, cars, tires, refrigerators, and many of the other previously used materials as possible reef candidates.



Clean concrete rubble is often used for artificial reef deployments such as these piles off Marco Island.

What happens after an artificial reef is deployed?



Divers conduct fish counts on establish artificial reefs.

Every pile within a permitted site must be surveyed at least annually to monitor species diversity and ensure reef materials remain stable. Managers also survey and remove derelict fishing gear and other debris from artificial reefs that can serve as hazards to both marine life and user groups.

Who manages artificial reefs in Collier County?

The Collier County artificial reef program is managed by the County's Coastal Zone Management Department. The County's artificial reef coordinator also coordinates with the Collier County Sea Grant Extension Agent, fishing guides, and local agencies to help monitor and maintain reef sites within the county. The County manages approximately 26 quarter by quarter mile reef sites with over 100 deployments among them. Funding for artificial reef construction and monitoring comes from grants, local government support, donation, in-kind support, or any combination of these. To learn more about Collier's program visit: <http://www.colliergov.net/Index.aspx?page=323>.

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Solutions for your Life

The Extension Service is an off-campus branch of the University of Florida, Institute of Food and Agricultural Sciences and department with the Public Services Division of Collier County Government. Extension programs are open to all persons without regard to race, color, creed, sex, age, handicap, or national origin. In compliance with ADA requirements, participants with special needs can be reasonably accommodated by contacting the Extension Service at least 10 working days prior to the meeting. Contact Extension at (239) 353-4244 or by fax at (239) 353-7127.