

Shenell Gordon

Recent Artificial Reef Activities within the Virgin Islands

Biography

I am a native Virgin Islander and a recent graduate of the University of the Virgin Islands (2002). During my course of study at the University, I was a summer intern at the Department of Planning and Natural Resources, Division of Fish and Wildlife. After receiving my BS in marine biology, I became a full time employee of Fish and Wildlife working as a Fisheries Biologist.

Although I'm fairly new to the science world, I hope to further my education in the near future and return to the Virgin Islands. It is my goal to develop unique ideas to help make scientific contributions to the territory in order to achieve ecosystem health and sustain our marine resources.

Abstract

The U.S. Virgin Islands has an active and expanding recreational fishery. The recreational fishery is important to both the residents of the Virgin Islands and the tourism industry. In addition to private and charter fishing efforts, recreational tournaments are increasing in number and popularity each year in the territory.

While interest in the recreational fishery and overall fishing effort is increasing, it is apparent that some of the stocks supporting this fishery are declining. Artificial reefs have been used to enhance recreational fisheries in the U.S. Virgin Islands by providing habitat for recreationally targeted fishes and enhancing the opportunities for angler harvest of reef fish. They also provide the following ecological function: point of attachment for sessile invertebrates (barnacles, anemones, hydroids, etc.); shelter from predators for lobsters and finfish; provide spawning areas for certain structure-associated fishes.

The Department of Planning and Natural Resources, Division of Fish and Wildlife (DFW) develops, nourishes, and monitors artificial reef sites so that fishermen can have access to reef fisheries. The benefits attributable to artificial reefs include recreational angling and scuba diving; certain limited commercial fishing activity; economic benefits; and habitat diversification and enhancement.

The U.S. Army Corps of Engineers has exclusive authority over artificial reefs in USVI waters and has worked with DFW to ensure this program is in compliance with local and federal regulations. The artificial reef program also relies on partner organizations to issue necessary permits, such as Division of Environmental Protection, US Coast Guard, Division of Coastal Zone Management, Department of Public Works, etc. However, the agreements with these entities are usually tentative and conditional.

A variety of construction materials are used to enhance or enlarge existing reefs over the years. Additional artificial reef sites can only be authorized once permit applications are fully approved. DFW is exploring the future availability of potential artificial reef material.

The program has been able to do a limited amount of evaluation and monitoring. In St. Croix, where artificial reef sites are typically more shallow (<60 ft.), fish are quantitatively

sampled using visual fish census methods through SCUBA inspections. Artificial reef structures are compared to natural reef features. In St. Thomas, where artificial reefs are deeper (80 to 100 feet), limited survey time allows divers to collect minimal quantitative data along with video and photographic documentation. A GIS database and ArcView map are under construction for St. Thomas artificial reefs.