

## **Inshore Artificial Reef Project Historical Summary**

In the mid 1980's as inshore saltwater fishing's popularity grew in Georgia so did anglers' desire for additional fishing sites. The Georgia Department of Natural Resources (GADNR), Coastal Resources Division (CRD) responded with Sport Fish Restoration, State, and private funds, to establish an Inshore Artificial Reef Enhancement Project (hereinafter referred to as Project). The creation of Project reefs has established Essential Fish Habitat (EFH) along the Georgia coast. The Magnuson-Stevens Fishery Conservation and Management Act define EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The placement of structures in the intertidal zone increases the potential for oyster recruitment and shoreline stabilization. Intertidal oyster beds are also considered EFH by South Atlantic Fishery Management Council (SAFMC) and National Marine Fisheries Service. SAFMC further designates oyster aggregations and tidal inlets as Habitat Areas of Particular Concern, a subset of EFH occurring in Georgia's tidal waters.

Potential reefs were surveyed for depth, substrate suitability, distance to navigable traffic channels, and proximity to boating access sites. Once Project sites were selected, permits were obtained and reefs were designed and constructed to suit site conditions while minimizing costs. By 1999 fifteen Project sites had been permitted by the United States Army Corps of Engineers (USACE) in seven of the State's estuaries, all six coastal Georgia counties. Thirteen of the reefs were placed in the intertidal zone, zero to three feet deep at mean low water (MLW). These reefs provide small vessel anglers additional fishing opportunities since they were designed to replicate oyster beds and other naturally occurring structures. Two reef sites, Little River and Jekyll Island Pier, were created as subtidal reefs which are accessible by land. These reefs were positioned in waters eight to twelve and five to six feet deep (MLW) respectively.

Materials of opportunity such as road beds, bridge railings, metal chicken transport cages, and concrete rubble were deployed whenever available. Purposely designed and built reef modules called Fish Aggregating Devices (FADs) were also used in deployments. Both intertidal and subtidal reefs were marked with pilings for easier recognition and to comply with United States Coast Guard (USCG) navigational aid regulations. Appropriately worded, plainly visible and legible reef warning signage was posted and maintained on each piling. Annual helicopter overflights are conducted to document and monitor marker piling conditions, signage, material settling rates, and movement of sandbars and mudflats at all 15 sites. Side scan sonar surveys are conducted annually to monitor all reef areas for subsidence, depth clearances and structural changes. CRD creel clerks also survey anglers for species catches at nearby boat ramps and marinas.

Due to differing water dynamics and substrate properties at individual sites, some reefs have been more successful than others. Successful reefs and materials include FADs placed at the Halfmoon River reef, concrete pilings / rubble and FADs located at the Henry Vassa Cate reef, and metal chicken transport cages at located at both Van Dyke Creek and Jove Creek reefs. All of these materials remain structurally sound, maintain relief, provide substrate for oyster and

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barnacle growth, provide EFH, and enhanced angling opportunities. Meanwhile, similar materials placed at the Timmons River reef have sunk below the mud line all but disappearing. It should also be noted that FADs with Polyvinyl chloride (PVC) spikes arranged vertically, pin cushion style, have been subject to breakage. It is assumed that vessel interactions have caused FAD breakages.

Georgia's Inshore Artificial Reef Project remained dormant with no new materials deployed from 1999 until May of 2014. New state and federal permits were obtained in June / July 2013 to allow for material deployments. A state Coastal Marshland Protection Act permit (CMPA 682) was approved on June 21, 2013 and remains valid until June 21, 2018. A federal Programmatic General Permit (PGP 37) was approved on July 19, 2013 and remains valid until July 18, 2018. The Project became active on May 26, 2014 when 26 concrete power pole sections were deployed to the Little River East Reef. These poles were donated by the Georgia Power Company and the Georgia Transmission Commission. On September 2<sup>nd</sup> and 10<sup>th</sup>, 2014 materials were placed at Glynn County's Jove Creek Reef. This site received 13 donated steel drum frames from Rayonier, Inc. Jesup Plant and 23 donated concrete power pole sections by the Georgia Power Company and the Georgia Transmission Commission. GADNR is currently working with the Savannah Sport Fishing Club to schedule future deployments for the Romerly Marsh Creek (Joe's Cut) Reef in Chatham County. GADNR seeks Project partnerships and materials of opportunity annually in order to supplement existing reefs. Table 1 lists the characteristics of each Project reef site.

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Table 1. Inshore Artificial Reef Enhancement Site Characteristics

Reef Name	Sound	Permit Date	Footprint (Feet)	Land Access	Acres	Angler Activity Level	County	Location Description	General Location Coordinates	Structures	Material Status	Nearest Boat Ramp
Halfmoon River	Wassaw	Oct-87	800 x 400	No	7.35	High	Chatham	Mouth of Bull & Halfmoon Rivers	31°57.791' N 80°56.489' W	176 Fish Aggregating Devices (FADs)	Stable	Turner's Creek
Joe's Cut	Wassaw	Nov-87	500 x 250	No	0.46	Unknown	Chatham	Mouth of Romerly Marsh Creek	31°55.910' N 80°59.297' W	FADs	Some Subsidence	Turner's Creek
Ogeechee River	Ossabaw	Apr-98	800 x 200	No	3.67	Unknown	Chatham	Harvey's Island Ossabaw Estuary	31°52.237' N 81°09.178' W	Concrete Culvert	Stable	Red Bird Creek
Bear River	St. Catherines Estuary	Nov-99	1,000 x 800	No	18.37	Unknown	Bryan	Mouth of Newell Creek N: St. Catherines Estuary	31°44.859' N 81°09.359' W	Concrete Culvert	Stable	Kilkenny Fish Camp
Van Dyke Creek	St. Catherines Estuary	Oct-94	800 x 200	No	3.67	Unknown	Liberty	0.58 nm NNW of ICW Marker 121	31°41.186' N 81°11.870' W	Metal Chicken Transport Cages	Stable	Halfmoon Marina
Timmons River	St. Catherines Estuary	Oct-94	800 x 200	No	3.67	Unknown	Liberty	0.87 nm West of ICW Marker 121	31°40.644' N 81°12.829' W	Metal Chicken Transport Cages	Subsided	Halfmoon Marina
Four Mile Island	Sapelo	Jul-94	800 x 200	No	3.67	Unknown	McIntosh	0.3 Nautical miles NE of Four Mile Point	31°32.227' N 81°17.388' W	FADs, Metal Chicken Transport Cages, Pallet Balls	Stable	Shellman's Bluff Fish Camp
High Point	Sapelo	Nov-99	1,200 x 700	No	19.28	Unknown	McIntosh	North end of Sapelo Island	31°31.566' N 81°14.463' W	Concrete Pilings	Stable	Shellman's Bluff Fish Camp
Troupe Creek	Manhead	Dec-95	600 x 100	No	1.38	Unknown	Glynn	0.3 nm NE of Troupe Creek Marina	31°13.772' N 81°26.501' W	Concrete Culvert / Rubble, & FADs	Stable	Mackay River
Jove Creek	Manhead	Nov-90	600 x 150	No	2.07	High	Glynn	Opposite ICW Marker 238	31°12.993' N 81°25.496' W	FADs, Chicken Transport Cages, Steel Frames, Poles	Stable	Mackay River / Lanier
Little River East	St. Simons	Jun-84	260 x 60	Yes	0.36	Very High	Glynn	South of FJ Torras Causeway	31°10.105' N 81°26.155' W	Concrete Bridge Rubble: Railings & Poles	Stable	Mackay River / Lanier
Little River West	St. Simons	Jun-84	330 x 60	Yes	0.46	Very High	Glynn	South of FJ Torras Causeway	31°10.082' N 81°26.189' W	Concrete Bridge Railings & Rubble	Stable	Mackay River / Lanier
Jekyll Pier East Arm	St. Simons	Jul-13	175 x 150	Yes	0.60	Very High	Glynn	Adjacent to Pier	31°07.047' N 81°25.061' W	No Materials	No Materials	Lanier / Jekyll Harbor Marina
Jekyll Pier West Arm	St. Simons	Jun-84	175 x 150	Yes	0.60	Very High	Glynn	Adjacent to Pier	31°06.233' N 81°25.615' W	Concrete Bridge Railing & Rubble	Stable	Lanier / Jekyll Marina
Henry Vassa Cate	St. Simons	Nov-87	400 x 400	No	3.67	High	Glynn	1 Nautical mile SSW of Jekyll Pier	31°06.216' N 81°25.563' W	Concrete Pilings / Rubble, & FADs	Stable	Lanier / Jekyll Marina
Mud Creek	St. Andrews	Apr-98	600 x 200	No	2.75	Unknown	Camden	Mouth of the Brickhill River	30°54.298' N 81°28.115' W	Concrete Culvert & FADs	Stable	Crooked River State Park
Stafford Island	Cumberland	Mar-97	800 x 200	No	3.67	Unknown	Camden	East of ICW Marker 70	30°49.183' N 81°29.266' W	Concrete Culvert & FADs	Stable	Crooked River State Park

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Table 2. Inshore Artificial Reef Enhancement Site Notes

<b>Reef Name</b>	<b>Inshore Reef Notes</b>	<b># of Marker Pilings</b>
<b>Halfmoon River</b>	Highly productive site, over 25 years old, almost filled to capacity with FADs.	4
<b>Joe's Cut</b>	Six groups of Fish Aggregating Devices (FADs) remain on site but some have subsided. Site is also known as Romerly Marsh Creek.	1
<b>Ogeechee River</b>	Concrete culvert remains stable and embedded in mud. This site is also known as Harvey's Island.	2
<b>Bear River</b>	Concrete culvert remains stable and embedded in mud. Some concrete materials are visible at low tide but the majority of materials on site are found within the subtidal zone.	2
<b>Van Dyke Creek</b>	A successful reef as materials consists of very stable and productive Gold-Kist metal chicken transport cages.	2
<b>Timmons River</b>	Gold-Kist metal chicken transport cages have completely subsided.	2
<b>Four Mile Island</b>	Pallet Balls are scattered along the marsh grass line. Some FADs have subsided and a sandbar has formed over the subtidal part of the reef.	2
<b>High Point</b>	Concrete pilings remain stable on site, some are visible at low tide.	4
<b>Troupe Creek</b>	FADs and concrete culvert are visible at low tide. Small concentrations of rubble have spread into deeper water.	2
<b>Jove Creek</b>	In 1992, permit was modified to allow deployment of Gold-Kist metal chicken transport cages. Materials can be seen on shore at low tide and scattered throughout the deeper waters of the site. In 2014, 23 concrete poles and 13 steel drum frames were deployed.	4
<b>Little River East</b>	Landward fishing access to this site is available on the F.J. Torras Causeway. Common catches include Sheepshead, Whiting, and some Spotted Seatrout. Materials show high relief at this subtidal site. In 2014, 26 concrete poles were deployed.	1
<b>Little River West</b>	Landward fishing access to this site is available on the F.J. Torras Causeway. Common catches include Sheepshead, Whiting, and some Spotted Seatrout. Materials show high relief at this subtidal site.	1
<b>Jekyll Island Pier East Arm</b>	Newly permitted in 2013, no materials have been deployed at this site.	0
<b>Jekyll Island Pier West Arm</b>	Subtidal reef located inshore of the west arm of the pier. Landward fishing access is available from the pier. Bridge rubble and railing materials show high relief. Marker piling was removed in 2003 after a barge collision.	0
<b>Henry Vassa Cate</b>	In 1992, permit was modified to allow deployment of concrete pilings and rubble in a lattice box configuration at the northwest corner of the reef. Highly productive site, over 25 years old, almost filled to capacity with FADs.	4
<b>Mud Creek</b>	Concrete culvert and FADs remain stable on site but concrete walkway materials have subsided.	2
<b>Stafford Island</b>	FADs and concrete culvert are still present on site and remain stable.	2