

Family/ Common Name	Species	2009		2008	
		Abundance	Size	Abundance	Size
Sciaenidae					
Cubbyu	<i>Equetus umbrosus</i>	M	A	M	A
Ephippidae					
Atlantic spadefish	<i>Chaetodipterus faber</i>	F	A		
Chaetodontidae					
Reef butterflyfish	<i>Chaetodon sedetarius</i>			F	A
Pomacanthidae					
Blue angelfish	<i>Holocanthus bermudensis</i>	F	A,J		
Pomacentridae					
Beaugregory	<i>Pomacentrus leucostictus</i>	F	A,J	F	A,J
Yellowtail reeffish	<i>Chromis enchrysurus</i>	S	J	F	J
Labridae					
Slippery dick	<i>Halichoeres bivittatus</i>	F	J		
Clinidae					
Hairy blenny	<i>Labrisomus nuchipinnus</i>			F	A
Scombridae					
Little tunny	<i>Euthynnus alletteratus</i>			M	A
Spanish mackerel	<i>Scomberomorus maculatus</i>	F	A		
Istiophoridae					
Saifish	<i>Istiophorus platypterus</i>	S	A		
Scorpaenidae					
Spotted scorpionfish	<i>Scorpaena plumeiri</i>			F	A
Balistidae					
Bandtail puffer	<i>Spheroides spengleri</i>			F	A
Orangespotted filefish	<i>Cantherhines pullus</i>	S	J		
	Total	22		20	

Abundance Key: S=single, F=few (2-10), M=many (11-100), A=abundant (>100)

Size Key: A=adult, J=juvenile, A/J=intermediate

Table 18. West 400 Artificial Reef fish species census.

3.14 Fogel Capital Management Artificial Reef

- Location: South County Reef
- Materials: Concrete
- Maximum Depth: 67 feet
- Reef High Point: 60 feet
- Year Created: 2007
- Monitoring Date: 8/31/2009

3.14.1 History of the Fogel Capital Management Artificial Reef

Nearly 2,000 tons of large concrete and steel construction waste was delivered to Harbour Pointe Park in Ft. Pierce in 2007 and early 2008 and stockpiled prior to deployment offshore of Martin County. In June 2008, it was loaded on barges and shipped to the South County Artificial Reef area. A total of 245 tons of these materials were dropped in the southwest corner of the reef area from the anchored barge to form the Fogel Capital Management Artificial Reef.

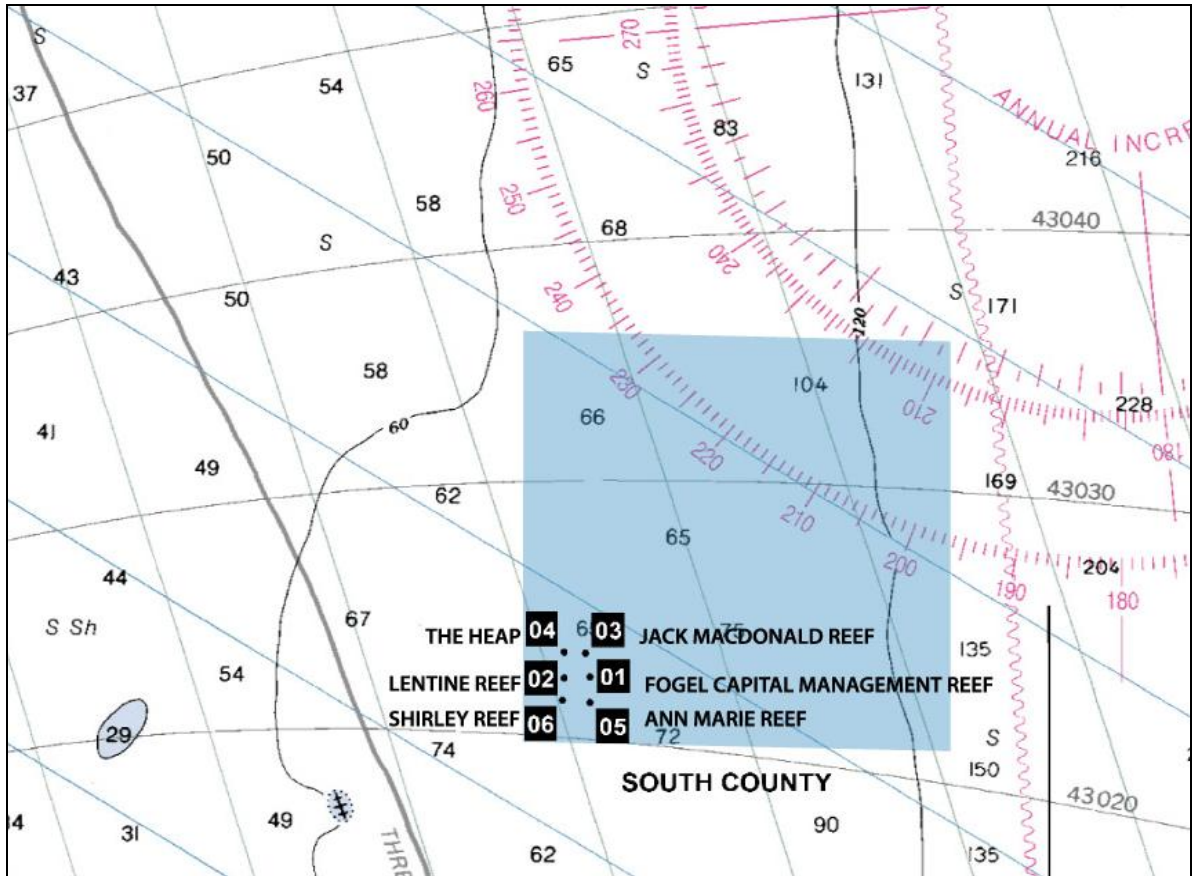


Figure 31. Chart view of South County Artificial Reef area.

3.14.2 Structural Summary

The maximum depth at this artificial reef site is about 67 feet with a maximum relief of about 7 feet. The footprint of the site is an irregular form with a southeast-to-northwest axis and occupies about 0.5 acres of seafloor. The deployment barge was securely moored at two points when the reef materials were dropped and the large concrete components settled in a single pile, although a few pieces settled to the bottom a short distance from the reef pile. Several large culvert sections provide cavernous recesses that are used extensively by large and small fish alike. The seafloor at this site is comprised of a shell/coarse sand mixture and appears to provide a solid base for the heavy concrete and steel pieces, as scouring is not significant. Figure 31 shows a chart with the location of the Fogel Capital Management Reef.

3.14.3 Biological Survey Results

Fish surveys indicate a diverse assemblage of fishes, although 2009 was only the first year of monitoring since deployment. Seabasses, snappers and grunts represented the most numerous species of fishes at this reef. As at most of the South County Reef sites, vast schools of adult and juvenile round scad were abundant around and above the reef crest, while the demersal species showed an affinity for the reef itself and the numerous crevices and refugia. Plants and invertebrates observed on the artificial reef included red, brown and green algae, hydroids, sea

anemones, sea urchins, barnacles, sea cucumbers, arrow crabs, hermit crabs and encrusting sponges. Table 19 presents the fish species observed during 2009.

Family/ Common Name	Species	2009	
		Abundance	Size
Elasmobranchs			
Spotted eagle ray	<i>Aetobatus narinari</i>	F	A
Centropomidae			
Common snook	<i>Centropomus undecimalis</i>	F	A
Serranidae			
Black seabass	<i>Centropristis striata</i>	M	A,J
Goliath grouper	<i>Epinephelus itajara</i>	S	A
Scamp	<i>Mycteroperca phenax</i>	M	A/J
Tobaccofish	<i>Serranus tabacarius</i>	F	A
Carangidae			
Amberjack	<i>Seriola dumerili</i>	F	A
Round scad	<i>Decapterus punctatus</i>	A	A
Lutjanidae			
Gray snapper	<i>Lutjanus griseus</i>	F	A,J
Red snapper	<i>Lutjanus campechanus</i>	F	J
Yellowtail snapper	<i>Ocyurus chrysurus</i>	F	A,J
Haemulidae			
Porkfish	<i>Anisotremus virginicus</i>	F	A,J
Tomtate	<i>Haemulon aurolineatum</i>	M	A,J
White margate	<i>Haemulon album</i>	F	A,J
Sparidae			
Sheepshead	<i>Archosargus probatocephalus</i>	F	A
Sheepshead porgy	<i>Calamus penna</i>	F	A,J
Sciaenidae			
Cubbyu	<i>Equetus umbrosus</i>	M	A,J
Pomacentridae			
Beaugregory	<i>Pomacentrus leucostictus</i>	F	A,J
Scorpaenidae			
Spotted scorpionfish	<i>Scorpaena plumeiri</i>	F	A
	Total	19	

Abundance Key: S=single, F=few (2-10), M=many (11-100), A=abundant (>100)

Size Key: A=adult, J=juvenile, A/J=intermediate

Table 19. Fogel Capital Management Artificial Reef fish species census.

3.15 Jack MacDonald Artificial Reef

- Location: South County Reef
- Materials: Concrete
- Maximum Depth: 70 feet
- Reef High Point: 63 feet
- Year Created: 2008
- Monitoring Date: 9/1/2009