MBARA Diver's Reef Survey Form Rev 11 May 2013  Clear Form							
Reef Number and Name 70 Deep South Crane Reef							
Latitude (00 00.000) 29 53.437 Longitude (00 00.000) 85 31.730 Was published lat/lon correct? Yes							
GPS Manufacturer & Model: Garmin 188C							
Sonar Depth (feet) 54 Survey Date Jun 15, 2013 Time 1:20							
Weather Conditions Partly Sunny Sea Condition 2 ft							
Boat Name Bobcat Bob Cox							
Dive Leader Carol Cox							
Dive Team Members Kimberly and Brian Higdon. Bob Cox							
Depth Gauge Depth (feet) 60 Diver Bottom Time (minutes) 70							
Water Temp Surface (Fahrenheit) 80 Water Temp Bottom (Fahrenheit) 78							
Water Visibility Surface (feet) 15 Water Visibility Bottom (feet) 40							
Thermocline Depth (feet) 40 Current Direction Current Speed (knots)							
Other Water Column Characteristics (check all that apply)							
☐ Plankton ☐ Algae ☐ Jellyfish ☐ Turbid ☐ Other							
Bottom Composition (check all that apply)							
⊠ Sand ☐ Silt ☐ Mud ☐ Gravel ☐ Shell ☐ Other ☐							
Reef Materials & Quantity 4 12x24' metal tubes							
Reef Height at Highest Point (measured from base to top of the reef)(feet) 10							
Physical Condition (Durability, stability, storm damage, other damage or movement):							
<ul> <li>No damage</li></ul>	novement						
Explain damage/movement and suspected cause							

## Fish Counts (Click on the hyper-links below for identification)

Angelfish-Blue	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Angelfish-Queen	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Barracuda-Great	O 1	<u> </u>	O 11-100	O 101+	Length (inches)	Comments
Barracuda-Guaguanche	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Batfish-Polka-Dot	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Blenny-Molly-Miller	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
✓ Blenny-Seaweed	O 1	O 2-10	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
Blenny-Tessellated	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Blenny?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Butterflyfish-Spotfin	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Butterflyfish?	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
✓ Cardinal fish-Two-Spot	O 1	O 2-10	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
Chromis-Purple-Reeffish	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Chromis-Yellowtail- Reeffish	O 1	<u> </u>	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
Cobia (Ling)	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Cowfish-Scrawled	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
✓ Damselfish-Cocoa	O 1	O 2-10	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
<b>✓</b> Damselfish?	<ul><li>1</li></ul>	O 2-10	<u> </u>	O 101+	Length (inches)	Comments bicolor
Dolphin?	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
✓ Drum-Cubbyu	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
Drum-Jackknifefish	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Eel?	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Flounder-Gulf	O 1	O 2-10	<u> </u>	O 101+	Length (inches)	Comments
Filefish?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Frogfish-Ocellated	O 1	<u> </u>	O 11-100	O 101+	Length (inches)	Comments
Goby-Spotted	O 1	<u> </u>	O 11-100	O 101+	Length (inches)	Comments
Goby?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments

Grouper-Gag	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<b>✓</b> Grouper-Goliath	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments 2 total
Grouper-Graysby	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Grouper-Red	O 1	<u> </u>	<u> </u>	○ 101+	Length (inches)	Comments
Grouper-Rock-Hind	$\bigcirc$ 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<b>✓</b> Grouper-Scamp	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments juveniles
Grunt-Juvenile	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<b>✓</b> Grunt-Tomtate	O 1	<u> </u>	<u> </u>	<ul><li>101+</li></ul>	Length (inches)	Comments
Grunt-White	$\bigcirc$ 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Grunt?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
∏Hogfish	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Hogfish-Spanish	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Jack-Almaco-Lesser-AJ	O 1	<u> </u>	O 11-100	O 101+	Length (inches)	Comments
✓ Jack-Blue-Runner	O 1	<u> </u>	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
☐ <u>Jack-Greater-Amberjack</u>	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<u> □Jack-Lookdown</u>	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Jack-Rainbow-Runner	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Jack-Round-Scad-Cigar- Minnow	O 1	<u> </u>	O 11-100	<ul><li>101+</li></ul>	Length (inches)	Comments
Jack?	O 1	<u> </u>	O 11-100	O 101+	Length (inches)	Comments
Lionfish	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Lizardfish?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Mackeral-King	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
✓ Mackeral-Spanish	O 1	<ul><li>2-10</li></ul>	O 11-100	O 101+	Length (inches)	Comments
Mahi	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Minnows-Glass-Small-Fry	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Pinfish?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Porgy-Saucereye	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Porgy-Sheepshead-Porgy	O 1	<u> </u>	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments

<b>▼</b> Porgy-Sheepshead	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
Porgy?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<u> </u>	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
<b>V</b> Puffer-Sharpnose	<ul><li>1</li></ul>	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Puffer?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Ray?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Shark?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Sharksucker-Sharksucker	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Sharksucker-Whitefin	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
✓ Sand-Perch	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
✓ <u>Seabass-Bank</u>	<u> </u>	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
✓ Seabass-Belted-Sandfish	<u> </u>	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
Seabass-Black	<u> </u>	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Seabass-Pygmy	<u> </u>	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Seabass?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
✓ Snapper-Gray	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
Snapper-Lane	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Snapper-Red	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Snapper-Vermillion	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Snapper?	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Soapfish-Whitespotted	O 1	<ul><li>2-10</li></ul>	<u> </u>	O 101+	Length (inches)	Comments
	O 1	<u> </u>	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
Toadfish-Leopard	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Triggerfish-Gray	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
<b>✓</b> Wrasse-Slippery-Dick	O 1	<u> </u>	<ul><li>11-100</li></ul>	O 101+	Length (inches)	Comments
✓ Unlisted-See-Comments	O 1	<u> </u>	<u> </u>	<ul><li>101+</li></ul>	Length (inches) 2	Comments unk juv
Unlisted-See-Comments	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments
Unlisted-See-Comments	O 1	<u> </u>	<u> </u>	O 101+	Length (inches)	Comments

## Growth on Reef (Click on the hyper-links below for identification) Algae 1-25% 26-50% 51-75% 76-100% Size (inches) Describe ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Anemone Describe ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Barnacles Describe ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) **■** Bivalves Describe **▼**Coral-Colorful-Sea-Whip ● 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Describe Coral-Hard-Unkown ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Describe ● 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) **✓** Coral-Gorgonian Describe ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Coral-Occulina Describe Coral-White-Telesto 1-25% 26-50% 51-75% 76-100% Size (inches) Describe Feather-Duster-Worms 1-25% 26-50% 51-75% 76-100% Size (inches) Describe Sponges ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) Describe ○ 1-25% ○ 26-50% ○ 51-75% ○ 76-100% Size (inches) □Unlisted-See-Comments Describe Invertebrates at Reef (Click on the hyper-links below for identification) Cowry-Spotted-Cyphoma 1 O 2-10 O 11-100 O 101+ Size (inches) Comments Cowry-West-Indian-Simnia 1 O 2-10 O 11-100 O 101+ Comments Size (inches) Crab-Swimming O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Size (inches) Comments Crab-Stareye-Hermit $\bigcirc$ 1 ○ 2-10 ○ 11-100 ○ 101+ Comments Size (inches) Crab-Stone O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Comments Size (inches) Crab-Yellowline-Arrow $\bigcirc$ 1 ○ 2-10 ○ 11-100 ○ 101+ Size (inches) Comments O 2-10 O 11-100 O 101+ Crab? $\bigcirc$ 1 Size (inches) Comments Lobster-Shovelnose O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Size (inches) Comments Lobster-Spiny O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Size (inches) Comments **Octopus** ○ 2-10 ○ 11-100 ○ 101+ $\bigcirc$ 1 Size (inches) Comments Sea-Cucumber O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Size (inches) Comments Sea-Slug $\bigcirc$ 1 ○ 2-10 ○ 11-100 ○ 101+ Comments Size (inches) Sea-Star $\bigcirc$ 1 O 2-10 O 11-100 O 101+ Comments Size (inches) Sea-Urchin O 2-10 O 11-100 O 101+ $\bigcirc$ 1 Comments Size (inches)

Snail-Atlantic-Hairy-Trit	on () 1	<u> </u>	O 11-100	O 101+	Size (inches)		Comments		
Snail-Murex	O 1	<u> </u>	O 11-100	O 101+	Size (inches)		Comments		
Snail-Netted-Olive	O 1	<u> </u>	<u> </u>	O 101+	Size (inches)		Comments		
✓ Snail-Florida-Horse-Con	<u>ch</u> () 1	<ul><li>2-10</li></ul>	O 11-100	O 101+	Size (inches)		Comments		
Unlisted-See-Comment	s ( 1	<u> </u>	<u> </u>	<u> </u>	Size (inches)		Comments		
Turtles and Air Breathers/Mammals (Click on the hyper-links below for identification)									
Turtle-Green	<u> </u>	O 2-10	O 11-100	O 101+	Size (inches)		Comments		
Turtle-Leatherback	<u> </u>	O 2-10	<u> </u>	O 101+	Size (inches)		Comments		
Turtle-Loggerhead	<u> </u>	<u> </u>	<u> </u>	O 101+	Size (inches)		Comments		
Turtle?	<u> </u>	O 2-10	<u> </u>	O 101+	Size (inches)		Comments		
Whale?	<u> </u>	O 2-10	<u> </u>	O 101+	Size (inches)		Comments		
Unlisted-See-Comment	s ( 1	<u> </u>	<u> </u>	O 101+	Size (inches)		Comments		
Unlisted-See-Comment	s ( 1	<u> </u>	<u> </u>	O 101+	Size (inches)		Comments		
Unlisted-See-Comment	s ( 1	O 2-10	<u> </u>	O 101+	Size (inches)		Comments		
✓ Other Observat	ions/Pho	tos:							
Observations  Brian Higdon speared a Gray Snapper. After he placed the fish on a stainless steel diaper-pin type stringer and attempted to remove the spear and its tether line, he was approached by a Goliath Grouper. Brian poked the Goliath with his spear shaft to get the Goliath to go away. However, the Goliath was not detoured and took the speared fish, stringer and speargun. Bob and Brian managed to chase the Goliath and grab the speargun stock and cut the tether. The Goliath had swallowed both the fish and stringer. Some of the tether was also swallowed and the Goliath proceeded to swim and drag the spear attached to the tether. Bob followed the Goliath for 15 minutes and was able to grab the spear and remove it and remove the swallowed tether in the process. There is some video of this event when the Goliath first approached the wounded and missed it. Then, there was video of Brian pursuing the Goliath swimming away with his speargun in tow.  Bob suspects the Goliath may have been provoked to attack the only one of two Gray Snappers at the reef site because of the absence of any other large fish on the site. The site had an abundance of small bait fish. However, there was only two moderate sized fish (two Gray Snappers) suitable for Goliath prey. The Goliath may have acted out of desperation for food and low availability of sizeable prey.									
Photos? Yes Attach	ed? Yes								



Image Field

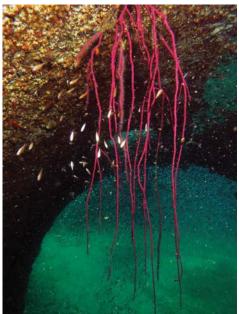


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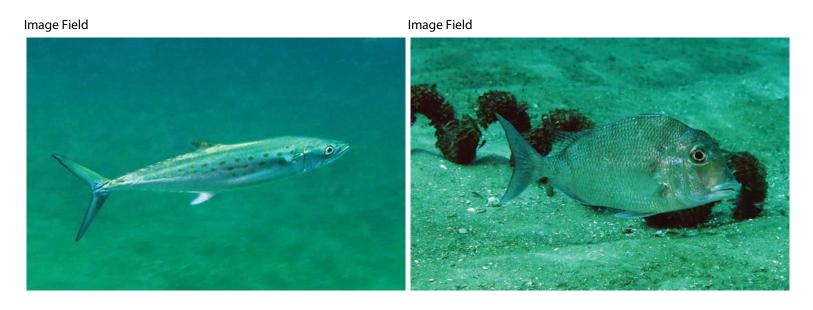


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