STUDY AREA: St. Augustine

STATION OVERVIEW

Project Ocean Exploration 2005

Principal investigators SD Brooke¹

J Reed, C Messing

PI Contact Info¹ Oregon Institute of Marine Biology, 63466 Boat

Basin Rd., Charleston, OR 97420

Purpose Exploration of Deep-water Coral Ecosystems off

the east coast of Florida

Vessel R/V Seward Johnson, Johnson Sea Link I

Submersible

Science Divers J Reed (bow), V Paul (stern)

External Video Tapes External Hard Drive

Internal Video Tapes 2 mini DVs

Digital Still Photos 0

Positioning System dGPS

CTD File ✓

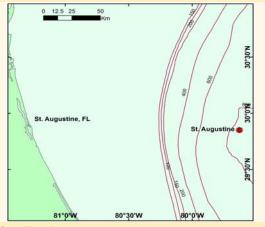
Specimens Collected ✓

Other

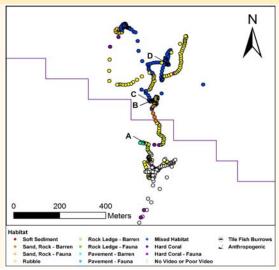
Acknowledgements NOAA-OE

SEADESC Analyst M Watts
Date Compiled 8/2/2011
PI Station Number 9-XI-05-1

GENERAL LOCATION



Dive Track:



DIVE DATA

Date	09-Nov-05
Minimum Bottom Depth (m)	742
Maximum Bottom Depth (m)	828
Start Bottom Time (EDT)	8:08
End Bottom End (EDT)	11:08
Starting Latitude (N)	29° 50.922′
Starting Longitude (W)	79° 37.98'
Ending Latitude (N)	29° 51.312′
Ending Longitude (W)	79° 36.912'
Surface Current (Kts)	
Bottom Current (Kts)	0.2

Image A: Rock Ledge - Barren 29° 50.644' N, 79° 37.962' W



STUDY AREA: St. Augustine

IMAGE GALLERY

* indicates image position is approximated

Image B: Mixed Habitat 29° 50.750' N, 79° 37.950' W **Image C: Rubble** 29° 50.743' N, 79° 37.956' W

Image D: Mixed Habitat 29° 50.831' N, 79° 37.908' W







RELEVANT WORK AND/OR LITERATURE CITED

Ayers and Pilkey (1981) EEZ-SCAN 87 Scientific Staff (1991) Reed (2002)

Reed (2002) Reed and Ross (2005) Reed et al. (2006) Ross and Nizinski (2007) Ross and Quattrini (2007, 2009)

BIOLOGICAL ENVIRONMENT

The St. Augustine lithoherm was composed primarily of a dead *Lophelia pertusa* rubble matrix on a carbonate rock substrate. Live hard coral was very sparse consisting of a single large *Madrepora oculata* colony and occasional patches of dead *L. pertusa* with live tips. Mixed habitat on the top of the mound plateau and peripheral ridges consisted of abundant attached soft corals such as gorgonians, bamboo corals (e.g. a few large *Keratoisis* sp.), a few black corals (e.g. *Bathypathes* sp.), demospongia (e.g. fan sponges), and hexactinellid sponges attached to the coral rubble. Mobile fauna include urchins, rattail fish, eels, a golden crab, a swordfish, and *Laemonema melanurum*.

PHYSICAL ENVIRONMENT

This site is a carbonate substrate lithoherm with rock slabs and outcrops covered in consolidated and unconsolidated coral rubble. The dive started on the southern perimeter of the mound, with a transect in a northerly direction traversing a series of step-like terraces with low diversity to the top of the mound. Carbonate rock outcrops were common. The ridges along the periphery and the flat plateau of the top of the mound were characterized as mixed habitat with a variety of soft corals and sponges attached to the coral rubble substrate. Hard coral habitat (aside from low relief rubble) was rare and composed primarily of >90% dead *L. pertusa* and an occasional colony of *M. oculata*.

ADDITIONAL COMMENTS

Original dives are on mini DVs transferred to digital on a mini DV reader and stored on an external hard drive. Video quality was clear with only brief sections of unusable footage. Collections were taken of coral rubble, gorgonians, bamboo coral and various sponges.

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External Video Tapes External Hard Drive

Internal Video Tapes 3 mini DVs

Digital Still Photos Yes

Positioning System dGPS

CTD File ✓

Specimens Collected

✓

Other

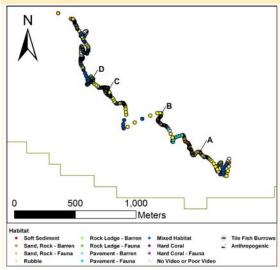
Acknowledgements NOAA-OE

SEADESC Analyst M Watts
Date Compiled 8/2/2011
PI Station Number 9-XI-05-2

GENERAL LOCATION



Dive Track:



DIVE DATA

Date	09-Nov-05
Minimum Bottom Depth (m)	746
Maximum Bottom Depth (m)	871
Start Bottom Time (EDT)	16:15
End Bottom End (EDT)	19:47
Starting Latitude (N)	29° 50.550'
Starting Longitude (W)	79° 37.014'
Ending Latitude (N)	29° 51.486′
Ending Longitude (W)	79° 37.992'
Surface Current (Kts)	
Bottom Current (Kts)	0

Image A: Rubble 29° 50.653' N, 79° 37.130' W



STUDY AREA: St. Augustine

IMAGE GALLERY

* indicates image position is approximated

Image B: Rock Ledge - Barren 29° 50.804' N, 79° 37.323' W Image C: Mixed Habitat 29° 50.911' N, 79° 37.546' W Image D: Rock Ledge with Attached Fauna 29° 50.969' N, 79° 37.618' W





Ross and Nizinski (2007)

Ross and Quattrini (2007, 2009)



RELEVANT WORK AND/OR LITERATURE CITED

Ayers and Pilkey (1981) EEZ-SCAN 87 Scientific Staff (1991) Reed (2002)

Reed and Ross (2005) Reed et al. (2006)

Ross (2005)

BIOLOGICAL ENVIRONMENT

The southeast transect leading up to and around the south and east sides of the lithoherm was covered in low relief *Lophelia pertusa* rubble sometimes over rock pavement and phosphoretic rock slabs. Attached fauna was primarily mixed including abundant stalked hexactinellid and large fan demospongia sponges, as well as occasional small gorgonians, bamboo and black corals (*Leiopathes* sp.) and small colonies of hydrozoan corals (Stylasteriae). Mobile fauna consisted primarily of urchins and eels with a rare golden crab, rattail fish, and gadoid, *Laemonema melanurum*. There was no hard coral habitat of moderate to high relief and no live *L. pertusa* were evident.

PHYSICAL ENVIRONMENT

The habitat to the southeast of the lithoherm was primarily coral rubble with interspersed soft sediment or mixed habitat. At the southern base of the feature black grapefruit-sized rubble of phosphate rock covered hard, pocked rock pavement. Phosphoretic rock slabs and ledges with and without fauna and occasional carbonate rocks were apparent at the south and east sides of the lithoherm mound with occasional areas of barren rock pavement below the predominant coral rubble. The mound consisted of terraced steps with gradual inclines leading to flat plateaus with a mix of rubble and mixed fauna habitat of sponges and sparse soft and ~99% dead hard coral cover. On the east side of the mound there was an area covered with a substantial accumulation of deep coral rubble. This site also had an abundance of trash.

ADDITIONAL COMMENTS

Original dives are on mini DVs transferred to digital on a mini DV reader and stored on an external hard. Video quality was clear with only brief sections of unusable footage. However, the camera was typically zoomed out far enough that differences in rubble versus pocked rock pavement were difficult to discern as well as the identification of small white hard corals and sponges. Collections were taken of *L. pertusa* rubble, black coral, bamboo coral, sponge, a small gorgonian and a piece of the hard phosphate rock.