

H11341A

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

Type of Survey: **Reconnaissance**

Registry Number: **H11341A**

LOCALITY

State: Florida

General Locality: Dry Tortugas, FL

Sub-locality: NW of Dry Tortugas - Trackline
Along 50 Fathom curve

2004

CHIEF OF PARTY
LCDR Donald W. Haines, NOAA

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET

H11341A

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: **Florida**

General Locality: **Dry Tortugas, FL**

Sub-Locality: **NW of Dry Tortugas – Trackline Along 50 Fathom curve**

Scale: **1:40,000** Date of Survey: **5/27/04 to 5/27/04**

Instructions Dated: **04/29/04** Project Number: **S-H903-TJ-04**

Vessel: **NOAA Ship THOMAS JEFFERSON, S-222**

Chief of Party: **LCDR Donald W. Haines, NOAA**

Surveyed by: **THOMAS JEFFERSON Personnel**

Soundings by: **Kongsberg Simrad EM1002 multibeam echosounder**

Graphic record scaled by: **N/A**

Graphic record checked by: **N/A**

Protracted by: **N/A** Automated Plot: **N/A**

Hewlett Packard Design Jet 2500 CP (office)

Verification by: **Atlantic Hydrographic Branch *Personnel***

Soundings in: ***Feet* Meters at MLLW**

Remarks: ***Red, bold, italic notes in descriptive report were made during office processing.***

- 1) All Times are UTC.***
- 2) This is a Reconnaissance Hydrographic Survey.***
- 3) Projection is UTM Zone 17.***

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DESCRIPTIVE REPORT

to accompany
HYDROGRAPHIC SURVEY H11341A

Scale of Survey: 1:40,000

Year of Survey: 2004

NOAA Ship THOMAS JEFFERSON
LCDR Donald W. Haines, Commanding

A. AREA SURVEYED

This hydrographic survey was conducted in accordance with Hydrographic Survey Letter Instructions for project S-H903-TJ-04, Tortugas Bank Vicinity, Dry Tortugas, Florida. The original instructions are dated April 29, 2004.

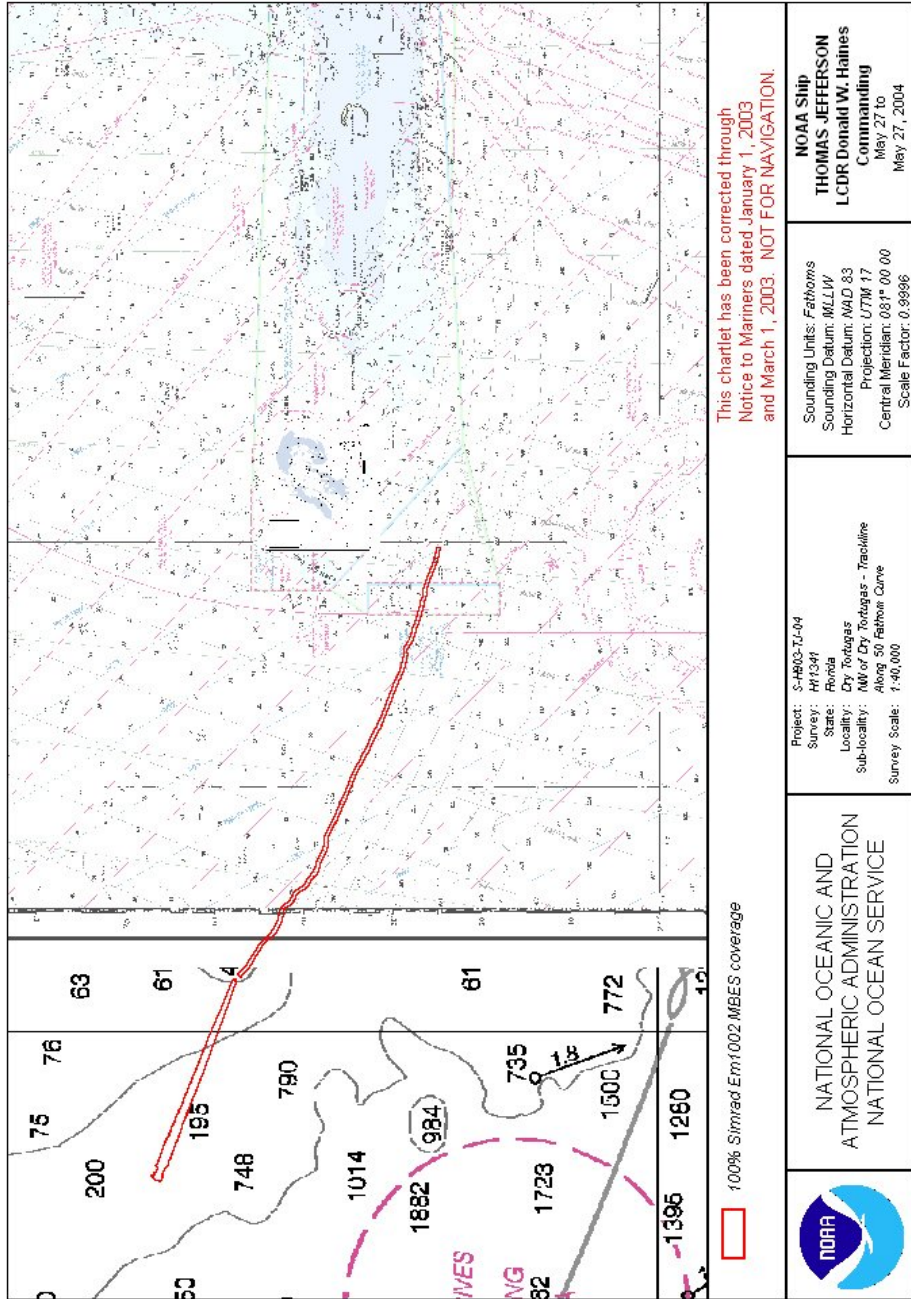
This Descriptive Report pertains to the 50-fathom reconnaissance survey of project S-H903-TJ-04. The assigned registry number for this sheet is H11341, as prescribed in the Letter Instructions dated April 29, 2004, Change No. 1 dated May 23, 2004 and e-mail registry number request dated June 3, 2004.

This special project responds to a request from the National Marine Sanctuaries of the National Ocean Service (NOS). The results of this project will provide various types of hydrographic survey data sets to assist in the monitoring of a “no-take” ecological reserve in the Tortugas region which took effect July 1, 2001. This reserve protects some of the richest coral reef habitat found within the Florida Keys National Marine Sanctuary (FKNMS). Much of this habitat remains unmapped in detail with modern survey technology due to its remote location.

This reconnaissance survey was acquired at the request of FKNMS to help in defining this 50 fathom isobath.

For complete survey limits, see the chartlet on the following page.

Figure 1: Complete Survey Limits



B. DATA ACQUISITION AND PROCESSING

EQUIPMENT *See also the Evaluation Report*

Data were acquired by NOAA Ship THOMAS JEFFERSON. NOAA Ship THOMAS JEFFERSON is a 63.4-meter hydrographic survey vessel with an average transducer draft of 4.6 meters.

NOAA Ship THOMAS JEFFERSON acquired multibeam echosounder (MBES) data with a SIMRAD 1002.

NOAA Ship THOMAS JEFFERSON positioning and attitude data were determined with a TSS POS/MV 320 Version 3 GPS-aided inertial navigation system.

No unusual vessel configurations or problems were encountered. Refer to the Data Acquisition and Processing Report (DAPR*) for detailed equipment and vessel configuration information.

** Filed at Atlantic Hydrographic Branch*

QUALITY CONTROL *See also the Evaluation Report*

Side Scan Sonar Quality Control

No side scan sonar data were acquired for this survey.

Shallow Water Multibeam Quality Control

There were no faults with the MBES system which affected data integrity. Refer to this project's DAPR for detailed discussion of MBES system calibrations, data acquisition, and data processing. Two issues specific to this survey affected data quality: sound velocity profile frequency and the Simrad Em1002 outer beam roll coefficient. Although there was great distance involved (80nm) for the track line and two casts were taken, no apparent problems with sound velocity were noted in these data. Although the outer beam roll coefficient was for a different part of the gulf, no degradation of the data was noted.

The Simrad Em1002 outer beam roll coefficient used for the acquisition of these data was from project OPR-K366-TJ-04. An outer beam roll coefficient for S-H903-TJ-04 was not determined until after acquisition for this survey.

Crosslines

No crosslines were acquired for this survey.

Junctions

This survey junctions with NOAA Ship Thomas Jefferson data acquisition on H11340 and University of Southern Florida (USF) data acquired by Dr. David Naar.

CORRECTIONS TO ECHO SOUNDING

All methods or instruments used were as described in the project DAPR. A table detailing all sound velocity casts is located in Separate III*.

**Filed with original field records.*

C. VERTICAL AND HORIZONTAL CONTROL

VERTICAL CONTROL

The tidal datum for this project is Mean Lower Low Water (MLLW). A tertiary tide gauge was installed on Loggerhead Key (872-4698) for this project after data acquisition for this survey.

Due to the survey depths (50 fathoms) and the minimal tide range for the area, zero tides were used for data processing. This survey was beyond the preliminary zones provided by CO-OPS.

A Request for Approved Tides was sent on June 8, 2004.

Verified tides using final tide zoning were re-applied by AHB.

HORIZONTAL CONTROL

The horizontal datum used for this survey is the North American Datum of 1983 (NAD 83), projected using UTM zone 17. *Concur.*

Horizontal position was determined using the Global Positioning System (GPS) corrected by U.S. Coast Guard differential GPS (DGPS) beacon stations. The primary DGPS beacons used for this survey was Key West, Florida (site ID = 811, transmission frequency = 286) and Tampa, Florida (site ID = 823, transmission frequency = 312). No horizontal control stations were established for this survey.

Horizontal dilution of precision (HDOP) was monitored daily on the ship and both launches. That value did not exceed 4.00, and adequate satellite coverage was maintained throughout the survey period.

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISON *See also the Evaluation Report.*

There are 6 charts affected by this survey:

Table 1: Affected Charts

Number	Version	Edition Date	Scale
11438	12 th Ed.	04/01/2004	1:30,000*
11434	25 th Ed.	08/01/2003	1:180,000
1113A	27 th Ed.	03/01/2003	1:470,940**
11420	27 th Ed.	03/03/2003	1:875,000
11006	31 st Ed.	09/01/2003	1:1,200,000
411	49 th Ed.	03/01/2003	1:2,160,000

* *The present survey does not fall in the limits of this chart.*

** *This chart is the same as chart 11420. The overlays are at a 1:470,940 scale and are outside the limits of the survey.*

General Agreement with Charted Soundings, Features, and Notes

There are discrete differences between the surveyed contour and the charted contour on the various charts in the area. *Concur.*

Item Investigation Reports

There are no Item Investigation Reports for this reconnaissance survey. *Concur.*

ADDITIONAL RESULTS

Prior Surveys

This reconnaissance survey is outside of the original project area. No prior survey information is available.

Aids to Navigation and Other Detached Positions

There were no Aids to Navigation or Detached Positions in the survey area to be considered. *Concur.*

Bridges and Overhead Cables

There were no bridges or overhead cables in the survey area to be considered. *Concur.*

Ferry Routes

There were no ferry routes in the survey area to be considered. *Concur.*

Submarine Cables and Pipelines

There were no cables or pipelines in the survey area to be considered. *Concur.*

E. APPROVAL SHEET

S-H903-TJ-04
Florida
Dry Tortugas
NW of Dry Tortugas – Trackline Along 50 Fathom curve

Survey Registry No. H11341

Field operations for this reconnaissance hydrographic survey were conducted under my daily supervision with frequent checks of progress and adequacy. All bathymetry models, this Descriptive Report, and all accompanying records and data are approved.

This survey is adequate to supersede all prior surveys in common areas and for application to the relevant NOS nautical charts.

Also submitted in association with this descriptive report has been a series of reports and data:

- SEPARATES TO ACCOMPANY PROJECT S-H903-TJ-04, SHEET X, H11341
- HORIZONTAL AND VERTICAL CONTROL REPORT TO ACCOMPANY PROJECT S-H903-TJ-04 (*dated June 14, 2004; submitted June 15, 2004*)
- DATA ACQUISITION AND PROCESSING REPORT (*dated May - June, 2004; submitted <pending>*)

Respectfully Submitted:

LT Marc S. Moser, NOAA
Field Operations Officer

Approved and Forwarded:

LCDR Donald W. Haines, NOAA
Commanding Officer



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 10, 2004

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: S-H903-TJ-2004
HYDROGRAPHIC SHEET: H11341

LOCALITY: NW of Dry Tortugas - Trackline Along 50
Fathom Curve

TIME PERIOD: May 27, 2004

TIDE STATION USED: 872-4580 Key West, FL
Lat. 24° 33.2'N Lon. 81° 48.5'W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.463 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: SEG492, SEG493, SEG494, SEG500,
SEG501, SEG502 & SEG506

Refer to attachments for zoning information.

Note 1: Provided time series data are tabulated in metric units
(meters), relative to MLLW and on Greenwich Mean Time on
the new 1983-2001 National Tidal Datum Epoch (NTDE).

Fon 

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



Printed on Recycled Paper



LETTER TRANSMITTING DATA

DATA AS LISTED BELOW WERE FORWARDED TO YOU
BY (Check)

- ORDINARY MAIL AIR MAIL
- REGISTERED MAIL EXPRESS
- GBL (Give number) _____

TO:

• CHIEF, DATA ACQUISITION AND CONTROL •
 NOAA, NOS, OCS, HSD
 1315 EAST-WEST HIGHWAY
 SSMC3, STATION 6704,
 • SILVER SPRING, MARYLAND 20910-3282 •

DATE FORWARDED **08/25/2005**

NUMBER OF PACKAGES **1**

NOTE: A separate transmittal letter is to be used for each type of data, as tidal data, seismology, geomagnetism, etc. State the number of packages and include an executed copy of the transmittal letter in each package. In addition the original and one copy of the letter should be sent under separate cover. The copy will be returned as a receipt. This form should not be used for correspondence or transmitting accounting documents.

H11341

FLORIDA, DRY TORTUGAS, FL, NW OF DRY TORTUGAS - TRACKLINE ALONG 50 FATHOM CURVE

ONE TUBE CONTAINING THE FOLLOWING:

- 2 SMOOTH SHEET MYLAR PLOTS FOR SURVEY H11341
- 3 MYLAR H-DRAWING PLOTS FOR NOS CHARTS 11434, 11420 AND 11006
- 1 RECORD OF APPLICATION TO CHART FORM FOR SURVEY H11341

FROM: (Signature)

Daniel A. Blane

RECEIVED THE ABOVE
(Name, Division, Date)

Return receipted copy to:

• NOAA \ NATIONAL OCEAN SERVICE •
 ATLANTIC HYDROGRAPHIC BRANCH N/CS33
 439 WEST YORK STREET
 NORFOLK, VA. 23510-1114
 •

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H11341A (2004)**

This Evaluation Report has been written to supplement and/or clarify the original Descriptive Report. Sections in this report refer to the corresponding sections of the Descriptive Report.

Survey H11341 was submitted by the hydrographer as one survey. During office processing of this survey at the Atlantic Hydrographic Branch, it was decided to divide this survey into two sheets, A and B. This report and the descriptive report associated with it refer to sheet A.

B. AUTOMATED DATA ACQUISITION AND PROCESSING

The following software was used to process data at the Atlantic Hydrographic Branch:

MapInfo, version 6.5
MicroStation J, version 07.01.04.16
IRAS B, version 07.01.000.18
CARIS HIPS/SIPS version 5.4
PYDRO, version 5.3.3rc5

The smooth sheet was plotted using a Hewlett Packard Design Jet 2500CP plotter.

Junctions

H11341B (2004) to the east

A standard junction was effected between the present survey and H11341B.

D. RESULTS AND RECOMMENDATIONS

CHART COMPARISONS 11434 (27th Edition, Mar/03)

Corrected through NM Mar 15/03
Corrected through LNM Feb 25/03

11420 (26th Edition, Apr/05)

Corrected through NM Apr 23/05
Corrected through LNM Apr 19/05

11006 (31st Edition, Sept/03)

Corrected through NM Aug 23/03
Corrected through LNM Aug 12/03

The present survey is adequate to supersede the prior surveys in the common area.

ADEQUACY OF SURVEY

This is an adequate hydrographic sonar survey. No additional field work is recommended.

MISCELLANEOUS

There was a holiday in the survey data in the vicinity of Latitude 24°46'55"N, Longitude 83°53'35"W. This had no effect upon the survey.

Chart compilation was done by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. The following NOS charts were used for compilation of the present survey:

11434 (27th Edition, Mar/03)
Corrected through NM Mar 15/03
Corrected through LNM Feb 25/03
11420 (26th Edition, Apr/05)
Corrected through NM Apr 23/05
Corrected through LNM Apr 19/05
11006 (31st Edition, Sept/03)
Corrected through NM Aug 23/03
Corrected through LNM Aug 12/03

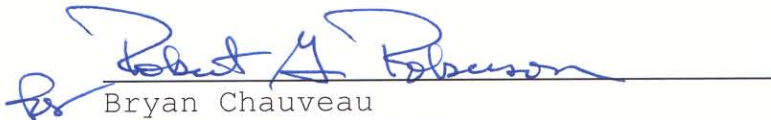
A handwritten signature in blue ink, appearing to read "Bryan Chauveau". The signature is written in a cursive style with a horizontal line underneath the name.

Bryan Chauveau

Physical Scientist
Verification of Data
Evaluation and Analysis


APPROVAL SHEET
H11341A

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproof of charted data. All revisions and additions made to the smooth sheet during survey processing have been entered in the digital data for this survey. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.


Bryan Chauveau
Physical Scientist
Atlantic Hydrographic Branch

Date: 22 Aug 2005

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Approved: 
P. Tod Schattgen
Commander, NOAA
Chief, Atlantic Hydrographic Branch

Date: 8/22/05

