

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey

Field No.

Registry No.

LOCALITY

State

General Locality

Sublocality

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET

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

FIELD No.

State _____

General Locality _____

Sub-Locality _____

Scale _____ **Date of Survey** _____

Instructions dated _____ **Project No.** _____

Vessel _____

Chief of party _____

Surveyed by _____

Soundings by echo sounder, hand lead, pole _____

Graphic record scaled by _____

Graphic record checked by _____ **Automated Plot** _____

Verification by _____

Soundings in fathoms *feet* at MLW MLLW _____

REMARKS: _____

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Descriptive Report

to accompany
Basic Hydrographic Survey H11635
OPR-K354-NRT1-06
Year of Survey: 2006
Navigation Response Team 1
NOAA Launch S1211
Mark McMann - Team Leader

A. AREA SURVEYED

This Basic Hydrographic Survey was conducted in accordance with the Project Letter Instructions for project OPR-K354-NRT1-06*, Morgan City, Louisiana. The instructions are dated August 24, 2006. **Filed with original field records*

Morgan City, on the E side of Berwick Bay, has several landings with ample depths for river boats; vessels generally go alongside, because of the depths and currents in the river. The principal industries are fishing, ship building, cement, petroleum, carbon black, chemicals, sulfur, salt, menhaden, and some agriculture in the raising of rice and sugar. The city has ice and cold storage plants. Tugs in excess of 4,500 hp operate from Morgan City.

The Port of Morgan City is at the confluence of Atchafalaya River and the Intracoastal Waterway about 35 miles from deep water in the Gulf of Mexico. Numerous inland waterways that radiate from the port make it a center for offshore oil exploration and development. There is considerable commerce in seafood, shell, petroleum products, building cement, sand and gravel, oil-well pipe casing, machinery, and supplies, and chemicals. The Port of Morgan City can be contacted by telephone at 985-384-0850 and maintains a website at www.portofmc.com.

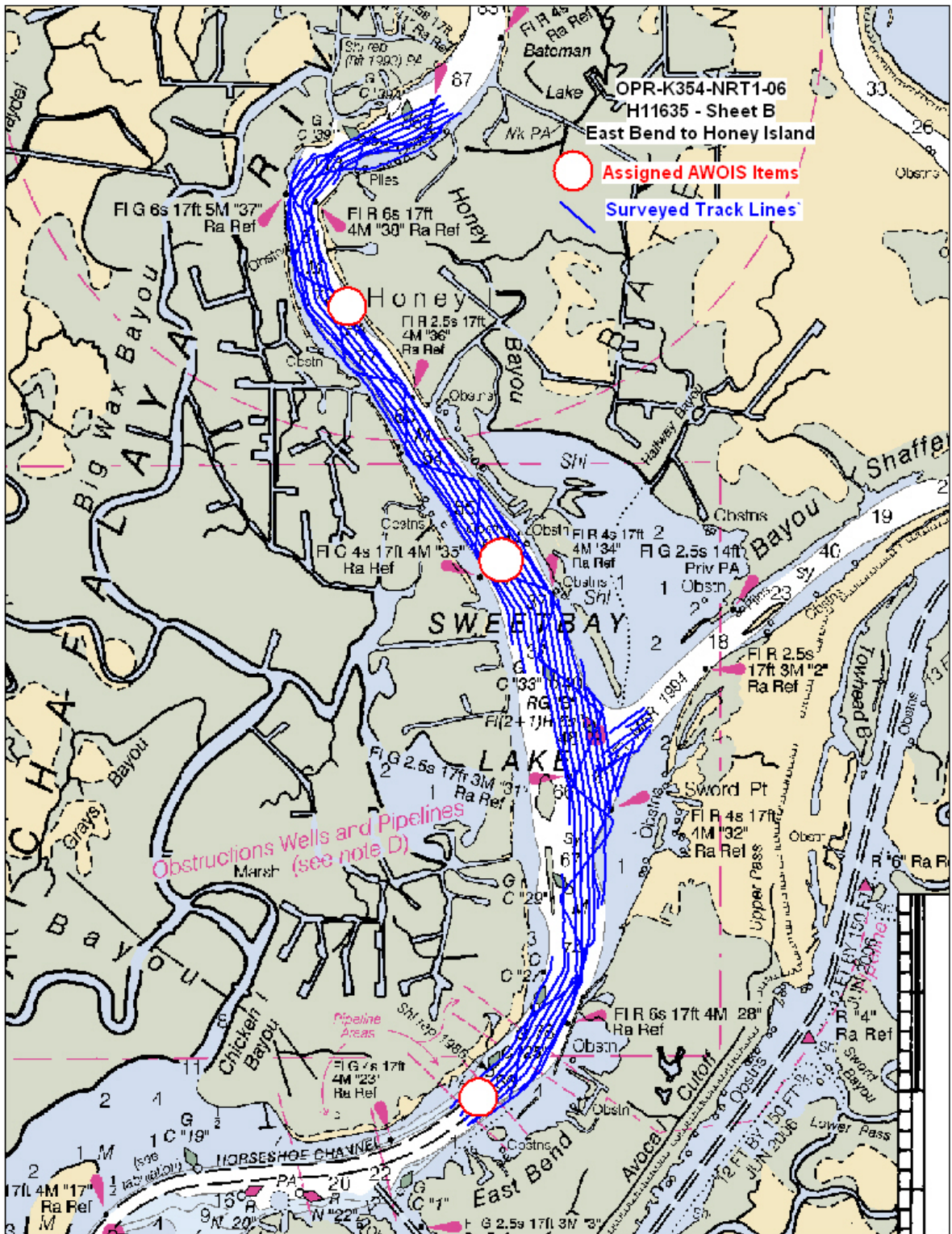
The area, surveyed by NRT1, consisted of approximately 1.6 square nautical miles (SNM) of the Atchafalaya River from East Bend to Honey Island. Both singlebeam echosounder and side scan sonar were acquired within the survey limits, wherever possible.

Survey Limits for Sheet B, H11635 are as follows:

29.546° N	91.259° W
29.636° N	91.222° W

Survey Dates: September 26, 2006 (DN: 269) to September 28, 2006 (DN: 271)

Survey limits are displayed graphically on the following page.



B. DATA ACQUISITION AND PROCESSING

B.1. EQUIPMENT

Data were acquired by Navigation Response Team 1 using survey Launch 1211. The vessel was configured as described in the Data Acquisition and Processing Report (DAPR)*. Major data acquisition systems are summarized below. **Filed with original field records*

NOAA Survey Launch 1211 was used to acquire position, sounding, imagery, and sound velocity data. Positions were acquired with a Trimble DSM212L Differential GPS (DGPS) beacon receiver. Soundings were acquired with an ODOM CVX2 single-beam echosounder (SBES) system. Imagery was acquired with a stern-towed KLEIN 3000 side scan sonar (SSS) system. Water column sound velocity data was acquired with an ODOM Digibar Pro DB1200 sound velocity profiler. *Concur.*

Due to a mischecked option in Hypack, soundings were collected in Local Standard Time (LST) instead of Greenwich Mean Time (GMT). *Concur.*

B.2. QUALITY CONTROL

The integrity of the survey data for H11635 was insured by following the Field Procedures Manual v2.1, dated May, 2006, and the NOS Hydrographic Surveys Specifications and Deliverables Manual, dated June, 2006. *Do not concur. See Evaluation Report.*

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. *Concur.*

Side Scan Sonar Quality Control

The side scan sonar system frequencies used were 100kHz and 500kHz. The recorder was set to 75 meter range. There were no water depths greater than 36 meters in areas where side scan data was collected. *Concur.*

Daily confidence checks were conducted by observing side scan imagery in the vicinity of known contacts, such as buoys or mud waves. Side scan data were considered satisfactory if these contacts could be distinguished throughout the entire range of the side scan trace. The confidence checks were performed daily at both frequencies. Coverage of 200% was obtained wherever possible in the required survey areas and where water depth and/or hazards permitted. Side scan sonar coverage was conducted to the 12-foot depth curve where possible. *Concur.*

All side scan contacts were selected during acquisition in SonarPro. Any contacts, which were determined to be significant, were developed immediately using the singlebeam echosounder. Because of this, no contacts were selected in CARIS. *Concur.*

Crosslines

Crosslines were collected in a zig-zag pattern over the length of the project area. A total of 7.04 linear nautical miles (LNM) of crosslines were acquired by the field party. This is approximately 14 percent of mainscheme acquisition (47.78 LNM). A visual inspection of crossline data and main scheme data showed good comparison. *Concur.*

Junctions

No junctioning surveys were provided for comparison with this project. *Do not concur. See Evaluation Report.*

B.3. CORRECTIONS TO ECHO SOUNDING

Echosounder data were corrected for sound velocity using the methods defined in the DAPR*. A list of sound velocity profiles (SVP) can be found in the Daily Acquisition Log*, located in the Separates directory*. SVPs have also been added to the Pydro PSS for this project. *Concur.*

**Filed with original field records*

C. VERTICAL AND HORIZONTAL CONTROL

C.1. VERTICAL CONTROL

All soundings were reduced to Mean Lower Low Water (MLLW) with verified water levels and preliminary zoning. *See Evaluation Report.*

The operating water level stations at Stouts Pass, LA (876-4025), and Tesoro Marine Terminal, LA (876-4044) provided water level reducers for this project. *See Evaluation Report.*

Verified water levels from the N/OPS1 CO-OPS website were downloaded and applied to all soundings for this sheet. Water level corrections were applied to the soundings using CARIS HIPS and SIPS v6.1. *Concur.*

Zoning was provided on the project CD. The ZDF file provided with the tide requirements for this project included a zone, which was far removed from our survey area. This zone, WLA240A, was edited out of the ZDF file in the field. This was the only zone in the ZDF which was referenced to the Lawma - Amerada Pass, LA (876-4227) gauge. Because this gauge was not necessary, it was also edited out of the ZDF in the field tide data were not downloaded. *See Evaluation Report.*

Because soundings were collected in LST, tides data was also downloaded from the website in LST. *Concur.*

A Request for Approved Water Levels letter was sent to N/OPS1 on February 15, 2007 and is included in Appendix IV* . *Concur.*

C.2. HORIZONTAL CONTROL

The horizontal datum used for this survey is the World Geodetic System (WGS84), projected using UTM zone 15. The control reference station used for this survey was the USCG DGPS Beacon in the auto-select mode. *Concur.*

Horizontal dilution of precision (HDOP) was monitored daily on Hypack. At no point did HDOP exceed 4.00, and adequate satellite coverage was maintained throughout the survey period. *Concur.*

All positioning equipment was operated in a manner consistent with the manufacturer requirements and as described in the DAPR*. There were no equipment malfunctions which affected the positional quality of the data. *Concur.*

**Filed with original field records*

D. RESULTS AND RECOMMENDATIONS**D.1. CHART COMPARISON**

There are four charts and two ENC's affected by this survey: ***Do Not Concur. See Evaluation Report.***

Chart	Edition	Print Date	Scale
11351	39 th	11/2004	1:80,000
11352	38 th	03/2005	1:175,000
11354	26 th	11/2006	1:80,000
11355	27 th	2/2006	1:40,000

ENC Cell	Last Updated	Corresponding Chart	Edition
US4LA21M	1/24/2007	11351	12
US4LA22M	1/16/2007	11354	11

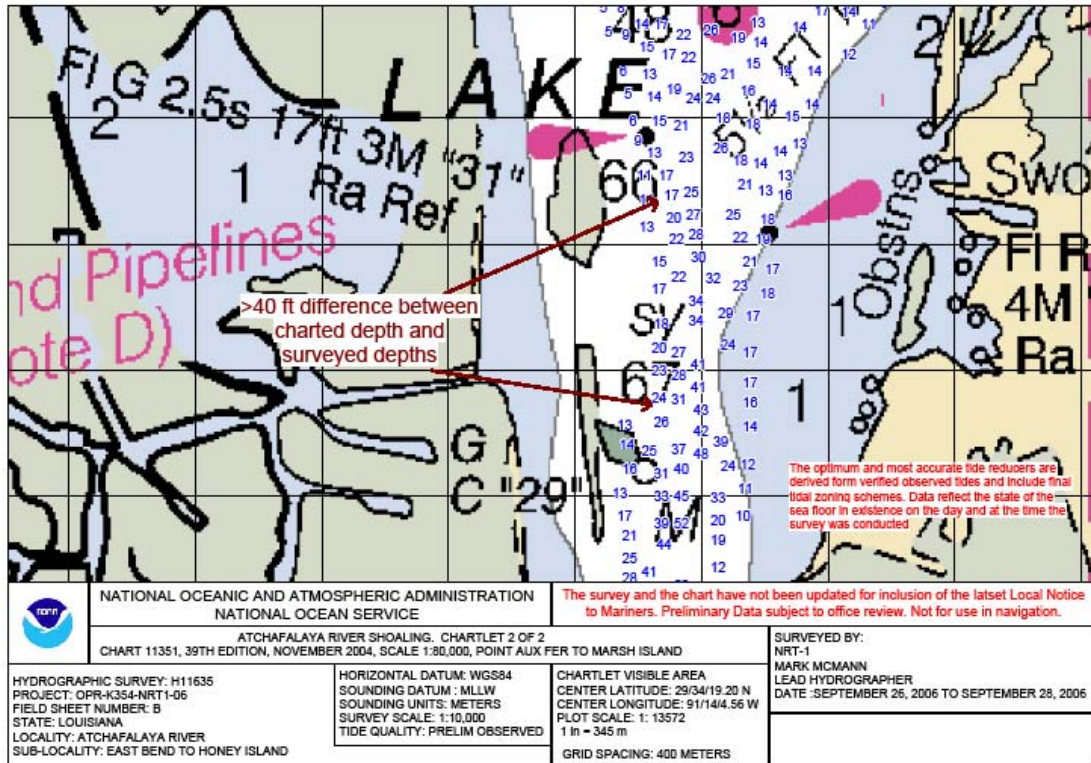
General Agreement with Charted soundings

Massive shoaling was found down the entire length of this survey area. However, for the most part, surveyed depths were still deeper than the controlling depths stated in the 2006 Coast Pilot 34th Ed. and on chart 11351. Additionally, the typical vessel operating in this area does not draft enough water to be impacted by this shoaling. *See Evaluation Report.*

The scales of the charts, in the river, are not adequate to depict the detail necessary for the Port area. In some cases a single sounding takes up the entire width of the river. The hydrographer recommends that all currently charted soundings be replaced by the new surveyed depths. Additionally, the hydrographer recommends using the current survey data to create a more detailed chart or larger scale chart. *See Evaluation Report.*

See the chartlets on the following pages for examples of three areas of shoaling where the surveyed depths were greater than 40 feet shoaler than the charted depths. *Concur.*





AWOIS Item Investigations

There were a total of three AWOIS items in assigned to the Field Party in Sheet B and two AWOIS items assigned outside the sheet boundaries. All of these items were either visually investigated or investigated with side scan sonar. Only one of these, a visible wreck, was located by the field party. All other AWOIS items have been recommended for removal from the chart.

Concur.

Results of all AWOIS investigations are contained in Appendix II **Filed with original field records.*

Dangers to Navigation

No Dangers to Navigation were submitted for this project. **See Evaluation Report.**

Shoreline

No shoreline features were investigated by the field party. *Concur.*

D. 2. ADDITIONAL RESULTS

Aids to Navigation and Other Detached Positions

All Aids to Navigation in the survey area were found to be on station and serving their intended purpose. The field party has no recommendations on these Aids to Navigation. *Concur.*

Ferry Routes

There are no charted or observed ferry routes within the survey area. *Concur.*

Submarine Cables and Pipelines

There were several charted and observed submarine cables and pipelines within the survey area. The field party did not attempt to identify of position any submerged cables of pipelines. *Concur.*

Bridges and Overhead Cables

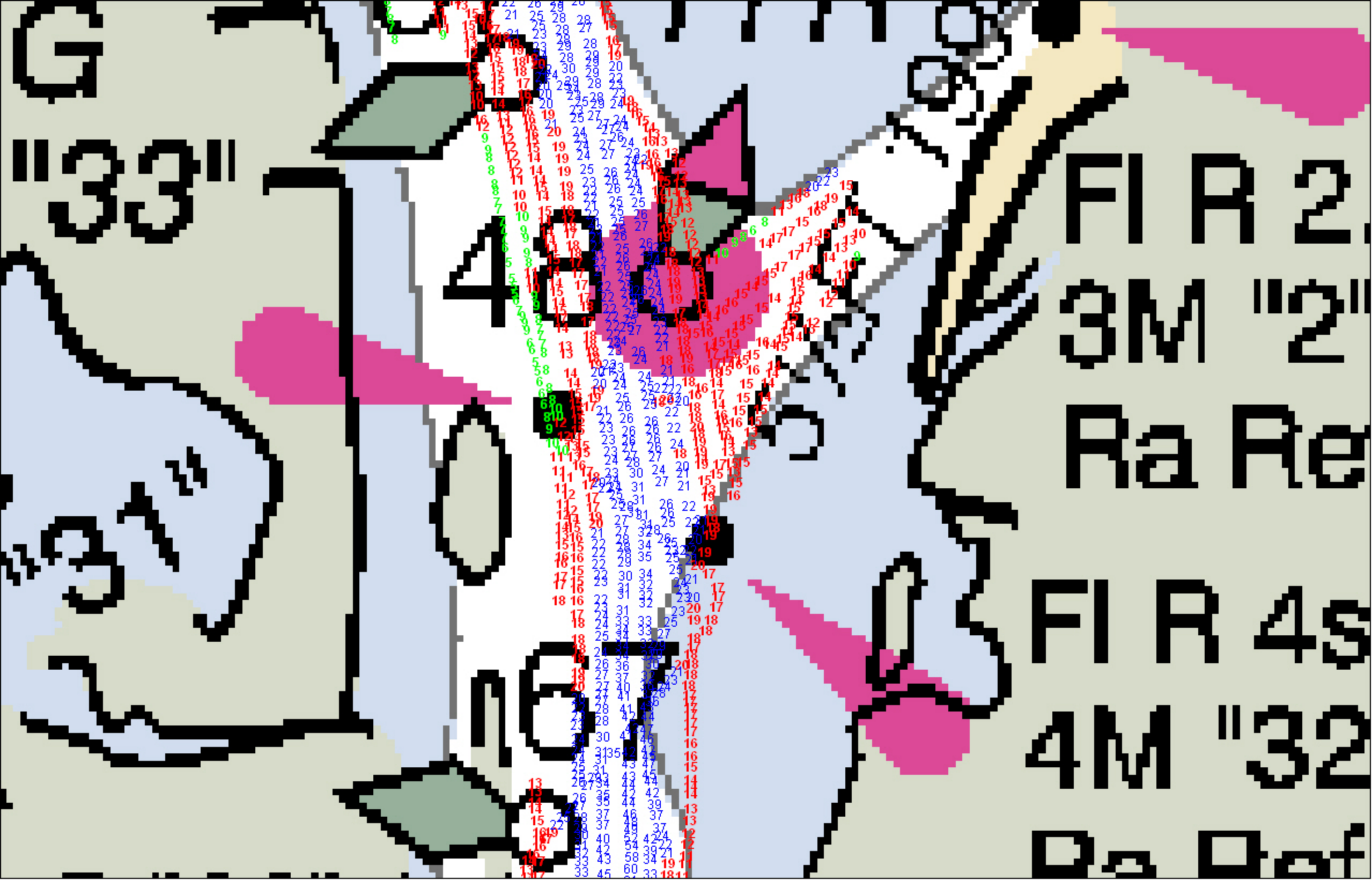
There were no charted or observed bridges or overhead cables within the survey area. *Concur.*

APPENDIX I – Danger To Navigation

Danger to Navigation Report

Registry Number: H11635
State: Louisiana
Locality: Atchafalaya River
Sub-Locality: East Bend to Honey Island
Project Number: OPR-K354-NRT1-06
Survey Dates: 9/26/06 – 09/28/06
Vertical Datum: Mean Lower Low Water
Charts Effected: 11354, 11351, 11352, 1116A, 11340, 411

Significant changes in shoreline were evident in this survey. Due to the extent of the changes, and as per the precedent set with H11634, a proposed area for a DtoN Chartlets follows. Soundings from the survey are included in file H11634_Soundings.000 for use by Product Branch E when compiling the DtoN Chartlets.



G
"33"
4
FIA 2
3M "2"
Ra Ae
FIA 45
4M "32"
Da Def

APPENDIX II – Survey Features Report

1. AWOIS ITEMS

H11635 Survey Features Report

Registry Number: H11635
State: Louisiana
Locality: Atchafalaya RIVER
Sub-locality: East Bend to Honey Island
Project Number: OPR-K354-NRT1-06
Survey Date:

Charts Affected

Number	Version	Date	Scale
11354	26th Ed.	11/01/2006	1:40000
11351	39th Ed.	11/01/2004	1:80000
11352	38th Ed.	03/01/2005	1:175000
1116A	71st Ed.	09/01/2006	1:458596
11340	71st Ed.	09/01/2006	1:458596
411	51st Ed.	12/01/2006	1:2160000

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.2	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.3	UNKNOWN	AWOIS	[no data]	[no data]	[no data]	---
1.4	OBSTRUCTION	AWOIS	[no data]	[no data]	[no data]	---
1.5	F/V SEA KERNEL	AWOIS	[no data]	[no data]	[no data]	---

1 - DR_AWOIS

1.1) AWOIS #13678 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 29° 26' 20.330" N, 091° 19' 26.050" W
Historical Depth: [None]
Search Radius: 100
Search Technique: S2,ES
Technique Notes: [None]

History Notes:

****UNKNOWN SOURCE-- BEFORE 1967, A PILE WAS ADDED TO THE ABOVE LOCATION. THEN BETWEEN 1972 AND 1977, THE PILE WAS REVISED TO AN OBSTRUCTION WITH LABEL: OBSTN REP. (ENTERED CEH 8/2006)

Survey Summary

Charts Affected: 11351_1, 11354_3, 11352_1, 1116A_1, 11340_1, 411_1

Remarks:

200% Side scan sonar investigation conducted by NRT1. Nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13678	0.00	000.0	Primary

Hydrographer Recommendations

The hydrographer recommends removal of the obstruction from the chart.

S-57 Data

[None]

Office Notes

Concur. Remove obstruction from chart.

1.2) AWOIS #13679 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 29° 26' 52.700" N, 091° 18' 25.300" W
Historical Depth: [None]
Search Radius: 125
Search Technique: S2,ES
Technique Notes: [None]

History Notes:

LNM 41/00-- 10/20/2000, USCG 8TH DISTRICT; LNM 41/00 ADDED A SUBMERGED OBSTRUCTION WITH POSITION APPROXIMATE AT 29°26'52.7"N - 091°18'25.3"W. (ENTERED CEH 8/2006) A 200% side scan sonar investigation was conducted and nothing was found. The hydrographer recommends removal of the obstruction from the chart.

Survey Summary

Charts Affected: 11351_1, 11354_3, 11352_1, 1116A_1, 11340_1, 411_1

Remarks:

A 200% side scan sonar investigation was conducted and nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13679	0.00	000.0	Primary

Hydrographer Recommendations

The hydrographer recommends removal of the obstruction from the chart.

S-57 Data

[None]

Office Notes

Concur. Remove obstruction from chart.

1.3) AWOIS #13680 - UNKNOWN

No Primary Survey Feature for this AWOIS Item

Search Position: 29° 32' 58.000" N, 091° 14' 25.000" W
Historical Depth: [None]
Search Radius: 175
Search Technique: S2,ES
Technique Notes: [None]

History Notes:

LNM 18/96-- USCG 8TH DISTRICT; A 25 FOOT F/V SUNK IN APPROIMATE POSITION 29°32'58.0"N - 091°14'25.0"W. A DANGEROUS WRECK SYMBOL ADDED TO CHART. (ENTERED CEH 8/2006) A 200% side scan sonar investigation was performed and nothing was found. The hydrographer recommends removal of the submerged wreck (PA) from the chart.

Survey Summary

Charts Affected: 11351_1, 11354_3, 11352_1, 1116A_1, 11340_1, 411_1

Remarks:

A 200% side scan sonar investigation was performed and nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13680	0.00	000.0	Primary

Hydrographer Recommendations

The hydrographer recommends removal of the submerged wreck (PA) from the chart.

S-57 Data

[None]

Office Notes

Concur. Remove submerged wreck PA.

1.4) AWOIS #13681 - OBSTRUCTION

No Primary Survey Feature for this AWOIS Item

Search Position: 29° 35' 41.180" N, 091° 14' 17.140" W
Historical Depth: [None]
Search Radius: 200
Search Technique: S2,ES
Technique Notes: [None]

History Notes:

****UNKNOWN SOURCE-- BETWEEN 1987 THROUGH 1995, AN OBSTRUCTION WITH A PA, WAS ADDED TO THE CHART AT THE CHARTED LOCATION 29°35'41.18"N - 091°14'17.14"W. (ENTERED CEH 8/2006) A 200% side scan sonar investigation was performed and nothing was found. The hydrographer recommends removal of the "Obstn PA" from the chart.

Survey Summary

Charts Affected: 11351_1, 11354_3, 11352_1, 1116A_1, 11340_1, 411_1

Remarks:

A 200% side scan sonar investigation was performed and nothing was found.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13681	0.00	000.0	Primary

Hydrographer Recommendations

The hydrographer recommends removal of the "Obstn PA" from the chart.

S-57 Data

[None]

Office Notes

Concur. Remove obstruction PA.

1.5) AWOIS #13682 - F/V SEA KERNEL

No Primary Survey Feature for this AWOIS Item

Search Position: 29° 36' 58.180" N, 091° 15' 10.480" W
Historical Depth: [None]
Search Radius: 175
Search Technique: S2,ES
Technique Notes: [None]

History Notes:

LNM 24/02-- 8TH USCG DISTRICT; A DANGEROUS WRECK WAS CHART THROUGH LNM 24/02. THE F/V SEA KERNEL WAS REPORTED IN THE LNM TO HAVE SUNK AT THE POSITION APPROXIMATE 29°36'58.175"N - 091°15'10.480W. (ENTERED CEH 8/2006) The charted submerged wreck was located visually in water less than 3 meters deep. The rigging of a shrimp boat was exposed approx. 1 meter at the center of the charted position. The hydrographer recommends retaining the submerged wreck symbol at it's current location and removing the "PA" from the chart.

Survey Summary

Charts Affected: 11351_1, 11354_3, 11352_1, 1116A_1, 11340_1, 411_1

Remarks:

The charted submerged wreck was located visually in water less than 3 meters deep. The rigging of a shrimp boat was exposed approx. 1 meter at the center of the charted position.

Feature Correlation

Address	Feature	Range	Azimuth	Status
AWOIS	AWOIS # 13682	0.00	000.0	Primary

Hydrographer Recommendations

The hydrographer recommends retaining the submerged wreck symbol at it's current location and removing the "PA" from the chart.

S-57 Data

Geo object 1: Wreck (WRECKS)
Attributes: CATWRK - 2:dangerous wreck
 CONVIS - 1:visual conspicuous

STATUS - 1:permanent

TECSOU - 2:found by side scan sonar

VERDAT - 12:Mean lower low water

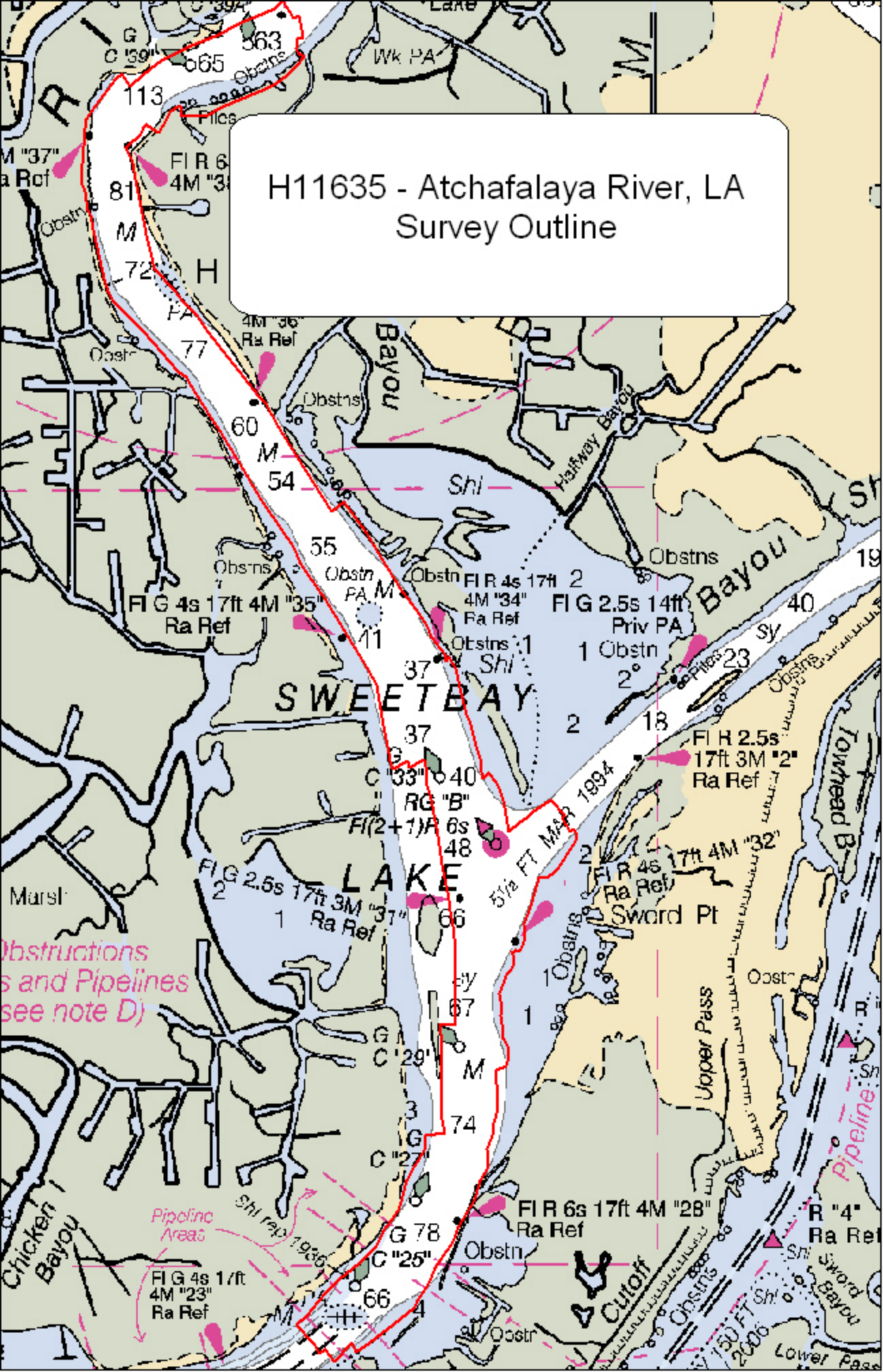
WATLEV - 5:awash

Office Notes

Concur with clarification. Remove charted subm wreck PA symbol. Add Visible wreck PA symbol.

APPENDIX III - Survey Outline

H11635 - Atchafalaya River, LA Survey Outline



Obstructions
and Pipelines
(see note D)

Pipeline
Areas

FIG 4s 17ft
4M "23"
Ra Ref

Pipeline

Upper Pass

Cutoff

Lower Pass

APPENDIX IV - Tides and Water Levels

February 15, 2007

MEMORANDUM FOR: Chief, Requirements and Development Division, N/OPS1

FROM: Mark McMann, NRT-1

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

NOAA/NOS/Atlantic Hydrographic Branch
N/CS33, Building #2
439 West York Street
Norfolk, VA 23510
ATTN: Chief AHB

NOAA, NRT1
c/o Bon Secour NWR
12295 State Hwy 180
Gulf Shores, AL 36542

These data are required for the processing of the following hydrographic survey:

Project No.: OPR-K354-NRT1-06
Registry No.: H11635
State: Louisiana
Locality: Atchafalaya River
Sublocality: East Bend to Honey Island

Attachments containing:

- 1) an Abstract of Times of Hydrography,
- 2) digital MID MIF files of the track lines from Pydro

cc: N/CS33

Year_DOY	Min Time	Max Time
2006_269	08:41:27	15:04:22
2006_270	08:07:02	13:27:16
2006_271	08:04:40	10:30:04



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : August 7, 2007

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-K354-NRT1-2006
HYDROGRAPHIC SHEET: H11635

LOCALITY: East Bend to Honey Island, Atchafalaya River, LA
TIME PERIOD: September 26 - 28, 2006

TIDE STATION USED: 876-4025 Stouts Pass, LA
Lat. 29° 44.7'N Long. 91° 13.8' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.247 meters

TIDE STATION USED: 876-4227 Amerada Pass, LAWMA, LA
Lat. 29° 26.9' N Long. 91° 20.3' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.460 meters

REMARKS: RECOMMENDED ZONING

Use zone(s) identified as: WLA264, WLA265, WLA266, WLA267, WLA268 and WLA269

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 1983-2001 National Tidal Datum Epoch (NTDE).
- Note 2:** Use tide data from the appropriate station with applicable zoning correctors for each zone according to the order in which they are listed in the Tidezone corrector file (*.ZDF). For example, tide station one (TS1) would be the first choice for an applicable zone followed by TS2, etc. when data are not available.
- Note 3:** Due to benchmark and sensor instability at 876-4227 Amerada Pass, LAWMA, LA water level error contribution to the overall survey budget may be an additional 0.040 meter uncertainty (95% confidence level) above the estimated normal water level error contribution of 0.280 meters (95% confidence level) for those zones referenced to this station during the time of the survey.

Fca 

CHIEF, PRODUCTS AND SERVICES DIVISION



Tide Requirements for OPR-K354-NRT1-2006
Atchafalaya Bay to Morgan City
MC/CM 09/27/2006

5.0. TIDES

5.1. Purpose: All tide requirements in these instructions are in direct support of hydrographic survey operations.

5.2 through 5.6. Refer to Standing Instructions.

5.7. Vertical Datums:

Refer to Standing Instructions.

5.7.1. The operating National Water Level Observation Network (NWLON) station at Galveston Pleasure Pier, TX (877-1510) will serve as datum control for the survey area. Therefore, it is critical that this station remain in operation during all periods of hydrography.

5.7.1.1. Water level data acquisition monitoring

Refer to Standing Instructions.

5.7.1.2. Water level station operation and maintenance

Refer to Standing Instructions.

5.7.1.3. No leveling is required at Galveston Pleasure Pier, TX (877-1510) by NOAA's NRT1 personnel.

5.8. Water Level Station Requirements: The operating water level stations at Stouts Pass, LA (876-4025), Tesoro Marine Terminal, LA (876-4044), and Lawma - Amerada Pass, LA (876-4227) will also provide water level reducers for this project, reiterating the importance of their operation during all periods of hydrography. See Sections 5.7.1.1. and 5.7.1.2. concerning responsibilities.

5.8.1. There are no subordinate water level stations required for this project.

5.8.1.2. This section is not applicable for this project.

5.8.1.3 Tide Component Error Estimation: The estimated tidal error contribution to the total survey error budget in the vicinity of Atchafalaya Bay and Morgan City is 0.13 meters, and includes the estimated gauge measurement error, tidal datum computation error, and tidal zoning error. It should be noted that the tidal error component can be significantly greater than stated if a substantial meteorological event or condition should occur during time of hydrography.

5.9. Zoning: For hydrography in the area of Atchafalaya Bay and Morgan City, Stouts Pass, LA (876-4025), Tesoro Marine Terminal, LA (876-4044), and Lawma - Amerada Pass, LA (876-4227) are the reference stations for predicted tides. Predictions may be retrieved in one month

increments over the Internet from the CO-OPS Home Page at <http://tidesandcurrents.noaa.gov/olddata> and then clicking on “Predicted Water Level”. Predictions are six-minute time series data relative to MLLW in metric units on Greenwich Mean Time. Apply the following time and height correctors to the predicted tides at Stouts Pass, LA (876-4025), Tesoro Marine Terminal, LA (876-4044), and Lawma - Amerada Pass, LA (876-4227) during the acquisition and preliminary processing phases of this project for correcting all sounding data.

<u>Zone Name</u>	<u>Time Corrector(mins)</u>	<u>Range Ratio</u>	<u>Predicted Reference</u>
WLA240A	0	x1.00	876-4227
WLA263	-108	x1.73	876-4044
WLA264	-96	x1.60	876-4044
WLA265	-78	x1.53	876-4044
WLA266	-60	x1.40	876-4044
WLA267	-48	x1.33	876-4044
WLA268	-36	x1.27	876-4044
WLA269	-24	x1.20	876-4044
WLA270	-12	x1.07	876-4044
WLA271	+6	x1.00	876-4044
WLA272	-12	x0.86	876-4025
WLA272A	-12	x0.92	876-4025
WLA273	0	x0.98	876-4025

NOTE: The tide corrector values referenced to Stouts Pass, LA (876-4025), Tesoro Marine Terminal, LA (876-4044), and Lawma - Amerada Pass, LA (876-4227) are provided in the zoning file “K354NRT1CORP” for this project and are in the fourth set of correctors designated as TS4. Longitude and latitude coordinates are in decimal degrees. Negative (-) longitude is a MapInfo representation of west longitude.

NOTE: For time corrections, a negative (-) time correction indicates that the time of tide in that zone is earlier than (before) the predicted tides at the reference station, whereas, a positive (+) time correction indicates that the time of tide in that zone is later than (after) the predicted tides at the reference station. For height corrections, the water level heights relative to MLLW at the reference station are multiplied by the range ratio to estimate the water level heights relative to MLLW in the applicable zone.

Water level gauges for this project have been installed by CO-OPS prior to the start of the survey. Upon completion of project OPR-K354-NRT1-2006, submit a Pydro generated request for smooth tides, with times of hydrography abstract and mid/mif tracklines attached. Forward this request to smooth.tides@noaa.gov.

CO-OPS will review the times of hydrography, final tracklines, and six-minute water level data from all applicable water level gauges. After review, CO-OPS will send a notice indicating that the tidal zoning scheme sent with the project instructions has been approved for final zoning. If there are any discrepancies, CO-OPS will make the appropriate adjustments and forward a revised tidal zoning scheme to the field group and processing branch for final processing.

5.9.1. Zoning Diagram(s) A zoning diagram, created in MapInfo, is to assist with the zoning provided in Section 5.9.

5.9.2. Tidebot:

Refer to Standing Instructions.

5.10. Tidal Records:

Refer to Standing Instructions on what data records, reports and requests to submit to CO-OPS and the address where these documents should be submitted too.

APPENDIX V – Supplemental Records and Correspondence

From: "Lucy Massimillo" <Lucy.Massimillo@noaa.gov>

To: "Tim Osborn" <Tim.Osborn@noaa.gov>

Cc: "Mark Mcmann" <Mark.Mcmann@noaa.gov>

Subject: H11635 Shoaling

Date: Wednesday, April 18, 2007 11:51 AM

Tim,

A large amount of shoaling was observed in the Atchafalya River during the acquisition of Survey H11635. In some areas, the surveyed depths were shoaler than the charted depths by more than 40 feet.

None of these areas were submitted as Dangers to Navigation, however NRT1 will be recommending in the Project Report that the entire chart, in the area H11634, be updated with the newly acquired surveyed depths.

For your information, I am attaching two chartlets showing a few areas of this extreme shoaling. These graphics will also be included in the project report when we submit it to AHB.

If you have any comments or questions, please contact me or Mark McMann, NRT1 Team Leader.

Regards,
Lucy

From: "Tim.Osborn" <Tim.Osborn@noaa.gov>
To: "Lucy Massimillo" <Lucy.Massimillo@noaa.gov>
Cc: "Mark Mcmann" <Mark.Mcmann@noaa.gov>
Subject: Re: H11635 Shoaling
Date: Wednesday, April 18, 2007 2:02 PM

Lucy

Thank you and the Port of Morgan City really appreciates the work.

Do you have a graphic showing the entire project limit?

Thanks.

Tim

Lucy Massimillo wrote:

> Tim,
>
> A large amount of shoaling was observed in the Atchafalya River during
> the acquisition of Survey H11635. In some areas, the surveyed depths
> were shoaler than the charted depths by more than 40 feet.
>
> None of these areas were submitted as Dangers to Navigation, however
> NRT1 will be recommending in the Project Report that the entire chart,
> in the area H11634, be updated with the newly acquired surveyed depths.
>
> For your information, I am attaching two chartlets showing a few areas
> of this extreme shoaling. These graphics will also be included in the
> project report when we submit it to AHB.
>
> If you have any comments or questions, please contact me or Mark
> McMann, NRT1 Team Leader.
>
> Regards,
> Lucy

Subject:

Re: Another Chartlet recommendation for Achafalaya River

Date:

Fri, 16 Nov 2007 17:12:53 -0500

From:

Shepard Smith <Shep.Smith@noaa.gov>

To:

"Mark.Griffin" <Mark.Griffin@noaa.gov>

CC:

Lyn Preston <Lyn.Preston@noaa.gov>, Jeffrey Ferguson
<Jeffrey.Ferguson@noaa.gov>,

Richard Sillcox <Richard.Sillcox@noaa.gov>, John Lowell
<John.Lowell@noaa.gov>, Sarah Eggleston <Sarah.Eggleston@noaa.gov>

References:

1 , 2

Hi Mark,

I recall that the reason we chose the route we did for the last one was that we needed to get a DTON out on a DTON timeline. Your raster folks are the best suited to make the chartlets needed for these DTONs. This is primarily because you have raster production capabilities, but also because you have a bit more comprehensive cartographic license than the ones issued to the hydro branches. For example, what really needs to happen in a lot of places is that whole areas, not covered by the survey, need to be blue tinted out while waiting for shoreline. In other areas, shoreline needs to be estimated using sketchy info. Using either an H-cell or an H-drawing, this sort of work is both hard to communicate and hard to justify and explain in a report. In the end, I suspect that you would end up re-doing most of our work and the DTON would be further delayed.

We are putting these two surveys ahead of all other surveys in our queue, but not disrupting work in progress on other surveys. You should have them by January as H-Cells.

I would like to further propose that AHB not do a chart-scale sounding selection in the H-Cells, since I expect that the choice of soundings will be significantly influenced by the shoreline that might arrive from RSD around the same time. We will include the features, feature disprovals, and the sounding sets already previewed, as well as the rest of the normal H-Cell metadata and reports. We would be happy to supply applicable depth curves based on the full dataset if this would be helpful

Have a good weekend,

Shep

Subject:

Atchafalaya River chartlets - discussion on deliverables

Date:

Mon, 19 Nov 2007 12:30:43 -0500

From:

"Mark.Griffin" <Mark.Griffin@noaa.gov>

To:

Shepard Smith <Shep.Smith@noaa.gov>

CC:

Lyn Preston <Lyn.Preston@noaa.gov>, Jeffrey Ferguson
<Jeffrey.Ferguson@noaa.gov>,

Richard Sillcox <Richard.Sillcox@noaa.gov>, John Lowell
<John.Lowell@noaa.gov>,

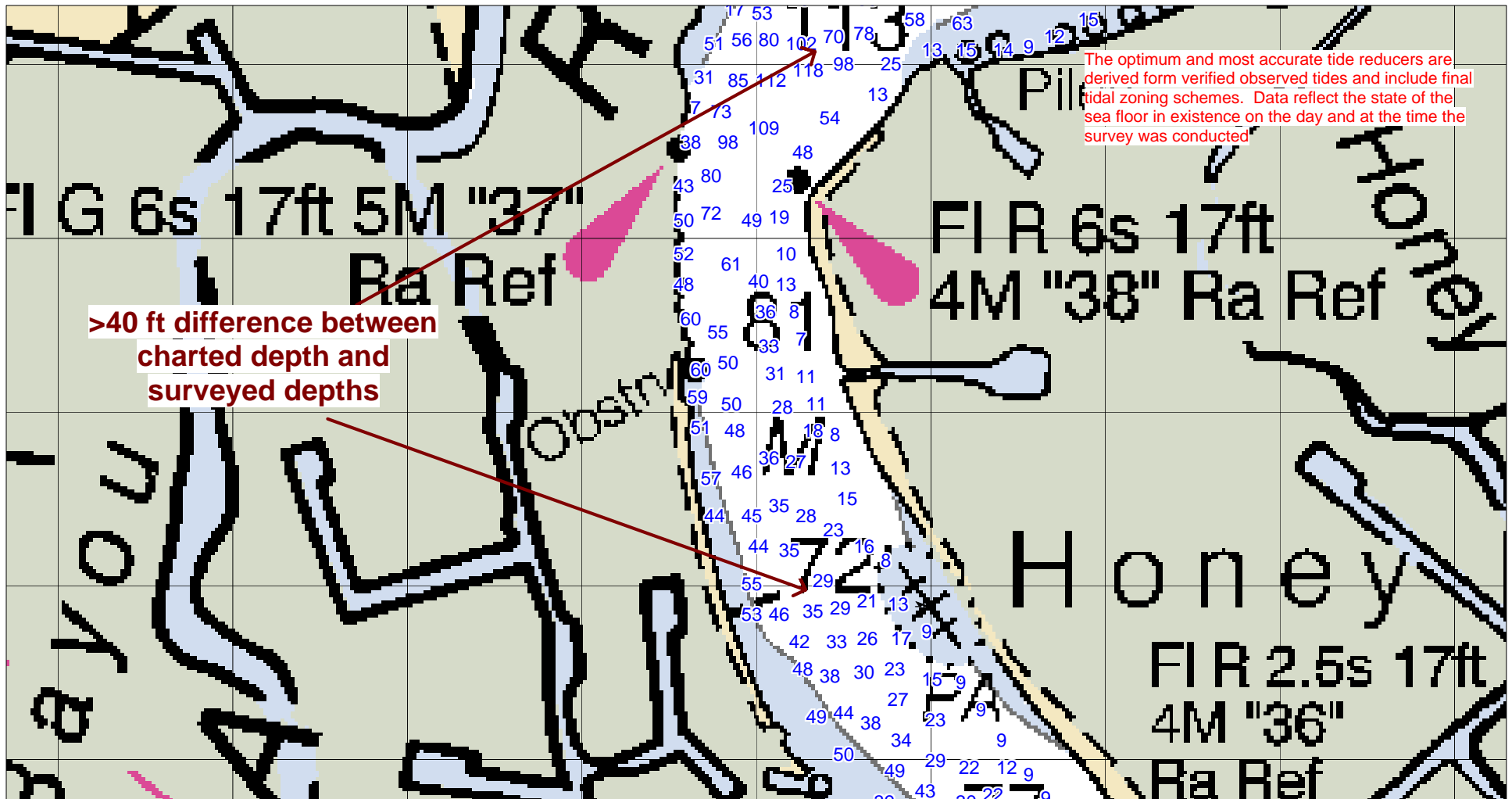
Sarah Eggleston <Sarah.Eggleston@noaa.gov>, Dave Myers
<Dave.Myers@noaa.gov>

References:

1 , 2 , 3

Shep,

As we spoke about on the phone I forwarded a shoreline request through NDB for the initial DTON submission and RSD has looked at the latest data available and report that other than the spot where the data was running over the shoreline there is no significant shift requiring new compilation. We approximated the shoreline in that area to accommodate the hydro data. If we have an area like this in the future which is changing dramatically and cannot be well defined in a notice via point feature changes to soundings; then yes we can produce chartlets. Also as long as the soundings you provided have been corrected for tides and represent the final soundings that would be submitted in a full H-cell submission then I see no point in producing a cu file on your end when the survey is finally submitted. That would be extra work on your end that we have already basically done with the DTON. I'm really looking for any feature additions or disapprovals that would be in the DR at this point. When I asked Dave Myers about this chartlet issue for the ENC he informed me that the Atchafalaya River was actually an Inland ENC. Thanks for all the excellent coordination on this Shep.



>40 ft difference between charted depth and surveyed depths

The optimum and most accurate tide reducers are derived from verified observed tides and include final tidal zoning schemes. Data reflect the state of the sea floor in existence on the day and at the time the survey was conducted



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

The survey and the chart have not been updated for inclusion of the latest Local Notice to Mariners. Preliminary Data subject to office review. Not for use in navigation.

ATCHAFALAYA RIVER SHOALING. CHARTLET 1 OF 2
CHART 11351, 39TH EDITION, NOVEMBER 2004, SCALE 1:80,000, POINT AUX FER TO MARSH ISLAND

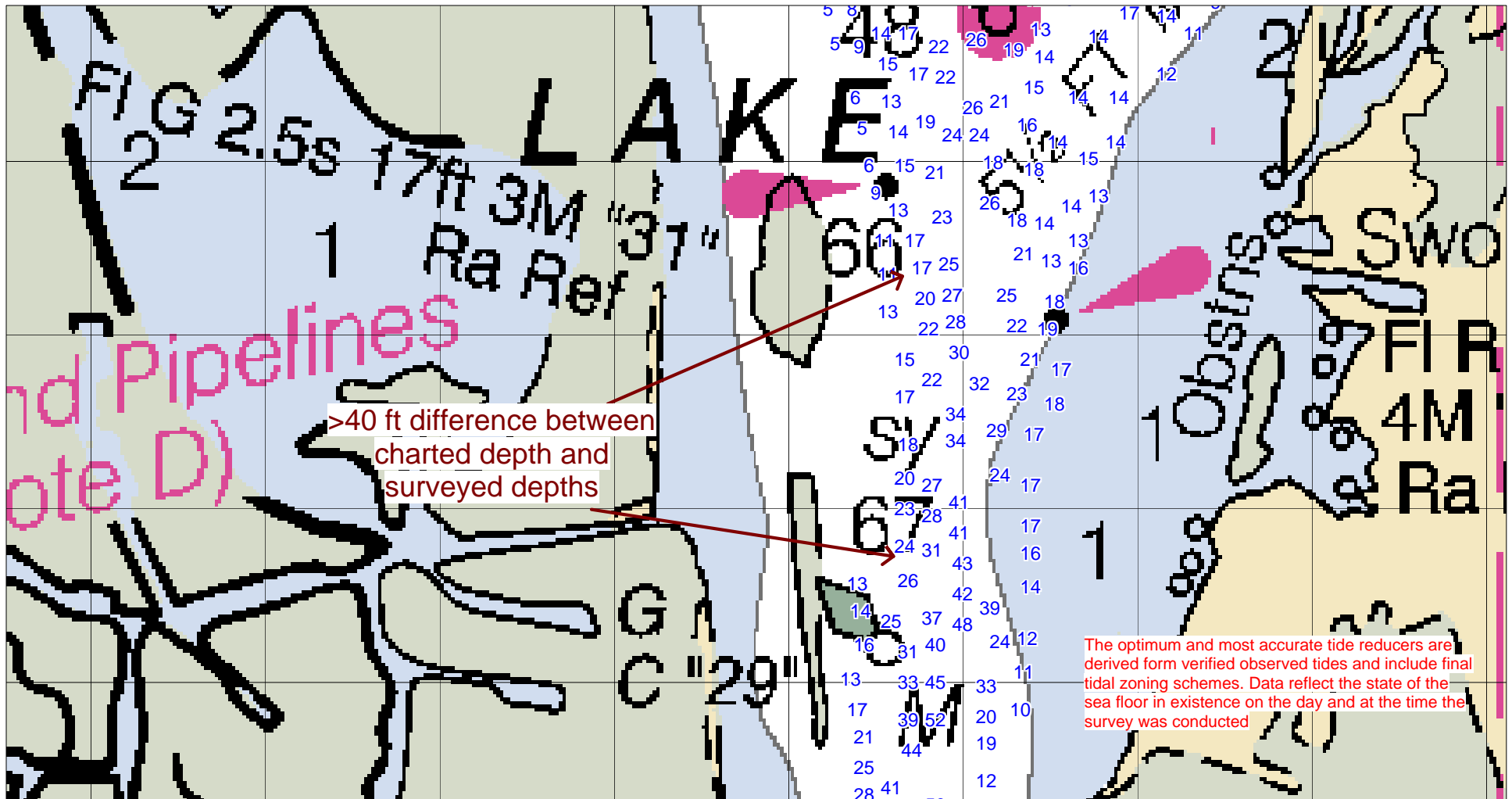
SURVEYED BY:
NRT-1
MARK MCMANN
LEAD HYDROGRAPHER
DATE :SEPTEMBER 26, 2006 TO SEPTEMBER 28, 2006

HYDROGRAPHIC SURVEY: H11635
PROJECT: OPR-K354-NRT1-06
FIELD SHEET NUMBER: B
STATE: LOUISIANA
LOCALITY: ATCHAFALAYA RIVER
SUB-LOCALITY: EAST BEND TO HONEY ISLAND

HORIZONTAL DATUM: WGS84
SOUNDING DATUM : MLLW
SOUNDING UNITS: METERS
SURVEY SCALE: 1:10,000
TIDE QUALITY: PRELIM OBSERVED

CHARTLET VISIBLE AREA
CENTER LATITUDE: 29/37/13.44 N
CENTER LONGITUDE: 91/15/24.48 W
PLOT SCALE: 1: 13565
1 in = 345 m

GRID SPACING: 400 METERS



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

The survey and the chart have not been updated for inclusion of the latest Local Notice to Mariners. Preliminary Data subject to office review. Not for use in navigation.

ATCHAFALAYA RIVER SHOALING. CHARTLET 2 OF 2
CHART 11351, 39TH EDITION, NOVEMBER 2004, SCALE 1:80,000, POINT AUX FER TO MARSH ISLAND

SURVEYED BY:
NRT-1
MARK MCMANN
LEAD HYDROGRAPHER
DATE :SEPTEMBER 26, 2006 TO SEPTEMBER 28, 2006

HYDROGRAPHIC SURVEY: H11635
PROJECT: OPR-K354-NRT1-06
FIELD SHEET NUMBER: B
STATE: LOUISIANA
LOCALITY: ATCHAFALAYA RIVER
SUB-LOCALITY: EAST BEND TO HONEY ISLAND

HORIZONTAL DATUM: WGS84
SOUNDING DATUM : MLLW
SOUNDING UNITS: METERS
SURVEY SCALE: 1:10,000
TIDE QUALITY: PRELIM OBSERVED

CHARTLET VISIBLE AREA
CENTER LATITUDE: 29/34/19.20 N
CENTER LONGITUDE: 91/14/4.56 W
PLOT SCALE: 1: 13572
1 in = 345 m

GRID SPACING: 400 METERS

**ATLANTIC HYDROGRAPHIC BRANCH
EVALUATION REPORT FOR H11635 (2006)**

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.

B. DATA ACQUISITION AND PROCESSING

B.1 DATA PROCESSING

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

HSTP PYDRO version 7.3
CARIS HIPS/SIPS version 6.1 SP1 HF 1-6
CARIS Bathy DataBase version 2.1 HF 1-3
CARIS HOM ENC version 3.3 SP3 HF 1-7
DKART INSPECTOR, version 5.0 Build 732

B.2 QUALITY CONTROL

B.2.1 DATA QUALITY FACTORS

BASE Surfaces and Mosaics

One 1-meter BASE Surface was generated by the office processor during in-office review. The resulting BASE surface was imported to CARIS BASE Manager for preliminary H-Cell processing.

Junctions

Surveys H11635 and H11634 were collected concurrently. Soundings between the two show agreement to within a foot.

B.3

H-CELL

The field unit did not submit any BASE surfaces for this survey. The object detection requirement for this survey was met by acquiring side scan sonar data. The AHB BASE Surface for Survey H11635 was filtered in CARIS HIPS to meet IHO Order I specifications. The BASE Surface model serves as the bathymetric and feature presentation source for all cartographic components incorporated within the submitted Electronic Navigational Chart (ENC) exchange file.

No TPE values were available for this survey, therefore the product of the survey is a Caris swath-angle BASE grid at 1-meter resolution which contains depth, sounding density, standard deviation, mean, shoal, and deep sounding child layers. The finalized depth layer incorporating designated depths was used as the source of a 1m grid from which soundings were selected. The soundings were extracted from the 1m resolution surface model at a spacing interval of 6mm at 1:10,000 scale. Soundings were truncated to millimeter precision and converted to whole feet (NOAA rounding regime) in HOM.

No chart scale selected soundings were chosen, as final sounding and contour selection has been left to the discretion of MCD pending new updated shoreline. See Appendix V. Supplemental Correspondence for more information.

The CARIS H-Cell file *H11635_all_layers.des* was created in CARIS HOM to produce the following Base Cell final products:

US411635_CU.000	1:10,000 Scale	H-Cell without Chart Scale Soundings
US411635_SS.000	1:10,000 Scale	H11635 Survey Scale Soundings
US411635_FF.000	1:10,000 Scale	H11635 Feature File

The completed H-Cell was exported as a Base Cell File (ENC.000) in S-57 format with all values in metric units. The metric equivalent ENC.000 file was then converted to NOAA chart values (ENC_CU.000) with all values measured in feet. Chart compilation was performed by Atlantic Hydrographic Branch personnel in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland.

C. VERTICAL AND HORIZONTAL CONTROL

Final vertical correction processing was completed by the office processor for H11635 using final approved zoning and water level data provided by N/OPSI CO-OPS. Due to the field collecting data in LST rather than UTC, all tides information was downloaded in LST.

Due to instability issues at the Tesoro Marine Terminal, LA (876-4044), final zoning was based on the gauges at Stouts Pass (876-4025) and Amerada Pass (876-4227). See Appendix IV - Tides and Water Levels for the final approved tide note.

Horizontal control used for this survey during data acquisition is based upon the World Geodetic System-84 (WGS-

84), UTM projection zone 15. Office ENC processing of this survey required translating the datum to meet S-57 ENC requirements. The horizontal geodetic datum was translated to Latitude and Longitude (LLDG) World Geodetic System-84 (WGS-84) during Caris HOM processing. The S-57 H-CELL format serves as the exchange file submitted to Marine Chart Division.

D. RESULTS AND RECOMMENDATIONS

D.1 CHART COMPARISON

11351 (26th Edition, June/07)

Corrected through NM June 16/04

Corrected through LNM June 12/07

11352 (39th Edition, June/07)

Corrected through NM June 16/04

Corrected through LNM June 5/07

11354 (26th Edition, Nov. /06)

Corrected through NM Nov. 11/06

Corrected through LNM Nov. 07/06

11355 (27th Edition, Feb./07)

Corrected through NM Feb. 18/04

Corrected through LNM Feb. 07/07

ENC Comparison

US4LA13M

Wax Lake Outlet to Forked Island, LA

Application Date Apr. 19, 2007

Issue Date Nov. 01, 2007

Chart 11350

US4LA22M

Morgan City to Port Allen

Application Date May 1, 2007

Issue Date May 23, 2007

Chart 11354

HYDROGRAPHY

D.1.1 Charted Soundings and Items

The charted hydrography originates with prior surveys and requires no further consideration. The hydrographer makes

adequate chart comparisons in section "D" of the Descriptive Report except as follows:

Chart comparison showed evidence of major shoreline changes throughout the survey area; in some areas the shoreline has moved up to 200 meters. While most of the shoaling is deeper than tabulated depths, one area was considered to have changed enough to warrant a DtoN submission. See section D.5 in this report for more information.

A review of the side scan records showed no visible pipelines nor cables.

Though the Project instructions called for a Coast Pilot review to be completed, the field did not submit any changes nor recommendations.

The present survey is adequate to supersede the charted hydrography within the common area.

D.2 COMPARISON WITH PRIOR SURVEYS

A comparison with prior surveys was not done during office processing in accordance with section 4 of the memorandum titled "Changes to Hydrographic Survey Processing", dated May 24, 1995.

D.5 DTONS

Due to significant shoreline changes and shoaling, a DtoN Chartlet was sent to MCD covering the area around 29°34'35.256"N 091°13'54.336"W. See Appendix I for more information regarding this DtoN.

D.8 ADEQUACY OF SURVEY

The present survey is adequate to supersede the charted hydrography within the common area. This is an adequate navigable area survey. Refer to the Descriptive Report for further survey requirements recommended by the hydrographer.

MISCELLANEOUS

ENC products were created by Atlantic Hydrographic Branch personnel, Norfolk, Virginia, using CARIS HOM v3.3. ENC products and electronic data will be forwarded to Marine Chart

Division, Silver Spring, Maryland.

Chart compilation was done by Atlantic Hydrographic Branch personnel, in Norfolk, Virginia. Compilation data will be forwarded to Marine Chart Division, Silver Spring, Maryland. The following NOS charts were used for compilation of the present survey:

11351 (26th Edition, June/07)

Corrected through NM June 16/04
Corrected through LNM June 12/07

11352 (39th Edition, June/07)

Corrected through NM June 16/04
Corrected through LNM June 5/07

11354 (26th Edition, Nov. /06)

Corrected through NM Nov. 11/06
Corrected through LNM Nov. 07/06

11355 (27th Edition, Feb./07)

Corrected through NM Feb. 18/04
Corrected through LNM Feb. 07/07

ENC Comparison

US4LA13M

Wax Lake Outlet to Forked Island, LA
Application Date Apr. 19, 2007
Issue Date Nov. 01, 2007
Chart 11350

US4LA22M

Morgan City to Port Allen
Application Date May 1, 2007
Issue Date May 23, 2007
Chart 11354

APPROVAL SHEET
H11635

The completed survey has been inspected with regard to survey coverage, delineation of depth curves, development of critical depths, cartographic symbolization, and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

_____ Date: _____
Sarah Eggleston
Physical Scientist
Atlantic Hydrographic Branch

All final products have undergone a comprehensive review as per the Atlantic Hydrographic Branch Processing Manual and are verified to be accurate and complete except where noted in the Evaluation Report.

_____ Date: _____
Helen Stewart
Physical Scientist
Atlantic Hydrographic Branch

I have reviewed the ENC exchange file (*.000), 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: _____ Date: _____
Shep Smith
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Branch