

H10521

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic
Field No. AHP-10-15-93
Registry No. H-10521

LOCALITY

State Florida/Alabama
General Locality Perdido Bay
Sublocality Nix Point to Elevenmile
Creek

1993-1994

CHIEF OF PARTY

..... LCDR James E. Waddell, Jr.

LIBRARY & ARCHIVES

DATE AUG 8 1995

HYDROGRAPHIC TITLE SHEET

H-10521

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.

AHP-10-15-93

State Florida/Alabama

General locality Perdido Bay

Locality Nix Point to Elevenmile Creek

Scale 1:10,000 Date of survey Dec. 6, 1993 - Jan. 14, 1994

Instructions dated September 25, 1992 Project No. OPR-J223-AHP

Vessel AHP Launch 0519

Chief of party LCDR James E. Waddell, Jr.

Surveyed by Robert W. Ramsey, Jr.

Soundings taken by echo sounder, hand lead, pole Innerspace Model 448

Graphic record scaled by R.W. Ramsey, C.E. Parker

Graphic record checked by R.W. Ramsey, C.E. Parker

Verification by: I. Almacen Automated plot by HP Design Jet Plotter

~~Processed by~~ Evaluation by: I. Almacen

Soundings in ~~fathoms~~ ~~feet~~ meters at ~~MLW~~ MLLW and decimeters

REMARKS: Time in UTC. Revisions and marginal notes in black were
generated during office processing. Some separates are filed
with the hydrographic data, as a result page numbering may
be interrupted or non-sequential.

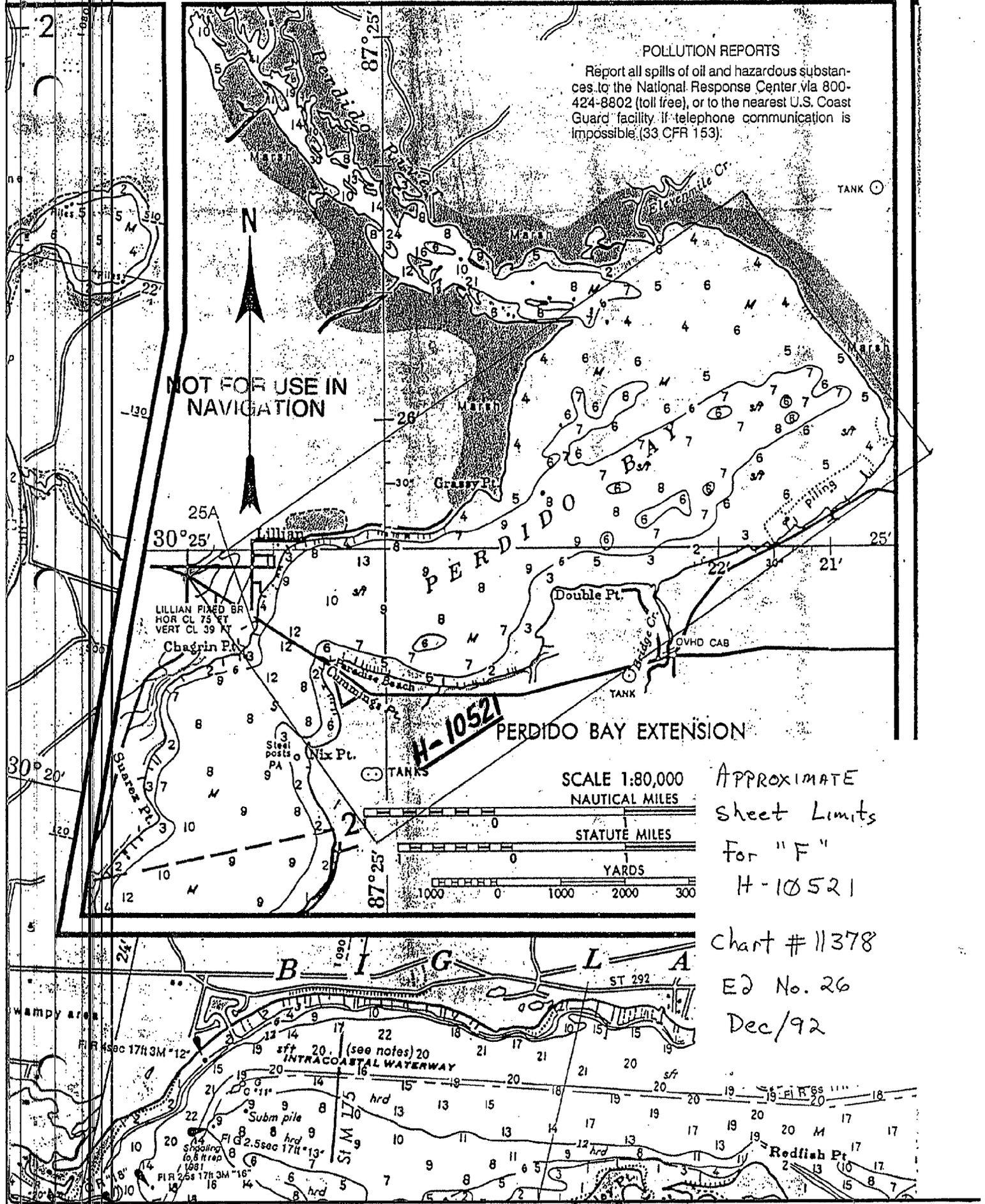
Surv F/ Awaits check
7/22/95 ncr

Ja AUG 8 1995

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible. (33 CFR 153)

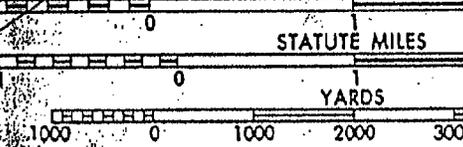
NOT FOR USE IN NAVIGATION



H-10521

PERDIDO BAY EXTENSION

SCALE 1:80,000 NAUTICAL MILES



APPROXIMATE Sheet Limits For "F" H-10521

Chart # 11378 Ed No. 26 Dec/92

B I L I N G L A

INTRACOASTAL WATERWAY

Redfish Pt.

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-10521
FIELD NO. AHP2-10-15-93
SCALE: 1:10,000
1993

ATLANTIC HYDROGRAPHIC PARTY TWO
CHIEF OF PARTY: LCDR James E. Waddell Jr., NOAA

A. PROJECT (See EVAL RPT., Sec. 1)

This survey was conducted according to Hydrographic Project Instructions OPR-J223-AHP, Pensacola and Perdido Bays, Florida and Alabama, dated September 25, 1993; Change No. 1 dated January 4, 1993; and Change No. 2 dated October 13, 1993. ✓

The purpose of project OPR-J223-AHP is to provide contemporary hydrographic surveys to update nautical charts in Pensacola and Perdido Bays, Florida. The area was last surveyed in 1935 by the Coast and Geodetic Survey using predominately lead line methods. The project area is traversed by vessels and barges containing, grains, soybeans, cypress logs, petroleum, seafood and various other products. ✓

The sheet letter is "F" as specified by the project instructions. ✓

B. AREA SURVEYED (See EVAL RPT., Sec. 1)

The area surveyed for H-10521 covers Perdido Bay, Florida and Alabama, from Nix Pt. to Eleven Mile Creek. The approximate survey limits are as follows:

North:	30° 27.7' N	30° 27' 30" N
South:	30° 22.3' N	30° 23' 30" N
East:	087° 19.8' W	87° 20' 25" W
West:	087° 27.0' W	87° 26' 20" W

This survey was conducted from December 6, 1993 (DN 340) to January 14, 1994 (DN 014). ✓

C. SURVEY VESSEL ✓

Vessel 0519 (EDP No. 0519), a 21-foot MonArk, was used to collect all survey data. There were no unusual vessel configurations nor problems encountered.

D. AUTOMATED DATA ACQUISITION AND PROCESSING ✓

Version 4.03 of the PC-DAS programs was used for on-line data acquisition. A list of all HP-DPS programs and versions used for data processing is appended to this report.* The NOS program VELOCITY (Ver. 2.0) and WordPerfect (Ver. 6.0) were also used during this survey.

E. SONAR EQUIPMENT ✓

Not Applicable.

F. SOUNDING EQUIPMENT

A Innerspace model 448 depth sounder, S/N 186 was used to collect all echo soundings on this survey. ✓

A standard lead line calibrated in meters, S/N 0519, was used during this survey for comparison readings with the echo sounder. A five-meter wooden sounding pole, constructed according to HSG No. 69, was used to obtain all pole soundings. ✓

No problems were encountered with the sounding equipment.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Correctors for the velocity of sound through water were determined from the casts listed below:

<u>Day</u>	<u>Vel. Tab. No.</u>	<u>Cast No.</u>	<u>Deepest Depth(m)</u>	<u>Applicable Days</u>	<u>Position</u>
342	1	1	5.2	341-343	30°24'20"N 87°25'52"W
349	3	3	13.0	347-350	30°29'00"N 87°26'00"W ✓
004	4	4	5.2	003-007	30°24'18"N 87°25'42'W
012	6	6	5.2	010-014	30°24'18"N 87°25'42"W

Corrections for the speed of sound through the water column were computed from data obtained with an Odom Hydrographic Systems Digibar model DB1100 speed of sound probe, S/N 155. This instrument was calibrated by the manufacturer on May 3, 1993, and data quality assurance tests were performed before each cast. ✓

* Filed with the hydrographic data.

Program VELOCITY was used for computing the speed of sound correctors. Speed of sound corrections were applied to the sounding plot using the HDAPS program REAPPLY Depth Correctors function. Copies of the tables and support documentation are in the Survey Separates.* ✓

Lead line comparisons were taken daily to determine echo sounder error. No echo sounder error was observed. The lead line comparison logs are in the Survey Separates* The lead line was calibrated using a steel tape on November 19, 1993, for launch 0519. No corrections were necessary. A copy of the calibration form is in the Survey Separates.* ✓

A static draft of 0.3 meters was applied to the final sounding plot by the HDAPS Reapply Depth Correctors program. The draft was measured by subtracting the difference from a punch mark on the side of launch 0519, 0.6 meters above the transducer, to the water surface. ✓

Settlement and squat measurements for launch 0519 were determined on November 19, 1993, (DN 323). These measurements were conducted at the Navy Blue Angel Recreation Park pier in Perdido Bay, Florida, using the level method. Data from this test are included in the Survey Separates.* Settlement and squat correctors were applied to the final sounding sheet using the HDAPS program REAPPLY. Data from the settlement and squat test is in the Survey Separates.* ✓

Predicted tides for this project were provided on diskette by N/OES231 for the Pensacola, Florida reference station (872-9840). Correctors for two different tidal zones on sheet "F" were used. Junction lines (100DOL--300DOL segment 27), used correctors for Perdido River entrance (North Zone). All other hydrography was plotted with Perdido Bay correctors north of 30°24.1'N (South Zone). ✓

Tidal correctors are:

	<u>High Water</u>	<u>Time (min.)</u>	<u>Low Water</u>	<u>Range Ratio</u>
North Zone	+4:30		+4.30	X 0.61
South Zone	+4:15		+4:15	X 0.59

The correctors are designated in section 5.9 of the project instructions. Approved water levels were requested from the Product and Services Branch, Datums Section, N/OES231, in a letter dated January 20, 1994. A copy is appended to this report.* ✓

* Filed with the hydrographic data.

H. CONTROL STATIONS (See EVAL RPT., Sec. 2)

The horizontal control datum for this project is the North American Datum of 1983. Two horizontal control stations, EDEN (004) and Cal2 (006) were used on this survey. These stations were established to third-order standards with GPS by AHP personnel in November. The Horizontal Control Report for these positions was submitted to N/CG2333 on November 30, 1993. Station 004 served as our GPS base station reference site and station 006 was used for the DGPS performance checkpoint. Positions for these stations are shown in the Control Station list appended to this report. ✓

I. HYDROGRAPHIC POSITION CONTROL (See EVAL RPT., Sec. 2)

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. Ashtech M-XII receiver (S/N 700157E1075) and antenna (S/N 700271A0064) were used for the reference station. An Ashtech sensor (S/N 700417B1207) with antenna (S/N 700378A0467) was used as the remote station on launch 0519. TAD VHF radios were used as the data link between the base station receiver and the launch sensor. The primary GPS reference station site 004 was set at the Eden Condominium on Perdido Key, Florida. Before using the Eden Condominium base station, the program MONITOR was run for this site to check its susceptibility to multi-path problems. This test indicated 100% availability for a 1:10,000 survey scale. Results of this test are included in the Survey Separates.* ✓

Daily DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to our computed third-order position of Cal 2 (006), in Lillian, Alabama. To obtain a performance check, the launch was brought alongside the checkpoint and the Easting, Northing, number of SVs, HDOP, and time of observation were noted in the Daily Log Book. These values were then entered into a Lotus spreadsheet table that would compute the acceptable error margin (based on the HDOP) and our observed difference between our known and observed position. The table of these comparisons is included in the Survey Separates.* All of our observed differences were within the allowed limit. ✓

J. SHORELINE (See EVAL RPT., Sec. 2)

There was no final field sheet for H-10521, as this project was team processed with Pacific Hydrographic Section. The shoreline was transferred by hand from TP-00539 to the field sounding plot in blue ink, with changes shown in red ink. Shoreline verification was accomplished during inshore hydrographic data acquisition and by visual inspection. The reference number descriptions, field notes, and explanations of new shoreline features are on the graphic records, in the log book, or on the ✓

* Filed with the hydrographic data.

boat sheet. The hydrographer recommends that the photogrammetry from CRS No.001593, 1992, be used to update the charted shoreline, with the exception of shoreline changes depicted on the field sheet.

K. CROSSLINES ✓

A total of 13.3 linear nautical miles of crosslines were run, which represents approximately 12% of the main scheme hydrography. Cross line soundings generally agree with the main scheme soundings within 0.3 meters. Unusual high and low tides were visually noted by the hydrographer after periods of sustained north or south winds and/or periods of heavy rainfall. This is believed to be the reason for any variances seen between the crosslines and mainscheme soundings. *These discrepancies were corrected by the application of actual tides.*

L. JUNCTIONS (See EVAL RPT., Sec. 5)

This survey junctions with H-10522 to the northwest, a 1:10,000 scale survey from OPR-J223-AHP, 1993. This survey will also junction with H-10526, also from OPR-J223-AHP, but not yet completed. ✓

Junction soundings between the present survey and H-10522 are in good agreement, with differences of 0.2 meters or less.

M. COMPARISON WITH PRIOR SURVEYS (See EVAL RPT., Sec. 6)

See Pacific Hydrographic Section's Evaluation Report for H-10521.

N. ITEM INVESTIGATION REPORTS ✓

There were no AWOIS investigations assigned to H-10521.

O. COMPARISON WITH THE CHART (See EVAL RPT., Sec. 7)

Comparison is made with the following charts:

<u>Chart No.</u>	<u>Edition</u>	<u>Edition Date</u>	<u>Scale</u>	
11378	26th	Sept, 5, 1992	1:80,000	(Perdido Bay Extension) ✓
11382	34th	March 27, 1993	1:80,000	

There were no dangers to navigation identified on this survey.

In general, soundings from this survey are within 0.3 meter of those charted, except in areas where data was collected during times of adverse weather, as described in section K. ✓

Predicted tides were applied to all elevations and referenced to MLLW, according to Field Procedures Manual part 6.1.2.4.

An uncharted lighted private marker exposed 2.⁰₂ meters, should be charted at 30°26'27.05"N, 087°20'50.5⁰₀"W, position 31.

An uncharted private marker exposed 1.⁰₂ meters, should be charted at 30°24'53.19"N, 087°22'38.3⁰₉"W, position 32.

The charted highway 98 bridge over Perdido Bay near Lillian, AL should be revised using the following positions obtained on the nearshore bridge supports:

position 33.....NE support,	30°24'09.03"N	087°25'34.66"W
position 41.....SE support,	30°24'08.8 ² ₁ "N	087°25'35.76"W
position 35.....SW support,	30°24'27.2 ⁵ ₅ "N	087°26'08.7 ² ₅ "W
position 36.....NW support,	30°24'27.68"N	087°26'08.3 ⁴ ₅ "W

The ends of the bridge fenders associated with the highway 98 bridge should be charted at the following position's:

position 37.....NW fender,	30°24'19.58"N	087°25'52.36"W
position 38.....NE fender,	30°24'18.9 ² ₁ "N	087°25'51.2 ⁷ ₇ "W
position 39.....SE fender,	30°24'17.34"N	087°25'52.23"W
position 40.....SW fender,	30°24'17.9 ⁶ ₆ "N	087°25'53.28"W

The vertical clearance of the highway 98 bridge was measured with a steel tape on DN 343 (reference No.27), and was found to be 40.5 feet at MLLW. The MHW published vertical clearance is 39 feet. *39.7 feet @ MHW (based on predicted tides)*

Shoaling was noted in the vicinity of 30°24'08.32"N, 087°25'36.64"W. This area is exposed 0.2 meter, and extends offshore 50 meters from the southeastern intersect of the highway 98 bridge and the Florida shoreline. The limits of this feature should be charted as shown on the final sounding plot. ✓

Shown in red on the smooth sheet.

The offshore end of a pier, exposed 4.⁰₂ meters should be charted at 30°24'53.79"N, 087°25'56.01"W, position 43. *Shown in red on the smooth sheet.*

The offshore end of pier ruins, exposed 1.⁰₂ meters should be charted at 30°27'13.80"N, 087°21'37.54"W position 44.

An uncharted lighted private marker exposed 2.1 meters, should be charted at 30°25'49.6⁸₉"N, 087°20'23.24"W, position 45.

The foul with pilings limits charted at 30°25'20"N, 087°21'00"W, should be retained, positions 46-60.

A new marsh islet, exposed 0.⁴₅ meter should be charted within Bridge Creek at 30°24'35"N, 087°22'35"W, positions 62-65.

Shown in red on the smooth sheet.

The offshore end of a pier exposed ^{0.9} 2.0 meters should be charted at 30°24'29.43"N, 087°22'29.73"W, position 66. *shown in red on the smooth sheet.*

The offshore end of a pier exposed ^{0.9} 2.0 meters should be charted at 30°24'03.29"N, 087°23'51.12"W, position 67. *shown in red on the smooth sheet.*

The controlling depth to Bayou Marcus was found to be 0.7 meters at 30°25'49.47"N, 087°20'29.77"W, position 1282.45. The charted foul limit near the entrance was found to be still fouled with tree stumps, and it is recommended that this limit be retained as charted. *Concur. (See EVAL RPT, Sec. 6 and survey notes on the smooth sheet)*

The controlling depth to Bridge Creek is ⁸ 0.7 meters at 30°24'44.08"N, 087°22'36.58"W, position 1302.45

It should be noted that all undeveloped shoreline within the surveyed area was found to have numerous cedar tree stumps exposed or partially exposed within approximately 10 meters offshore. *A note has been added to the smooth sheet.*

P. ADEQUACY OF SURVEY ✓

This survey is a complete basic hydrographic survey and is adequate to supersede all prior surveys within the common area. *Concur.*

Q. AIDS TO NAVIGATION ✓

There are no fixed aids to navigation maintained by the U.S. Coast Guard that lie within the survey area.

R. STATISTICS ✓

<u>Description</u>	<u>Quantity</u>
Total Number of Positions	1512
Total Lineal Nautical Miles of Hydrography	144.7
Square Nautical Miles of Hydrography	7.6
Days of Production	13
Detached Positions	21
Bottom Samples	30
Tide Stations	3
Velocity Casts	5

S. MISCELLANEOUS ✓

Bottom samples were taken as directed in Section 6.7 of the Project Instructions. Bottom sample positions are plotted on the overlay submitted with this survey, and are listed on the

Oceanographic Log Sheet-M, NOAA Form 75-44, which is included in the Survey Separates. *Filed with the hydrographic data*

The following predicted tidal anomalies were observed during this survey:

Extremely low water levels were evident after prolonged northerly winds. Smooth tides should correct the inconsistencies between 1993 and 1994 soundings.

These discrepancies were corrected after the application of actual tides.

Water levels of 0.2 to 0.3 meters above normal were observed after periods of heavy rainfall.

Variances of +/- 0.4 meters may be observed on the submitted field sounding plot as a result of the above mentioned anomalies.

There are no cable, pipeline, nor ferry crossing areas located within the survey limits. ✓

T. RECOMMENDATIONS

The hydrographer recommends that the following two notices be placed on the chart in the vicinity of Perdido Bay, north of the *concur.* highway 98 bridge:

"Numerous tree stumps lie within 10 meters of shore in all undeveloped shoreline areas, north of the highway 98 bridge. Mariners should exercise caution when transiting near shore." ✓

"Mariners should be aware that numerous deadheads may be present throughout the area north of a line between Grassy Point and Double Point after heavy periods of rainfall." ✓

U. REFERRAL TO REPORTS

<u>Title</u>	<u>Transmittal Information</u>	
Descriptive Report to Accompany Survey H-10522,	Pacific Hydrographic Section N/CG245, Seattle, WA (1/10/94)	
Horizontal Control Report for OPR-J223-AHP	Field Photogrammetry Section N/CG233, Seattle, WA (11/30/93)	✓
Chart Sales Agent Report	Chart Distribution Branch N/CG33, Silver Spring, MD (1994)	

Title

Transmittal Information

User Evaluation Report

Pacific Hydrographic Section
N/CG245, Seattle, WA (1994)

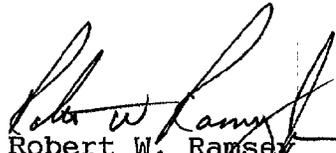
Chart Inspection Report

Atlantic Hydrographic Section
N/CG244, Norfolk, VA (1994)

Coast Pilot Report

Pacific Hydrographic Section
N/CG245, Seattle, WA (1994)

Submitted by:



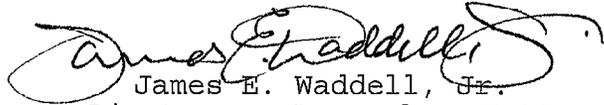
Robert W. Ramsey
Atlantic Hydrographic Party Two

APPROVAL SHEET

BASIC HYDROGRAPHIC SURVEY
OPR-J223-AHP
AHP-10-15-93
H-10521
1993

This basic hydrographic survey was conducted in accordance with the project instructions for OPR-J223-AHP, the Hydrographic Manual, the Hydrographic Survey Guidelines, and the Field Procedures Manual. All reports were reviewed by Mr. Brian Link, Assistant Chief of Party. The final sounding plot and descriptive report were reviewed and approved by LCDR James E. Waddell, Jr., Chief of Party. All supporting data and records were approved through Team Processing with Pacific Hydrographic Section in Seattle, Washington.

This survey is a complete basic hydrographic survey for the area described in Section B of this report.



James E. Waddell, Jr.
Lieutenant Commander, NOAA
Chief, Atlantic Hydrographic Party



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Silver Spring, Maryland 20910

ORIGINAL

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: May 24, 1994

MARINE CENTER: Pacific

HYDROGRAPHIC PROJECT: OPR-J223-AHP

HYDROGRAPHIC SHEET: H-10521

LOCALITY: Perdido Bay, Florida, Nix Point to Eleven Mile Creek

TIME PERIOD: December 6, 1993 - January 14, 1994

TIDE STATION USED: 872-9840 Pensacola, Fl.
Lat. $30^{\circ} 24.2'N$ Lon. $87^{\circ} 12.8'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 8.28 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.2 ft.

TIDE STATION USED: 872-9949 North Perdido River, U.S. Hwy. 90, Fl.
Lat. $30^{\circ} 31.4'N$ Lon. $87^{\circ} 26.6'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.76 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.8 ft.

TIDE STATION USED: 872-9962 Perdido Heights, Perdido Bay, Fl.
Lat. $30^{\circ} 23.6'N$ Lon. $87^{\circ} 25.5'W$

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 2.52 ft.
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.7 ft.



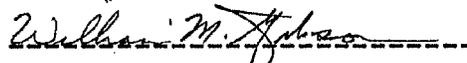
H-10521 (continued)

Remarks: RECOMMENDED ZONING

1. Northeast of a line between Grassy Point and Double Point in Perdido Bay, apply a +15 minute time correction and heights are direct on Perdido Heights, Fl. (872-9962). When data is not available for Perdido Heights, Fl., apply a -45 minute time correction and heights are direct on North Perdido River, Fl. (872-9949). When data is not available for either of the above stations, apply a +3 hour 15 minute time correction, and a X0.60 range ratio to Pensacola, Fl. (872-9840).
2. Southwest of a line between Grassy point and Double Point in Perdido Bay, times and heights are direct on Perdido Heights, Fl. (872-9962). When data is not available for Perdido Heights, Fl., apply a -1 hour time correction and heights are direct on North Perdido River, Fl. (872-9949). When data is not available for either of the above two stations, apply a +3 hour 00 minute time correction, and a X0.60 range ratio to Pensacola, Fl. (872-9840).

Note: North Perdido River, Fl. (872-9949) and Pensacola, Fl. (872-9840) are used to provide data during periods when the station required for the survey area (Perdido Bay) had invalid data causing breaks in the series. Zoning correctors are based on general time and range differences. However, these may not represent conditions over the entire series. Also, river influences and localized meteorological conditions in Perdido River and Pensacola Bay may have a different effect on the water levels from Perdido Bay. Therefore, data from Perdido River and Pensacola Bay should be used with caution.

Note: Times are tabulated in Central Standard Time.


CHIEF, DATUMS SECTION

GEOGRAPHIC NAMES

H-10521

Name on Survey

A ON CHART NO. 1378
NO. 11382
B ON PREVIOUS SURVEY
NO. H-5853
C ON U.S. QUADRANGLE
MAPS
D FROM LOCAL
INFORMATION
E ON LOCAL MAPS
F P.O. GUIDE OR MAP
G RAND McNALLY
ATLAS
H U.S. LIGHT LIST
K TP-005539

Name on Survey	A	B	C	D	E	F	G	H	K	
ALABAMA	X									1
BRIDGE CREEK	X	X							X	2
CHAGRIN POINT	X								X	3
CUMMINGS POINT	X								X	4
DOUBLE POINT	X								X	5
ELEVENMILE CREEK	X								X	6
FLORIDA	X								X	7
GRASSY POINT	X								X	8
LILLIAN	X								X	9
MARCUS, BAYOU	X	X							X	10
MILLVIEW	X								X	11
NIX POINT	X								X	12
PARADISE BEACH	X								X	13
PERDIDO BAY	X								X	14
PERDIDO HEIGHTS									X	15
RAMSEY BEACH									X	16
YOUNGS HAMMOCK									X	17
										18
										19
										20
										21
										22
										23
										24
										25

Approved

Charles E. Harty
Chief Geographer - w/c/2/25

MAR 22 1994

RECORDS ACCOMPANYING SURVEY: To be completed when survey is processed.

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/SOURCE DOCUMENTS
ACCORDION FILES	1				
ENVELOPES					
VOLUMES					
CAHIERS					
BOXES					

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List):

OFFICE PROCESSING ACTIVITIES
The following statistics will be submitted with the cartographer's report on the survey

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	EVALUATION	TOTALS
POSITIONS ON SHEET			1512
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	57.5		57.5
VERIFICATION OF SOUNDINGS	143.0		143.0
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	4.0		4.0
COMPARISON WITH PRIOR SURVEYS AND CHARTS		7.0	7.0
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT			
GEOGRAPHIC NAMES		22.0	22.0
OTHER			
USE OTHER SIDE OF FORM FOR REMARKS	TOTALS	204.5	29.0
			233.5

Pre-processing Examination by LT D. Haines	Beginning Date 12/6/93	Ending Date 3/8/94
Verification of Field Data by I. Almacen, J. Stringham	Time (Hours) 204.5	Ending Date 4/1/95
Verification Check by I. Almacen	Time (Hours) 27.0	Ending Date 11/22/94
Evaluation and Analysis by I. Almacen	Time (Hours) 29.0	Ending Date 5/24/95
Inspection by R. DAVIES	Time (Hours) 4.0	Ending Date 7/24/95

EVALUATION REPORT H-10521

1. INTRODUCTION

Survey H-10521 is a basic hydrographic survey accomplished by the Atlantic Hydrographic Party under the following Project Instructions.

OPR-J223-AHP, dated September 25, 1992
CHANGE NO. 1, dated January 4, 1993
CHANGE NO. 2, Dated October 13, 1993

This survey was conducted in Perdido Bay, Florida/Alabama covering the northern portion of the bay. The surveyed area extends from the vicinity of Nix Point at latitude 30/23/30N up to the entrance to Perdido River and Elevenmile Creek at latitude 30/27/30N. This survey was conducted to obtain the latest information for the maintenance of existing nautical charts of the area. The bay area was last surveyed by the U.S. Coast and Geodetic Survey in 1935. The bottom consists entirely of mud. Depths range from -1.4 to 3.8 meters.

Depth curves depicted on the smooth sheet are the 1, and 2 meters, as noted on the smooth sheet.

Predicted tides for Pensacola, Florida were used for the reduction of soundings during field processing. Approved hourly heights zoned from Pensacola, Florida, gage 872-9840; North Perdido, Florida, gage 872-9949; and Perdido Heights, Florida, gage 872-9962, were used during office processing. Sustained strong northerly winds and periods of heavy rainfall during the time of the survey have significantly affected the level of the water around the bay. These tidal inconsistencies were corrected after the application of actual tides.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. NAD 83 is used as the horizontal datum for plotting and position computation. The offset values and sound velocity correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

Survey data were processed at PHS utilizing the same Hydrographic Data Acquisition and Processing System (HDAPS) software used in the field, the Hydrographic Processing System (HPS) and AutoCAD.

A digital file has been generated for this survey that includes categories of information required to comply with Hydrographic Survey Guidelines No. 75, Standard Digital Data Exchange Format, March 22, 1994. Certain descriptive information, however, may not be identified due to the limited number of the presently available codes. The user should refer to the smooth sheet for complete information.

The presently available digital data is in a .DBF format compiled using dBase IV. The smooth sheet was compiled using AutoCAD, Release 12, and that data is available in .DXF or .DWG format. These data are currently held by Pacific Hydrographic Branch. Pending the completion of ongoing development, the data will be converted to Internal Data Format (IDF) and will then be available from Hydrographic Surveys Division.

2. CONTROL AND SHORELINE

Sections H and I of the hydrographer's report and the 1993 Horizontal Control Report for OPR-J223-AHP, contain adequate discussions of horizontal control and hydrographic positioning.

Differential GPS (DGPS) was used to control this survey. GPS station EDEN, 1993, was used as the DGPS reference station for this survey. With the exception of one position where the maximum allowable horizontal dilution of precision (HDOP) limit of 3.75 has been exceeded, the quality of the data obtained during this survey is considered good. The DGPS performance checks conducted in the field were adequate.

Positions of horizontal control stations used during hydrography are 1993 field values based on NAD 83.

The smooth sheet compiled through AutoCAD is annotated with NAD 27 adjustment ticks based on values determined with NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: 0.712 seconds (21.927 meters)
Longitude: -0.084 seconds (-2.231 meters)

The year of establishment of control stations shown on the smooth sheet originates with the horizontal control records for this survey.

The applicable shoreline manuscript for this survey is TP-00539, compiled at the scale of 1:20,000 and photographically enlarged to 1:10,000. A cartographic revision survey (CRS#001593) was compiled on this shoreline map and reviewed based on the June 1992 NOS photography.

Shoreline and offshore features were verified during this survey. New piers, pier ruins, foul areas, marsh islet and the new location of Lilian Bridge (Highway 98) are some of the features found during shoreline verification. A detailed discussion of these features is included in section J of the hydrographer's report. Revisions to the MHW line and attached cultural features are depicted in red on the smooth sheet when supported by positional information.

3. HYDROGRAPHY

Except as noted elsewhere in this report, hydrography is adequate to;

- a. delineate the bottom configuration, determine least depths, and draw the standard depth curves;
- b. reveal there are no significant discrepancies or anomalies requiring further investigation;
- c. show the survey was properly controlled and soundings are correctly plotted.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, and the Field Procedures Manual, April 1994 edition with the following exception:

Certain breaks in the tide records from station Perdido Heights at the time of hydrography were noted during tide processing. These resulted in the creation of additional tide zones to cover the breaks utilizing the data from the other tide stations located in Pensacola and Perdido River.

5. JUNCTIONS

Survey H-10521 junctions with the following survey.

<u>Survey</u>	<u>Year</u>	<u>Scale</u>	<u>Area</u>
H-10522	1993	1:10,000	Northwest
H-10526	1994	1:10,000	Southwest

The junctions with surveys H-10522 and H-10526 are complete. These surveys were both compiled using AutoCAD and the junction comparisons are considered satisfactory.

6. COMPARISON WITH PRIOR SURVEYS

H-5833 (1935) 1:20,000

Survey H-5833 was the only survey of the bay undertaken by USC&GS since 1935. It covers the entire area of the present survey. The shoreline has generally changed around the bay since the last survey. The present soundings are generally deeper by about 0.3 meter (1ft.). The mud sediment around the north end of the bay have moved closer to the shore particularly around the entrance to Perdido River. Deadheads still exist around the area of

the bay after periods of heavy rainfall. Tree stumps located within 10 meters offshore along the undeveloped area north of Lilian Bridge (Highway 98) were noted during this survey.

Survey H-10521 is adequate to supersede the prior survey for the area of common coverage.

7. COMPARISON WITH CHART

Chart 11378 (SC), 26th Edition, September 5, 1992; scale 1:80,000

a. Hydrography

Charted hydrography originates with the prior survey mentioned in section 6 and from miscellaneous sources and requires no further discussion.

Lilian Bridge (Highway 98) was positioned and the vertical clearance of the bridge was verified during this survey. The clearance was found to be 40.5 feet at MLLW (39.7 feet at MHW) based on predicted tides. The presently charted bridge clearance is 39 feet at MHW.

Survey H-10521 is adequate to supersede charted hydrography within the common area.

b. AWOIS

There are no AWOIS item investigations assigned to this survey.

c. Controlling Depths

There are no channels with charted controlling depths found within the survey area.

d. Aids to Navigation

There are three (3) privately maintained markers located during this survey and two of these markers are lighted. These markers are in good condition and serve their intended purpose. The privately maintained light charted at latitude 30/25/50N, longitude 87/20/30W, was not found on this survey, however, a new privately maintained lighted marker was located further inside the entrance to Bayou Marcus at latitude 30/25/49.7N, longitude 87/20/23.4W. One landmark was located by the hydrographer. No additional landmarks are recommended for charting.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

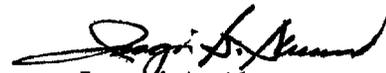
Except for the presence of deadheads and tree stumps around the area of the bay mentioned in the hydrographer's report and in section 6 of this report, there are no other dangers to navigation found during this survey. Concur with the hydrographer's recommendation that precautionary notes should be shown on the chart concerning these features.

8. COMPLIANCE WITH INSTRUCTIONS

Survey H-10521 adequately complies with the project instructions.

9. ADDITIONAL FIELD WORK

This is a good hydrographic survey and no additional field work is recommended.


Isagani A. Almacén
Cartographer

APPROVAL SHEET
H-10521

Initial Approvals:

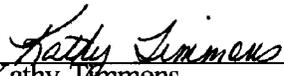
The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The digital data have been completed and all revisions and processing have been entered in the magnetic tape record for this survey. Final control, position, and sounding printouts have been made and are included with the survey records. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.



Russ Davies
Cartographer, Cartographic Section
Pacific Hydrographic Branch

Date: 7-24-95

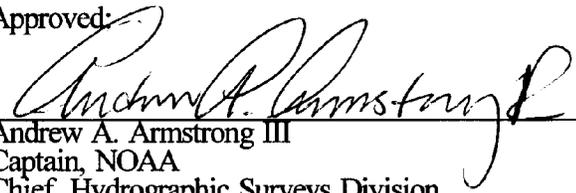
I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.



Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

Date: 7/27/95

Final Approval

Approved: 

Andrew A. Armstrong III
Captain, NOAA
Chief, Hydrographic Surveys Division

Date: Jan 8, 1997

