

D00132

NOAA FORM 76-35A

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

## DESCRIPTIVE REPORT

*Type of Survey* RECONNAISSANCE

*Field No.*

*Registry No.* D00132

### LOCALITY

*State* MICHIGAN

*General Locality* DETROIT RIVER

*Locality* SOUTHERN PORTION

OF DETROIT RIVER

2000

CHIEF OF PARTY  
BRIAN LINK

LIBRARY & ARCHIVES

DATE

**HYDROGRAPHIC TITLE SHEET**

D00132

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.

20-10-01  
~~HPS Plotter Sheet 10~~

State Michigan

General locality Detroit River

Locality ~~1 mile N. of Fighting to Millville Beach~~ SOUTHERN PORTION OF DETROIT RIVER

Scale 1:20,000

Date of survey April 17, 2000 - July 26, 2000

Instructions dated 5-15-0

Project No. OPR-W408-NRB

Vessel NOAA Launch 1211

Chief of party Brian A. Link

Surveyed by Navigation Response Team 1

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

Graphic record scaled by MJM, JBG\*

Graphic record checked by MJM, JBG\*

Protracted by \_\_\_\_\_ Automated plot by \_\_\_\_\_

Verification by Atlantic Hydrographic Branch PERSONNEL

Soundings in fathoms      feet      at MLW      MLLW IGLD 1985\*\*

REMARKS: \* MJM - Mark J. McMann, JBG - John B. Gaskin

\*\* Soundings plotted and referenced in reports in feet but acquired in meters.

NOTES WRITTEN IN BLACK WERE MADE DURING OFFICE PROCESSING.

**Descriptive Report to Accompany  
Hydrographic Survey D00132  
OPR-W408-NRB  
Scale: 1:~~10,000~~ 20,000  
Navigation Response Team 1 - Launch 1211  
Brian A. Link - Team Leader**

This survey was conducted according to Port Instructions OPR-W408-NRB, Detroit and St. Clair Rivers, Michigan, dated May 15, 2000. This survey covers the Detroit River from 1.0 mile north of Fighting Island south to a line crossing the mouth at Lake Erie from Milleville Beach, Michigan to Bar Point, Ontario, Canada.

The purpose of this reconnaissance survey is to provide single-beam echo sounder hydrography at 100-meter line spacing throughout the survey area. This data was requested by the State of Michigan, Department of Environmental Quality, Source Water Assessment Program and the City of Detroit Water and Sewerage Department. The bathymetry will be used to enhance an existing preliminary flow model of the river to identify likely sources of water to public supply intakes and to provide a basis for coordinating real-time responses to contaminant spills. The hydrography will also be used to update the nautical charts.

**A. AREA SURVEYED**

The sheet letter for this survey is A.

The approximate survey area limits are:

North - 42°15'38"N  
South - 42°02'17"N  
East - 083°06'00"W  
West - 083°11'39"W

This survey was conducted from April 17, 2000 (DN 108) to June 2, 2000 (DN 154) with cross lines run on July 26, 2000 (DN 208).

**B. DATA ACQUISITION AND PROCESSING SEE ALSO EVALUATION REPORT**

**B1. Equipment**

An Innerspace model 448 depth sounder, S/Ns 186 was used to acquire all echo soundings on this survey. A standard lead line calibrated in meters, S/N 1211, was used during this survey for comparison with the echo sounder. No problems were encountered with any of the sounding

equipment.

A Starlink DGPS Beacon Receiver (S/N 855) was used as the remote station on launch 1211.

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler, model 19-03, S/N 192276-287.

NOAA launch 1211, a 27-foot SeaArk with a draft of 0.5 meters, was used to collect all survey data. There were no unusual vessel configurations or problems encountered with the vessel on this survey, however launch 1211 was totally destroyed by fire on August 19, 2000.

## **B2. Quality Control**

The integrity of the survey data for D00132 is insured by adherence to the Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables Manual, June 2000.

Cross lines run on this survey represented 10.6% of the total main scheme mileage. The cross line soundings were within 1 foot of the main scheme hydrography throughout the survey area.

The lead line for launch 1211 was calibrated using a steel tape on April 17, 2000. No corrections were necessary. A static draft of 0.5 meters was applied to the sounding plots by the HPS REAPPLY program. The draft was measured by subtracting the difference from a punch mark on the side of launch 1211, 0.6 meter above the transducer, to the water surface.

Settlement and squat measurements for launch 1211 were taken on the previous survey, however the exact date could not be readily determined. The source data was not available because of the shut down of the field party which conducted this survey, causing the temporary abandonment of the trailer housing this information. These measurements were conducted in Tampa Bay, FL using the level method. Settlement and squat correctors were applied to the sounding plots using the HPS REAPPLY program.

Differential GPS (DGPS) was used for all hydrographic data acquired on this survey. DGPS performance checks were conducted in accordance with FPM 3.4.4 by comparing the DGPS position of the vessel to a calibration point determined using the Trimble Pro XRS portable GPS system. The point was set at the launch mooring location, which for this survey was at the USACE Fort Wayne boatyard facility. All records of the calibrations were destroyed in the fire which consumed launch 1211 on August 19, 2000. None of the calibration values exceeded tolerances.

## **B3. Corrections to Echo Soundings**

There are no deviations to be discussed in this section. Refer to Section C. **Correction to Echo Soundings** of the Data Acquisition and Processing Report (copy appended). \*

\* DATA FILED WITH FIELD RECORDS.

## C. VERTICAL AND HORIZONTAL CONTROL SEE ALSO EVALUATION REPORT

The instrument used for determining corrections for the speed of sound through the water column was a Seabird-Seacat Velocity Profiler. Data quality assurance tests were performed after each cast. Program VELOCITY was used for computing the correctors. Corrections were applied to the sounding plot using the HPS REAPPLY program.

Field water level reduction of soundings is based on unverified actual water levels from the NOAA/CO-OPS website. The Center for Operational Oceanographic Products and Services provided zoning correctors for the project area. The zoning equations provided were more complex than the HDAPS processing software program was configured for. Therefore, in the interest of timely field data processing, field zoning based on interpolating the area between the gages, then applying correctors direct from the closest gage, was used for field processing. All soundings on this survey are corrected to IGLD 1985. APPROVED TIDES AND ZONES WERE APPLIED DURING OFFICE PROCESSING.

The horizontal control datum for this project is the North American Datum (NAD) of 1983. The control reference station used for this survey was the USCG DGPS beacon Detroit, MI (Station ID #838), located at 42°17.8' N; 083°5.7' W.

## D. RESULTS AND RECOMMENDATIONS SEE ALSO EVALUATION REPORT.

### D1. Chart Comparison

Hydrography acquired on this survey was compared with chart 14848, 55<sup>th</sup> edition, November 22, 1997.

Soundings from this survey generally agree with charted soundings to within one foot throughout the survey area with the following exceptions:

- A finger shoal at <sup>42/14/46.47 83/07/24.18</sup>~~42-246242, 83-123384~~ currently charted at 27 feet shows evidence of receding, by the surveyed depth of 29 feet. CONCUR
- The area adjacent to the west side of the Ballards <sup>REEF</sup>~~Reed~~ Channel between 42°09'24.5"N, 83°07'54.5"W and 42°08'33.8"N, 83°07'40.5"W was found to be as much as seven feet deeper than charted. CONCUR
- The natural channel between 42°06'00.2"N, 83°08'14.4"W and 42°05'53.2"N, 83°08'27.8"W was found ~~two to three~~ <sup>ONE TWO</sup> feet deeper than charted. CONCUR
- The six foot shoal bounded by: 42°03'54.5"N, 83°08'55.1"W; 42°03'54.3"N, 83°08'07.7"W; 42°02'45.1"N, 83°08'50.3"W; 42°02'43.8"N, 83°08'20.2"W; was found

as much as seven feet deeper than charted. Depths, which fall within the 6-foot depth curve still exist in this area, but are now isolated shoals. CONCUR

- o No evidence of a three-foot shoal at 42°03'32.0"N, 83°07'21.0"W was found by this survey. Depths over this shoal are now ~~nine and ten~~ <sup>SIX</sup> feet. CONCUR

The above exceptions were the only areas of note, when considering that no sounding developments were done because of time limitations.

No AWOIS items were assigned for this project because of the perceived [during project planning] time constraints to complete the higher priority bathymetry.

There were no Danger to Navigation reports submitted for this survey.

## D2. Additional Results

Shoreline investigation was limited to comparison with the vector data set for three ENC cells supplied by the Marine Chart Division. The cells were located in and around the Rouge River/Zug Island area and the Trenton channel. High accuracy DGPS positions were acquired when the actual existing conditions did not agree with the ENC cell. The south bridge over to Grosse Ile was included in the high accuracy positions that were obtained on this survey. This work is discussed as part of FE00464.

There were no Prior Survey comparisons conducted by the hydrographer for this survey.

No aids to navigation were located during this survey due to time constraints. SEE SECTION D2.2. OF THE EVALUATION REPORT.

There are numerous bridges, cables, pipelines, and crossing signs throughout the survey area. These regions were visually identified and compared to the raster and vector charts. No changes are recommended. Ferry routes are accurately charted and require no changes or additions to the charts. CONCUR

**APPROVAL SHEET**  
**Reconnaissance Survey**  
**OPR-W408-NRB**  
**D00132**  
**April - July 2000**

This reconnaissance survey was conducted in accordance with the Project Instructions for OPR-W408-NRB, the Hydrographic Manual, the Hydrographic Survey Guidelines, the Field Procedures Manual and the Hydrographic Specifications and Deliverables Manual. All reports, records, and survey plots were reviewed by the team leader. The team leader directly supervised this survey.

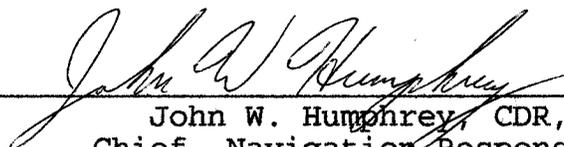
This survey is a complete reconnaissance survey for the areas described in Section A of this report.



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Brian A. Link

. Team Leader, Navigation Response Team 1



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John W. Humphrey, CDR, NOAA  
Chief, Navigation Response Branch



WATER LEVEL NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 12, 2001

HYDROGRAPHIC BRANCH: Atlantic  
HYDROGRAPHIC PROJECT: OPR-W408-NRT1-2000  
HYDROGRAPHIC SHEET: D00132

LOCALITY: Southern Detroit River, MI  
TIME PERIOD: April 17 - June 2, 2000

WATER LEVEL STATION: 906-3090 Fermi Power Plant, MI  
Lat. 42° 57.6'N Lon. 83° 15.5'W  
PLANE OF REFERENCE (IGLD 85): 173.50 meters

WATER LEVEL STATION: 904-4020 Gibraltar, MI  
Lat. 42° 5.5'N Lon. 83° 11.2'W  
PLANE OF REFERENCE (IGLD 85): 173.56 meters

WATER LEVEL STATION: 904-4030 Wyandotte, MI  
Lat. 42° 12.2'N Lon. 83° 8.8'W  
PLANE OF REFERENCE (IGLD 85): 173.92 meters

WATER LEVEL STATION: 904-4036 Fort Wayne, MI  
Lat. 42° 17.9'N Lon. 83° 5.6'W  
PLANE OF REFERENCE (IGLD 85): 174.07 meters

REMARKS: RECOMMENDED ZONING

WATER SURFACE COMPUTATIONS

<u>Zone</u>	<u>Equation</u>	<u>Station #</u>	<u>Station Name</u>
LE	A	A=906-3090	Fermi Power Plant
DR001	B-1/2 (B-A)	B=904-4020	Gibraltar
DR002	B	C=904-4030	Wyandotte



WATER LEVEL NOTE FOR HYDROGRAPHIC SURVEY SHEET D00132 cont.

<u>Zone</u>	<u>Equation</u>	<u>Station #</u>	<u>Station Name</u>
DR003	C-11/12 (C-B)	D=904=4036	Fort Wayne
DR103	C-11/12 (C-B)		
DR004	C-5/6 (C-B)		
DR104	C-5/6 (C-B)		
DR005	C-3/4 (C-B)	A=906-3090	Fermi Power Plant
DR105	C-3/4 (C-B)	B=904-4020	Gibraltar
DR006	C-2/3 (C-B)	C=904-4030	Wyandotte
DR106	C-2/3 (C-B)	D=904=4036	Fort Wayne
DR007	C-7/12 (C-B)		
DR107	C-7/12 (C-B)		
DR008	C-1/2 (C-B)		
DR108	C-1/2 (C-B)		
DR009	C-5/12 (C-B)		
DR109	C-5/12 (C-B)		
DR010	C-1/3 (C-B)		
DR110	C-1/3 (C-B)		
DR011	C-1/4 (C-B)		
DR111	C-1/4 (C-B)		
DR012	C-1/6 (C-B)		
DR112	C-1/6 (C-B)		
DR013	C-1/2 (C-B)		
DR113	C-1/2 (C-B)		
DR014	C		
DR015	D-4/5 (D-C)		
DR016	D-3/5 (D-C)		
DR017	D-2/5 (D-C)		

Note 1: Provided time series data are tabulated in metric units (meters), relative to International Great Lakes Datum of 1985 (IGLD 85) and on Greenwich Mean Time.

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*Thomas N. Mera* 2/14/01  
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 CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION

**LETTER TRANSMITTING DATA**

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

- ORDINARY MAIL       AIR MAIL  
 REGISTERED MAIL       EXPRESS  
 GBL (Give number) \_\_\_\_\_

DATE FORWARDED  
08/02/2005

NUMBER OF PACKAGES  
1

**TO:**

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

**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.

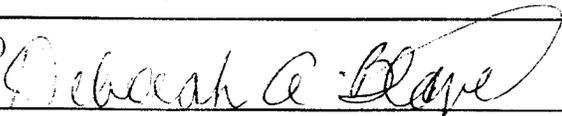
D00132

MICHIGAN, DETROIT RIVER, SOUTHERN PORTION OF DETROIT RIVER

ONE TUBE CONTAINING THE FOLLOWING:

- 1 SMOOTH SHEET PLOT FOR SURVEY D00132
- 9 MYLAR H-DRAWING PLOTS FOR NOS CHART 14853
- 1 RECORD OF APPLICATION TO CHART FORM FOR SURVEY D00132

FROM: (Signature)



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 D00132 (2000)**

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. AUTOMATED DATA ACQUISITION AND PROCESSING**

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

Hydrographic Processing System (HPS)  
NADCON, version 2.10  
SITEWORKS 02.01  
MicroStation 95, version 5.05  
I/RAS B, version 5.01

The smooth sheet was plotted using an HEWLETT-PACKARD 2500CP plotter.

**C. HORIZONTAL CONTROL**

Horizontal control used for this survey during data acquisition is based upon the North American Datum of 1983 (NAD 83). Office processing of this survey is based on these values.

**D1. COMPARISON WITH CHART 14848 (55<sup>th</sup> Edition, NOV 22/1997)  
14853 (15<sup>th</sup> Edition, MAY 2004)**

**Hydrography**

The charted hydrography originates with prior surveys and miscellaneous sources. The hydrographer makes adequate chart comparisons in Section D1. of the Descriptive Report. The following should be noted:

1. A charted notation Reported dredged 3<sup>1/2</sup>ft 1992, in the vicinity of Latitude 42°04'37.5"N, Longitude 83°11'14.0"W on NOS chart 14853, sheet 2, originates with an unknown source and was only partially investigated by the present survey. Inside the portion of the channel covered by the present survey, the least depth found was two feet. It is recommended that the charted note be revised to 2 feet 2000.

2. Visible piles (2), charted in the vicinity of Latitude 42°13'24.5"N, Longitude 83°08'25.2"W on NOS chart 14853, sheet 5, originate with an unknown source and was not thoroughly investigated by the present survey. The present survey disproved

the existence of visible piles. It is recommended that the visible piles be revised to subm piles.

3. Charted shoal limits in the vicinity of Latitude 42°11'34.0"N, Longitude 83°07'21.0"W on NOS chart 14853, sheets 5, 8 and 9 originate with an unknown source and were disproved by the present survey. It is recommended that the above shoal limits be removed from the chart.

4. The pile charted in the vicinity of Latitude 42°04'26.9N, Longitude 83°07'00.8"W on NOS chart 14853, sheet 6, originates with an unknown source and was neither verified nor disproved by the present survey. The present survey disproved the existence of a visible pile. It is recommended that the pile be revised to a subm pile.

5. The charted dumping ground centered in the vicinity of Latitude 42°03'37"N, Longitude 83°07'46"W on NOS chart 14853, sheet 6, originates with an unknown source and was covered by the present survey. Present survey depths are 7 feet to 20 feet. It is recommended that the chart be updated with depths from the present survey.

6. Charted shoal limits in the vicinity of Latitude 42°07'49.8"N, Longitude 83°07'32.3"W on NOS chart 14853, sheet 7, originate with an unknown source and were covered by the present survey. The charted shoal limits should be revised to reflect findings on the present survey.

7. A charted dangerous submerged Obstruction with a 2ft least depth (rep 1993), in the vicinity of Latitude 42°08'10.8"N, Longitude 83°07'21.0"W on NOS chart 14853, sheet 7, originates with an unknown source and was not disproved by the present survey. Present survey depths in the area are 16 to 33 feet. It is recommended that this dangerous submerged Obstruction with a 2ft least depth (rep 1993) be retained.

8. A charted dangerous submerged Obstruction with an unknown depth, in the vicinity of Latitude 42°08'30.1"N, Longitude 83°07'30.5"W on NOS chart 14853, sheet 7, originates with an unknown source and was not disproved by the present survey. Present survey depths in the area are 15 to 31 feet. It is recommended that this dangerous submerged Obstruction with an unknown depth be retained.

9. A charted dangerous sunken wreck, in the vicinity of Latitude 42°06'06.1"N, Longitude 83°07'46.3"W, on NOS chart 14853, sheet 7, originates with an unknown source and was found by the present survey to be a visible wreck in Latitude 42°06'06.2"N, Longitude 83°07'47.3"W. It is recommended that the charted sunken wreck be deleted and that a visible wreck be charted in present survey location.

10. Three charted shoals in the vicinity of Latitude 42°09'19.90"N, Longitude 83°06'48.52"W on NOS chart 14853, sheet 8, originate with an unknown source and were disproved by the present survey. Present survey depths in the area are 2 to 3 feet. It is recommended that these shoals be deleted and the area be updated with present survey data.

11. The charted shoal with limits in the vicinity of Latitude 42°10'44.10"N, Longitude 83°07'21.50"W to limits in the vicinity of Latitude 42°11'33.30"N, Longitude 83°07'18.60"W on NOS chart 14853, sheet 8, originates with an unknown source and was disproved by the present survey. Present survey depths in the area are 1 to 2 feet. It is recommended that the shoal be deleted and the area updated with present survey data.

12. Visible piles (3) in the vicinity of Latitude 42°10'15.1"N, Longitude 83°08'29.9"W on NOS chart 14853, sheet 8, was not thoroughly investigated nor disproved by the present survey. The present survey disproved the existence of visible piles. It is recommended that the visible piles be revised to subm piles.

13. The charted dangerous sunken wreck, PA, in the vicinity of Latitude 42°11'30"N, Longitude 83°07'49"W, on NOS chart 14853, sheet 8, was not disproved by the present survey. It is recommended that this charted sunken wreck PA retained as charted.

14. The charted group of shoals with its southern limit in the vicinity of Latitude 42°10'35.90"N, Longitude 83°07'53.60"W and its northern limit in the vicinity of Latitude 42°11'09.60"N, Longitude 83°07'47.0"W on NOS chart 14853, sheet 8, originates with an unknown source and was neither verified nor disproved by the present survey. Present survey depths in the surrounding area are 1 to 2 feet. It is recommended that this shoal area be retained as charted.

15. Charted shoal limits in the vicinity of Latitude 42°11'10.2"N, Longitude 83°06'39.5"W on NOS chart 14853, sheet 8, originate with an unknown source and were partially covered by the present survey. The charted limits should be revised to reflect findings on the present survey.

16. Visible piles (5) in the vicinity of Latitude 42°10'47.1"N, Longitude 83°08'34.2"W on NOS chart 14853, sheets 4 and 8, was not thoroughly investigated nor disproved by the present survey. The present survey disproved the existence of visible piles. It is recommended that the visible piles be revised to subm piles.

17. The charted shoal limits in the vicinity of Latitude 42°11'22.3"N, Longitude 83°07'04.3"W on NOS chart 14853, sheet 8, originate with an unknown source and were partially covered by the present survey. The charted limits should be revised to reflect findings on the present survey.

18. A charted Rk note, in the vicinity of Latitude 42°11'51.1"N Longitude 83°08'14.3"W on NOS chart 14853, sheets 4, 5, 8, and 9, originates with an unknown source, and was neither verified nor disproved by the present survey. Present survey depths in the surrounding area are 1 to 2 feet. It is recommended that this Rk note be retained as charted.

19. Visible piles (3) in the vicinity of Latitude 42°11'38.0"N, Longitude 83°08'09.0"W, on NOS chart 14853, sheets 4, 5 and 9, was neither verified nor disproved by the present survey. There is a discrepancy between sheets 4, 5 and 9. Sheets 4 and 9 have 3 piles charted and sheet 5 only has 2. Items are deferred to MCD Update Source Branch for charting corrections.

20. Subm piles (7) in the vicinity of Latitude 42°14'32.7"N, Longitude 83°06'34.8"W, on NOS chart 14853, sheets 9 and 10 was neither verified nor disproved by the present survey. There is a discrepancy between sheets 9 and 10. Sheets 9 has 7 piles charted and sheet 10 has 8. Items are deferred to MCD Update Source Branch for charting corrections.

21. The following charted depths and features fall inside the survey limits and were neither verified nor disproved by the present survey. It is recommended that they be retained as charted.

## Chart 14853 sheet 2

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Obstruction Rep PA	42°03'13.6"N	83°10'48.5"W
Dangerous rock awash	42°03'57.0"N	83°11'07.0"W
1ft depth	42°03'12.6"N	83°11'01.9"W
Dangerous rock awash	42°04'41.2"N	83°10'33.9"W
Dangerous rock awash	42°04'43.0"N	83°10'32.8"W
Dangerous rock awash	42°04'43.9"N	83°10'34.4"W
Dangerous rock awash	42°04'43.9"N	83°10'35.5"W
Rock awash	42°04'30.3"N	83°10'25.5"W
Rock awash	42°04'28.2"N	83°10'25.1"W
Dangerous rock awash	42°04'40.9"N	83°10'07.2"W
Dangerous rock awash	42°04'46.5"N	83°10'10.8"W
Shoal	42°04'43.4"N	83°11'07.5"W
Dangerous rock awash	42°04'01.1"N	83°11'03.9"W
Dangerous rock awash	42°04'01.0"N	83°11'02.6"W
1ft depth	42°04'41.6"N	83°11'31.1"W
1ft depth	42°04'43.6"N	83°11'23.4"W
1ft depth	42°04'45.0"N	83°11'16.9"W
1ft depth	42°04'42.0"N	83°11'14.6"W
1ft depth	42°04'38.9"N	83°11'09.4"W
Rock awash	42°05'13.7"N	83°11'07.5"W
Rock awash	42°05'13.5"N	83°10'34.4"W
Rock awash	42°05'13.5"N	83°11'08.7"W
Rock awash	42°05'18.2"N	83°10'04.2"W
Rock awash	42°05'17.8"N	83°09'56.5"W
Rock awash	42°05'29.3"N	83°10'20.2"W
Ruins	42°05'21.1"N	83°11'07.2"W
intake	42°05'29.1"N	83°11'05.1"W
Ruins	42°05'29.6"N	83°11'08.7"W
3ft depth	42°05'37.8"N	83°11'13.2"W
Dangerous rock awash	42°05'41.2"N	83°10'27.1"W

## Chart 14853 sheet 3

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Dangerous rock awash	42°05'41.2"N	83°10'27.1"W
Rock awash	42°05'43.5"N	83°08'57.4"W
Rock awash	42°05'44.9"N	83°08'57.3"W
Rock awash	42°05'46.2"N	83°08'57.0"W
Shoal	42°05'43.7"N	83°08'55.8"W
Subm piling	42°05'56.5"N	83°08'48.9"W

Subm piling	42°05'57.2"N	83°08'49.1"W
Pile	42°06'55.5"N	83°10'55.7"W
Shoal	42°06'58.5"N	83°10'54.7"W
Rock(w/unknown depth)	42°06'58.3"N	83°10'49.7"W
6ft depth	42°07'33.2"N	83°10'36.2"W
7ft depth	42°07'42.0"N	83°10'30.3"W
Dangerous sunken Wk PA (9ft rep 1990)	42°07'52.3"N	83°10'29.6"W
Pile	42°07'32.9"N	83°10'25.9"W
Pile	42°08'31.6"N	83°10'28.6"W

## Chart 14853 sheet 4

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Pile	42°09'06.4"N	83°10'17.7"W
Shoal limits	42°09'09.0"N	83°10'17.7"W
Shoal limits	42°09'12.5"N	83°09'54.5"W
Shoal limits	42°09'19.6"N	83°10'04.8"W
Rock (uncovers)	42°09'19.8"N	83°08'09.3"W
Dangerous Rock awash	42°09'36.2"N	83°08'11.8"W
Dangerous Rock awash	42°09'41.2"N	83°08'14.7"W
Dangerous Rock awash	42°09'47.2"N	83°08'16.6"W
Islet	42°09'49.2"N	83°08'17.2"W
Pile	42°09'50.0"N	83°08'18.0"W
Dangerous Rock awash	42°10'31.6"N	83°08'36.1"W
Piles 4	42°10'38.8"N	83°08'36.6"W
Piles 10	42°10'41.6"N	83°08'34.9"W
Dangerous Sunken Wreck (PA)	42°10'09.0"N	83°09'43.3"W
Shoal limits	42°10'06.0"N	83°09'42.0"W
Shoal	42°10'25.6"N	83°09'35.0"W
Dol	42°10'23.5"N	83°09'45.2"W
Dol	42°10'26.3"N	83°09'43.3"W
Islet	42°11'03.6"N	83°08'29.7"W
Pile	42°11'10.7"N	83°09'13.1"W
Shoal limits	42°11'15.0"N	83°08'31.7"W
Pile	42°11'24.2"N	83°08'31.6"W
Shoal limits	42°11'26.0"N	83°08'31.6"W
Shoal	42°11'26.8"N	83°08'19.3"W
Rk (w/unknown depth)	42°11'27.8"N	83°08'19.9"W
Dangerous Sunken Wreck (PA)	42°11'30.3"N	83°08'30.1"W
Tower	42°11'32.0"N	83°08'09.8"W
Piles 5	42°11'35.0"N	83°08'10.7"W
Piles 3	42°11'38.0"N	83°08'09.0"W
Rk (w/unknown depth)	42°11'39.7"N	83°08'13.9"W

Pile	42°11'41.9"N	83°08'59.7"W
Group of 8 shoals	42°11'42.2"N	83°08'15.9"W
Rk (w/unknown depth)	42°11'44.2"N	83°08'16.6"W
Pile	42°11'46.7"N	83°08'57.7"W
Pile	42°11'47.3"N	83°08'57.5"W
Shoal	42°11'55.9"N	83°08'15.5"W
Crib (Depth over crib 9Ft)	42°12'05.2"N	83°08'25.9"W

## Chart 14853 sheet 5

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Tower	42°11'32.0"N	83°08'09.8"W
Piles 5	42°11'35.0"N	83°08'10.7"W
Piles 2	42°11'38.0"N	83°08'09.0"W
Rk (w/unknown depth)	42°11'39.7"N	83°08'13.9"W
Pile	42°11'41.9"N	83°08'59.7"W
Group of 8 shoals	42°11'42.2"N	83°08'15.9"W
Rk (w/unknown depth)	42°11'44.2"N	83°08'16.6"W
Piles 2	42°11'47.0"N	83°08'57.4"W
Shoal	42°11'55.9"N	83°08'15.5"W
Crib (Depth over crib 9Ft)	42°12'05.2"N	83°08'25.9"W
Group of 9 shoals	42°12'23.0"N	83°07'43.0"W
Piles 3	42°12'23.0"N	83°07'43.0"W
Crib(PWI Depth over crib 17Ft)	42°12'28.0"N	83°08'22.0"W
Subm dol	42°13'11.5"N	83°08'17.0"W
Shoal limits	42°13'16.6"N	83°07'58.3"W
Subm dol	42°13'32.4"N	83°08'46.2"W
Submerged dike	42°13'42.0"N	83°08'27.0"W
Piles 3	42°13'47.7"N	83°07'35.9"W
Shoal	42°13'58.9"N	83°08'17.6"W
Dangerous sunken Wk PA	42°14'12.0"N	83°07'54.0"W
Dangerous sunken Wk PD	42°14'26.0"N	83°07'59.6"W
Notation "Shoaling rep 1977"	42°14'37.0"N	83°08'06.0"W
Dangerous sunken Wk	42°14'38.41"N	83°07'19.67"W

## Chart 14853 sheet 6

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Dangerous Subm Buoy PA	42°03'27.3"N	83°07'59.5"W
7ft depth	42°04'04.7"N	83°07'51.8"W
1ft depth	42°04'20.2"N	83°07'49.8"W
Obstruction PA	42°04'20.3"N	83°07'57.5"W
4ft depth	42°04'25.7"N	83°07'48.8"W

5ft depth	42°04'37.6"N	83°07'46.8"W
Obstruction PA (rep 2001)	42°04'57.0"N	83°08'35.0"W
Obstruction PA	42°05'00.3"N	83°09'09.8"W
Dangerous sunken Wk PA	42°05'00.8"N	83°08'58.3"W
Rock awash	42°05'05.2"N	83°06'59.8"W
Dangerous rock awash	42°05'06.2"N	83°08'59.6"W
Dangerous rock awash	42°05'07.4"N	83°08'59.3"W
Sunken wreck	42°05'08.4"N	83°06'50.2"W
Dangerous rock awash	42°05'08.6"N	83°08'51.0"W
Dangerous rock (unknown depth)	42°05'13.7"N	83°07'41.7"W
Sunken wreck	42°05'15.0"N	83°06'46.1"W
Sunken wreck	42°05'16.0"N	83°06'47.2"W
Pile	42°05'17.1"N	83°09'09.5"W
Rock awash	42°05'23.2"N	83°06'47.0"W
Pile	42°05'26.0"N	83°06'46.8"W
Pile	42°05'26.4"N	83°06'46.6"W
Piles 5	42°05'28.2"N	83°08'58.5"W
Pile	42°05'28.5"N	83°06'47.7"W
Pile	42°05'29.0"N	83°06'48.1"W
Dangerous rock (unknown depth)	42°05'37.0"N	83°07'35.5"W

## Chart 14853 sheet 7

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Dangerous rock (unknown depth)	42°05'37.0"N	83°07'35.5"W
Rock awash	42°05'43.5"N	83°08'57.4"W
Shoal	42°05'43.7"N	83°08'55.8"W
Rock awash	42°05'44.9"N	83°08'57.3"W
Rock awash	42°05'46.2"N	83°08'57.0"W
Subm piling	42°05'56.5"N	83°08'48.9"W
Subm piling	42°05'57.2"N	83°08'49.1"W
Pile	42°06'06.2"N	83°06'50.3"W
Rock awash	42°06'08.6"N	83°07'05.0"W
Foul limits	42°06'08.9"N	83°07'05.3"W
Rock awash	42°06'09.7"N	83°07'05.5"W
1ft depth	42°06'09.0"N	83°07'06.4"W
Rock awash	42°06'10.3"N	83°07'07.2"W
Rock awash	42°06'11.1"N	83°07'07.6"W
Pile	42°06'13.0"N	83°06'52.9"W
Rock awash	42°06'13.3"N	83°06'52.4"W
Pile	42°06'13.4"N	83°06'53.4"W
Rock awash	42°06'13.5"N	83°07'09.1"W
Pile	42°06'13.9"N	83°06'53.6"W
Rock awash	42°06'14.6"N	83°07'09.1"W

Rock awash	42°06'15.8"N	83°07'09.5"W
Rock awash	42°06'16.8"N	83°07'10.0"W
Rock awash	42°06'19.5"N	83°06'54.0"W
Shoal limits	42°06'19.7"N	83°08'29.8"W
3 ft depth	42°06'21.3"N	83°07'44.0"W
Shoal limits	42°06'24.5"N	83°08'29.5"W
8 ft depth	42°06'24.8"N	83°07'12.2"W
Sunken wreck	42°06'35.2"N	83°07'41.7"W
Sunken wreck	42°06'37.6"N	83°07'42.6"W
Sunken wreck	42°06'37.8"N	83°07'41.8"W
Piles 3	42°06'40.4"N	83°06'49.7"W
Rock awash	42°06'40.9"N	83°06'49.6"W
Intake	42°06'53.2"N	83°06'44.5"W
Shoal	42°07'15.4"N	83°08'09.9"W
Sewer outfall	42°07'17.0"N	83°06'47.5"W
Shoal	42°07'21.2"N	83°07'37.7"W
Dangerous rock awash	42°07'23.9"N	83°08'14.5"W
Ruins	42°07'24.0"N	83°07'36.5"W
Shoal	42°07'26.8"N	83°07'35.8"W
Cribs 4 (Depth over cribs ½ ft)	42°07'33.9"N	83°08'20.6"W
Rock awash	42°07'55.9"N	83°06'58.1"W
7 ft depth	42°08'05.1"N	83°07'19.0"W
Pile	42°08'34.0"N	83°08'16.5"W
Pile	42°08'37.0"N	83°08'16.7"W

## Chart 14853 sheet 8

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Piles (3)	42°09'18.06"N	83°06'39.48"W
Shoal	42°09'18.69"N	83°08'09.64"W
Dangerous rock awash	42°09'19.75"N	83°08'09.41"W
Dangerous Rock awash	42°09'36.2"N	83°08'11.8"W
Dangerous Rock awash	42°09'41.2"N	83°08'14.7"W
Dangerous Rock awash	42°09'47.2"N	83°08'16.6"W
Islet	42°09'49.2"N	83°08'17.2"W
Pile	42°09'50.0"N	83°08'18.0"W
Shoal	42°09'50.24"N	83°07'06.13"W
Shoal	42°09'57.05"N	83°07'13.37"W
Shoal	42°10'24.8"N	83°07'55.5"W
Rock (w/unknown depth)	42°10'28.8"N	83°07'54.7"W
Dangerous Rock awash	42°10'31.6"N	83°08'36.1"W
Piles 4	42°10'38.8"N	83°08'36.6"W
Piles 10	42°10'41.6"N	83°08'34.9"W
Rock awash	42°10'43.6"N	83°07'21.9"W

Rock (w/unknown depth)	42°10'45.1"N	83°07'08.7"W
Islet	42°11'03.6"N	83°08'29.7"W
1ft depth	42°11'08.0"N	83°06'39.2"W
limits	42°11'15.0"N	83°08'31.7"W
Pile	42°11'24.2"N	83°08'31.6"W
Shoal limits	42°11'26.0"N	83°08'31.6"W
Shoal	42°11'26.8"N	83°08'19.3"W
Rk (w/unknown depth)	42°11'27.8"N	83°08'19.9"W
Dangerous Sunken Wreck (PA)	42°11'30.3"N	83°08'30.1"W
Tower and danger curve	42°11'32.0"N	83°08'09.8"W
Piles 5	42°11'35.0"N	83°08'10.7"W
Piles 3	42°11'38.0"N	83°08'09.0"W
Rk (w/unknown depth)	42°11'39.7"N	83°08'13.9"W
Group of 8 shoals & note	42°11'42.2"N	83°08'15.9"W
Rk (w/unknown depth)	42°11'44.2"N	83°08'16.6"W
Shoal	42°11'55.9"N	83°08'15.5"W

## Chart 14853 sheet 9

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Dangerous sunken wreck PA	42°11'30.68"N	83°07'49.5"W
Tower and danger curve	42°11'32.0"N	83°08'09.8"W
Piles 5	42°11'35.0"N	83°08'10.7"W
Rk (w/unknown depth)	42°11'39.7"N	83°08'13.9"W
Group of 6 shoals	42°11'42.2"N	83°08'15.9"W
Shoal	42°11'55.9"N	83°08'15.5"W
Pile	42°12'12.81"N	83°06'20.37"W
Group of 9 shoals	42°12'23"N	83°07'43"W
Piles (3)	42°13'47.7"N	83°07'35.9"W
Dangerous sunken Wk PA	42°14'12"N	83°07'54"W
Dangerous sunken Wk PD	42°14'26"N	83°07'59.6"W
Dangerous sunken Wk	42°14'38.43"N	83°07'19.68"W
Pile	42°14'40.32"N	83°06'39.94"W

## Chart 14853 sheet 10

<u>CHARTED FEATURE/DEPTH</u>	<u>LATITUDE</u>	<u>LONGITUDE</u>
Dangerous sunken Wk	42°14'38.43"N	83°07'19.68"W
Pile	42°14'40.32"N	83°06'39.94"W
Unknown dangerous obstn PA	42°15'05.87"N	83°07'26.33"W
Rk (w/unknown depth)	42°15'16.53"N	83°06'35.65"W

Except as noted above, the present survey is adequate to supercede the charted hydrography within the common area.

## D2. ADDITIONAL RESULTS

1. A comparison with prior surveys was not performed.

2. Five floating aids to navigation are being shown on the smooth sheet. Their positions were scanned from the survey records and inserted into the digital file during office verification. These aids appear adequate to serve their intended purposes.

The present survey is adequate to supercede the charted depths unless otherwise noted.

### 3. Controlling depths

#### a) Trenton Channel

1.) No conflicts exist between the charted tabulated depths and the present survey soundings in the Trenton Channel from the entrance in the vicinity of Latitude 42°14'26.38"N, Longitude 83°07'59.86"N, to the Grosse Ile Bridge in the vicinity of Latitude 42°10'24.89"N, Longitude 83°09'44.19"N. No changes to charting are recommended.

2.) A conflict exists in the Trenton Channel just past the Grosse Ile Bridge in the vicinity of Latitude 42°10'23.34"N, Longitude 83°09'45.09"N. The tabulated center depth is 26.8 feet, the chart shows a dolphin and the present survey found a 24 feet depth. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

3.) No conflicts exist in the Trenton Channel between the charted tabulated depths and the present survey soundings from 800ft south of Grosse Ile Bridge in the vicinity of Latitude 42°10'18.42"N, Longitude 83°09'47.94"N to the end of the turning basin in the vicinity of Latitude 42°09'28.76"N, Longitude 83°09'52.45"N. No changes in charting are recommended.

4.) Conflicts exist in the Trenton Channel between Latitude 42°08'32.52"N, Longitude 83°10'14.75"N and Lighted buoy "5" in the vicinity of Latitude 42°07'50.52"N, Longitude

83°10'23.32"N. Present survey depths range from 14 feet to 18 feet in the left outside quarter where the tabulated controlling depth is 20.2 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

5.) No conflicts exist in the Trenton Channel between the charted tabulated depths and the present survey soundings from Lighted buoy "5" in the vicinity of Latitude 42°07'50.52"N, Longitude 83°10'23.32"N to the end of the channel in the vicinity of Latitude 42°07'21.81"N, Longitude 83°10'29.51"N to the end of the turning basin. No changes in charting are recommended.

b) Fighting Island Channel

No conflicts exist in the Fighting Island Channel between the charted tabulated depths and the present survey soundings. No changes in charting are recommended.

c) Ballards Reef Channel

Conflicts exist in Ballards Reef Channel between Latitude 42°08'58.12"N, Longitude 83°07'32.73"N and Latitude 42°08'06.5"N, Longitude 83°07'10.73"N . There are present survey depths of 15 - 17 feet in the left outside quarter where the tabulated controlling depth is 18.3. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

d) Livingstone Channel

1.) Numerous conflicts exist in Livingstone Channel from Light "D77" to Latitude 42°05'35"N, Longitude 83°07'45"N. There are present survey depths from 4 - 17 feet in the left outside quarter where the tabulated controlling depth is 21.7 feet with shoaling to 4.2 feet. There are also conflicts in the right outside quarter where present survey depths of 4 - 11 feet where the tabulated controlling depth is 21 feet with shoaling to 4.8 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

2.) Numerous conflicts exist in Livingstone Channel from Latitude 42°05'35"N, Longitude 83°07'45"N to Latitude 42°04'07"N, Longitude 83°07'56"N. There are present survey depths from 8 - 12 feet in the left outside quarter where the tabulated controlling depth is 13.8 feet. There are also conflicts in the right outside quarter where present survey depths of 5 - 16 feet where the tabulated controlling depth is 20.3 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

3.) Two conflicts exist in Livingstone Channel from Latitude 42°04'07"N, Longitude 83°07'56"N to Latitude 42°03'08"N, Longitude 83°08'05"N. There are present survey depths of 12 and 14 feet in the left outside quarter where the tabulated controlling depth is 18.7 feet. There is also one conflict in the right outside quarter, an 11 foot present survey depth in Latitude 42°04'02.61"N, Longitude 83°08'00.25"N where the tabulated controlling depth is 23.3 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

4.) Conflicts exist in Livingstone Channel from Latitude 42°03'08"N, Longitude 83°08'05"N to the southern limit of the present survey. There are present survey depths of 20 feet in the left outside quarter where the tabulated controlling depth is 24.2 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

e) Amherstburg Channel

1.) Conflicts exist in Amherstburg Channel from Light "D71" to Lighted buoy "D56". There are present survey depths of 20 - 24 feet in the left outside quarter where the tabulated controlling depth is 25.2 feet. It is recommended that the tabulation be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

2.) Conflicts exist in Amherstburg Channel from Lighted buoy "D56" to the southern limit of the present survey. There are present survey depths of 23 - 25 feet in the left outside quarter where the tabulated controlling depth is 26.9

feet. There are present survey depths of 16-18 feet in the right outside quarter where the tabulated controlling depth is 19.0 feet. It is recommended that the tabulations be revised to reflect the present survey findings unless the tabulated depths reflect surveys subsequent to the present survey.

#### 4. JUNCTIONS

##### D00133 (2000) to the north

A standard junction was effected between D00132(2000) and the present survey to the north. There are no contemporary surveys to the east or northeast of the present survey.

Present survey depths are in harmony with the charted hydrography

#### O. ADEQUACY OF SURVEY

This is an adequate reconnaissance survey. No additional work is recommended.

#### R. MISCELLANEOUS

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 Chart was used for compilation of the present survey:

14853 (15<sup>th</sup> Edition, MAY/04) SCALE 1:15,000

D00132

*Debra A. Blane for*

**Douglas V. Mason**

Cartographic Technician

Verification of Field Data

Evaluation and Analysis

APPROVAL SHEET  
D00132

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.

Deborah A. Bland

Deborah A. Bland  
Cartographer,  
Atlantic Hydrographic Branch

Date: 28 Jul 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

P. Tod Schattgen  
Lieutenant Commander, NOAA  
Chief, Atlantic Hydrographic Branch

Date: 28 Jul 2005

