

D00163

NOAA Form 76-35A

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Survey

DESCRIPTIVE REPORT

Type of Survey: Field Examination

Registry Number: D00163

LOCALITY

State: Washington

General Locality: Offshore - Washington Coast

Sub-locality: 20 NM West of Willapa Bay

2012

CHIEF OF PARTY
CDR James M. Crocker

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

D00163

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

State: **Washington**

General Locality: **Offshore - Washington Coast**

Sub-Locality: **20 NM West of Willapa Bay**

Scale: **40000**

Dates of Survey: **04/11/2012 to 04/12/2012**

Instructions Dated: **04/10/2012**

Project Number: **S-N918-FA-12**

Field Unit: **NOAA Ship *Fairweather***

Chief of Party: **CDR James M. Crocker**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Multibeam Echo Sounder Backscatter**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

H-Cell Compilation Units: ***fathoms at Mean Lower Low Water***

Remarks:

D00163 is a reconnaissance survey only and does not meet IHO specifications. The survey will not be applied to NOAA's nautical charts.

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Descriptive Report to Accompany Survey D00163

Project: S-N918-FA-12

Locality: Offshore - Washington Coast

Sublocality: 20 NM West of Willapa Bay

Scale: 1:40000

April 2012 - April 2012

NOAA Ship *Fairweather*

Chief of Party: CDR James M. Crocker

A. Area Surveyed

This area is located offshore of the Washington Coast, 20 NM West of Willapa Bay.

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
46.8 N 124.18 W	46.46 N 124.85 W

Table 1: Survey Limits

Survey Limits were acquired in accordance with the requirements in the Project Instructions and the HSSD.

A.2 Survey Purpose

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. This survey was requested to locate the sunken vessel F/V Lady Cecilia and any associated debris to assist the USCG, Portland Marine Safety Unit with its marine casualty investigation. This project will cover approximately 16 square nautical miles.

A.3 Survey Quality

The survey is NOT adequate to supersede previous data.

This project was a reconnaissance project to locate the F/V Lady Cecilia and tidal information was not provided.

Original project instructions indicate that this project was to provide contemporary surveys to update NOAA charts. However, supplemental correspondence attached clarifies that D00163 is only a reconnaissance survey.

A.4 Survey Coverage

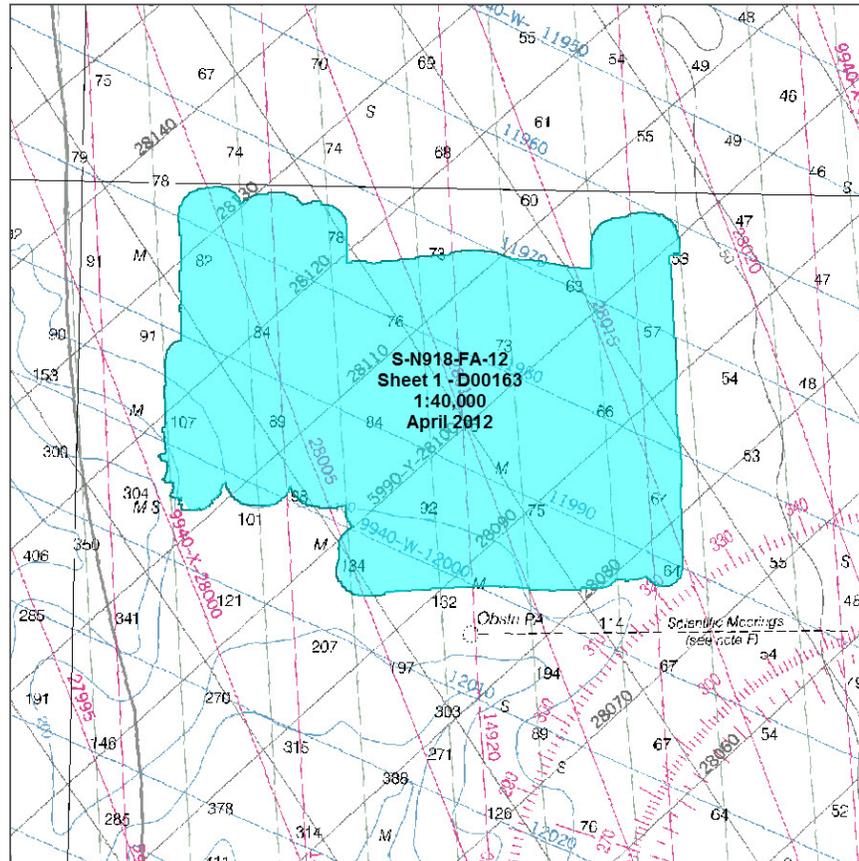


Figure 1: Survey Outline

Survey Coverage was in accordance with the requirements in the Project Instructions and the HSSD.

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

	HULL ID	<i>Total</i>
LNM	SBES Mainscheme	0
	MBES Mainscheme	106.33
	Lidar Mainscheme	0
	SSS Mainscheme	0
	SBES/MBES Combo Mainscheme	0
	SBES/SSS Combo Mainscheme	0
	MBES/SSS Combo Mainscheme	0
	SBES/MBES Combo Crosslines	0
	Lidar Crosslines	0
	Number of Bottom Samples	0
Number of DPs	0	
Number of Items Items Investigated by Dive Ops	0	
Total Number of SNM	32.59	

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

<i>Survey Dates</i>
04/11/2012
04/12/2012

Table 3: Dates of Hydrography

A.6 Shoreline

There is no Shoreline Verification requirement for this project.

A.7 Bottom Samples

There is no Bottom Sample requirement for this project.

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are discussed in the following sections.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	<i>S220</i>
LOA	70.4 meters
Draft	4.7 meters

Table 4: Vessels Used

B.1.2 Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	Model	Type
RESON	7111	MBES
Applanix	POS/MV V4	Positioning System
Brook Ocean	MVP 200	Sound Speed System
Applanix	POS/MV V4	Vessel Attitude System

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

This project was a reconnaissance project and crosslines were not completed.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0meters	0meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S220	0meters/second	0meters/second	0meters/second

Table 7: Survey Specific Sound Speed TPU Values

Zero uncertainty values were entered as tide files were not provided.

Data from D00163 does not meet IHO specifications and shall not be used to update NOAA's nautical charts.

B.2.3 Junctions

There are no contemporary surveys that junction with this survey.

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

B.2.5.1 None Exist

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

B.2.6.1 None Exist

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Sound speed measurements were conducted and applied as discussed in the Corrections to Echo Soundings section of the DAPR.

B.2.8 Coverage Equipment and Methods

All Equipment and survey methods were used as detailed in the DAPR.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was logged as a 7k file and submitted directly to NGDC to be archived and to PHB where the data will be processed.

B.5 Data Processing

B.5.1 Software Updates

There were no software configuration changes after the DAPR was submitted.

The following Feature Object Catalog was used: NOAA Extended Attribute Files V5_2

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
D00163_4m	CUBE	4 meters	0 meters - 0 meters	NOAA_4m	Object Detection
D00163_8m	CUBE	8 meters	0 meters - 0 meters	NOAA_8m	Complete MBES
D00163_16m	CUBE	16 meters	0 meters - 0 meters	NOAA_16m	Complete MBES
D00163_32m	CUBE	32 meters	0 meters - 0 meters	NOAA_32m	Complete MBES
D00163_8m_Final_72to160	CUBE	8 meters	72 meters - 160 meters	NOAA_8m	Complete MBES
D00163_16m_Final_144to320	CUBE	16 meters	144 meters - 320 meters	NOAA_16m	Complete MBES
D00163_32m_Final_288to1000	CUBE	32 meters	288 meters - 1000 meters	NOAA_32m	Complete MBES
D00163_32m_Combined	CUBE	32 meters	0 meters - 0 meters	NOAA_32m	Complete MBES

Table 8: CARIS Surfaces

All field sheet extents were adjusted using the Base 16 Calculator tool to ensure coincident nodes among all bathymetric surfaces regardless of the field sheet in which they are contained given the standard surface resolutions of eight, sixteen, and thirty-two meters. The NOAA CUBE parameters mandated in HSSD were used for the creation of all CUBE BASE surfaces in Survey D00163.

B.5.3 Data Logs.

Data acquisition and processing notes are included in the acquisition and processing logs, and additional processing such as tide and sound velocity application is noted in the D00163 Data Log spreadsheet. All data logs are submitted digitally in the Separates I folder.

B.5.4 Critical Soundings

Survey D00163 requires 2 designated soundings and 2 outstanding soundings. Two designated soundings are required to accurately represent the seafloor. Two soundings were flagged as outstanding as possible location of the F/V Lady Cecelia.

C. Vertical and Horizontal Control

There is no Vertical and Horizontal Control requirement for this project.

C.1 Vertical Control

The vertical datum for this project is Mean Lower Low Water.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The following DGPS Stations were used for horizontal control:

DGPS Stations
Fort Stevens (287 khz)

Table 9: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNМ Date	NM Date
18500	1:180789	30	05/2008	05/27/2008	05/31/2008

Table 10: Largest Scale Raster Charts

18500

Soundings from survey D00163, without applied tides, generally agree within 1 to 7 fathoms of the charted depths from chart 18500. A notable exception to this general agreement was found on the southern area of the polygon, where a 134 fathom charted depth was surveyed with MBES at 109 fathoms.

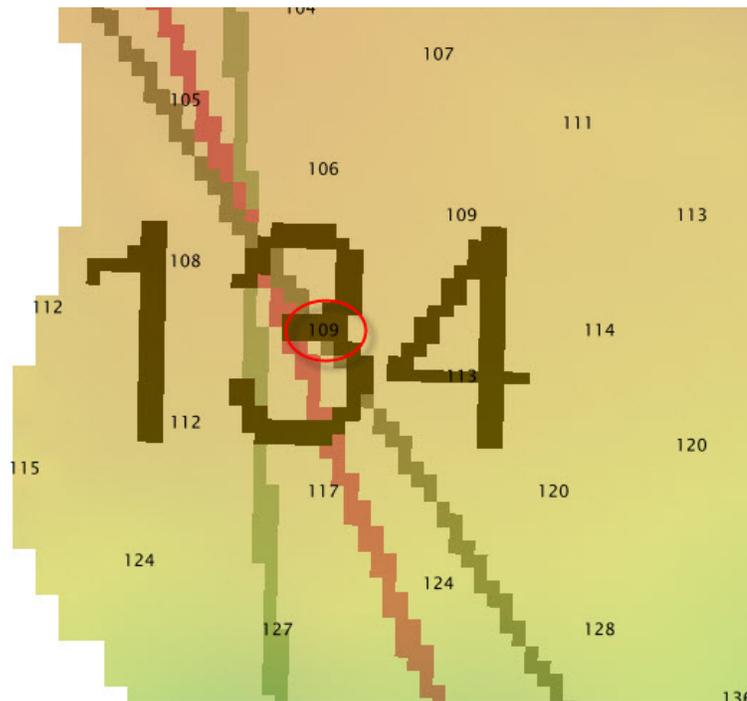


Figure 3: Survey Chart disagreement

D.1.2 AWOIS Items

No AWOIS items exist for this survey.

D.1.3 Charted Features

No charted features exist for this survey.

D.1.4 Uncharted Features

This survey was conducted to find the location of a sunken vessel. Two locations were identified as possible contact and provided to the United States Coast Guard for further investigation. The Coast Guard used the information and located the vessel. However, this information is deemed sensitive and has not been released to the public.

D.1.5 Dangers to Navigation

No Danger to Navigation Reports were submitted for this survey.

D.1.6 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.7 Channels

No channels exist for this survey. There are no designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines within the survey limits.

D.2 Additional Results**D.2.1 Shoreline**

Shoreline was not assigned in the Hydrographic Survey Project Instructions or Statement of Work.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

Aids to navigation (ATONs) do not exist for this survey.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

Submarine features do not exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey.

D.2 Construction and Dredging

There is no present or planned construction or dredging within the survey limits.

E. Approval Sheet

As Chief of Party, Field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All field sheets, this Descriptive Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Standing and Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

Report Name	Report Date Sent
Hydrographic System Readiness Review Memo	2012-05-01
Data Acquisition and Processing Report	2012-12-07

Approver Name	Approver Title	Approval Date	Signature
CDR James M. Crocker, NOAA	Chief of Party	10/29/2012	 James M Crocker cn=James M Crocker, o=NOAA Ship Fairweather, ou, email=james.m.crocker@noaa.gov, c=US 2012.12.04 13:51:46 -08'00'
LT Caryn Zacharias, NOAA	Field Operations Officer	10/29/2012	 Caryn M. Zacharias 2012.12.03 23:50:53 -08'00'
CST Tami Beduhn	Chief Survey Technician	10/29/2012	Tami Beduhn '00'08- 23:53:35 2012.12.03 
HST Douglas Bravo	Sheet Manager	10/29/2012	 Douglas Bravo 2012.12.04 09:00:43 -08'00'

From: **Marc Moser - NOAA Federal** <marc.s.moser@noaa.gov>

Date: Thu, Dec 20, 2012 at 12:04 PM

Subject: Re: D00163 Project Instruction Clarifications

To: David Zezula - NOAA Federal <david.j.zezula@noaa.gov>

Concur.

On Thu, Dec 20, 2012 at 3:03 PM, David Zezula - NOAA Federal <david.j.zezula@noaa.gov> wrote:
Marc,

PHB is currently in the process of a SAR on D00163, the search for the F/V Lady Cecilia off the OR/WA Coast. Given this was a response "D" survey there are a number of discrepancy that could be cleared up with slight modification to the Project Instructions. PHB would like concurrence from OPS that:

1. As per discussion with the ship, given the depth, weather, and that this was a recon survey, we can relax the coverage and resolution requirements stated in the Proj Instructions (Object Detection with MBES) to general recon bathymetry in support of USCG efforts to locate the wreck of F/V Lady Cecilia.
2. This would also remove the requirement for crosslines.

Thanks

DZ

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David Zezula, CDR/NOAA
Chief, Pacific Hydrographic Branch
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--

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Chief, Operations Branch
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APPROVAL PAGE

D00163

Data did not meet current specifications as determined by the OCS survey acceptance review process. The purpose of the survey was for reconnaissance and does not have correctors applied to the data. The survey will not be applied to NOAA charting products.

The following products will be sent to NGDC for archive:

- D00163_DR.pdf
- Processed survey data and records

The survey evaluation and verification has been conducted according to current OCS specifications and procedures.

Approved: _____

Peter Holmberg

Cartographic Team Lead, Pacific Hydrographic Branch

The survey has not been approved for chart updates. The data will be archived at NGDC so that it can be made available for other uses.

Approved: _____

CDR David J. Zezula, NOAA

Chief, Pacific Hydrographic Branch