

W00461

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: W00461

LOCALITY

State(s): California

General Locality: Channel Islands, California

Sub-locality: Santa Rosa Island

2003

CHIEF OF PARTY
Pat Iampietro

LIBRARY & ARCHIVES

Date:

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION		REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET		W00461
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(s):	California	
General Locality:	Channel Islands, California	
Sub-Locality:	Santa Rosa Island	
Scale:	40000	
Dates of Survey:	06/20/2003 to 06/25/2003	
Instructions Dated:	09/27/2019	
Project Number:	ESD-PHB-18	
Field Unit:	California State University	
Chief of Party:	Pat Iampietro	
Soundings by:	Reson Seabat (8101)	
Imagery by:	N/A	
Verification by:	Pacific Hydrographic Branch	
Soundings Acquired in:	meters at Mean Lower Low Water	
Remarks: <i>Any revisions to the Descriptive Report (DR) applied during office processing are shown in red italic text. The DR is maintained as a field unit product, therefore all information and recommendations within this report are considered preliminary unless otherwise noted. The final disposition of survey data is represented in the NOAA nautical chart products. All pertinent records for this survey are archived at the National Centers for Environmental Information (NCEI) and can be retrieved via https://www.ncei.noaa.gov/. Products created during office processing were generated in NAD83 UTM 11N, MLLW. All references to other horizontal or vertical datums in this report are applicable to the processed hydrographic data provided by the field unit.</i>		

DESCRIPTIVE REPORT MEMO

September 27, 2019

MEMORANDUM FOR: Pacific Hydrographic Branch

FROM: Report prepared by PHB on behalf of field unit
Pat Iampietro
Chief Hydrographer, Seafloor Mapping Lab at California State
University Monterey Bay

SUBJECT: Submission of Survey W00461

Marine Protected Areas (MPAs) are established in an effort to manage natural marine resources and limit anthropogenic impacts on marine ecosystems. Assessing the effectiveness of MPAs can be challenging. Monitoring species diversity between MPAs and control sites (open to standard fishing rules and regulations) of similar physical structure can aid in determining the ecological value of MPAs.

The goal of this project was to map habitats within designated MPA sites and adjacent proposed control areas and evaluate habitat similarity between MPA and control sites in the Channel Islands Marine Protected Area Network.

There were no products created for this survey.

All soundings were reduced to Mean Lower Low Water using Discrete Zoning. The horizontal datum for this project is World Geodetic System (WGS) 1984. The projection used for this project is Universal Transverse Mercator (UTM) Zone 10.

The horizontal datum for this project is NAD 83, the projection used is Universal Transverse Mercator (UTM) zone 11N. Differential GPS (DGPS) position data were generated by a Trimble 4700 GPS with differential corrections provided by a Trimble ProBeacon receiver. A TSS POS/MV heading and motion sensor provided heave, pitch, heading, and roll data. No additional information on vertical control was provided in supplied metadata.

Bathymetric data were collected aboard the National Park Service's R/V Pacific Ranger using a Reson 8101 multibeam echosounder. Coastal Oceanographics Hypack software was used for survey design and execution. All raw data were logged using a Triton-Elis International (TEI) Isis data acquisition system. Water column sound velocity profiles collected using an AML SV+ sound velocity profiler.

Bathymetric data were post-processed using CARIS HIPS hydrographic data cleaning system software. Soundings were corrected for vessel motion using TSS POS/MV data, variations in water column sound velocity using AML SV+ data, and adjusted to MLLW using predicted tide charts for the local region. Cleaning to remove erroneous soundings was completed in CARIS HIPS. Soundings were exported from CARIS HIPS as a decimated x,y,z ASCII text (shoal biased) with 3m, 100m, 300m, and 500m spacing. The 3m decimated x,y,z ASCII text is imported into Fledermaus.

AverageGridder to generate 3m grid(s). The 3m Fledermaus grid (.asc) was imported into Spatial Analyst to generate a 3m bathymetry grid. The 3m bathymetry grid was used to process a Hillshade and a slope grid. The Hillshade will show as a greyscale and shows the shadows of features. The slope grid shown in color will highlight areas of high slope values in red and areas of low slope values in blue.

Upon arrival at the Pacific Hydrographic Branch the data was imported into CARIS and a new .csar surface was created for branch review. An uncertainty layer was calculated for CATZOC B standards using the following formula: $1.0 + (0.02 * \text{Depth})$.

W00461 is one of three surveys from the University of California in 2003. All three surveys were reviewed in succession and through junction comparisons on all three surveys, the reviewer found that the surveys from 2003 were approximately 2.5 meters shallower than its neighbors.

Per the Vertical Alignment Policy, the surface for W00461 was shifted 2.5 meters deeper. In addition, this survey is no longer eligible to be used as a reference for future surface adjustments. Extreme caution should be made when using this survey as a junction.

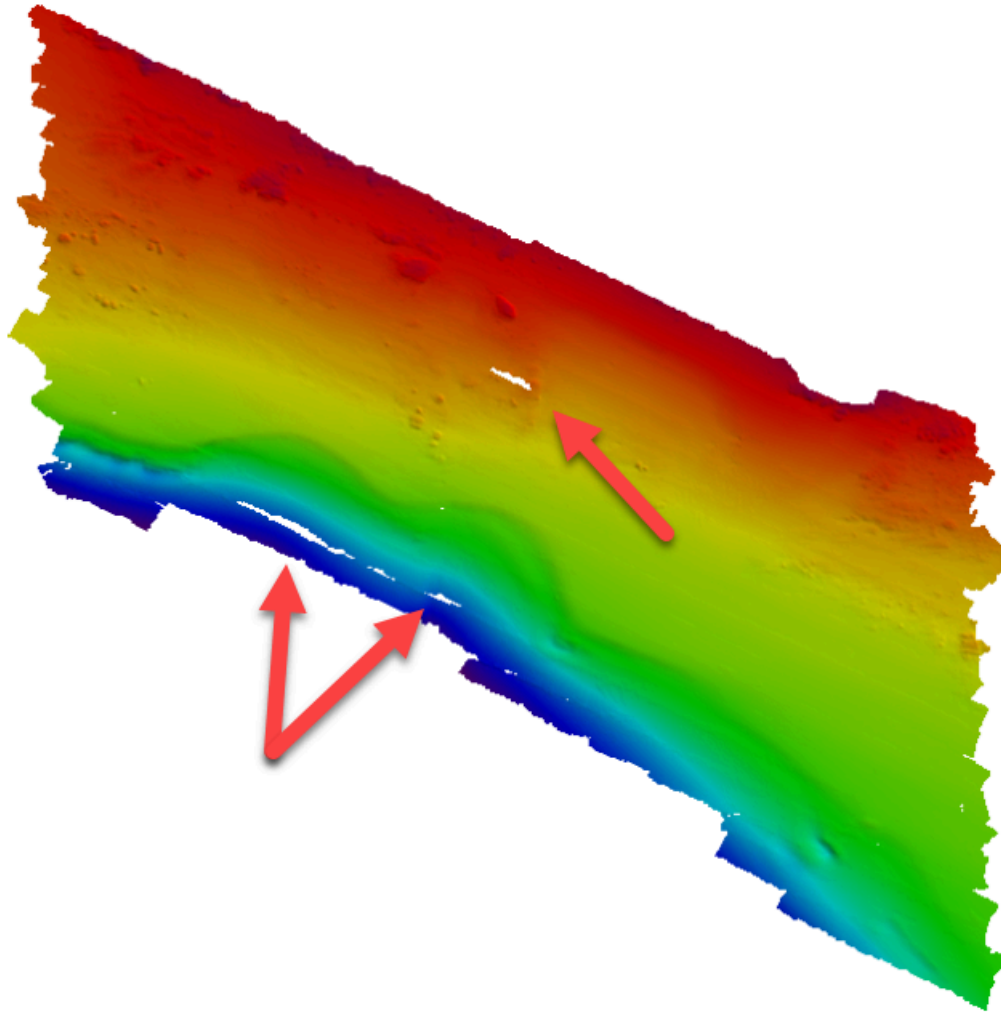
All data were reviewed for DTONs and none were identified in this survey.

Seafloor Mapping Lab at California State University Monterey Bay acquired the data outlined in this report. Data are available at <http://seafloor.otterlabs.org/index.html>

In general, the grids appear to show good internal consistency. There are some offsets seen in the bathymetric grid which could be due to tidal influences or motion artifacts (heave) in the data with up to 3 meters of difference. Sound speed artifacts could be the issue behind the vertical offsets seen in the grids. As the underlying soundings were not provided with the data set, therefore the reviewer could not confirm this hypothesis. Line by line there are vertical offsets. It is unknown that these vertical offsets between the said lines are due to water level issues or with other vessel configurations.

Holidays do exist in the data. Generally they have been created due to poor overlap between lines.

Survey W00461 and the charts in the area show very good agreement. In general, survey W00461 is shallower than charted data.



Large holidays found in surface.

This survey does meet charting specifications and is adequate to supersede prior data. Due to the vintage of the current charts (partial bottom coverage surveys from 1900-1939) it is recommended that survey W00461 supersede previously charted data.

APPROVAL PAGE

W00461

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NCEI for archive

- Descriptive Report
- Collection of Bathymetric Attributed Grids (BAGs)
- GeoPDF of survey products

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: _____
Commander Olivia Hauser, NOAA
Chief, Pacific Hydrographic Branch