

# **NOAA COASTAL MAPPING PROGRAM PROJECT COMPLETION REPORT**

## ***PROJECT WA0604***

### ***Port Angeles, Washington***

#### **Introduction**

NOAA Coastal Mapping Program (CMP) Project WA0604 provides digital shoreline data from Angeles Point to Kulakala Point, Washington. The project area includes Port Angeles, Ediz Hook, and Dungeness Bay. The digital cartographic feature data may be used to compliment the Nautical Charting Program (NCP) as well as geographic information systems (GIS) for a variety of coastal zone management applications.

#### **Project Design**

Project WA0604 was designed per a request from the Hydrographic Surveys Division (HSD) of the Office of Coast Survey, NOAA, for GIS data in support of HSD operations. Based on an analysis of project requirements and results of a source data search, it was determined that CMP procedures for multiple source projects would apply for this project. Available source data deemed adequate for successful completion of this project included sources acquired in September 2002 and June 2006.

#### **Field Operations**

CMP field operations included acquiring tide coordinated black & white IR photography for collecting approximate depth contours near the MLLW level. Routine CMP field operations for the source of high water data did not apply for this project based on the origin of the source.

#### **Aerotriangulation**

The aerotriangulation task was initiated by Remote Sensing Division (RSD) personnel in July, 2006, utilizing a Digital Photogrammetric Workstation (DPW), which is a configuration of computer hardware, modular software components and other associated peripheral devices. The image files were imported into SOCET SET (version 5.2) using the DataThruWay (version 5.2) software. Aerotriangulation procedures were accomplished using the Multi-Sensor Triangulation (MST) module of SOCET SET. The Interactive Point Measurement tool within MST was used to collect several tie points and a simultaneous solve adjustment was then performed, forecasting an average predicted horizontal circular error for all well defined points in this project area of 7 meters at the 95% confidence level. Positional data for this project is referenced to the North American Datum of 1983 (NAD 83).

#### **Compilation**

The data compilation phase of this project was initiated by RSD in August, 2006. The digital mapping was performed using a DPW in conjunction with the SOCET SET Feature Extraction software module. Feature attribution was assigned in compliance with the Coastal Cartographic Object Attribute Source Table (C-COAST), which provides the definition and attribution scheme

for the full range of cartographic features pertinent to the CMP. Selected cartographic features were further modified with additional descriptive information to refine general classification.

Cartographic features were compiled to meet a horizontal accuracy of 10 meters at the 95% confidence level. Tidal information was obtained from the NOS tide station at Port Angeles. The difference between MHW and MLLW levels at the Port Angeles station is 2.0 meters. The September 2002 source imagery for the entire project area occurred when the stage of tide was between 1.5 and 1.7 meters above MLLW. The June 2006 imagery was obtained when the stage of tide was 0.1 meters below MLLW.

## **Quality Control / Final Review**

Quality control tasks were conducted during all phases of project completion by a senior member of the Applications Branch of RSD. The final QC review was completed in September 2006. The review process included analysis of aerotriangulation results and assessment of the identification and attribution of cartographic features within the DCFF according to image analysis and criteria defined in C-COAST. The quality control process concluded with an inspection of topological connectivity within the DCFF using ArcGIS 9.1 software. All project data was evaluated for compliance to CMP requirements.

Comparisons of the largest scale NOAA nautical charts with source imagery and compiled project data resulted in creation of the Chart Evaluation File (CEF). The following nautical charts were used in the comparison process:

- 18465, Strait of Juan De Fuca, Eastern Part, 1:80,000 scale, 37<sup>th</sup> Ed.
- 18468, Port Angeles, 1:10,000 scale, 18<sup>th</sup> Ed.
- 18471, Approaches to Admiralty Inlet, 1:40,000 scale, 10<sup>th</sup> Ed.

## **End Products and Deliverables**

The following specifies the location and identification of end products generated during the completion of this project:

### **RSD Applications Branch Archive**

- Hardcopy of the Project Completion Report (PCR)
- Page size graphic plot of GC10624 file contents, attached to PCR

### **Remote Sensing Division Electronic Data Library**

- Project Database
- Digital copy of DCFF GC10624 in shapefile format
- Digital copy of the PCR in Adobe PDF format
- CEF in shapefile format

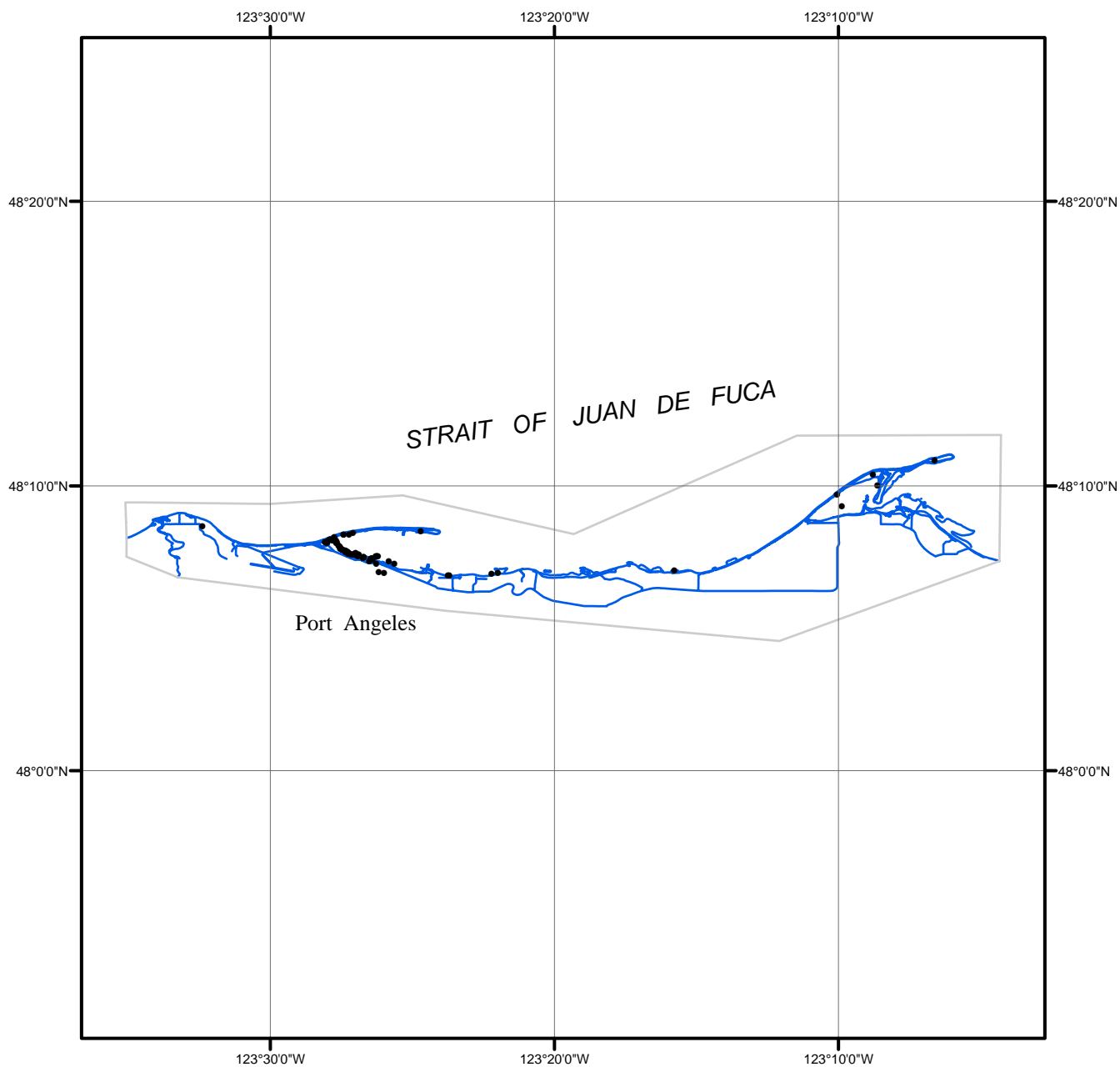
### **NOAA Shoreline Data Explorer**

- DCFF for GC10624
- Metadata file for GC10624
- Digital copy of the PCR in Adobe PDF format

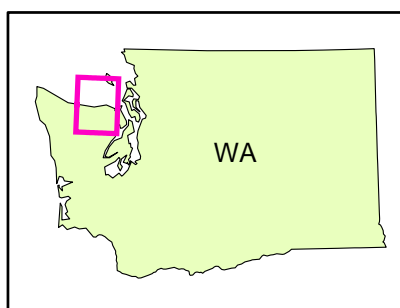
## **End of Report**

# PORT ANGELES

## WASHINGTON



Overview



WA0604

GC10624