

**Arctic Regional Hydrographic Commission (ARHC)  
Tromso, Norway, October 9-11, 2012**

**Operational and Technical Working Group Report**

<b>Submitted by:</b>	NOAA Office of Coast Survey, Chair OTWG Canadian Hydrographic Survey, Vice Chair OTWG
<b>Executive Summary:</b>	This report summarizes the work plan adopted at ARHC-2 and provides an inventory of actions completed. Recommendations for the following year are offered for discussion at the ARHC-3.
<b>Related Documents:</b>	ArHC2-07B Statutes of the ARHC ArHC2-07A Revised OTWG Terms of Reference
<b>Related Projects:</b>	none

**Introduction / Background**

The OTWG Terms of Reference notes the following objectives of the Working Group:

- a) To provide a core of expertise on hydrographic operations in the Arctic
- b) To develop and maintain documented best practices, lessons learned, and advances in training and technology.

At the ARHC-2, members adopted the following action plan for 2012:

Timeframe	Task	Responsible Parties
September 2011	Nominate and Elect OTWG Vic Chair as per TOR	All WG Members
August-October 2011	Document current and planned Arctic hydrographic operations for each member state and identify technical and/or logistical challenges to conducting these operations.	All WG Members
October-December 2011	Focus on lessons learned and best practices	All WG Members
January – March 2012	Focus on new technologies	All WG Members
April-May 2012	Focus on training and capacity building practices for Arctic operations	All WG Members
June-July 2012	Document OTWG finding into a report to the ARHC	All WG Members
July 31, 2012	Submit report to ARHC	Chair
September 2012	Provide status update at third ARHC Conference	Chair
September 2012	Elect new Chair and Vice Chair OTWG	All WG Members

### Status of Actions (September 2012)

#### *Item 1 – Current and planned Arctic hydrographic operations*

Hydrographic operations schedules for 2012 operations in the Arctic were not collected into a single report and distributed to the membership.

#### *Item 2 – Lessons learned and best practices*

The NOAA Ship *Fairweather* conducted its annual Arctic reconnaissance cruise from August 1 to August 30, 2012.

During the cruise, NOAA crew posted real-time updates and reports on the web to reach a broad audience. Specific postings were made August 2, 5, 18, and 26.

A report will be completed documenting lessons learned and best practices. It should be available to share with the OTWG members in October 2012.

#### *Item 3 – New Technologies*

OTWG Vice Chair, Scott Youngblut shared “*Canada Arctic Lidar*” report (FP2009-RPT-01-00) with working group members by email. The report discussed Fugro Pelagos Inc contract to conduct an airborne bathymetric Lidar survey in specific areas of the Canadian Arctic at various times and locations. The goal of the project was to investigate the feasibility of the implementation of bathymetric Lidar into the hydrographic survey program in Canada.

OTWG Chair, CDR James Crocker shared technical reports including “*Lidar reconnaissance report for northern Bering Sea*” by email. The report covered bathymetric Lidar reconnaissance surveys for Nunivak Island and St. Lawrence Island in the Bering Sea, Alaska;

“*Tides under the Ice: Measuring Water Levels at Barrow, Alaska 2008-2010*” A report discussing the use of bottom mounted pressure water level measurement devices in cold climate regions where winter sea ice precludes traditional tide station installations; and

“*Tidal Characteristics Along the Western and Northern Coasts of Alaska*” Report discussing complicated distributions of semi-diurnal, diurnal, and non-tidal areas along the Western and Northern coasts of Alaska.

NOAA’s National Geodetic Survey Program also shared information with OTWG members on the “*Alaska Coastal/Shoreline Mapping Program*,” “*GRAV-D Status for Alaska (Completed and Planned Areas)*,” and “*CORS in Alaska*.” These reports provide a synopsis of NOAA activities in Alaska for shoreline mapping, GRAV-D measurements, and CORS stations.

United States will look into using satellite bathymetry for reconnaissance depths on the North Slope of Alaska and compare to recent multibeam bathymetry acquired by NOAA Ship FAIRWEATHER during her Arctic reconnaissance cruise.

*Item 4 – Training and capacity building practices for Arctic operations*

Nothing to report.

**Analysis/Discussion**

Membership turnover will require improved intersessional communications and planning among the OTWG participants in calendar year 2013.

**Conclusions**

The benefit of information sharing and coordination of related efforts and interests should remain a priority area of the ARHC.

**Recommendations**

The ARHC-3 should discuss the merits of developing a workplan for calendar year 2013 and identify associated milestones. These could logically continue to include confirmation of survey operations in the upcoming year and information of technologies and best practices of common interest for surveying in the Arctic.

**Justification and Impacts**

The sharing of technical and operational information related to hydrographic surveying and charting in the Arctic is a benefit for all members of the ARHC.

**Action Required of ARHC**

1. To note the report.