



DESCRIPTIVE NOTES

INTRODUCTION
This map sheet depicts the bathymetry of inner Bonnavista Bay, in particular Newman Sound, Chandler Reach, and Cottle Sound. The original purpose of multibeam surveys in this region was to improve the Memorial University for multibeam sonar coverage in Newman Sound (for habitat mapping). Subsequently, discussions with Dr. John Anderson of Fisheries and Oceans Canada (DFO) regarding the importance of cod spawning in this region led to the decision to expand on the Newman Sound coverage by mapping in concomitant areas. This additional mapping was made possible by funding from the Interdepartmental Recovery Fund, in support of the Species at Risk Act.

MULTIBEAM BATHYMETRIC DATA COLLECTION AND PROCESSING
Data were collected in two phases, first in Newman Sound (2003) and then in Chandler Reach, Cottle Sound (CS) and Cottle Bay (CB) in 2008. The original purpose of multibeam surveys in this region was to improve the Memorial University for multibeam sonar coverage in Newman Sound (for habitat mapping). Subsequently, discussions with Dr. John Anderson of Fisheries and Oceans Canada (DFO) regarding the importance of cod spawning in this region led to the decision to expand on the Newman Sound coverage by mapping in concomitant areas. This additional mapping was made possible by funding from the Interdepartmental Recovery Fund, in support of the Species at Risk Act.

DATA DISPLAY
Artificial sun illumination from 000 degrees azimuth and 35-degree inclination was applied in the GRASS GIS. Vertical exaggeration is x 10. A colour palette was applied to the bathymetric data, warm colours (i.e., reds) represent shallow water and cool colours (i.e., blues) represent deep water. Histogram equalization was applied to the colour palette, i.e. bathymetric divisions between colours were assigned such that equal areas are covered by equal colour in the palette.

GEOMORPHOLOGY
Newman Sound and Cottle Sound are fjords, with depths in excess of 300 m (Canadian Hydrographic Service Chart 4620). The fjord coverage east of the settlement of Salvage into a deep trough with a maximum depth of 450 m. In comparison with other fjords in Newfoundland (Shaw et al., 1999), the inner parts of Newman and Cottle Sounds are relatively deep, while the inner parts are very shallow. Extensive areas of rugged topography occur in relatively shallow water in Newman Sound and Cottle Sound, northeast of Sweet Bay, and on the east flank of the deep trough.

ACKNOWLEDGEMENTS
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REFERENCES
Shaw, J. and Fortes, D.L., 1996. The post-glacial relative sea level in Newfoundland. Canadian Journal of Earth Sciences, 33, 1309-1320.
Shaw, J., Fortes, D.L., and Eversworth, K.A., 1999. Surficial sediments and glacial geology of the inner shelf and coast of northern Newfoundland. Geological Survey of Canada Bulletin 522.
Coleman, A., Bell, T., Edinger, E., Shaw, J., and Gregory, R., 2004. Mapping Benthic Habitats in Newfoundland Fjords. Poster, GEOSHAPE Gateway, 7-9 July, 2004.

DEPTH (m)
0 100 200 300 400 500

Metadata and publication information including: OPEN FILE 6192, SHADED SEAFLOOR RELIEF, BONNAVISTA BAY, NEWFOUNDLAND AND LABRADOR, Scale 1:70 000, Authors: E. Patton and J. Shaw, and a small locator map of the region.



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