Paper for Consideration by NIPWG

Report on Canadian testing of S-124 data model for NtM information

Submitted by:	Canadian Coast Guard (CCG) & Canadian Hydrographic Service (CHS)
Executive Summary:	Report on Canadian tests of using the S-124 data model to hold Notice to Mariners (NtM) information.
Related Documents:	S-124
Related Projects:	S-124

Introduction / Background

At NIPWG5, Canada (CCG & CHS) took an action (Action Item 5/20) to investigate the usefulness of S-124 for chart correction information exchange. An investigation was made into the use of S-124 (data model and GML schema of 20180717) and it was found that the model did support promulgation of Canadian NtM information.

Analysis/Discussion

The investigations into the ability of the S-124 data model to hold Notice to Mariners information were done in several rounds where the data model was checked against various aspects of the CHS database where NtM information is stored. Each round improved the understanding of S-124 and its data model, and gave improved output results. In the course of the investigation a mapping was created between the CHS database, gaps found were reviewed and resolved. Annex A shows a data sample from one of the rounds of testing.

One such gap that was found was a risk of inconsistencies in the data that capture which products were affected by a notice. This attribute was text attribute that could be more likely to be inconsistently encoded between producers. This was considered a useful improvement in the S-124 data model and subsequently amended into a complex attribute. Figures A and B below shows the data model change.
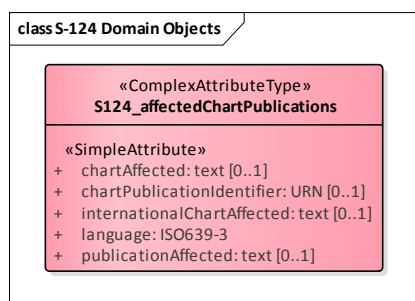
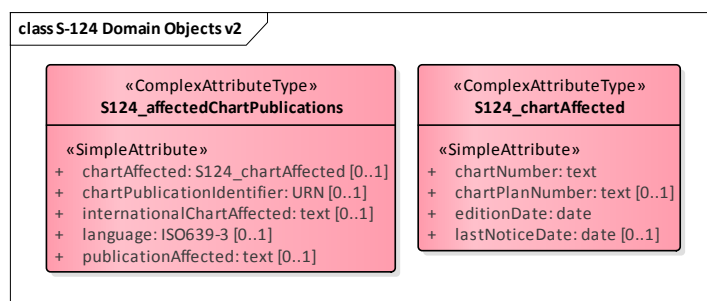Figure A - Earlier affected charts model   Figure B - Amended affected charts model

A screen shot of all NtM datasets about two years' worth of Canadian NtM had been converted as part of the test. These datasets were loaded into a map application. The image in Figure C shows the distribution of Canadian NtM test datasets.
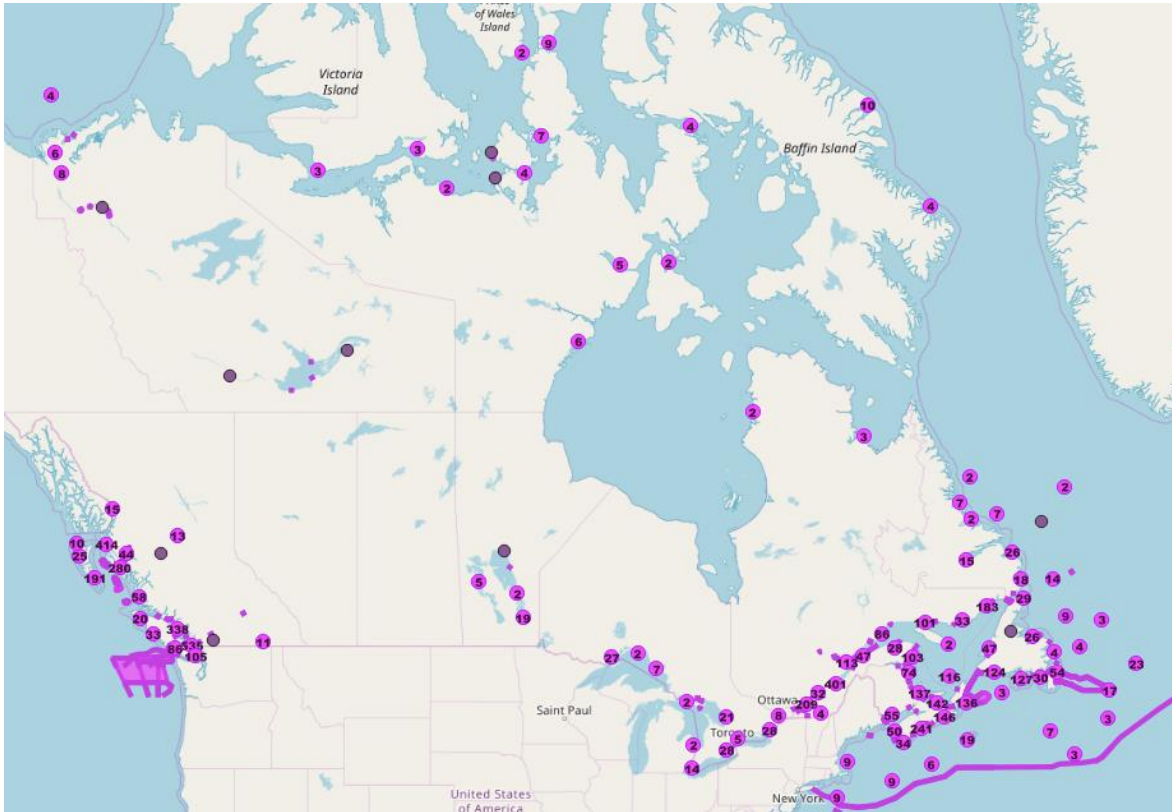
Figure C - CHS NtM S-124 data samples loaded on a map

Conclusions
The tests and investigation carried out by CHS and CCG show that the S-124 data model can support the dissemination of Notice to Mariners information.

Action Required of NIPWG
The NIPWG is invited to:

      a.   Note this paper

Annex A – CHS NtM dataset sample

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xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:py="http://codespeak.net/lxml/objectify/pytype">
  <imember>
    <S124:S124_NMPreamble gml:id="PR.CA.NM6203212">
      <id>urn:mrn:iho:nm:ca:dfo6203212</id>
      <theNoticePart xlink:href="#CA.NM6203212-*"/>
      <S124_publicationDate>2016-02-19</S124_publicationDate>
      <originalInformation>true</originalInformation>
      <messageSeriesIdentifier>
        <nameOfSeries>Canadian Notices to Mariners (NOTMAR)</nameOfSeries>
        <year>2016</year>
        <country>CA</country>
        <productionAgency>
          <language>eng</language>
          <text>CANADIAN HYDROGRAPHIC SERVICE</text>
        </productionAgency>
      </messageSeriesIdentifier>
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      </S124_affectedChartPublications>
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  </imember>
  <member>
    <S124:S124_NoticeToMarinersFeaturePart gml:id="CA.NM6203212-1-3794">
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      </information>
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          </gml:Point>
        </geometryProperty>
      </geometry>
      <S124_affectedChartPublications>
        <chartAffected>3794-20020830-Stewart</chartAffected>
      </S124_affectedChartPublications>
    </S124:S124_NoticeToMarinersFeaturePart>
  </member>
</S124:DataSet>
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