

Marine Plants – Rare Algae – Series 1

description

Algae are a vast group of predominantly aquatic unicellular and multicellular organisms inhabiting fresh, brackish, and marine waters without respect to size or degree of permanence of the habitat. They may be planktonic (free-floating or motile) or benthic (attached). Benthic marine algae are commonly called seaweeds. Seaweeds are a macroscopic, marine subset of algae (as opposed to the microscopic subset known as marine phytoplankton). Substrates include rocks (outcrops, boulders, cobbles, pebbles), plants (including other algae), animals, boat bottoms, piers, debris and, less frequently, sand and mud.

This atlas page illustrates the locations of various forms of algae that are considered rare in BC, most at their northern or southern limit. The data were obtained from the University of British Columbia (UBC) Herbarium and the Conservation Data Centre (CDC). The CDC uses a standard methodology to buffer collection observations by an uncertainty value, depending on precision of location. BC Marine Conservation Analysis (BCMCA) followed the same methodology for points obtained from the UBC Herbarium to allow the datasets to be combined. The result is that point locations with greater uncertainty (i.e. less precise coordinates) are buffered by a larger area.

The image below is an example of the alga, *Desmarestia tortuosa*.



PHOTO: MICHAEL HAWKES

data sources

- British Columbia Conservation Data Centre – Algae element occurrences
- University of British Columbia Herbarium – Algae specimen records

data resolution

- Data points with lower precision (i.e. those defined to the nearest degree or minute) are buffered by a larger area. More precise coordinates generally have GPS coordinates defined to the decimal minute or second.

date collected

- *Arthrocardia silvae* – 1972
- *Codium ritteri* – 1976-1984
- *Desmarestia tortuosa* – 1969-1990
- *Stephanocystis geminata* (including records identified as *Cystoseira geminata* and *Cystoseira spicigera*) – 1897-2006

date compiled

- 2009

reviewers

- Robert DeWreede, University of British Columbia, Botany
- Sandra Lindstrom, University of British Columbia, Botany
- Michael Hawkes, University of British Columbia, Botany

reviewer comments

- *Arthrocardia silvae* - Efforts need to be made to locate additional populations of this species in BC and to confirm the continued existence of the previously identified population.
- *Codium ritteri* - Efforts need to be made to locate additional populations of this species in BC and to confirm the continued existence of the previously identified population. However, this species is widespread and abundant outside of BC.
- *Stephanocystis geminata* - Efforts need to be made to identify the environmental character of sites where this species is found and whether the rarity of sites with those characters is responsible for the restricted occurrence of this species. *Stephanocystis geminata* was previously identified as *Cystoseira geminata* and *Cystoseira spicigera*.
- *Desmarestia tortuosa* - The distinctness of this species from other species of *Desmarestia* needs to be verified.

caveats of use

- Survey effort is not consistent across all planning units or across all areas of the coast and some species tend to be under-represented by some survey methods. Areas with no data may not have been surveyed and these data gaps are not necessarily indicative of an absence of these algae species. Some locations may still be important but currently lack associated data to confirm their value.
- This feature is a compilation of data collected by many people, for different purposes, using different survey techniques with different methodologies within each technique and, therefore, considerable care must be taken when using the data. Please refer to the original metadata document for data limitations and usage.
- Recommended date of expiry for use of these data in a marine planning context: None provided.

map, feature data and metadata access

- Visit www.bcmca.ca/data for more information.

references

- Species description contains material from: McGraw-Hill Concise Encyclopedia of Bioscience. 2002. Accessed: 29 June 2010. www.encyclopedia2.thefreedictionary.com/algae
- For more information about Conservation Data Centre (CDC) methods please see: www.env.gov.bc.ca/cdc/methods.html
- Additional data sources found during feature review process:
 - Scagel RF, Gabrielson PW, Garbary DJ *et al.* *A Synopsis of the Benthic Marine Algae of British Columbia, Southeast Alaska, Washington and Oregon*. Department of Botany, The University of British Columbia, Vancouver. 1993
 - Hawkes, MW. Benthic Marine Algal Flora (Seaweeds) of British Columbia: Diversity and Conservation Status. Chap. 11 In: Biodiversity in British Columbia: Our Changing Environment, edited by E. McCullum & L. Harding. Environment Canada: Vancouver. 1994.

BCMCA Atlas

Marine Plants

Rare Algae - Series 1

Legend

- Species**
- Arthrocardia silvae*
 - Codium ritteri*
 - Desmarestia tortuosa*
 - Stephanocystis geminata*

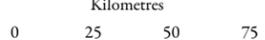
Note:
 - *Stephanocystis geminata* was identified previously as *Cystoseria geminata* and *Cystoseira spicigera*.

Data Sources:
 British Columbia Conservation Data Centre,
 University of British Columbia Herbarium

Base Data:
 ESRI Base Data, GeoBase, GeoBC,
 NOAA, Natural Resources Canada,
 USGS, Washington State Government

Thematic Data:
 For more information on data sources
 and methods please refer to the
 facing page to this map

Projection: BC Albers NAD83



1:4,250,000 *

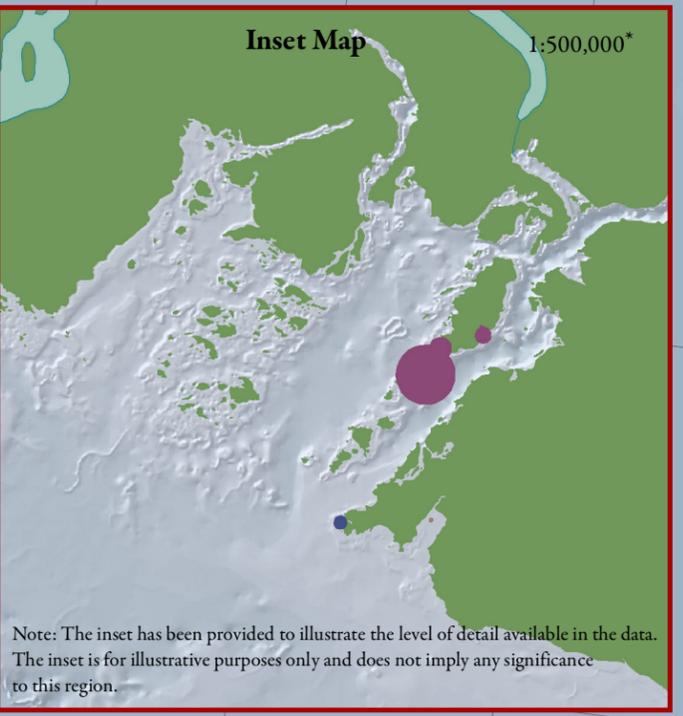
* Written scales are approximate and are based on a 11 x 17 inch paper size.

Prepared for:



Map template by Caslys Consulting Ltd.

April 17, 2013



Note: The inset has been provided to illustrate the level of detail available in the data. The inset is for illustrative purposes only and does not imply any significance to this region.