Meta Data Set Name: Kelp Habitat Mapping—Mayne Island, BC

1. Identification Information

Files: Points, Lines, Polygons (2010-2012)

Kelp\_Point\_2012.shp

Kelp\_Point\_2012.shx

Kelp\_Point\_2012.dbf

Kelp\_Line\_2012.shp

Kelp\_Line\_2012.shp

Kelp\_Line\_2012.shx

Kelp\_Line\_2012.dbf

Kelp\_Poly\_2012.shp

Kelp\_Poly\_2012.shp

Kelp\_Poly\_2012.shx

Kelp\_Poly\_2012.dbf

1.2. Description

1.2.1 Abstract

Core components of the project include the mapping and monitoring of Bull kelp areal extent (*Nereocystis luetkeana*) surrounding Mayne Island with the help of volunteers. The kelp data was delineated and then mapped for linear extent. To maintain consistency and for comparison data was collected within one hour before or after low tide, when the tide height for the entire two hour period was below 1.2MLLW or less, as established by the Washington State Department of Natural resources, Nearshore Habitat Kelp Monitoring program. Waypoint data was delineated into three categories based on proximity and formation as outlined in the ‘*Guidelines for Mapping and Monitoring Kelp Forests in B*C,’ document generated by the Mayne Island Conservancy Society (2010). Points were classified as such to represent both solitary bulbs; greater than 8m in distance from other bulbs or clusters; being less than 5m in diameter. Lines were delineated where bulbs formed solitary lines with no greater than 8m distances between each bulb or where strips were less than 5m in width. Polygon delineation was marked as areas where kelp beds were greater than 5m across and maintained by less than 8m between bulbs, variances in distance or width resulted in the end point of a polygon (bed) and the start of a new point, line or polygon. Data was collected using hand held Global Positioning System, accurate to 1:2-1:7 with some areas having lower accuracies due to forest cover and rock formations near the shoreline.

In addition to delineation, interval depth mapping was recorded for line and polygon formations, by taking measurements using a weighted surveyor’s tape, where conditions and safety permitted. For lines this was performed by taking measurements at the beginning and end points, as well as approximately every 5-10 bulbs in between. While for polygons the corners or vertexes of the polygon were measured as well as intervals approximately every 5-10 bulbs. While the entire island was surveyed in detail for the first three years, representative study sites will be chosen for future monitoring.

Documentation of the project will provide government agencies, non-government organizations and individuals with the means to monitor and protect sensitive kelp habitats.

1.2.2 Purpose

To provide reliable science based geographic information about sensitive canopy forming kelp habitats.

1.3 Time period of content: July 2010-August 2012.

1.4 Status

1.4.1 Progress

In progress: Representative habitat will be selected for future monitoring based on reference research and professional assistance. In addition, data loggers and sediment traps are proposed for use at these sites to record additional growth determinant factors such as temperature, salinity and sediment load (light depth limits).

1.4.2 Maintenance and Update Frequency

Kelp will be monitored and mapped annually unless, otherwise recommended by current research or professional assistance.

1.5 Geographic Extent

1.5.1 Description of Geographic Extent: Mayne Island, a portion of Curlew Island when mapped against CRD Orthophotos.

1.5.2 Bounding Rectangle Coordinates (m)

1.5.2.1 West Bounding Coordinate: 426776

1.5.2.2 East Bounding Coordinate: 425212

1.5.2.3 North Bounding Coordinate: 433019

1.5.2.4 South Bounding Coordinate: 424949

1.6 Access Constraints: None

1.7 Use Constraints: Any party using or manipulating the 1:5 scale of Mayne Island (Mayne Island Conservancy Society, 2009) must notify the Mayne Island Conservancy Society of its intended use and acknowledge the Mayne Island Conservancy Society in any display or presentation of the data.

1.8 Point of Contact

1.8.1 Contact Person Primary: Leanna Boyer

1.8.1.2 Contact Person: Michael Dunn

1.8.2 Contact Address: Leanna Boyer

1.8.2.1 Address Type: Mailing

1.8.2.2 Address: Box 31

1.8.2.3 City: Mayne Island

1.8.2.4 State or Province: BC

1.8.2.5 Postal Code: VON 2J0

1.8.2.6 Country: Canada

1.9 Native Data Set Environment: Arc View GIS

1.10 Data Quality Information

1.10.1 Attribute Accuracy

1.10.2 Attribute Accuracy Report: 1:7 scale.

2.1 Completeness Report: The dataset is nearly complete for Mayne Island and Curlew Island except where in 2011 portions of the island was unmapped, due to time and condition constraints. These areas are delineated as:

Kelp\_Unmapped\_2011.shp

Kelp\_Unmapped\_2011.shx

Kelp\_Unmapped\_2011.dbf

2.1.1 Geographic Extent:

2.1.2 Description of Geographic Extent: Potion of Mayne Island, that was unmapped in 2011.

2.1.3 Bounding Rectangle Coordinates (m)

2.1.3.1 West Bounding Coordinate: 474567

2.1.3.2 East Bounding Coordinate: 482103

2.1.3.3 North Bounding Coordinate: 5412965

2.1.3.4 South Bounding Coordinate: 5411123

2.2 Positional Accuracy:

Data was collected using a hand held GPS (GPS Map60Csx). The data collection platform was from kayak. Waypoints were recorded at a maximum of 10m intervals except were conditions compromised safety.

Accuracy of GPS ranged from + or – 1m to + or – 7m.

2.3 Spatial Reference Information

2.4 Horizontal Coordinate System Definition:

2.4.1 Map Projection Name: Projected

2.4.2 Grid Coordinate System Name: UTM

2.4.3 Datum: NAD 83

2.4.4 UTM Zone Number: 10N

3 Entity and Attribute Information

3.1 Overview Description: Marine habitat mapping

3.1.1 Entity and Attribute Overview: See attribute table in Appendix I of this document

3.1.2 Entity and Attribute Detail Citation: See attribute table in Appendix I of this document

4 Distribution Information

4.1 Distributor – digital Arc View files / Paper Maps

4.1.2 Contact Organization: Mayne Island Conservancy Society

4.1.3 Contact Person: Michael Dunn

4.1.4 Contact Address: PO Box 31

4.1.5 City: Mayne Island

4.1.6 State or Province: British Columbia

4.1.7 Postal Code: V0N 2J0

4.1.7 Country: Canada