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Spatial Delineation of Western Distinct Population Segment Steller Sea Lion Rookeries and Major Haulouts in Alaska

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ABSTRACT

Since the early 1970s, the National Marine Fisheries Service (NMFS) has identified Steller sea lion rookery and haulout locations in Alaska from the air, ships, and on land, and obtained their locations using LOng RAnge Navigation (LORAN) coordinates and nautical charts. Over the last 20 years, coordinates collected at sites along with satellite imagery have allowed scientists to more accurately update and pinpoint rookery and haulout sites. NMFS conducts aerial surveys to count sea lions hauled out at these sites during the summer breeding season, which allow biologists to use today's GPS technology and detailed satellite imagery to update historical site locations. This report updates the locations of all rookeries and major haulouts used by western Distinct Population Segment (WDPS) Steller sea lions in Alaska. In addition, we summarize the process used to update coordinates and delineate site extent. Older, less precise geolocation data for many of these sites have been previously identified in Federal regulations: 50 CFR § 224.103 (Special prohibitions relating to endangered Steller sea lion protection); 50 CFR § 226.202 (Critical Habitat for Steller sea lions); and the 50 CFR § 679.22 fishery restriction regulations. Since some of these regulations were developed with less accurate (than present) techniques for identifying geolocations of sites, the 2008 Recovery Plan for Steller sea lions includes a threats-based recovery criteria to correct erroneous locations for rookeries and major haulout sites designated as critical habitat and rookeries listed in the ESA special prohibitions regulation. The work documented in this memo provides such updated location data. Steller sea lion rookeries (N=51 in Alaska) as described in this report are sites where there is at least one count of 50 WDPS newborn pups, since 1973. Major haulouts (N=139) as described in this report are sites that are not rookeries, and have had significant historical counts of WDPS Steller sea lions: at least one count of 200 or more during the breeding season or at least 100 during the non-breeding season, since 1973. To classify major haulout sites for WDPS Steller sea lions in southeast Alaska, historical

counts were used to calculate the proportion of Steller sea lions at these sites that were from the WDPS. See March 2008 Steller Sea Lion Recovery Plan.

This report does not document rookeries and major haulouts used by eastern distinct population segment Steller sea lions or all known Steller sea lions sites in Alaska. This document does not change the regulatory boundaries of current Alaska Steller sea lion protection measures as documented in 50 CFR §§ 224.103 or 679.22.

CONTENTS

INTRODUCTION

NMFS currently manages the Steller sea lion population of Alaska as two Distinct Population Segments (DPSs)—an eastern DPS (EDPS) and western DPS (WDPS)—with the dividing line between the DPSs at 144°W longitude. In 1990, NMFS initially listed the Steller sea lion as one threatened species under the Endangered Species Act (ESA) (55 FR 49204; Nov. 26, 1990). At that time, NMFS established in regulation, special prohibitions that created no-approach buffers around certain rookeries, which were listed in the regulation (55 FR 49204; Nov. 26, 1990). In 1993, NMFS designated critical habitat for the species that included specific rookeries and major haulouts listed in regulation (58 FR 45269; Aug. 27, 1993). In 1997, NMFS divided the species into the two DPSs, listed the WDPS as endangered, and retained the threatened designation for the EDPS (62 FR 24345, May 5, 1997). NMFS also retained in regulation the special prohibitions for certain rookeries. In 2013, following a consistent trend of increasing population numbers, NMFS delisted the EDPS (78 FR 66140; Nov.4, 2013).

Since the 1970s, Steller sea lion rookery and haulout locations in Alaska have been identified by NMFS. These locations were identified from air-, ship-, and land-based surveys, often using NOAA nautical charts and/or Long Range Navigation (LORAN) coordinates to determine site location. Alaska's 46,000+ miles of shoreline were often cartographically mapped in less than optimal conditions. Since such location data were the best scientific information available at the time, they were used in regulations established to protect Steller sea lions and many of their rookeries (in the ESA special prohibitions regulation (50 CFR 224.103(d)), in the designation of Steller sea lion critical habitat (50 CFR 226.202), and in fisheries regulations that were implemented following consultations under Section 7 of the ESA (50 CFR 679)). The advent of satellite based Global Positioning System (GPS) in the mid-1990s allowed NMFS to begin updating site locations of rookeries and haulouts during field surveys. By the 2010s, satellite data became readily available and useable in desktop geographic information systems (GIS). GPS

coordinates collected at sites along with detailed satellite imagery now allow scientists to accurately pinpoint rookeries and haulouts, identifying the notable locations along the coast, reefs, and off-shore rocks.

The 2008 Recovery Plan for Steller Sea Lions (Plan; NMFS 2008) includes a threats-based recovery criterion that includes a requirement to correct erroneous locations for rookeries and major haulout sites designated as critical habitat and rookeries listed in the ESA special prohibitions regulation (NMFS 2008:V-19). Noting that "improvement in satellite mapping technology has allowed greater accuracy in determining the locations of rookery and haulout sites" (NMFS 2008:V-34), the Plan also includes a recovery action to correct such technical errors. In this report, we have taken the first of several steps needed to satisfy the recovery criterion and accomplish the recovery action. Specifically, this report updates the old LORAN-based coordinates of 191 site locations for rookeries and major haulouts used by WDPS Steller sea lions in Alaska based on detailed satellite imagery and satellite-based GPS coordinates

METHODS

Delineating site extent

Each of the 191 sites documented in this report were identified using latitude and longitude, NOAA Marine Mammal Lab (MML) survey databases, MML survey notes, oblique (slanting) aerial photos, orthographic photos (measureable photos usually taken by satellite or by aircraft nearly above each site), and expert knowledge from Steller sea lion biologists and surveyors, Lowell Fritz and Katie Sweeney of the MML at the Alaska Fisheries Science Center. These experts then met with Steve Lewis, the lead GIS analyst and spatial data architect with NMFS, Alaska Region, to identify the range and extent of each of the rookeries and major haulouts for WDPS Steller sea lions.

Using a GIS, we used the latitude and longitude from the MML database to zoom to each site. MML notes, aerial oblique and satellite and other orthographic photos, and expert knowledge allowed us to more accurately identify the full extent and prominent features of each rookery and major haulout. In order to identify the coastline, rocks, and reefs, we used the NOAA Continually Updated Shoreline Product (CUSP). While CUSP is an accurate map of the coastline, it is not complete for Alaska and it identifies only Mean High Water (MHW). MHW is the average of all the high water heights observed over a period of several years. For example, in the United States this period spans 19 years and is referred to as the National Tidal Datum Epoch. It is important here since it defines most Alaska coastlines. Where CUSP was not available or where some of the prominent site locations were on reefs or rocks—outside of mean high water—satellite data was used to augment CUSP.

Satellite data is georeferenced (and sometimes geo-rectified) with varying degrees of accuracy. The georeferencing allows for the internal coordinate system of a map or aerial photo to be related to the ground system coordinates system. In practice, the image in a GIS can then be overlaid over other data in the same spatial space. With this degree of satellite accuracy in mind, we attempted to use at least two satellite sources in order to accurately delineate sites not identified by CUSP. One satellite source used, the Geographical Information Network Alaska Best-Data-Layer, is a carefully ortho-rectified mosaic dataset of Alaska. The second satellite source, World Imagery, also ortho-rectified data, was last updated January 2018 and is hosted by ESRI's ArcGIS Online.

Many sites could be identified using an individual contiguous line; however, some sites have rocks and reefs separated by open water. When a site had a reasonable amount of open water between rocks and reefs contained within the site, the site is divided by a Series (identifier) for another unconnected section of the total site. For example, Sushilnoi Rocks has Series A through F identifiers; each series identifier forming its own contiguous line; this gives Sushilnoi Rocks six

contiguous lines. Sites with a single contiguous line are identified with only a Series A identifier. Appendices II, III and IV indicate the Series.

It is important to note that while the locations are identified by latitude and longitude, each of the locations must be connected by a line in order to be accurate. The coordinates are in order. The lines may appear to be well off-shore; these are drawn to include offshore rocks, reefs, and sandbars where Steller sea lions have been observed.

Locations and lines show the range and extent of each site and do not precisely follow the coastline. Both the accuracy and the coastline itself may change over time. The lines provide enough resolution of the coastline and off-coast reefs, sandbars and rocks that buffer these lines and are sufficiently accurate for seaward delineation of Steller sea lion protection measures. Terrestrial protections should use the best available coastline within the extent of the line for terrestrial and near shore protections.

In areas where Steller sea lion abundance has declined substantially (e.g., western Aleutian Islands and parts of the central Aleutian Islands; Fritz et al. 2016), site extents reported here reflect historical, not current usage. Historical usage was verified by examining oblique aerial photographs taken in the 1970s and 1980s and logs written by NMFS and U.S. Fish and Wildlife Service scientists during extended cruises and field trips in Alaska.

Site identification

This report updates the locations and reports site extents for rookeries and major haulouts used by WDPS Steller sea lions in Alaska (NMFS 1997). These two types of sites are identified from count data collected at all known terrestrial sites used by Steller sea lions. Thus, the site locations reported here, along with rookery sites used by EDPS Steller sea lions, and hundreds of all other “non-major” haulout locations (not identified in this report), are referenced by the MML for annual abundance surveys (Fritz et al. 2016).

The MML conducts wide-ranging abundance surveys annually to count Steller sea lions on land throughout Alaska. These counts are used to estimate population abundance and conduct trend analyses. Annual abundance surveys are conducted by air (traditional occupied aircraft or unoccupied aircraft systems), ships, small inflatable skiffs, or by land (see Fritz et al. 2016). Counts may be conducted (usually averages of two or more independent counts) visually by observers, or from images. Counts can also be conducted by visual observers based at field camps (MML and Alaska Department of Fish and Game). Other state and local government agencies have also provided counts, including the National Park Service and U.S. Fish and Wildlife Service. Prior to 2005, pup counts were obtained by walking through the rookery and visually counting all pups present.

A rookery is defined for purposes of this report as any site that has at least one count since 1973 with a minimum of 50 newborn pups (N=51; NMFS 2008; NMFS 1993; U.S. Federal Registrar 1993; Everitt and Jeffries 1979). In the 1993 critical habitat environmental assessment (NMFS 1993) and Recovery Plan (NMFS 2008), a major haulout is defined as a terrestrial site that is not a rookery and has had at least one count with a minimum of 200 Steller sea lion adult and juveniles, since 1970 (U.S. Federal Registrar 1993). The vast majority of the counts used to designate major haulouts were from survey data collected during the breeding season. Since then, non-breeding season surveys have shown that sea lions haul-out less frequently than during the breeding season (non-breeding season counts totaled about half of breeding season counts) and they may use different sites (Sease and York 2003). Seasonal differences in haulout probability and distribution are due to the annual reproductive cycle of Steller sea lions and changes in the distribution of their prey (Calkins and Pitcher 1982; Calkins and Goodwin 1988; Sease and York 2003; Womble et al. 2005, 2009; Trites et al. 2007; Call et al. 2007; Holmes et al. 2007 and references within; Sigler et al. 2009). Therefore, in this technical memoranda, we define a WDPS Steller sea lion major haulout as any terrestrial site not identified as a rookery and has had at least

one count since 1973 with a minimum of 200 adult and juvenile WDPS Steller sea lions (non-pups) counted during the breeding season (May through July), or a minimum of 100 adult and juveniles counted during the non-breeding season (August through April; N=139).

This major haulout definition was used for all sites in Alaska west of 144°W, which is the 1997 regulatory listing boundary between the EDPS and WDPS. However, since it is well-documented that WDPS Steller sea lions regularly occur east of 144°W, in northern Southeast Alaska (Jemison et al. 2013; NMFS 2013), rookeries and major haulouts of WDPS Steller sea lions were also identified in portions of southeast Alaska where WDPS animals regularly occur. To account for the presence of EDPS animals and identify sites that meet the above seasonal abundance criteria for WDPS animals (see Gelatt et al. 2007; Jemison et al. 2013; O'Corry-Crowe et al. 2014), separate seasonal abundance criteria were established for WDPS Steller sea lions using sites east of the regulatory boundary—at least one non-pup count greater than or equal to 1,181 during the breeding season or greater than or equal to 560 during the non-breeding season since 1973 (see Appendix I).

Steller sea lion sites, or "parent-sites," may be composed of "sub-sites." This aggregation is necessary for integrating historical count information that was reported for the parent site which may not be teased apart into individual counts for sub-sites. Some sites are made up of multiple locations spread out over an area (usually less than 1 mile) and are labeled as sub-sites, as well. This is to ensure that no areas are missed while surveying. Not all sites are made of sub-sites and may just be a single location.

RESULTS

Fourteen-hundred and fifty-nine (1,459) point locations were created to mark the boundary vertices of site extents for 48 rookeries and 139 major haulouts for the WDPS Steller sea lions in Alaska (Figure 1). Appendix III to this report provides the latitude and longitude locations depicting the range and extent of each site. All site extents were drawn in reference to the CUSP

coastline or georeferenced satellite imagery (Figure 2). We included all coastline, islands, and/or offshore rocks where WDPS Steller sea lions have been observed in the site extents. If a nearby rock or island was not included, Steller sea lions have not been observed on the feature (Figure 3). Some sites have one series, or contiguous line, encompassing coastline, multiple rocks, or islands (i.e., Series A; Figure 4), while other sites required two or more series to encompass the entire extent (e.g., Series A, B, C, D, E, and F; Figure 5). Buldir Rookery is an example of a site where WDPS Steller sea lions used to be present in large numbers (greater than 5,000 adults and juveniles); however, no Steller sea lions have been observed at this site since 2012 due to continued population declines. We used expert knowledge to draw the historical extent of this type of site (Figure 5).

This document describes known site extents for all major WDPS Steller sea lion sites in Alaska. In creating GIS files for the sites, lines need to be created from the points by each series in the order specified in Appendix III. Since Alaska is in higher latitudes, it is important to use an appropriate projection when creating restriction and management buffer zones.

Note that in the geographic data-frame, measuring distance is only accurate at the Equator. ArcGIS products use a planar coordinate system. ArcGIS Professional uses a standard planar coordinate system; ArcMap uses a specialized coordinate system for buffers called Buffer Optimized Coordinate System (BPCS). The BPCS types is set in Advanced Setting in the Bin directory of ArcGIS. Open Source GIS products often require the user to find the projection that best fits for their own area and latitude.

Fisheries and no vessel transit regulations may simply use the lines created by connecting the points for building the seaward buffers. For the .5 mile terrestrial buffer zone surrounding the Steller sea lion sites, the most up to date coastline within the extent of the line should be used to isolate that portion of the coastline.

DISCUSSION

Spatial extents were drawn as a series of points for rookeries and major haulouts of WDPS Steller sea lions in Alaska. Lines should be created from the points by the Series identifier in the order specified in Appendix III. Simply using the points alone would not be accurate.

This memo represents the first step needed to update geolocations of WDPS Steller sea lion terrestrial sites specified in regulations, such as critical habitat designation. However, technical corrections to rules or rulemaking will be needed to update the geolocations provided in the regulatory language for a given site. Until the regulatory language is amended, the geolocations provided in 50 CFR § 224.103(d), 50 CFR § 226.202, and 50 CFR § 679.22 and its Tables remain in effect.

The Steller sea lion rookery and major haulout sites recognized in Federal regulations at CFR § 224.103(d), CFR § 226.202, and CFR § 679.22 are within 200 to 400 meters of the locations as identified with today's GPS technology. With 3-nautical-mile (5,556 meters) no entry\no transit zones from the water around many of the rookeries west of Prince William Sound, the largest error is about 7% less than the intended vessel buffer zone; i.e., of the subset of rookeries for the WDPS Steller sea lion that are listed in 50 CFR 224.103, they are still protected by no less than at least 5,156 meters from the sea. This document does not change the regulatory boundaries of current Alaska Steller sea lion protection measures as documented in 50 CFR § 224.103(d) or § 679.22

ACKNOWLEDGMENTSWE WOULD LIKE TO THANK ALL THE PEOPLE INVOLVED IN PARTICIPATING IN STELLER SEA LION SURVEYS, WHICH MADE IT POSSIBLE TO COLLECT THIS INFORMATION AND PRODUCE THESE SITE EXTENTS. CITATIONS

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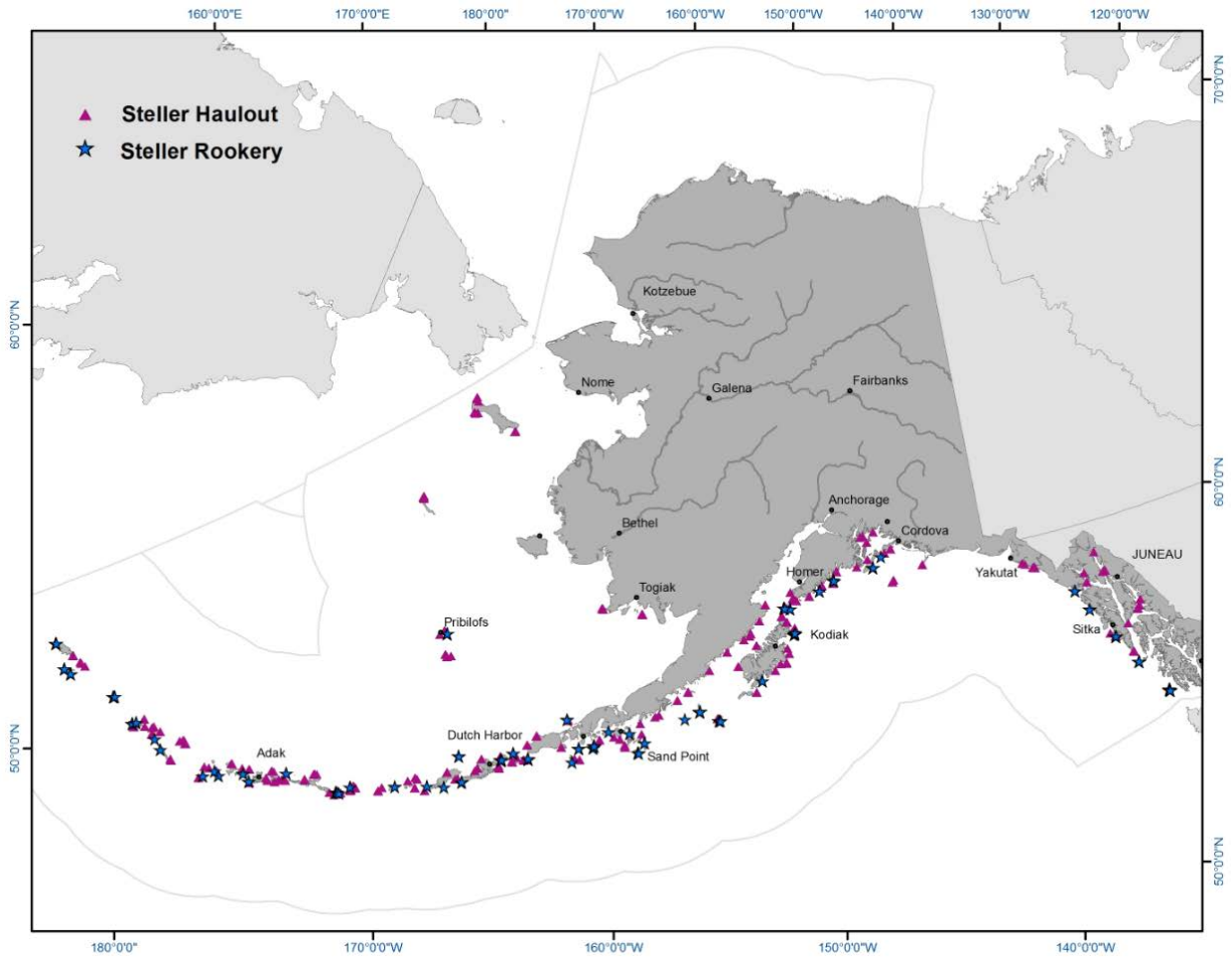


Figure 1. – Site extents drawn for WDPS Steller sea lion rookeries and major haulouts in Alaska.

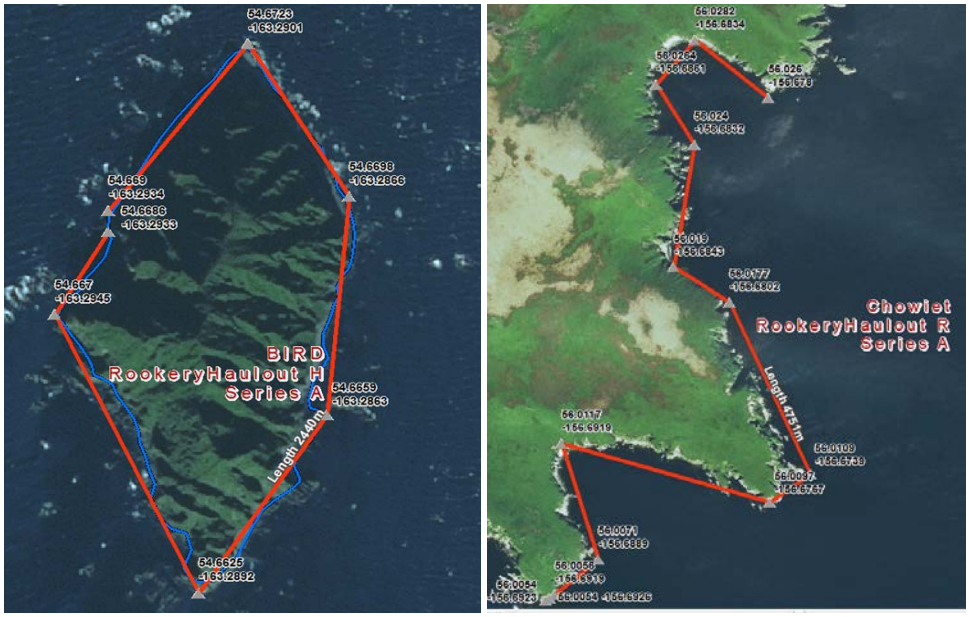


Figure 2. – Bird haulout point (gray triangles) and line extent or line created by points (red) composed of a single Series A, drawn in reference to the CUSP (blue) coastline (left). Chowiet rookery point and line extent drawn from georeferenced satellite information since CUSP was not available for this area (right).

Figure 3. – Akutan/Cape Morgan rookery (only Series A shown) extent or line created by points (red) drawn around CUSP (blue) and does not include offshore rocks to the south.

Figure 4. – Sea Lion Rocks (Shumagins) major haulout extent or line created by points (red) drawn around CUSP (blue) including eight individual rocks composing the entire site.

Figure 5. – Biali Rock rookery extent or line created by points (red) drawn across two separate segments in Series A (left) and Series B (right) referenced by the CUSP (blue).

Figure 6. – Buldir rookery extent or line created by points (red) drawn from historical knowledge since no sea lion pups have been observed at this site since 2012.

APPENDIX I

Estimating the minimum Steller sea lion non-pup counts at haulouts in southeast Alaska that are associated with at least 100 western non-pups in the non-breeding season and 200 western non-pups in the breeding season.

Major western Steller sea lion haulouts are defined as those with a count of at least 100 non-pups in the non-breeding season (August through April) or at least 200 non-pups in the breeding season (May through July) between 1970 and 2013. Within the recognized breeding range of the WDPS – west of 144°W – it is assumed that all animals counted on haulouts are WDPS animals. While it is known that some EDPS Steller sea lions cross into the western range throughout the year (Jemison et al. 2013), the conservative assumption (that all animals are WDPS) is used for counts on all haulouts west of 144°W. Therefore, west of 144°W, raw non-pup counts are used to determine whether a haulout qualifies as a major WDPS haulout.

This is not the case in southeast Alaska, where the Steller sea lion population is predominantly composed of EDPS animals, but with a significant contribution of WDPS Steller sea lions. This is due to both seasonal movement of WDPS animals into the area (Jemison et al. 2013) but also because WDPS females form significant proportions of the breeding populations on the two northernmost southeast Alaska rookeries, Graves Rock and White Sisters (Gelatt et al. 2007; O'Corry-Crowe et al. 2014). To identify major WDPS haulouts in southeast Alaska, it is necessary to estimate the proportion of EDPS and WDPS animals within the region by season, and apply these proportions to seasonal haulout counts to determine which sites are likely to have had minimum counts of 100 (non-breeding season) or 200 (breeding season) WDPS non-pups.

Methods

To estimate the proportions of E- and WDPS Steller sea lions in southeast Alaska, two sets of estimates are required: the number of EDPS and WDPS animals that were born and remain in

southeast Alaska, and the number of EDPS and WDPS animals that transition to the opposite DPS range, by season. We used the following data, assumptions, and methods to make these estimates for the year 2013:

1) Estimates of the number of EDPS and WDPS non-pups that were born in southeast Alaska and alive in 2013
    a. Data
        i. Proportions of EDPS:WDPS pups born on Graves Rock (0.3:0.7) and White Sisters (0.55:0.45; Gelatt et al. 2007; O'Corry-Crowe et al. 2014)
        ii. Actual or estimated pup counts (linear interpolation for missing years) at Graves Rock and White Sisters, 1990-2013 (Table A1; NMML)
        iii. Survival by age, sex, and southeast Alaska rookery through ages 7 or 8 y (Hastings et al. 2011), and as estimated through age 20 y (males) and 30 y (females; see Assumption v. below and Table A2)
        iv. Pup counts in 2013 by site in southeast Alaska (Table A3)
    b. Assumptions
        i. 50:50 sex ratio at birth
        ii. WDPS sea lions born on Graves Rock and White Sisters survive and disperse in the same manner as EDPS sea lions born on these rookeries
        iii. All pups born in 2013 on Biali Rock, Hazy Islands, Forrester/Lowrie Islands; 30% of the pups born on Graves Rock; 55% of the pups born on White Sisters; and all pups born on any other site in southeastern Alaska are part of the EDPS
        iv. Non-pup abundance of EDPS animals in southeast Alaska in 2013 is conservatively estimated by multiplying EDPS pup production (Table A3) by 3.5 (Calkins and Pitcher 1982; Pitcher et al. 2007)

v. Survival schedule of pups born on EDPS rookeries through age 7 or 8 y (depending on the rookery) were obtained from Hastings et al. (2011); survival-at-age of females ages 8 or 9 through 15 y assumed to be the same as age 7 or 8 for each rookery, and then was reduced by 5% per year through age 30; survival-at-age of males ages 8 or 9 through 11 y assumed to be the same as age 7 or 8 for each rookery, and then was reduced by 20% per year through age 20 (Table A2)

vi. Pups born on Biali Rock in 2013 have survival schedules (by sex and age) that are the average of those at White Sisters and Hazy Islands

vii. Pups born at haulout sites in southeast Alaska in 2013 (N=30) have survival schedules (by sex and age) identical to that of Forrester Island group

c. Method

i. Calculate the number of WDPS pups born on Graves Rock and White Sisters each year based on the proportions in Gelatt et al. (2007) and O'Corry-Crowe et al. (2014)

ii. Estimate the number of WDPS non-pups that were born on these 2 rookeries that were alive in 2013 by applying the age-, sex-, and rookery-specific survival rates, and sum across all ages, both sexes, and both rookeries for 2013 (N_{13w})

iii. Estimate the number of EDPS non-pups that were born in southeast Alaska that were alive in 2013 by multiplying the 2013 estimate of eastern pups (N=5939; Table A3) by 3.5 (Calkins and Pitcher 1982; Pitcher et al. 2007) (N_{13e}).

2) Estimates of the number of eastern and western non-pups that moved across the stock boundary by season

a. Data

   i. Seasonal transition probabilities through age 10.5 y for both DPSs (Jemison et al. 2013), and as estimated for ages older than 10.5 y (see Assumption i. below; Table A4)

   ii. Pup counts in 2013 at the 5 rookeries in southeast Alaska (EDPS), 3 rookeries in the eastern Gulf of Alaska (western DPS), and the 4 easternmost rookeries in the central Gulf of Alaska (western DPS; Outer Island, Sugarloaf, Ushagat/SW and Marmot) (Tables A3 and A5)

   iii. Survival by age, sex, and rookery for Steller sea lions born in southeast Alaska (eastern DPS; Table A2)

   iv. Survival by age, sex, and rookery in the eastern and central Gulf of Alaska through ages 10 or 11 y (Fritz et al. 2014), and as estimated through age 20 y (males) and 30 y (females; see Assumption ii. below; Table A6)

b. Assumptions

   i. Seasonal transition probabilities for ages older than 10.5 y (Jemison et al. 2013) were reduced 10% from the previous age for both sexes up to age 20 y for males and 30 y for females (Table A4)

   ii. Survival schedule of pups born on WDPS rookeries through age 10 or 11 y (depending on the rookery) were obtained from Fritz et al. (2014); survival-at-age of females ages 11 or 12 through 15 y assumed to be the same as age 10 or 11 y for each rookery, and then was reduced by 5% per year through age 30; survival-at-age of males ages 11 or 12 through age 20 was reduced by 20% per year (Table A6)

iii. The mixing zone between the stocks extends from southeast Alaska through the Kodiak archipelago, with negligible movement of Steller sea lions between:

1. Southeast Alaska and any other EDPS region (British Columbia, Washington, Oregon, or California)
2. Any EDPS region other than southeast Alaska and the west
3. The two western central Gulf of Alaska rookeries (Chirikof and Chowiet) and the east
4. Any other WDPS region west of the Central Gulf of Alaska and the east

c. Method

i. Estimate WDPS Steller sea lion non-pup numbers-at-age for all rookeries between Kodiak and Prince William Sound based on 2013 pup counts and the age-, sex-, and region-specific survival rates; multiply by age-, sex-, region-, and season-specific west-to-east transition probabilities; sum across all ages, both sexes, and both regions within each season to estimate the number of WDPS Steller sea lions that moved to southeast Alaska ($N_{w\ to\ e,b}$; $N_{w\ to\ e,nb}$)

ii. Estimate EDPS Steller sea lion non-pup numbers-at-age for all rookeries in southeast Alaska based on 2013 pup counts and the age-, sex, and rookery-specific survival rates; multiply by age-, sex-, region-, and season-specific east-to-west transition probabilities; sum across all ages, both sexes, and both regions within each season to estimate the number of EDPS Steller sea lions that moved to the WDPS ($N_{e\ to\ w,b}$; $N_{e\ to\ w,nb}$)

3) Method to estimate the proportion of eastern and western animals within southeast Alaska by season in 2018

   a. Breeding season

      i. The number of WDPS sea lions in southeast Alaska ($N_{w\text{-}b}$) is the sum of those born in southeast Alaska since 1990 that are still alive in 2013 and those that moved to southeast Alaska: $N_{w\text{-}b} = N_{13w} + N_{w\ to\ e,b}$

      ii. The number of EDPS sea lions in southeast Alaska is the estimate of eastern non-pup abundance (3.5 * eastern pup counts in 2013) minus those that moved to the west: $N_{e\text{-}b} = N_{13e} - N_{e\ to\ w,b}$

      iii. The proportion of WDPS sea lions in southeast Alaska $P_{w\text{-}b} = N_{w\text{-}b} / [N_{w\text{-}b} + N_{e\text{-}b}]$

      iv. The proportion of EDPS sea lions in southeast Alaska $P_{e\text{-}b} = N_{e\text{-}b} / [N_{w\text{-}b} + N_{e\text{-}b}]$

   b. Non-breeding season

      i. The number of WDPS sea lions in southeast Alaska is the sum of those born in southeast Alaska since 1990 that are still alive in 2013 and those that moved to southeast Alaska: $N_{w\text{-}nb} = N_{13w} + N_{w\ to\ e,nb}$

      ii. The number of EDPS sea lions in southeast Alaska ($N_{e\text{-}nb}$) is the estimate of EDPS non-pup abundance (3.5 * EDPS pup counts in 2013) minus those that moved to the west: $N_{e\text{-}nb} = N_{13e} - N_{e\ to\ w,nb}$

      iii. The proportion of WDPS sea lions in southeast Alaska $P_{w\text{-}nb} = N_{w\text{-}nb} / [N_{w\text{-}nb} + N_{e\text{-}nb}]$

      iv. The proportion of EDPS sea lions in southeast Alaska $P_{e\text{-}nb} = N_{e\text{-}nb} / [N_{w\text{-}nb} + N_{e\text{-}nb}]$

4) Method to estimate the minimum non-pup counts at southeast Alaska haulouts by season associated with at least 200 WDPS non-pups in the breeding season and 100 WDPS non-pups in the non-breeding season

    a. Breeding season: $HO_b = [1/P_{w\text{-}b}] * 200$

    b. Non-breeding season: $HO_{nb} = [1/P_{w\text{-}nb}] * 100$

Results

1) Number of non-pup WDPS and EDPS Steller sea lions born in southeast Alaska that were alive in 2013

    a. $N_{13w} = 2{,}984$

    b. $N_{13e} = 20{,}788$[1]

2) Number of WDPS non-pup Steller sea lions that moved to southeast Alaska in 2013 by season

    a. Breeding season: $N_{w \text{ to } e,b} = 1{,}051$

    b. Non-breeding season: $N_{w \text{ to } e,nb} = 1{,}235$

3) Number of EDPS Steller sea lions that moved to the west in 2013 by season

    a. Breeding season: $N_{e \text{ to } w,b} = 984$

    b. Non-breeding season: $N_{e \text{ to } w,nb} = 1{,}366$

4) Number of each stock in southeast Alaska during the breeding season, and proportion WDPS

    a. WDPS: $N_{w\text{-}b} = N_{13w} + N_{w \text{ to } e,b} = 4{,}035$

    b. EDPS: $N_{e\text{-}b} = N_{13e} - N_{e \text{ to } w,b} = 19{,}804$

    c. Proportion WDPS: $P_{w\text{-}b} = N_{w\text{-}b} / [N_{w\text{-}b} + N_{e\text{-}b}] = 0.169$

[1] This is similar to the estimate of N_{13e} obtained by using the 1979-2013 pup production at all SEAK rookeries, estimating the number of eastern DPS Steller sea lions born each year, computing numbers of eastern males and females by age for each year based on current SEAK Steller sea lion survival (Table A2), and summing across all ages and both sexes for 2013 (alternate N_{13e} =21,230).

5) **Minimum breeding season non-pup count at a haulout in southeast Alaska associated with an estimated 200 WDPS non-pups: $HO_b = [1/P_{w\text{-}b}] * 200 = 1{,}181$**

6) Number of each stock in southeast Alaska during the non-breeding season, and proportion WDPS

   a. WDPS: $N_{w\text{-}nb} = N_{13w} + N_{w\ to\ e,nb} = 4{,}219$

   b. EDPS: $N_{e\text{-}nb} = N_{13e} - N_{e\ to\ w,nb} = 19{,}422$

   c. Proportion WDPS: $P_{w\text{-}nb} = N_{w\text{-}nb} / [N_{w\text{-}nb} + N_{e\text{-}nb}] = 0.178$

7) **Minimum non-breeding season non-pup count at a haulout in southeast Alaska associated with an estimated 100 WDPS non-pups: $HO_{nb} = [1/P_{w\text{-}nb}] * 100 = 560$**

Table A1. Counts of Steller sea lion pups (black) and estimated pup counts (red; linear interpolation between years with counts) at White Sisters and Graves Rock, 1990-2013.

Year	White Sisters	Graves Rock
1990	30	
1991	95	
1992	114	
1993	132	
1994	151	
1995	167	
1996	182	
1997	205	
1998	282	1
1999	312	29
2000	341	59
2001	371	89
2002	403	98
2003	442	124
2004	481	149
2005	520	175
2006	602	241
2007	684	308
2008	765	374
2009	847	440
2010	866	468
2011	886	496
2012	905	523
2013	924	551

Table A2. Survival-at-age, sex, and natal rookery for Steller sea lions born in southeast Alaska. Data through ages 7 or 8 y for both sexes from Hastings et al. (2011). Survival estimated for ages 8 or 9 through 30 y.

	Females				Males			
Age	Forrester	Hazy	White Sisters	Graves Rock	Forrester	Hazy	White Sisters	Graves Rock
1	0.567	0.583	0.665	0.762	0.523	0.540	0.624	0.729
2	0.718	0.731	0.795	0.862	0.647	0.662	0.736	0.818
3	0.878	0.887	0.927	0.955	0.816	0.829	0.887	0.930
4	0.915	0.922	0.950	0.970	0.851	0.861	0.910	0.945
5	0.934	0.939	0.962	0.977	0.866	0.875	0.919	0.951
6	0.942	0.947	0.967	0.980	0.864	0.874	0.918	0.950
7	0.943	0.947	0.967	0.980	0.847	0.858	0.907	0.943
8	0.936	0.941	0.967	0.980	0.808	0.821	0.907	0.943
9	0.936	0.941	0.967	0.980	0.808	0.821	0.907	0.943
10	0.936	0.941	0.967	0.980	0.808	0.821	0.907	0.943
11	0.936	0.941	0.967	0.980	0.808	0.821	0.907	0.943
12	0.936	0.941	0.967	0.980	0.646	0.657	0.726	0.754
13	0.936	0.941	0.967	0.980	0.517	0.525	0.580	0.604
14	0.936	0.941	0.967	0.980	0.414	0.420	0.464	0.483
15	0.936	0.941	0.967	0.980	0.331	0.336	0.372	0.386
16	0.889	0.894	0.919	0.931	0.265	0.269	0.297	0.309
17	0.845	0.849	0.873	0.884	0.212	0.215	0.238	0.247
18	0.803	0.807	0.829	0.840	0.169	0.172	0.190	0.198
19	0.762	0.766	0.788	0.798	0.136	0.138	0.152	0.158
20	0.724	0.728	0.748	0.758	0.108	0.110	0.122	0.127
21	0.688	0.692	0.711	0.720				
22	0.654	0.657	0.675	0.684				
23	0.621	0.624	0.642	0.650				
24	0.590	0.593	0.609	0.618				
25	0.560	0.563	0.579	0.587				
26	0.532	0.535	0.550	0.557				
27	0.506	0.508	0.523	0.530				
28	0.480	0.483	0.496	0.503				
29	0.456	0.459	0.472	0.478				
30	0.434	0.436	0.448	0.454				

Table A3. Counts of ~ 1 month old Steller sea lion pups in late June 2013 at rookery (first 5 rows) and haulout sites in southeast Alaska (NMML, unpublished), and estimated number of EDPS and WDPS pups at each site based on Gelatt et al. (2007) and O'Corry-Crowe et al. (2014) for Forrester, Hazy, White Sisters, and Graves Rock; all pups born at Biali Rock and at all haulouts in southeast Alaska are assumed to be EDPS.

http://www.afsc.noaa.gov/nmml/PDF/SSL%20Aerial%20Survey%202013%20memo%20final.pdf

Site	Pup Count	Eastern	Western
FORRESTER COMPLEX	3214	3214	0
HAZY	1837	1837	0
BIALI ROCK	185	185	0
WHITE SISTERS	924	508	416
GRAVES ROCK	551	165	386
ALL HAULOUTS	30	30	0
TOTAL	6741	5939	802

Table A4. Transition probabilities of EDPS (E) and WDPS (W) Steller sea lions by age (years), sex (F=female, M=male), and season (A. Breeding, B. Non-breeding) to their non-natal range. Movement from E to W is listed separately for sea lions born in northern (Graves Rock and White Sisters) and southern (Biali Rock, Hazy, and Forrester) rookeries in southeast Alaska (SE). Movement from W to E is listed separately for sea lions born on rookeries near Prince William Sound (PWS; Seal Rocks, Fish, and Chiswell) and near Kodiak (KOD; Outer, Sugarloaf, and Marmot).

A. Breeding Season

	Movement from E to W				Movement from W TO E			
	N SE to W		S SE to W		PWS TO E		KOD TO E	
Age	F	M	F	M	F	M	F	M
1	0.020	0.061	0	0.087	0.262	0.139	0.063	0.060
2	0.005	0.078	0	0.167	0.188	0.176	0.054	0.071
3	0.005	0.088	0	0.207	0.178	0.231	0.052	0.094
4	0.005	0.106	0	0.259	0.164	0.237	0.043	0.098
5	0	0.054	0	0.136	0.123	0.160	0.030	0.076
6	0	0.032	0	0.087	0.098	0.107	0.023	0.061
7	0	0.024	0	0.067	0.083	0.072	0.018	0.050
8	0	0.020	0	0.059	0.074	0.048	0.015	0.042
9	0	0.019	0	0.056	0.069	0.032	0.013	0.037
10	0	0.019	0	0.056	0.066	0.021	0.011	0.033
11	0	0.019	0	0.056	0.066	0.021	0.011	0.033
12	0	0.017	0	0.050	0.059	0.019	0.010	0.029
13	0	0.015	0	0.045	0.053	0.017	0.009	0.026
14	0	0.014	0	0.041	0.048	0.016	0.008	0.024
15	0	0.012	0	0.037	0.043	0.014	0.007	0.021
16	0	0.011	0	0.033	0.039	0.013	0.007	0.019
17	0	0.010	0	0.030	0.035	0.011	0.006	0.017
18	0	0.009	0	0.027	0.031	0.010	0.005	0.016
19	0	0.008	0	0.024	0.028	0.009	0.005	0.014
20	0	0.007	0	0.022	0.025	0.008	0.004	0.013
21	0		0		0.023		0.004	
22	0		0		0.021		0.004	
23	0		0		0.018		0.003	
24	0		0		0.017		0.003	
25	0		0		0.015		0.003	
26	0		0		0.013		0.002	
27	0		0		0.012		0.002	
28	0		0		0.011		0.002	
29	0		0		0.010		0.002	

30	0	0	0.009	0.002

Table A4 (continued).

B. Non-Breeding Season

	Movement from E to W				Movement from W TO E			
	N SE to W		S SE to W		PWS TO E		KOD TO E	
Age	F	M	F	M	F	M	F	M
0.5	0.016	0.025	0	0.000	0.111	0.068	0	0.009
1.5	0.014	0.050	0	0.146	0.138	0.163	0.062	0.075
2.5	0.011	0.058	0	0.180	0.114	0.205	0.066	0.103
3.5	0.009	0.073	0	0.212	0.118	0.231	0.063	0.128
4.5	0.009	0.096	0	0.303	0.16	0.185	0.065	0.113
5.5	0	0.074	0	0.189	0.121	0.129	0.05	0.096
6.5	0	0.067	0	0.151	0.105	0.082	0.044	0.076
7.5	0	0.065	0	0.138	0.096	0.052	0.04	0.062
8.5	0	0.065	0	0.134	0.092	0.033	0.038	0.051
9.5	0	0.064	0	0.132	0.089	0.021	0.037	0.044
10.5	0	0.064	0	0.132	0.088	0.013	0.036	0.039
11.5	0	0.064	0	0.132	0.088	0.013	0.036	0.039
12.5	0	0.058	0	0.119	0.079	0.012	0.032	0.035
13.5	0	0.052	0	0.107	0.071	0.011	0.029	0.032
14.5	0	0.047	0	0.096	0.064	0.009	0.026	0.028
15.5	0	0.042	0	0.087	0.058	0.009	0.024	0.026
16.5	0	0.038	0	0.078	0.052	0.008	0.021	0.023
17.5	0	0.034	0	0.070	0.047	0.007	0.019	0.021
18.5	0	0.031	0	0.063	0.042	0.006	0.017	0.019
19.5	0	0.028	0	0.057	0.038	0.006	0.015	0.017
20.5	0		0		0.034	0.005	0.014	0.015
21.5	0		0		0.031		0.013	
22.5	0		0		0.028		0.011	
23.5	0		0		0.025		0.010	
24.5	0		0		0.022		0.009	
25.5	0		0		0.020		0.008	
26.5	0		0		0.018		0.007	
27.5	0		0		0.016		0.007	
28.5	0		0		0.015		0.006	
29.5	0		0		0.013		0.005	
30.5	0		0		0.012		0.005	

Table A5. Counts of ~ 1 month old Steller sea lion pups in late June-early July 2013 at rookery (first 3 rows in each region) and haulout sites in the eastern (E GULF) and central (C GULF) Gulf of Alaska. Pups born on rookeries in the western half of the central Gulf of Alaska (Chirikof and Chowiet) were not included in the analysis. http://www.afsc.noaa.gov/nmml/PDF/SSL%20Aerial%20Survey%202013%20memo%20final.pdf

Site	Region	Pups
SEAL ROCKS	E GULF	802
WOODED (FISH)	E GULF	276
CHISWELL ISLANDS	E GULF	76
E GULF HAULOUTS	E GULF	82
SUGARLOAF & USHAGAT/SW	C GULF	962
MARMOT	C GULF	557
OUTER (PYE)	C GULF	133
C GULF HAULOUTS	C GULF	94

Table A6. Survival-at-age, sex, and region rookery for Steller sea lions born in the eastern (E GULF) and central Gulf of Alaska (C GULF). Data through ages 10 or 11 y from Fritz et al. (2014). Survival estimated for ages 11 or 12 y through 30 y (see Appendix 1).

	Females		Males	
Age (y)	E GULF	C GULF	E GULF	C GULF
1	0.555	0.779	0.600	0.789
2	0.913	0.757	0.670	0.692
3	0.935	0.788	0.834	0.726
4	0.950	0.938	0.913	0.871
5	0.950	0.938	0.913	0.871
6	0.950	0.938	0.913	0.871
7	0.950	0.938	0.913	0.871
8	0.950	0.938	0.913	0.871
9	0.950	0.938	0.913	0.871
10	0.950	0.938	0.913	0.871
11	0.950	0.938	0.913	0.871
12	0.950	0.938	0.730	0.697
13	0.950	0.938	0.584	0.557
14	0.950	0.938	0.467	0.446
15	0.950	0.938	0.374	0.357
16	0.902	0.891	0.299	0.285
17	0.857	0.846	0.239	0.228
18	0.814	0.804	0.191	0.183
19	0.774	0.764	0.153	0.146
20	0.735	0.726	0.122	0.117
21	0.698	0.689		
22	0.663	0.655		
23	0.630	0.622		
24	0.599	0.591		
25	0.569	0.561		
26	0.540	0.533		
27	0.513	0.507		
28	0.488	0.481		
29	0.463	0.457		
30	0.440	0.434		

APPENDIX II

Attributes of 191 Steller sea lion rookeries and WDPS major haulouts listed by the NOAA Marine Mammal Laboratory.

Rookery-Haulout	Site Name (MML)	Notes	E-W 144W	In 224-103	Series A through " "
H	ADAK/CAPE YAKAK		W		A
H	AGLIGADAK		W	Y	A
H	AIKTAK		W		B
H	AKUTAN/REEF-LAVA		W		A
H	AKWE	eDPS haulout, wDPS CH ho	E		A
H	ALAID		W		A
H	ALSEK	eDPS haulout, wDPS CH ho	E		A
H	AMAK+ROCKS		W		B
H	AMATIGNAK/NITROF POINT		W		A
H	AMCHITKA/CAPE IVAKIN		W		A
H	AMCHITKA/EAST CAPE		W	Y	A
H	AMLIA/SVIECH. HARBOR		W		A
H	AMUKTA+ROCKS		W		B
H	ANAGAKSIK		W		A
H	ATKA/NORTH CAPE		W		C
H	ATTU/CHIRIKOF POINT		W		A
H	BENJAMIN	eDPS haulout, wDPS CH ho	E		A
H	Biali Rock	eDPS haulout, wDPS CH ho	E		B
H	BIRD		W		A
H	BOBROF		W		A
H	CAPE GULL		W		B
H	CAPE HINCHINBROOK		W		A
H	Cape Kuliak		W		A
H	CAPE NEWENHAM		W		A
H	CAPE OMMANEY	eDPS haulout, wDPS CH ho	E		B
H	CAPE ST. ELIAS		W		A
H	CARLISLE		W		A
H	CASTLE ROCK		W		A
H	CATON		W		A
H	CHAGULAK		W		A
H	CHUGINADAK		W		A
H	DUTCH GROUP		W		A
H	Elizabeth/Cape Elizabeth		W		A
H	EMERALD		W		A
H	FLAT		W		A

H	GLACIER		W	A
H	Gore Point		W	A
H	GRAN_(LEDGE)_POINT	eDPS haulout, wDPS CH ho	E	A
H	GREAT SITKIN		W	A
H	HALL		W	A
H	HAWADAX (RAT)		W	A
H	HOOK POINT		W	A
H	KAGALASKA		W	A
H	KAGAMIL		W	A
H	KAIUCHALI (BIORKA)	eDPS haulout, wDPS CH ho	E	A
H	KAK		W	A
H	KANAGA/N CAPE		W	A
H	KAVALGA		W	B
H	Kilokak Rocks		W	A
H	KISKA/SIRIUS POINT		W	A
H	KISKA/SOBAKA-VEGA		W	B
H	KODIAK/CAPE BARNABAS		W	A
H	KODIAK/CAPE CHINIAK		W	B
H	KODIAK/CAPE IKOLIK		W	B
H	KODIAK/CAPE UGAT		W	B
H	KODIAK/GULL POINT		W	A
H	KUPREANOF POINT		W	B
H	LATAX_ROCKS		W	C
H	LITTLE ISLAND	eDPS haulout, wDPS CH ho	E	A
H	LITTLE SITKIN		W	A
H	LITTLE TANAGA STRAIT		W	A
H	LONG ISLAND		W	A
H	MIDDLETON		W	A
H	MITROFANIA		W	A
H	NAGAHUT ROCKS		W	B
H	NAGAI ROCKS		W	A
H	NAGAI/MOUNTAIN POINT		W	A
H	OGLODAK		W	A
H	OLD MAN ROCKS		W	B
H	OLGA ROCKS		W	B
H	OUTER SIGNAL		W	B
H	PERL		W	C
H	PERRY		W	A
H	POINT CAROLUS	eDPS haulout, wDPS CH ho	E	A
H	POINT ELEANOR		W	A
H	POINT ELRINGTON		W	B
H	POLIVNOI ROCK		W	A
H	PUALE BAY		W	A
H	ROOTOK		W	C
H	ROUND (WALRUS IS)		W	A
H	RUGGED		W	B

H	SAGIGIK		W		A
H	SAIL	eDPS haulout, wDPS CH ho	E		A
H	SALT		W		B
H	SAMALGA		W		A
H	SANAK		W		A
H	SEA LION ROCKS (MARMOT)		W		A
H	SEA LION ROCKS (SHUMAGINS)		W		A
H	SEA OTTER		W		C
H	SEAL ROCKS (KENAI)		W		A
H	SEGUAM/FINCH POINT		W		B
H	SEGUAM/TURF POINT		W		A
H	SEGUAM/WHARF POINT		W		A
H	SEGULA/CHUGUL POINT		W		A
H	SEGULA/GULA POINT		W		A
H	SEMISOPOCHNOI/PETREL		W	Y	A
H	SEMISOPOCHNOI/POCHNOI		W	Y	A
H	SEMISOPOCHNOI/TUMAN POINT		W		A
H	SHAKUN ROCKS		W		A
H	SHAW		W		A
H	SHEMYA		W		A
H	SITKINAK/CAPE SITKINAK		W		A
H	SOUTH MARBLE	eDPS haulout, wDPS CH ho	E		A
H	SPITZ		W		B
H	ST. GEORGE/DALNOI POINT		W		A
H	ST. GEORGE/KITOSILOX		W		A
H	ST. GEORGE/SOUTH ROOKERY		W		A
H	ST. LAWRENCE/S. PUNUK		W		C
H	ST. LAWRENCE/SIVUONOK		W		A
H	ST. LAWRENCE/SW CAPE		W		A
H	ST. PAUL/NE POINT		W		A
H	ST. PAUL/SEA LION ROCK		W		A
H	STEEP POINT		W		D
H	SUD		W		A
H	SUNSET	eDPS haulout, wDPS CH ho	E		A
H	SUTWIK		W		A
H	TAGALAK		W		B
H	TAKLI		W		A
H	TANADAK (AMLIA)		W		A
H	TANADAK (KISKA)		W		A
H	TANAGA/BUMPY POINT		W		A
H	TANGINAK		W		A
H	THE BROTHERS/SW	eDPS haulout, wDPS CH ho	E		A
H	THE BROTHERS/W+E	eDPS haulout, wDPS CH ho	E		A
H	THE NEEDLE		W		A
H	TIGALDA/ROCKS NE		W		A

H	UGAK		W		B
H	UGIDAK		W		A
H	ULIAGA		W		A
H	UMNAK/CAPE ASLIK		W		A
H	UNALASKA/BISHOP POINT		W		A
H	UNALASKA/CAPE SEDANKA		W		A
H	UNALASKA/CAPE STARICHKOF		W		A
H	UNALASKA/SPRAY CAPE		W		A
H	UNALGA+DINKUM ROCKS		W		A
H	UNGA/ACHEREDIN POINT		W		A
H	UNIMAK/CAPE SARICHEF		W		B
H	UNIMAK/OKSENOF POINT		W		B
H	USHAGAT/ROCKS SOUTH		W		A
H	YASHA	eDPS haulout, wDPS CH ho	E		A
R	Adak/Lake Point		W	Y	A
R	Adugak		W	Y	A
R	Agattu/Cape Sabak		W	Y	A
R	Agattu/Gillon Point		W	Y	A
R	Akun/Billings Head		W	Y	A
R	Akutan/Cape Morgan		W	Y	A
R	Amchitka/Column Rock		W	Y	A
R	Amlia/East Cape		W	N	A
R	Atkins		W	Y	A
R	Attu/Cape Wrangell		W	Y	A
R	Ayugadak		W	Y	A
R	Biali Rock	eDPS haulout, wDPS CH ho	E		B
R	Bogoslof/Fire Island		W	Y	A
R	Buldir		W	Y	A
R	Chernabura		W	Y	A
R	Chirikof		W	Y	A
R	Chiswell Islands		W	N	B
R	Chowiet		W	Y	C
R	Clubbing Rocks North		W	Y	A
R	Clubbing Rocks South		W	Y	A
R	Forrester	eDPS rookery, not wDPS CH site	E		F
R	Gramp Rock		W	Y	A
R	Graves Rock	eDPS rookery, wDPS CH rookery	E	N	B
R	Hazy	eDPS rookery, not wDPS CH site	E		B
R	Jude		W	N	A
R	Kanaga/Ship Rock		W	N	A
R	Kasatochi/North Point		W	Y	A
R	Kiska/Cape St Stephen		W	Y	A
R	Kiska/Lief Cove		W	Y	A
R	Lighthouse Rocks		W	N	A

R	Marmot		W	Y	A
R	Ogchul		W	Y	A
R	Outer (Pye)		W	Y	A
R	Pinnacle Rock		W	Y	A
R	Sea Lion Rock (Amak)		W	Y	A
R	Seal Rocks		W	N	A
R	Seguam/Saddleridge		W	Y	A
R	South Rocks		W	N	A
R	Sugarloaf		W	Y	A
R	Sushilnoi Rocks		W	N	F
R	Tag		W	Y	A
R	The Whaleback		W	N	A
R	Twoheaded		W	N	A
R	Ugamak		W	Y	C
R	Ulak/Hasgox Point		W	Y	A
R	UNALASKA/CAPE IZIGAN		W		A
R	Ushagat/SW		W	N	B
R	Walrus		W	Y	C
R	White Sisters	eDPS rookery, wDPS CH rook	E	N	B
R	Wooded (Fish)		W	N	B
R	Yunaska		W	Y	A

APPENDIX III

Latitude and longitude locations depicting range and extent of 191 Steller sea lion rookeries and WDPS major haulouts by series with NOAA Marine Mammal Laboratory complex and series identifier in decimal degrees WGS84.

ADAK/CAPE YAKAK
Major Haulout
A
-176.9361 , 51.5914
-176.9366 , 51.5926
-176.9386 , 51.5918
-176.9462 , 51.5897
-176.9498 , 51.5925
-176.951 , 51.5913
-176.9558 , 51.5938

ADAK/LAKE POINT
Rookery
A
-176.9878 , 51.6227
-176.9891 , 51.6218
-176.9895 , 51.6202
-176.9915 , 51.6239
-176.9919 , 51.625

ADUGAK
Rookery
A
-169.1658 , 52.9127
-169.167 , 52.9113
-169.1698 , 52.9109
-169.1701 , 52.9138
-169.1704 , 52.9119
-169.1708 , 52.912
-169.1731 , 52.9138
-169.1741 , 52.9126

AGATTU/CAPE SABAK
Rookery
A
173.6915 , 52.364
173.6942 , 52.3649
173.6972 , 52.3599
173.7204 , 52.3713

OLGA ROCKS
Major Haulout
A
-161.4955 , 55.0071
-161.4967 , 55.0083
-161.4977 , 55.0082
-161.4984 , 55.0063
-161.4989 , 55.0071

B
-161.5147 , 54.9847
-161.5148 , 54.9851
-161.5152 , 54.9852
-161.5155 , 54.9848
-161.5155 , 54.9849
-161.5158 , 54.9848

OUTER (PYE)
Rookery
A
-150.3849 , 59.3419
-150.3927 , 59.3433
-150.3935 , 59.3452
-150.3981 , 59.3442
-150.4047 , 59.3481
-150.4078 , 59.3456
-150.408 , 59.3508

OUTER SIGNAL
Major Haulout
A
-166.0477 , 53.8035
-166.0477 , 53.8038
-166.0485 , 53.8044
-166.0489 , 53.8034
-166.049 , 53.8044
-166.0493 , 53.8044
-166.0497 , 53.8042

173.722 , 52.3748
173.7247 , 52.3539
173.7249 , 52.3639

AGATTU/GILLON POINT
Rookery
A
173.3519 , 52.4043
173.3527 , 52.4019
173.3572 , 52.4046
173.3583 , 52.4015
173.3619 , 52.4105

AGLIGADAK
Major Haulout
A
-172.898 , 52.1009
-172.8986 , 52.1033
-172.9005 , 52.1006
-172.9025 , 52.1034
-172.9032 , 52.1038
-172.9044 , 52.1019
-172.9045 , 52.1035
-172.9047 , 52.1032

AIKTAK
Major Haulout
A
-164.8204 , 54.1807
-164.8242 , 54.1834
-164.83 , 54.1817
-164.8308 , 54.1816

B
-164.8475 , 54.1837
-164.8497 , 54.1817
-164.8503 , 54.1814
-164.8509 , 54.1824
-164.853 , 54.1813
-164.8534 , 54.1836
-164.8537 , 54.1845
-164.8554 , 54.1823

AKUN/BILLINGS HEAD
Rookery
A

B
-166.041 , 53.8022
-166.0414 , 53.8018
-166.0414 , 53.8025
-166.0419 , 53.8027
-166.0422 , 53.8026
-166.0424 , 53.8019
-166.0425 , 53.8022

PERL
Major Haulout
A
-151.6591 , 59.0956
-151.6599 , 59.0949
-151.661 , 59.0951
-151.6612 , 59.0957
-151.6612 , 59.0958
-151.6613 , 59.0946
-151.6614 , 59.0948

B
-151.6613 , 59.0957
-151.6614 , 59.0952
-151.6617 , 59.0952
-151.6621 , 59.0955
-151.6622 , 59.0949
-151.6625 , 59.0952

C
-151.6622 , 59.0955
-151.6623 , 59.0957
-151.6626 , 59.0952
-151.6627 , 59.0956
-151.6628 , 59.0953
-151.6628 , 59.0957
-151.6629 , 59.0955

PERRY
Major Haulout
A
-147.9023 , 60.7334
-147.905 , 60.7347
-147.9065 , 60.7352
-147.9082 , 60.7352
-147.9086 , 60.7348

-165.513 , 54.2985
-165.5262 , 54.2972
-165.5304 , 54.2931
-165.5378 , 54.2968

AKUTAN/CAPE MORGAN
Rookery
A
-165.9931 , 54.0564
-165.995 , 54.058
-166.0099 , 54.0534
-166.022 , 54.0474
-166.0308 , 54.047
-166.041 , 54.0452
-166.0416 , 54.0426
-166.0502 , 54.0458
-166.052 , 54.0554
-166.0606 , 54.0611

AKUTAN/REEF-LAVA
Major Haulout
A
-166.0887 , 54.1504
-166.094 , 54.1517
-166.1011 , 54.1335
-166.1072 , 54.138

AKWE
Major Haulout
A
-139.027 , 59.2748
-139.1411 , 59.3125
-139.1646 , 59.31
-139.1685 , 59.3181
-139.1723 , 59.3113
-139.1897 , 59.3142

ALAID
Major Haulout
A
173.8595 , 52.7745
173.8653 , 52.7686
173.8984 , 52.7722
173.9329 , 52.7481
173.9331 , 52.7567
173.938 , 52.7493

PINNACLE ROCK
Rookery
A
-161.7622 , 54.7709
-161.7624 , 54.7696
-161.7625 , 54.7662
-161.7636 , 54.7711
-161.7637 , 54.7683
-161.7637 , 54.7694
-161.7638 , 54.7709
-161.7642 , 54.7697
-161.7645 , 54.766
-161.7654 , 54.7691
-161.7658 , 54.7683
-161.7659 , 54.7682
-161.7662 , 54.7672

POINT CAROLUS
Major Haulout
A
-136.03 , 58.3789
-136.0332 , 58.3823
-136.0352 , 58.3671
-136.0548 , 58.3695

POINT ELEANOR
Major Haulout
A
-147.5595 , 60.5802
-147.5596 , 60.5799
-147.5598 , 60.5803
-147.5602 , 60.5797
-147.5608 , 60.5802
-147.561 , 60.5798
-147.5611 , 60.5801

POINT ELRINGTON
Major Haulout
A
-148.2464 , 59.934
-148.2468 , 59.9339
-148.2474 , 59.9347
-148.2477 , 59.9348
-148.2482 , 59.9345
-148.2483 , 59.9339

ALSEK
Major Haulout
A
-138.5429 , 59.1105
-138.5479 , 59.1327
-138.5678 , 59.1572
-138.5892 , 59.1184
-138.6104 , 59.123
-138.6157 , 59.1595
-138.6501 , 59.1395
-138.6553 , 59.1468
-138.6648 , 59.1434

AMAK+ROCKS
Major Haulout
A
-163.1332 , 55.434
-163.1413 , 55.4361
-163.1534 , 55.4318
-163.1626 , 55.4318
-163.1707 , 55.429
-163.1723 , 55.4234

B
-163.1553 , 55.4499
-163.1559 , 55.4486
-163.1572 , 55.4511
-163.1589 , 55.4484
-163.1598 , 55.451
-163.1607 , 55.4503
-163.1608 , 55.4494

AMATIGNAK/NITROF POINT
Major Haulout
A
-179.1224 , 51.2195
-179.1271 , 51.2189
-179.1281 , 51.2205
-179.1293 , 51.2204
-179.1299 , 51.2104
-179.1311 , 51.217
-179.1322 , 51.2098

AMCHITKA/CAPE IVAKIN
Major Haulout
B
-148.2481 , 59.9337
-148.2484 , 59.9333
-148.2492 , 59.9337
-148.2493 , 59.9337
-148.2494 , 59.9336

POLIVNOI ROCK
Major Haulout
A
-167.9641 , 53.2659
-167.9643 , 53.2665
-167.965 , 53.2669
-167.9666 , 53.2669
-167.9668 , 53.2667
-167.967 , 53.2656
-167.9678 , 53.2661

PUALE BAY
Major Haulout
A
-155.3863 , 57.6775
-155.3881 , 57.6765
-155.3892 , 57.6766
-155.3989 , 57.6786
-155.3997 , 57.6804
-155.4103 , 57.6794
-155.4111 , 57.6798

ROOTOK
Major Haulout
A
-165.4937 , 54.0507
-165.4938 , 54.0498
-165.4956 , 54.0505
-165.4958 , 54.0506
-165.4959 , 54.0496

B
-165.4846 , 54.0442
-165.492 , 54.047
-165.503 , 54.0496

C
-165.5297 , 54.0649
-165.5309 , 54.0636

A
179.3992 , 51.4116
179.4031 , 51.4009
179.4031 , 51.4111
179.405 , 51.4009
179.4068 , 51.4048

AMCHITKA/COLUMN ROCK
Rookery
A
178.8207 , 51.539
178.8231 , 51.5396

AMCHITKA/EAST CAPE
Major Haulout
A
179.4404 , 51.3673
179.444 , 51.3634
179.4583 , 51.3703
179.4645 , 51.3685
179.4726 , 51.3754
179.4733 , 51.3729

AMLIA/EAST CAPE
Rookery
A
-172.9634 , 52.0948
-173.0348 , 52.1014
-173.0979 , 52.0999
-173.1202 , 52.109
-173.1386 , 52.1068

AMLIA/SVIECH. HARBOR
Major Haulout
A
-173.3913 , 52.0309
-173.3934 , 52.0318
-173.3944 , 52.0312
-173.3946 , 52.0287
-173.3973 , 52.0284
-173.3981 , 52.0315
-173.3984 , 52.0312

AMUKTA+ROCKS
Major Haulout
A
-165.5311 , 54.0663
-165.5335 , 54.0639
-165.5342 , 54.0652
-165.5344 , 54.0647

ROUND (WALRUS IS)
Major Haulout
A
-159.9581 , 58.5997
-159.9639 , 58.6087
-159.9772 , 58.5913
-159.9804 , 58.5912
-159.996 , 58.618
-159.9961 , 58.6103

RUGGED
Major Haulout
A
-149.4089 , 59.8504
-149.4101 , 59.8516
-149.4106 , 59.8509
-149.4111 , 59.8504
-149.4127 , 59.8513

B
-149.3817 , 59.8358
-149.383 , 59.8349
-149.3845 , 59.835
-149.3847 , 59.8354
-149.3857 , 59.8352
-149.386 , 59.8367
-149.3862 , 59.8357

SAGIGIK
Major Haulout
A
-173.1546 , 52.0097
-173.1547 , 52.008
-173.1551 , 52.0102
-173.1559 , 52.0076
-173.1565 , 52.0103
-173.1567 , 52.0103
-173.157 , 52.0084

SAIL
Major Haulout

-171.3003 , 52.4512
-171.3029 , 52.4499
-171.3037 , 52.448
-171.3049 , 52.4502
-171.3057 , 52.4482
-171.3065 , 52.4509

B

-171.2787 , 52.4444
-171.2791 , 52.444
-171.2791 , 52.4449
-171.2803 , 52.445
-171.2804 , 52.4438
-171.2806 , 52.4449
-171.2809 , 52.4446

ANAGAKSIK

Major Haulout

A

-175.8816 , 51.849
-175.8845 , 51.8532
-175.886 , 51.8535
-175.8875 , 51.8512
-175.8965 , 51.8525

ATKA/NORTH CAPE

Major Haulout

A

-174.2623 , 52.3993
-174.2697 , 52.4025
-174.2723 , 52.3964
-174.2751 , 52.4031
-174.2798 , 52.4038
-174.2812 , 52.4035

B

-174.1788 , 52.4196
-174.1793 , 52.4204
-174.1805 , 52.4193
-174.1808 , 52.4199
-174.1808 , 52.4202

C

-174.3206 , 52.381
-174.3208 , 52.382
-174.3218 , 52.3805

A

-133.7194 , 57.3476
-133.72 , 57.3476
-133.7211 , 57.3507
-133.722 , 57.349
-133.7229 , 57.3527
-133.7234 , 57.3499
-133.7234 , 57.3526

SALT

Major Haulout

A

-174.6378 , 52.176
-174.6393 , 52.1748
-174.6417 , 52.1758
-174.6419 , 52.1746
-174.6449 , 52.1729
-174.6493 , 52.1727

B

-174.62 , 52.1579
-174.6206 , 52.1616
-174.6227 , 52.1614
-174.6228 , 52.1597
-174.623 , 52.1612
-174.6243 , 52.1575
-174.6257 , 52.1588

SAMALGA

Major Haulout

A

-169.2319 , 52.7705
-169.2349 , 52.7724
-169.2385 , 52.7681
-169.2531 , 52.7658
-169.2538 , 52.7667

SANAK

Major Haulout

A

-162.5728 , 54.3889
-162.574 , 54.382
-162.5762 , 54.3879
-162.5832 , 54.3887
-162.5841 , 54.3858
-162.5907 , 54.3883

-174.3225 , 52.3828
-174.323 , 52.381
-174.3239 , 52.3813
-174.3243 , 52.3823
-174.3245 , 52.3831

ATKINS
Rookery
A
-159.2928 , 55.0516
-159.2931 , 55.055
-159.2968 , 55.0482
-159.3032 , 55.0506
-159.3064 , 55.0498
-159.3134 , 55.0518

ATTU/CAPE WRANGELL
Rookery
A
172.4432 , 52.922
172.4461 , 52.9187
172.4535 , 52.9216
172.461 , 52.9127
172.4629 , 52.9169
172.4651 , 52.9086
172.4738 , 52.9142
172.4818 , 52.9341

ATTU/CHIRIKOF POINT
Major Haulout
A
173.4109 , 52.8281
173.4207 , 52.8338
173.4262 , 52.8285
173.4268 , 52.8493
173.4268 , 52.8517
173.4286 , 52.8306
173.4314 , 52.8497

AYUGADAK
Rookery
A
178.4035 , 51.7553
178.4045 , 51.7559
178.4047 , 51.756
178.4055 , 51.7575

SEA LION ROCK (AMAK)
Rookery
A
-163.2008 , 55.4647
-163.201 , 55.4641
-163.202 , 55.4637
-163.2024 , 55.4652
-163.203 , 55.4637
-163.2032 , 55.4638
-163.2037 , 55.4642

SEA LION ROCKS (MARMOT)
Major Haulout
A
-151.8124 , 58.342
-151.8124 , 58.3422
-151.8126 , 58.3422
-151.8134 , 58.3419
-151.8139 , 58.3425
-151.8149 , 58.3422
-151.815 , 58.3423

SEA LION ROCKS (SHUMAGINS)
Major Haulout
A
-160.5156 , 55.0789
-160.5158 , 55.0779
-160.5166 , 55.0761
-160.5175 , 55.0775
-160.518 , 55.0776
-160.5186 , 55.0789
-160.519 , 55.0776
-160.52 , 55.0761

SEA OTTER
Major Haulout
A
-152.2001 , 58.5083
-152.2003 , 58.5081
-152.2005 , 58.5084
-152.2008 , 58.508
-152.2009 , 58.5082
-152.2009 , 58.5087
-152.201 , 58.5087
-152.2011 , 58.5086

178.4064 , 51.7576
178.4072 , 51.7551
178.4079 , 51.7557

BENJAMIN
Major Haulout
A
-134.9147 , 58.5591
-134.9166 , 58.5597
-134.9173 , 58.5607
-134.9175 , 58.5614

BIALI ROCK
Major Haulout
A
-135.3412 , 56.7126
-135.3416 , 56.7119
-135.3417 , 56.7134
-135.3418 , 56.7121
-135.3423 , 56.7102
-135.3435 , 56.7136
-135.3437 , 56.7124
-135.3443 , 56.7128
-135.3448 , 56.7102
-135.3453 , 56.7124

B
-135.3355 , 56.7136
-135.3363 , 56.7151
-135.3367 , 56.7145
-135.3368 , 56.7138
-135.3371 , 56.7149
-135.3375 , 56.7127
-135.3379 , 56.7133
-135.338 , 56.7127
-135.3386 , 56.7132
-135.3389 , 56.7139

BIRD
Major Haulout
A
-163.2863 , 54.6659
-163.2866 , 54.6698
-163.2892 , 54.6625
-163.2901 , 54.6723
-163.2933 , 54.6686

B
-152.2014 , 58.5082
-152.2018 , 58.5087
-152.2019 , 58.5087
-152.202 , 58.5081
-152.202 , 58.5087
-152.2021 , 58.5084

C
-152.2209 , 58.5188
-152.2215 , 58.5185
-152.2225 , 58.5215
-152.2229 , 58.5196
-152.2236 , 58.5215
-152.2242 , 58.5195

SEAL ROCKS
Rookery
A
-146.836 , 60.163
-146.8363 , 60.163

SEAL ROCKS (KENAI)
Major Haulout
A
-149.6184 , 59.5175
-149.6191 , 59.5178
-149.6204 , 59.5167
-149.6222 , 59.519
-149.6237 , 59.5177
-149.6251 , 59.5184
-149.6265 , 59.522
-149.6289 , 59.5195
-149.6339 , 59.5192
-149.635 , 59.5209

SEGUAM/FINCH POINT
Major Haulout
A
-172.3941 , 52.3753
-172.4025 , 52.3885
-172.4026 , 52.3761
-172.4072 , 52.3913
-172.4079 , 52.3813
-172.4103 , 52.3898

-163.2934 , 54.669
-163.2945 , 54.667

BOBROF
Major Haulout
A
-177.4573 , 51.8951
-177.4589 , 51.8979
-177.4624 , 51.8979
-177.4671 , 51.9054
-177.4698 , 51.9002

BOGOSLOF/FIRE ISLAND
Rookery
A
-168.0281 , 53.9268
-168.0363 , 53.9385
-168.041 , 53.9296
-168.043 , 53.9376
-168.0447 , 53.9365
-168.045 , 53.9347

BULDIR
Rookery
A
175.8982 , 52.3407
175.9105 , 52.3335
175.9268 , 52.337
175.9439 , 52.3355
175.9641 , 52.3571
175.9796 , 52.3599

CAPE GULL
Major Haulout
A
-154.1738 , 58.2079
-154.1741 , 58.2067
-154.1762 , 58.2092

B
-154.1463 , 58.1929
-154.1471 , 58.1938
-154.1474 , 58.1927
-154.1493 , 58.194
-154.1494 , 58.1939

B
-172.4552 , 52.3885
-172.4597 , 52.3887
-172.4621 , 52.3885
-172.4635 , 52.386
-172.468 , 52.385

SEGUAM/SADDLERIDGE
Rookery
A
-172.5603 , 52.3538
-172.5612 , 52.3487
-172.5675 , 52.348
-172.5736 , 52.3493
-172.5757 , 52.3509

SEGUAM/TURF POINT
Major Haulout
A
-172.4853 , 52.2656
-172.4998 , 52.2467
-172.5091 , 52.2412
-172.5226 , 52.2582
-172.5699 , 52.2503

SEGUAM/WHARF POINT
Major Haulout
A
-172.3123 , 52.3564
-172.3162 , 52.3595
-172.3218 , 52.3596
-172.3228 , 52.3602

SEGULA/CHUGUL POINT
Major Haulout
A
178.0967 , 51.9974
178.0969 , 52.0007
178.1002 , 52.0029
178.1015 , 51.9957
178.1041 , 51.9981
178.1072 , 51.9978

SEGULA/GULA POINT
Major Haulout

CAPE HINCHINBROOK
Major Haulout
A
-146.6146 , 60.2359
-146.6146 , 60.2373
-146.6282 , 60.2333
-146.6295 , 60.2343
-146.6438 , 60.2356
-146.6515 , 60.2398
-146.6524 , 60.2374

CAPE KULIAK
Major Haulout
A
-154.2028 , 58.1338
-154.2028 , 58.134
-154.2031 , 58.1336
-154.2031 , 58.1337
-154.2031 , 58.134
-154.2035 , 58.1336
-154.2036 , 58.1337

CAPE NEWENHAM
Major Haulout
A
-162.0888 , 58.6241
-162.1038 , 58.6307
-162.1215 , 58.6604
-162.1358 , 58.6322
-162.1642 , 58.6533
-162.1774 , 58.6481

CAPE OMMANEY
Major Haulout
A
-134.6714 , 56.1613
-134.6718 , 56.1606
-134.6718 , 56.1626
-134.6723 , 56.1605
-134.6735 , 56.1627

B
-134.6994 , 56.1751
-134.7004 , 56.1737
-134.7033 , 56.1739
-134.7043 , 56.1747

A
178.1392 , 52.0505
178.1424 , 52.0513
178.1448 , 52.0529
178.147 , 52.0467
178.1478 , 52.0521
178.148 , 52.0471

SEMISOPOCHNOI/PETREL
Major Haulout
A
179.5962 , 52.0184
179.6171 , 52.0185
179.6176 , 52.0266
179.6239 , 52.0281
179.6251 , 52.0253
179.6551 , 52.0261
179.667 , 52.0154

SEMISOPOCHNOI/POCHNOI
Major Haulout
A
179.7326 , 51.9417
179.7443 , 51.9488
179.7555 , 51.9471
179.763 , 51.9484
179.7742 , 51.9614

SEMISOPOCHNOI/TUMAN POINT
Major Haulout
A
179.4757 , 51.9643
179.4805 , 51.9738
179.4814 , 51.9723
179.4896 , 51.9582
179.4903 , 51.9564

SHAKUN ROCKS
Major Haulout
A
-153.6881 , 58.5486
-153.6884 , 58.5487
-153.6886 , 58.5477
-153.6889 , 58.5483
-153.6893 , 58.5474
-153.6893 , 58.5475

-134.7049 , 56.1767
-134.7091 , 56.1731

CAPE ST. ELIAS
Major Haulout
A
-144.5907 , 59.7962
-144.5973 , 59.7974
-144.6017 , 59.7873
-144.6017 , 59.8011
-144.6066 , 59.7919

CARLISLE
Major Haulout
A
-170.0876 , 52.9248
-170.0876 , 52.9249
-170.088 , 52.9248
-170.088 , 52.9256
-170.0886 , 52.9256
-170.0888 , 52.9255
-170.089 , 52.9254

CASTLE ROCK
Major Haulout
A
-159.493 , 55.2757
-159.4934 , 55.2767
-159.4953 , 55.2749
-159.496 , 55.2753

CATON
Major Haulout
A
-162.3396 , 54.3876
-162.3403 , 54.3882
-162.3409 , 54.3867
-162.3413 , 54.3879
-162.3414 , 54.3879
-162.3421 , 54.3878
-162.3423 , 54.3871

CHAGULAK
Major Haulout
A
-171.1658 , 52.5596
-153.6901 , 58.5475
-153.6902 , 58.5483

SHAW
Major Haulout
A
-153.3731 , 59.0052
-153.3733 , 59.0091
-153.3777 , 59.0024
-153.378 , 59.0049
-153.3835 , 58.9998

SHEMYA
Major Haulout
A
174.1439 , 52.7332
174.1446 , 52.7326
174.1454 , 52.7324
174.1457 , 52.7339
174.1468 , 52.7329

SITKINAK/CAPE SITKINAK
Major Haulout
A
-153.8481 , 56.572
-153.8485 , 56.5725
-153.8491 , 56.5726
-153.8492 , 56.5721
-153.8499 , 56.571
-153.8505 , 56.5711
-153.8506 , 56.5714

SOUTH MARBLE
Major Haulout
A
-136.0423 , 58.6431
-136.0427 , 58.6396
-136.0469 , 58.6407
-136.0488 , 58.6469
-136.0509 , 58.6467

SOUTH ROCKS
Rookery
A
-162.682 , 54.3008
-162.6838 , 54.3004

-171.167 , 52.5576
-171.1673 , 52.5587
-171.1688 , 52.5593
-171.1689 , 52.5568
-171.1694 , 52.5596
-171.1706 , 52.5584
-171.1743 , 52.5589

CHERNABURA
Rookery
A
-159.5458 , 54.7513
-159.5599 , 54.7579
-159.5712 , 54.7539
-159.5822 , 54.7587
-159.5992 , 54.7564

CHIRIKOF
Rookery
A
-155.6393 , 55.7694
-155.6445 , 55.7741
-155.6784 , 55.7769
-155.699 , 55.7724
-155.7251 , 55.7742
-155.7305 , 55.7785

CHISWELL ISLANDS
Rookery
A
-149.5704 , 59.602
-149.5727 , 59.6008

B
-149.5945 , 59.63
-149.5948 , 59.6309
-149.5963 , 59.6311
-149.5964 , 59.6312
-149.5997 , 59.6309
-149.6004 , 59.632
-149.6009 , 59.6318

CHOWIET
Rookery
A
-156.6739 , 56.0109
-162.6849 , 54.3004
-162.6851 , 54.2983
-162.6851 , 54.2995
-162.6853 , 54.3033
-162.6877 , 54.3035
-162.6885 , 54.2993
-162.6893 , 54.3028

SPITZ
Major Haulout
A
-158.8944 , 55.7788
-158.8945 , 55.7785
-158.8948 , 55.7789
-158.8949 , 55.7789

B
-158.8982 , 55.7757
-158.8989 , 55.7758
-158.8992 , 55.7753
-158.8995 , 55.7761
-158.8996 , 55.7754
-158.8996 , 55.7763
-158.9001 , 55.7759
-158.9004 , 55.776

ST. GEORGE/DALNOI POINT
Major Haulout
A
-169.7589 , 56.5956
-169.7608 , 56.5998
-169.7688 , 56.604
-169.7698 , 56.6045
-169.7707 , 56.6038
-169.7731 , 56.6067

ST. GEORGE/KITOSILOX
Major Haulout
A
-169.4661 , 56.5938
-169.4668 , 56.5964
-169.4754 , 56.5983
-169.4827 , 56.5981
-169.4879 , 56.601

ST. GEORGE/SOUTH ROOKERY

-156.6767 , 56.0097
-156.678 , 56.026
-156.6802 , 56.0177
-156.6832 , 56.024
-156.6834 , 56.0282
-156.6843 , 56.019
-156.6861 , 56.0264
-156.6889 , 56.0071
-156.6919 , 56.0056
-156.6919 , 56.0117
-156.6923 , 56.0054
-156.6926 , 56.0054

B
-156.6884 , 56.0029
-156.6887 , 56.0035
-156.6894 , 56.0025
-156.6915 , 56.003
-156.692 , 56.0042
-156.6921 , 56.004

C
-156.6856 , 55.9997
-156.6866 , 56.001
-156.6869 , 56.001
-156.6872 , 56.0002
-156.6874 , 56.001

CHUGINADAK
Major Haulout
A
-169.699 , 52.7778
-169.699 , 52.782
-169.7004 , 52.7849
-169.7063 , 52.7731
-169.7076 , 52.7748

CLUBBING ROCKS NORTH
Rookery
A
-162.4442 , 54.7113
-162.445 , 54.711
-162.4453 , 54.7135
-162.4462 , 54.7135
-162.4463 , 54.712
-162.4463 , 54.7132

Major Haulout
A
-169.6655 , 56.5502
-169.666 , 56.5629
-169.6678 , 56.5519
-169.6686 , 56.5602
-169.6689 , 56.5549

ST. LAWRENCE/S. PUNUK
Major Haulout
A
-168.8222 , 63.0771
-168.8223 , 63.0759
-168.8246 , 63.0748
-168.8273 , 63.0757
-168.8275 , 63.0755

B
-168.7969 , 63.0833
-168.7983 , 63.0816
-168.8015 , 63.0837
-168.8057 , 63.0778
-168.8104 , 63.08
-168.8198 , 63.0786
-168.8204 , 63.0806
-168.8204 , 63.0818

C
-168.8319 , 63.0704
-168.8325 , 63.0729
-168.8372 , 63.0655
-168.8385 , 63.07
-168.8388 , 63.0693
-168.8409 , 63.0679
-168.8415 , 63.0651

ST. LAWRENCE/SIVUONOK
Major Haulout
A
-171.477 , 63.6497
-171.6327 , 63.6895
-171.6331 , 63.751
-171.651 , 63.7085

ST. LAWRENCE/SW CAPE
Major Haulout

-162.4464 , 54.7131

CLUBBING ROCKS SOUTH
Rookery
A
-162.4446 , 54.6996
-162.4451 , 54.6985
-162.4456 , 54.6983
-162.4458 , 54.7004
-162.4461 , 54.7001
-162.4462 , 54.6986
-162.4464 , 54.6999

DUTCH GROUP
Major Haulout
A
-147.7717 , 60.7657
-147.7718 , 60.7656
-147.7722 , 60.7658
-147.7724 , 60.766
-147.7727 , 60.7657
-147.7728 , 60.7659
-147.7728 , 60.766

ELIZABETH/CAPE ELIZABETH
Major Haulout
A
-151.8842 , 59.1553
-151.8851 , 59.1559
-151.886 , 59.1561
-151.8861 , 59.1564

EMERALD
Major Haulout
A
-167.8482 , 53.2848
-167.8489 , 53.2836
-167.852 , 53.2911
-167.8536 , 53.2895
-167.8549 , 53.2835
-167.8575 , 53.292
-167.8591 , 53.2917
-167.8609 , 53.2846
-167.8651 , 53.2913
-167.8659 , 53.2906

A
-171.3161 , 63.3322
-171.3566 , 63.3353
-171.4705 , 63.3166
-171.4754 , 63.3001
-171.504 , 63.3249
-171.5599 , 63.3204

ST. PAUL/NE POINT
Major Haulout
A
-170.0976 , 57.2483
-170.098 , 57.2492
-170.1017 , 57.2495
-170.1079 , 57.2482
-170.1145 , 57.2488
-170.1174 , 57.2485

ST. PAUL/SEA LION ROCK
Major Haulout
A
-170.2919 , 57.0999
-170.2955 , 57.1035
-170.2956 , 57.1029
-170.2968 , 57.1025
-170.298 , 57.1023

STEEP POINT
Major Haulout
A
-150.2554 , 59.485
-150.2564 , 59.4843
-150.2576 , 59.4846
-150.2578 , 59.4849

B
-150.251 , 59.4858
-150.2518 , 59.4854
-150.2525 , 59.4859
-150.2528 , 59.4853
-150.2535 , 59.4856
-150.2536 , 59.4855

C
-150.2558 , 59.4839
-150.2562 , 59.484

FLAT
Major Haulout
A
-151.9911 , 59.3273
-151.9929 , 59.3271
-151.9932 , 59.3291
-151.9934 , 59.3293
-151.9941 , 59.3288
-151.9946 , 59.3314
-151.9963 , 59.3308
-151.9964 , 59.3297

GLACIER
Major Haulout
A
-147.137 , 60.8534
-147.1486 , 60.8519
-147.1566 , 60.8527
-147.1586 , 60.8549

GORE POINT
Major Haulout
A
-150.96 , 59.1985
-150.9604 , 59.2004
-150.9638 , 59.1954
-150.9642 , 59.201
-150.969 , 59.1966

GRAMP ROCK
Rookery
A
-178.3383 , 51.4809
-178.3429 , 51.4818
-178.3431 , 51.4787
-178.3454 , 51.4847
-178.3461 , 51.4842
-178.3473 , 51.4861
-178.3513 , 51.4851
-178.3517 , 51.483
-178.3521 , 51.4845

GRAN (LEDGE) POINT
Major Haulout
A
-135.2401 , 59.1334
-150.2563 , 59.4834
-150.2568 , 59.4834
-150.2569 , 59.4838
-150.257 , 59.4837

D
-150.2951 , 59.417
-150.2961 , 59.4182
-150.2982 , 59.4192
-150.2984 , 59.4185
-150.2998 , 59.4161
-150.3043 , 59.4161

SUD
Major Haulout
A
-152.198 , 58.9039
-152.1991 , 58.9048
-152.2003 , 58.9026
-152.2033 , 58.9031
-152.2068 , 58.9033
-152.2083 , 58.9028

SUGARLOAF
Rookery
A
-152.0283 , 58.8874
-152.0286 , 58.8897
-152.0327 , 58.8853
-152.0347 , 58.8916
-152.045 , 58.8915
-152.0475 , 58.8847
-152.051 , 58.8854
-152.051 , 58.8881

SUNSET
Major Haulout
A
-133.5856 , 57.5019
-133.5862 , 57.5017
-133.5867 , 57.5007
-133.5874 , 57.4983
-133.5881 , 57.5

SUSHILNOI ROCKS
Rookery

-135.2403 , 59.1329
-135.2403 , 59.1334

GRAVES ROCK
Rookery
A
-136.7546 , 58.2398
-136.755 , 58.2369
-136.7567 , 58.2379
-136.7568 , 58.2369
-136.7568 , 58.2398
-136.7583 , 58.2384
-136.7586 , 58.2385

B
-136.7577 , 58.2367
-136.7586 , 58.2381
-136.7591 , 58.2381
-136.7614 , 58.2364
-136.7615 , 58.2356

GREAT SITKIN
Major Haulout
A
-176.0663 , 52.1035
-176.1478 , 52.1175
-176.1639 , 52.1043
-176.1819 , 52.1023
-176.1869 , 52.0948

HALL
Major Haulout
A
-173.0396 , 60.6313
-173.0485 , 60.6228
-173.0583 , 60.6895
-173.0609 , 60.6483
-173.074 , 60.7059
-173.0927 , 60.6961
-173.116 , 60.6665
-173.1197 , 60.6586

HAWADAX (RAT)
Major Haulout
A
178.2015 , 51.8327

A
-161.712 , 54.8211
-161.7121 , 54.8223
-161.7126 , 54.8212
-161.7128 , 54.8214
-161.7128 , 54.8222

B
-161.7118 , 54.8229
-161.7121 , 54.8223
-161.7122 , 54.8232
-161.7123 , 54.8231
-161.7124 , 54.8223
-161.7125 , 54.8231

C
-161.7437 , 54.8329
-161.7439 , 54.8327
-161.7442 , 54.8338
-161.7443 , 54.8326
-161.7449 , 54.8335

D
-161.7417 , 54.8339
-161.7417 , 54.8343
-161.742 , 54.8339
-161.7421 , 54.8344

E
-161.7421 , 54.833
-161.7422 , 54.8339
-161.7423 , 54.8329
-161.7426 , 54.8329
-161.7428 , 54.8336

F
-161.7121 , 54.8202
-161.7121 , 54.8204
-161.7125 , 54.8199
-161.7127 , 54.8204
-161.7128 , 54.8204
-161.713 , 54.8202

SUTWIK
Major Haulout
A

178.2028 , 51.8302
178.2112 , 51.8364
178.2152 , 51.8361
178.2154 , 51.8284
178.216 , 51.8295

HOOK POINT
Major Haulout
A
-146.2577 , 60.3311
-146.258 , 60.3316
-146.2586 , 60.3304
-146.2587 , 60.3316
-146.2609 , 60.3295
-146.2614 , 60.3312
-146.2619 , 60.3297

JUDE
Rookery
A
-161.1025 , 55.2639
-161.1029 , 55.2622
-161.103 , 55.2619
-161.105 , 55.2652
-161.1057 , 55.2619
-161.1062 , 55.2623
-161.1063 , 55.2645

KAGALASKA
Major Haulout
A
-176.3015 , 51.8717
-176.3033 , 51.872
-176.3054 , 51.8714
-176.3072 , 51.8716
-176.3167 , 51.869

KAGAMIL
Major Haulout
A
-169.677 , 53.0307
-169.6784 , 53.0336
-169.6827 , 53.0351
-169.69 , 53.0351

KAIUCHALI (BIORKA)

-157.3096 , 56.53
-157.3139 , 56.5271
-157.3177 , 56.5421
-157.3194 , 56.5291
-157.3281 , 56.5219
-157.3328 , 56.5405

TAG
Rookery
A
-178.5748 , 51.5575
-178.5749 , 51.5551
-178.5763 , 51.556
-178.5773 , 51.5591
-178.5778 , 51.5552
-178.5789 , 51.5571
-178.5796 , 51.5577

TAGALAK
Major Haulout
A
-175.6128 , 51.96
-175.6133 , 51.9632
-175.6177 , 51.9635
-175.6178 , 51.96
-175.6179 , 51.9624

B
-175.7423 , 51.9421
-175.7442 , 51.946
-175.7455 , 51.9455
-175.7462 , 51.952

TAKLI
Major Haulout
A
-154.5173 , 58.0306
-154.5199 , 58.0315
-154.5227 , 58.0297
-154.5237 , 58.0294
-154.5238 , 58.0276
-154.526 , 58.0304
-154.5294 , 58.0287
-154.5296 , 58.0258

TANADAK (AMLIA)

Major Haulout
A
-135.5643 , 56.8329
-135.5647 , 56.8339
-135.5654 , 56.8337
-135.5655 , 56.8325
-135.5657 , 56.8333
-135.5658 , 56.8332
-135.5662 , 56.8329

KAK
Major Haulout
A
-157.8269 , 56.2867
-157.829 , 56.2849
-157.8299 , 56.2882
-157.8307 , 56.2909
-157.8333 , 56.2846
-157.8333 , 56.2898
-157.8344 , 56.2895

KANAGA/N CAPE
Major Haulout
A
-177.1285 , 51.9403
-177.1368 , 51.9408
-177.1589 , 51.9441

KANAGA/SHIP ROCK
Rookery
A
-177.3435 , 51.7784
-177.3439 , 51.7776
-177.3446 , 51.7799
-177.345 , 51.7778
-177.3453 , 51.7783
-177.3455 , 51.7785
-177.3462 , 51.78

KASATOCHI/NORTH POINT
Rookery
A
-175.5109 , 52.1843
-175.5135 , 52.1852
-175.516 , 52.1854
-175.5173 , 52.1832

Major Haulout
A
-172.9555 , 52.0708
-172.9574 , 52.066
-172.9596 , 52.066
-172.9598 , 52.0678
-172.9623 , 52.0731
-172.9654 , 52.0704
-172.9655 , 52.0695
-172.9655 , 52.0709

TANADAK (KISKA)
Major Haulout
A
177.7765 , 51.944
177.778 , 51.9433
177.7786 , 51.9482
177.7821 , 51.9463
177.7824 , 51.9429
177.7848 , 51.9468
177.7859 , 51.9447

TANAGA/BUMPY POINT
Major Haulout
A
-177.9512 , 51.9169
-177.954 , 51.9048
-177.9638 , 51.92
-177.9712 , 51.9156
-177.9801 , 51.9183
-177.9846 , 51.9115
-177.9941 , 51.9123

TANGINAK
Major Haulout
A
-165.3194 , 54.1995
-165.3194 , 54.201
-165.3203 , 54.2011
-165.3218 , 54.1986
-165.3231 , 54.2012
-165.3251 , 54.1984
-165.3252 , 54.2006
-165.3253 , 54.2

THE BROTHERS/SW

-175.5176 , 52.1849
-175.5201 , 52.1819

KAVALGA
Major Haulout
A
-178.849 , 51.578
-178.8492 , 51.5727
-178.8621 , 51.5735
-178.8656 , 51.5762

B
-178.8669 , 51.5736
-178.8677 , 51.5724
-178.8696 , 51.5725
-178.87 , 51.5737
-178.8702 , 51.5732

KILOKAK ROCKS
Major Haulout
A
-156.2752 , 57.1567
-156.2762 , 57.1565
-156.277 , 57.1575
-156.2782 , 57.1569
-156.2782 , 57.1573
-156.2791 , 57.1575
-156.2794 , 57.1584
-156.2797 , 57.1583
-156.2799 , 57.1572

KISKA/CAPE ST STEPHEN
Rookery
A
177.2 , 51.8919
177.2019 , 51.8883
177.2023 , 51.8863
177.2027 , 51.8779
177.2042 , 51.8876
177.2111 , 51.8765
177.2119 , 51.8749

KISKA/LIEF COVE
Rookery
A
177.3297 , 51.9504

Major Haulout
A
-133.8687 , 57.2691
-133.8707 , 57.267
-133.8715 , 57.2744
-133.8759 , 57.2669
-133.8774 , 57.2694
-133.8782 , 57.2702

THE BROTHERS/W+E
Major Haulout
A
-133.8282 , 57.2961
-133.8316 , 57.2938
-133.8357 , 57.303
-133.8369 , 57.3001

THE NEEDLE
Major Haulout
A
-147.6008 , 60.1081
-147.601 , 60.1109
-147.6019 , 60.111
-147.6034 , 60.108
-147.6038 , 60.1106

THE WHALEBACK
Rookery
A
-160.0823 , 55.2809
-160.0825 , 55.2801
-160.0829 , 55.281
-160.0839 , 55.2799
-160.084 , 55.2803
-160.0841 , 55.2802

TIGALDA/ROCKS NE
Major Haulout
A
-164.9501 , 54.1527
-164.9516 , 54.1499
-164.9815 , 54.164
-164.9835 , 54.158
-164.9852 , 54.1639

TWOHEADED

177.3348 , 51.9497
177.3431 , 51.9639
177.3448 , 51.9612

KISKA/SIRIUS POINT
Major Haulout
A
177.6026 , 52.1357
177.6082 , 52.1349
177.6125 , 52.1304
177.614 , 52.1318
177.6193 , 52.1247

KISKA/SOBAKA-VEGA
Major Haulout
A
177.3011 , 51.83
177.3012 , 51.8291
177.3098 , 51.8256
177.3156 , 51.8288
177.321 , 51.8333
177.3216 , 51.8287
177.3217 , 51.8318
177.3245 , 51.8277
177.325 , 51.8313

B
177.3342 , 51.8084
177.3344 , 51.8078
177.3345 , 51.8071
177.337 , 51.8101
177.339 , 51.8053
177.3405 , 51.81
177.3406 , 51.8075

KODIAK/CAPE BARNABAS
Major Haulout
A
-152.875 , 57.167
-152.8761 , 57.1663
-152.8766 , 57.1663
-152.877 , 57.1669
-152.8779 , 57.1651
-152.8783 , 57.1652
-152.8786 , 57.1656

Rookery
A
-153.5521 , 56.9047
-153.5537 , 56.9025
-153.555 , 56.9036
-153.5614 , 56.8987
-153.5672 , 56.8989
-153.5699 , 56.8966

UGAK
Major Haulout
A
-152.2836 , 57.391
-152.2902 , 57.3916
-152.2912 , 57.3942
-152.2924 , 57.3936

B
-152.2821 , 57.3687
-152.2878 , 57.3655
-152.2929 , 57.3657

UGAMAK
Rookery
A
-164.7714 , 54.2261
-164.78 , 54.224
-164.7864 , 54.2253
-164.7936 , 54.228
-164.7939 , 54.2266
-164.7941 , 54.2257
-164.7953 , 54.2266

B
-164.7742 , 54.2015
-164.7742 , 54.202
-164.7751 , 54.2019
-164.7756 , 54.2008
-164.7768 , 54.2007
-164.7773 , 54.2015
-164.7778 , 54.2014
-164.7779 , 54.2012

C
-164.7785 , 54.2105
-164.7808 , 54.2134

KODIAK/CAPE CHINIAK
Major Haulout
A
-152.1302 , 57.6328
-152.1316 , 57.6323
-152.136 , 57.6325
-152.1368 , 57.6354
-152.1375 , 57.6342
-152.1381 , 57.6345

B
-152.1346 , 57.6284
-152.1365 , 57.6292
-152.1372 , 57.629
-152.141 , 57.6282
-152.1465 , 57.6312
-152.1466 , 57.6324

KODIAK/CAPE IKOLIK
Major Haulout
A
-154.7887 , 57.2862
-154.7898 , 57.289
-154.793 , 57.2864

B
-154.8018 , 57.288
-154.8023 , 57.2873
-154.803 , 57.2885
-154.8046 , 57.288
-154.8049 , 57.2868
-154.8051 , 57.2878

KODIAK/CAPE UGAT
Major Haulout
A
-153.8475 , 57.8734
-153.8475 , 57.8742
-153.8494 , 57.8739
-153.8495 , 57.8738
-153.8498 , 57.8723
-153.8506 , 57.8727

B
-153.8503 , 57.8741
-153.8504 , 57.8735
-164.7825 , 54.214
-164.7834 , 54.2132
-164.7842 , 54.214
-164.7892 , 54.2132
-164.7932 , 54.2136
-164.7945 , 54.2132

UGIDAK
Major Haulout
A
-178.5053 , 51.5825
-178.5069 , 51.5812
-178.5077 , 51.5844
-178.5104 , 51.5816
-178.5106 , 51.5834
-178.5108 , 51.583

ULAK/HASGOX POINT
Rookery
A
-178.985 , 51.3139
-178.9857 , 51.3101
-178.9892 , 51.3057
-178.9913 , 51.3074
-178.993 , 51.3119

ULIAGA
Major Haulout
A
-169.7878 , 53.0552
-169.7897 , 53.0596
-169.7939 , 53.0571
-169.794 , 53.0585
-169.7952 , 53.055
-169.7992 , 53.0572
-169.7996 , 53.056

UMNAK/CAPE ASLIK
Major Haulout
A
-168.4037 , 53.4077
-168.4057 , 53.424
-168.4123 , 53.4094

UNALASKA/BISHOP POINT
Major Haulout

-153.8511 , 57.874
-153.8519 , 57.8729
-153.8526 , 57.8731
-153.8526 , 57.8732

KODIAK/GULL POINT
Major Haulout
A
-152.6021 , 57.3575
-152.6021 , 57.3576
-152.6025 , 57.3575
-152.6029 , 57.3579
-152.603 , 57.3579
-152.6031 , 57.3577

KUPREANOF POINT
Major Haulout
A
-159.5954 , 55.5662
-159.5961 , 55.5645
-159.6027 , 55.5656
-159.6055 , 55.5648
-159.6064 , 55.566

B
-159.6026 , 55.5647
-159.6027 , 55.5645
-159.603 , 55.5649
-159.6031 , 55.5649
-159.6033 , 55.5646

LATAX_ROCKS
Major Haulout
A
-152.4822 , 58.6927
-152.4829 , 58.6894
-152.4831 , 58.6928
-152.4866 , 58.6883
-152.4884 , 58.689

B
-152.4937 , 58.6749
-152.4947 , 58.676
-152.4964 , 58.6741
-152.4965 , 58.6755
-152.4966 , 58.6754

A
-166.9353 , 53.9719
-166.9414 , 53.9736
-166.9498 , 53.9653
-166.9576 , 53.9736

UNALASKA/CAPE IZIGAN
Rookery
A
-167.6442 , 53.2505
-167.6489 , 53.2336
-167.6505 , 53.2459
-167.6569 , 53.2469
-167.661 , 53.2202

UNALASKA/CAPE SEDANKA
Major Haulout
A
-166.086 , 53.842
-166.0864 , 53.8394
-166.0881 , 53.8385
-166.0902 , 53.8399
-166.0914 , 53.8428

UNALASKA/CAPE STARICHKOF
Major Haulout
A
-167.0608 , 53.6936
-167.0627 , 53.6928
-167.0682 , 53.6809
-167.0698 , 53.6837

UNALASKA/SPRAY CAPE
Major Haulout
A
-167.1529 , 53.6168
-167.1606 , 53.6177
-167.1616 , 53.6136
-167.1643 , 53.6159

UNALGA+DINKUM ROCKS
Major Haulout
A
-179.0667 , 51.5622
-179.0693 , 51.56
-179.0702 , 51.5629

-152.4974 , 58.6754

C

-152.5137 , 58.6709
-152.5152 , 58.6712
-152.5176 , 58.6683
-152.5189 , 58.6679
-152.5205 , 58.6701
-152.5209 , 58.6698
-152.5221 , 58.6684

LIGHTHOUSE ROCKS
Rookery
A

-157.4069 , 55.778
-157.4085 , 55.7782

LITTLE ISLAND
Major Haulout
A

-135.0425 , 58.541
-135.0443 , 58.5436
-135.0444 , 58.5383
-135.047 , 58.5447
-135.0483 , 58.5376
-135.0484 , 58.5447
-135.0489 , 58.5403

LITTLE SITKIN
Major Haulout
A

178.4909 , 51.9852
178.4916 , 51.9931
178.4944 , 51.9867
178.4976 , 51.9961
178.5146 , 51.9826

LITTLE TANAGA STRAIT
Major Haulout
A

-176.2164 , 51.8122
-176.2338 , 51.8216
-176.235 , 51.8241

LONG ISLAND
Major Haulout

-179.0711 , 51.562
-179.0727 , 51.5622
-179.0731 , 51.561
-179.0734 , 51.5614

UNGA/ACHEREDIN POINT
Major Haulout
A

-160.8174 , 55.1208
-160.8181 , 55.1203
-160.819 , 55.121
-160.8191 , 55.1224
-160.8201 , 55.1185
-160.8206 , 55.1208
-160.8238 , 55.118
-160.8243 , 55.1204
-160.8247 , 55.121
-160.8249 , 55.1207

UNIMAK/CAPE SARICHEF
Major Haulout
A

-164.9424 , 54.5724
-164.9453 , 54.5687
-164.9471 , 54.575

B

-164.9289 , 54.5984
-164.931 , 54.5916
-164.9343 , 54.589

UNIMAK/OKSENOF POINT
Major Haulout
A

-164.5453 , 54.8894
-164.5513 , 54.8898
-164.554 , 54.885
-164.5544 , 54.8881
-164.5547 , 54.8829

B

-164.5596 , 54.8685
-164.5596 , 54.8693
-164.5602 , 54.8696
-164.5604 , 54.8681
-164.5609 , 54.8696

A
-152.2144 , 57.7799
-152.2144 , 57.78
-152.2148 , 57.7798
-152.2151 , 57.7803
-152.2155 , 57.78

MARMOT
Rookery
A
-151.7945 , 58.2078
-151.795 , 58.2269
-151.8072 , 58.1858
-151.8147 , 58.1855
-151.8194 , 58.1786
-151.8682 , 58.1648

MIDDLETON
Major Haulout
A
-146.2826 , 59.4619
-146.3021 , 59.4686
-146.308 , 59.4704
-146.3372 , 59.4039
-146.3874 , 59.4055

MITROFANIA
Major Haulout
A
-158.7017 , 55.8401
-158.7018 , 55.8404
-158.7026 , 55.84
-158.7028 , 55.8404
-158.7028 , 55.8409
-158.7029 , 55.8408

NAGAHUT ROCKS
Major Haulout
A
-151.7666 , 59.0993
-151.7671 , 59.099
-151.7678 , 59.1004
-151.7682 , 59.1003

B
-151.7696 , 59.0992
-164.5619 , 54.8691

USHAGAT/ROCKS SOUTH
Major Haulout
A
-152.3142 , 58.8804
-152.318 , 58.881
-152.3184 , 58.8802
-152.3193 , 58.8805
-152.3195 , 58.8811

USHAGAT/SW
Rookery
A
-152.3219 , 58.905
-152.3297 , 58.9069
-152.3362 , 58.9044
-152.3388 , 58.9046
-152.3391 , 58.9058

B
-152.3679 , 58.9126
-152.3679 , 58.9134
-152.3705 , 58.9128
-152.3707 , 58.9112
-152.3713 , 58.9118

WALRUS
Rookery
A
-169.9361 , 57.1844
-169.9363 , 57.1841
-169.9363 , 57.1848
-169.9375 , 57.182
-169.9386 , 57.1836
-169.9387 , 57.1847
-169.9396 , 57.1823
-169.9406 , 57.1792
-169.9409 , 57.1803
-169.9421 , 57.1819
-169.9428 , 57.1795

B
-169.9392 , 57.1832
-169.9392 , 57.1833
-169.9394 , 57.1829

-151.7711 , 59.0986
-151.7718 , 59.0999
-151.7725 , 59.0994

NAGAI ROCKS
Major Haulout
A
-155.7883 , 55.8286
-155.789 , 55.8282
-155.7903 , 55.8242
-155.7906 , 55.8303
-155.791 , 55.8246
-155.791 , 55.8303
-155.7916 , 55.8304
-155.7939 , 55.8222
-155.7952 , 55.823

NAGAI/MOUNTAIN POINT
Major Haulout
A
-160.2205 , 54.8636
-160.2245 , 54.8623
-160.2353 , 54.8887
-160.2359 , 54.8749
-160.2523 , 54.9263
-160.2544 , 54.9359
-160.2568 , 54.8957
-160.2573 , 54.9307

OGCHUL
Rookery
A
-168.3977 , 52.9954
-168.3982 , 52.9965
-168.401 , 52.9939
-168.402 , 52.995
-168.4034 , 52.995
-168.4035 , 52.9953
-168.407 , 52.9941

OGLODAK
Major Haulout
A
-175.451 , 51.9783
-175.4528 , 51.9767
-175.4603 , 51.9777
-169.9396 , 57.1832
-169.9397 , 57.1835
-169.9398 , 57.1831
-169.9398 , 57.1833

C
-169.9356 , 57.185
-169.9357 , 57.1851
-169.9358 , 57.1849
-169.9359 , 57.185
-169.936 , 57.1849
-169.936 , 57.185

WHITE SISTERS
Rookery
A
-136.2516 , 57.6345
-136.2518 , 57.634
-136.2529 , 57.6338
-136.2545 , 57.6345
-136.2546 , 57.6342
-136.255 , 57.6316
-136.2555 , 57.6346
-136.2562 , 57.6345
-136.2564 , 57.6324
-136.2571 , 57.6316
-136.2576 , 57.6325
-136.258 , 57.6341

B
-136.2527 , 57.6373
-136.2532 , 57.6365
-136.254 , 57.6377
-136.2541 , 57.6365
-136.2543 , 57.6355
-136.256 , 57.6358
-136.256 , 57.6371

WOODED (FISH)
Rookery
A
-147.3378 , 59.8819
-147.3416 , 59.8801
-147.3426 , 59.8829
-147.3452 , 59.8806
-147.3466 , 59.8796

-175.4621 , 51.9791
-175.4665 , 51.9777

OLD MAN ROCKS
Major Haulout
A
-166.0803 , 53.8707
-166.0804 , 53.8706
-166.0814 , 53.8705
-166.0817 , 53.8707
-166.0818 , 53.8706

B
-166.0819 , 53.8694
-166.0821 , 53.8696
-166.0823 , 53.8691
-166.0825 , 53.8693
-166.0832 , 53.8692
-166.0833 , 53.8691

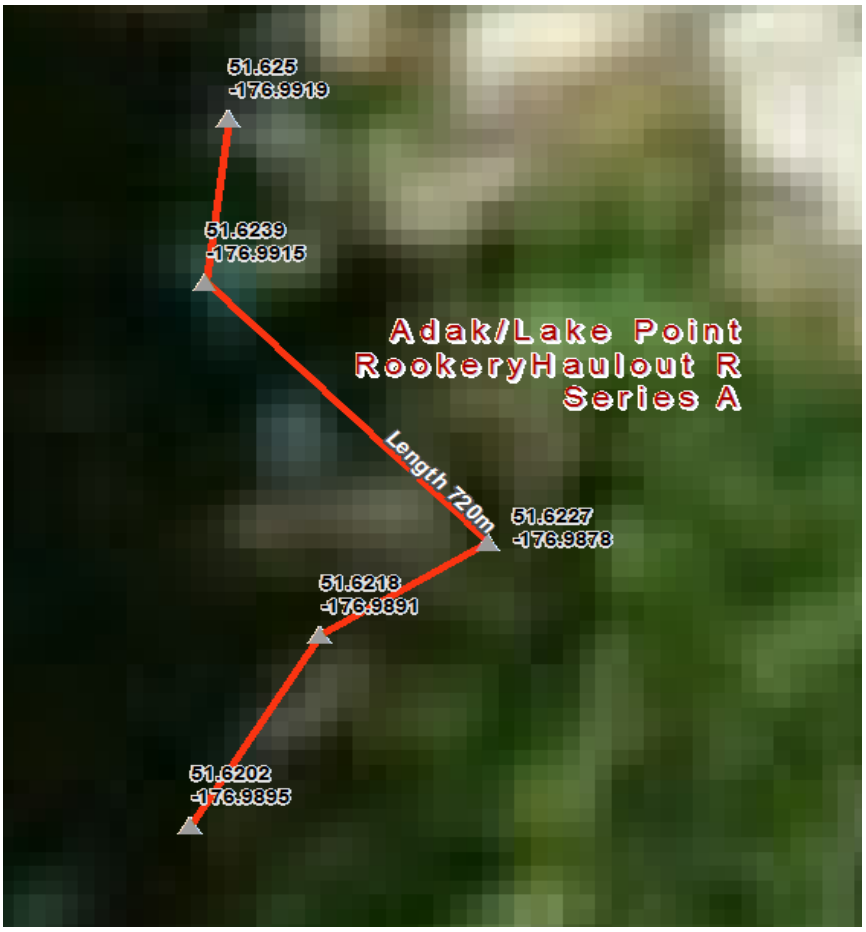
-147.3467 , 59.8823
-147.3473 , 59.8791
-147.3487 , 59.8792

B
-147.3483 , 59.8764
-147.3495 , 59.8756
-147.3495 , 59.8777
-147.3499 , 59.8778
-147.351 , 59.8762

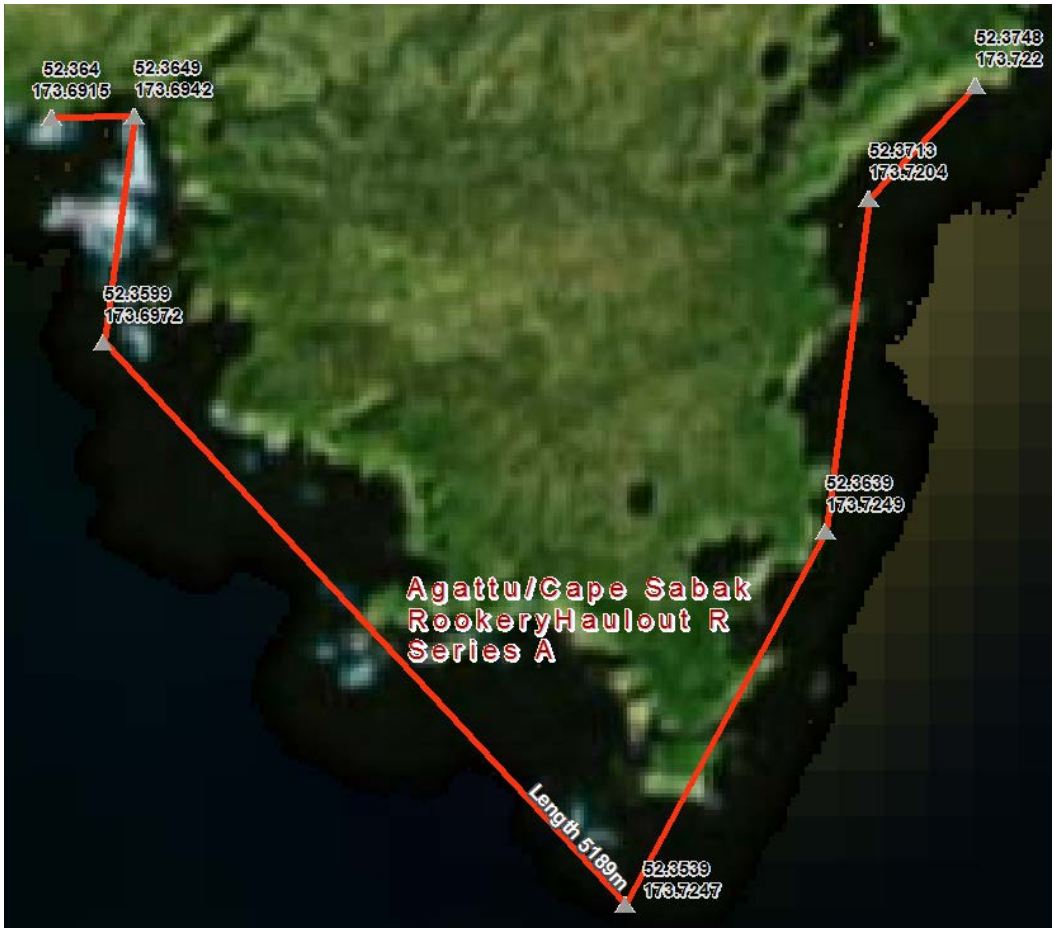
YASHA
Major Haulout
A
-134.5595 , 56.9664
-134.5606 , 56.9631
-134.562 , 56.9673
-134.5637 , 56.9669
-134.5638 , 56.9674
-134.564 , 56.9659

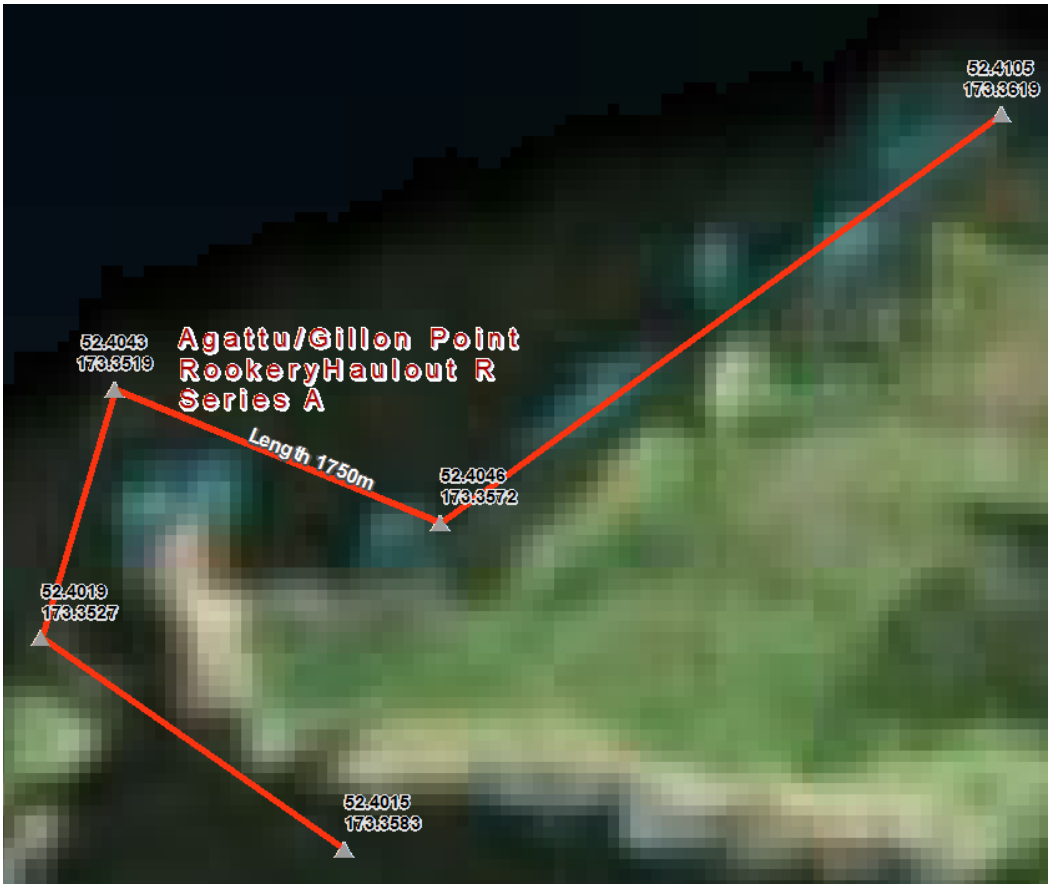
YUNASKA
Rookery
A
-170.5962 , 52.6869
-170.5974 , 52.6908
-170.6003 , 52.6921
-170.6028 , 52.6905
-170.611 , 52.691
-170.615 , 52.693

APPENDIX IV


51.625
-176.9919
51.6239
-176.9915
Adak/Lake Point
RookeryHaulout R
Series A
Length 720m
51.6227
-176.9878
51.6218
-176.9891
51.6202
-176.9895


52.9138
-169.1731
52.9138
-169.1701
52.9126
-169.1741
Length 1386m
52.912
-169.1708
52.9119
-169.1704
52.9127
-169.1658
Adugak
RookeryHaulout R
Series A
52.9109
-169.1698
52.9113
-169.167


52.364
173.6915
52.3649
173.6942
52.3748
173.722
52.3713
173.7204
52.3599
173.6972
52.3639
173.7249
Agattu/Cape Sabak
RookeryHaulout R
Series A
Length 5189m
52.3539
173.7247

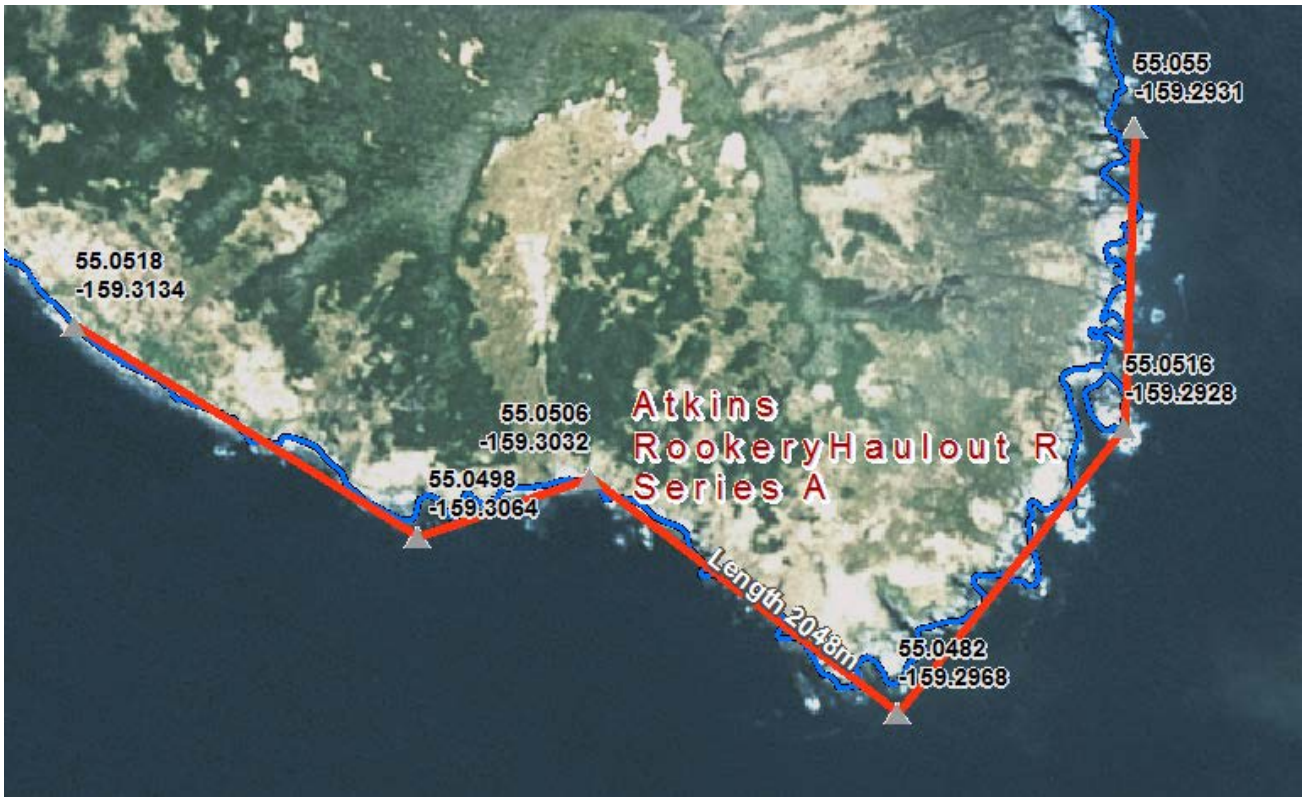

52.4105
173.3619
Agattu/Gillon Point
RookeryHaulout R
Series A
52.4043
173.3519
Length 1750m
52.4046
173.3572
52.4019
173.3527
52.4015
173.3583


Akun/Billings Head
RookeryHaulout R
Series A
54.2968
-165.5378
54.2985
-165.513
54.2972
-165.5262
Length 2033m
54.2931
-165.5304

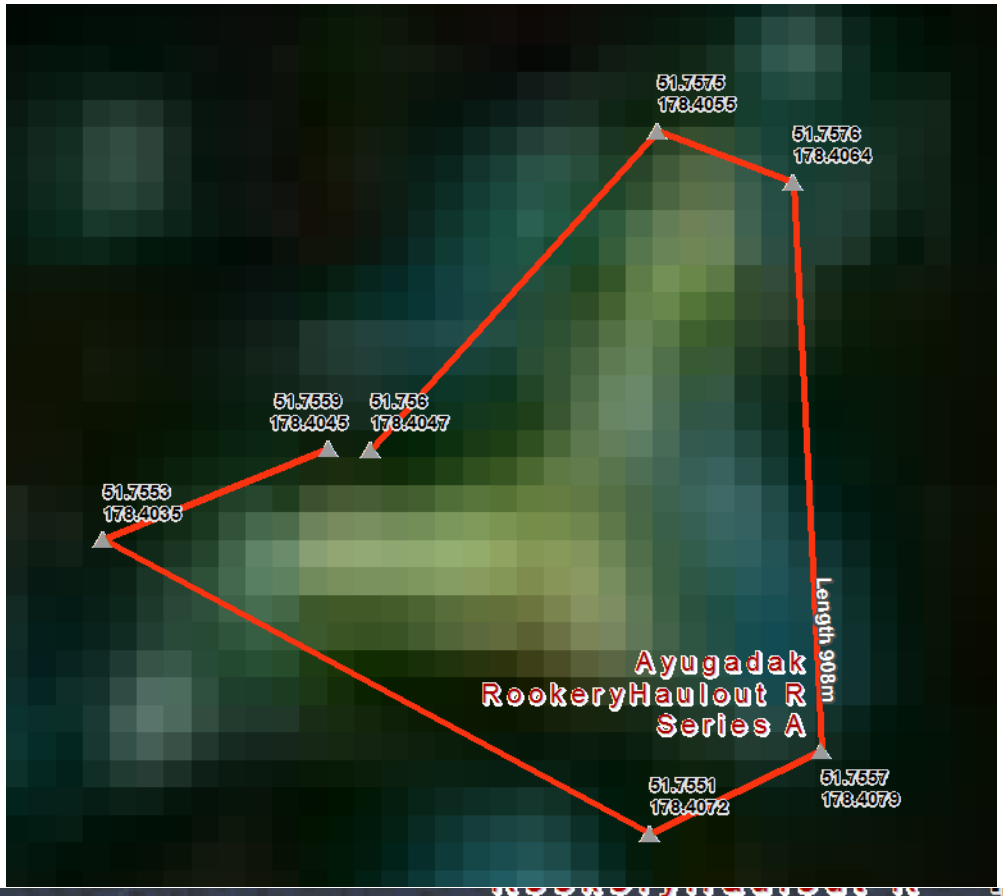

54.0611
-166.0606
54.0554
-166.052
54.058
-165.995
54.0534
-166.0099
54.0564
-165.9931
Akutan/Cape Morgan
RookeryHaulout R
Series A
54.0458
-166.0502
54.0452
-166.041
Length 6490m
54.047
-166.0308
54.0474
-166.022
54.0426
-166.0416

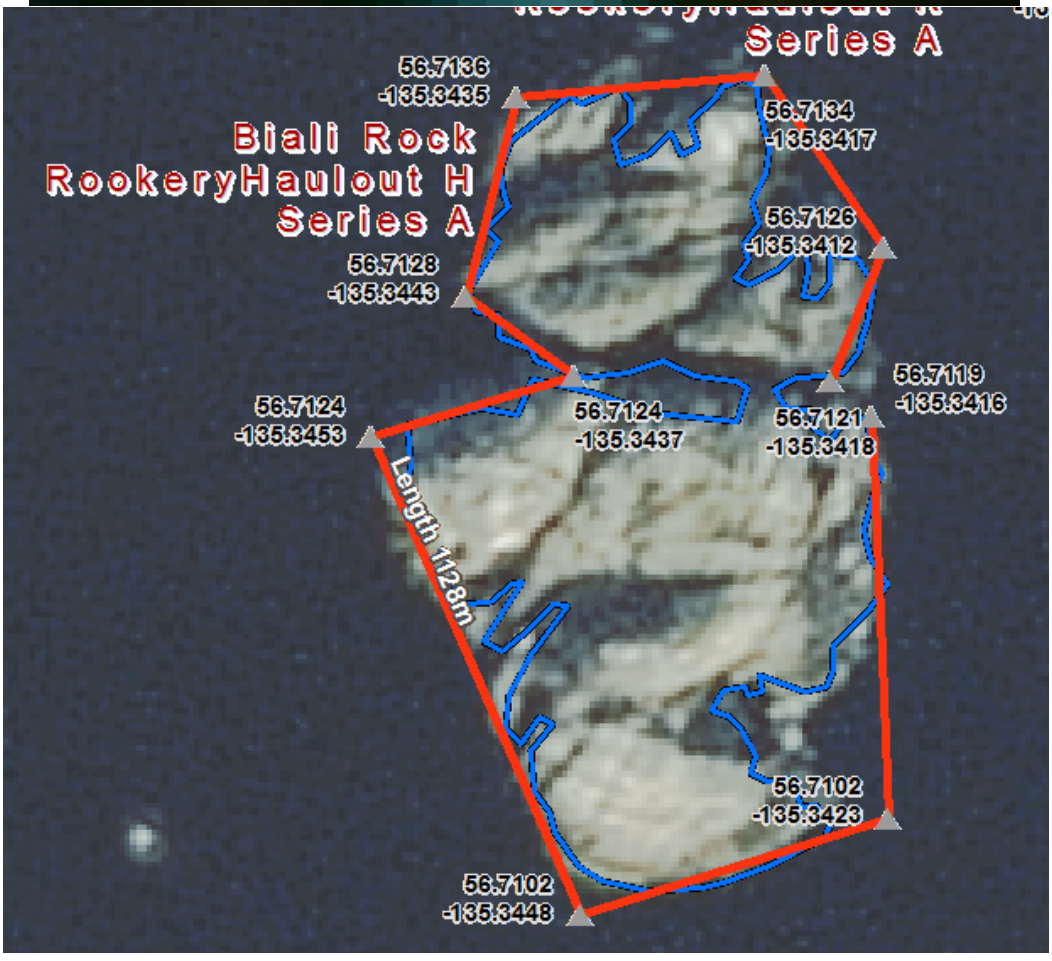

Amchitka/Column Rock
RookeryHaulout R
Series A Length 181m
51.539
178.8207
51.5396
178.8231

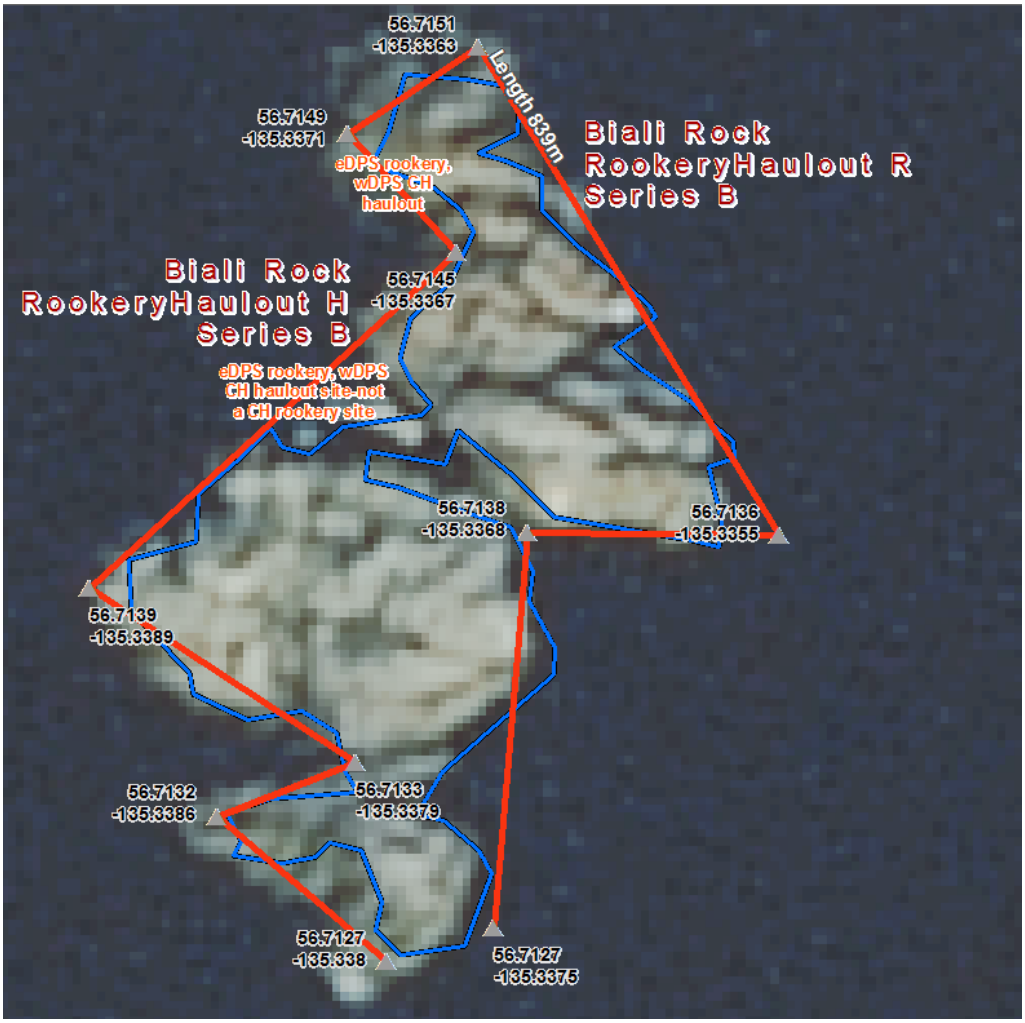

52.1068
-173.1386
52.109
-173.1202
52.0999
-173.0979
Length 12446m
52.1014
-173.0348
Amlia/East Cape
RookeryHaulout R
Series A
52.0948
-172.9634

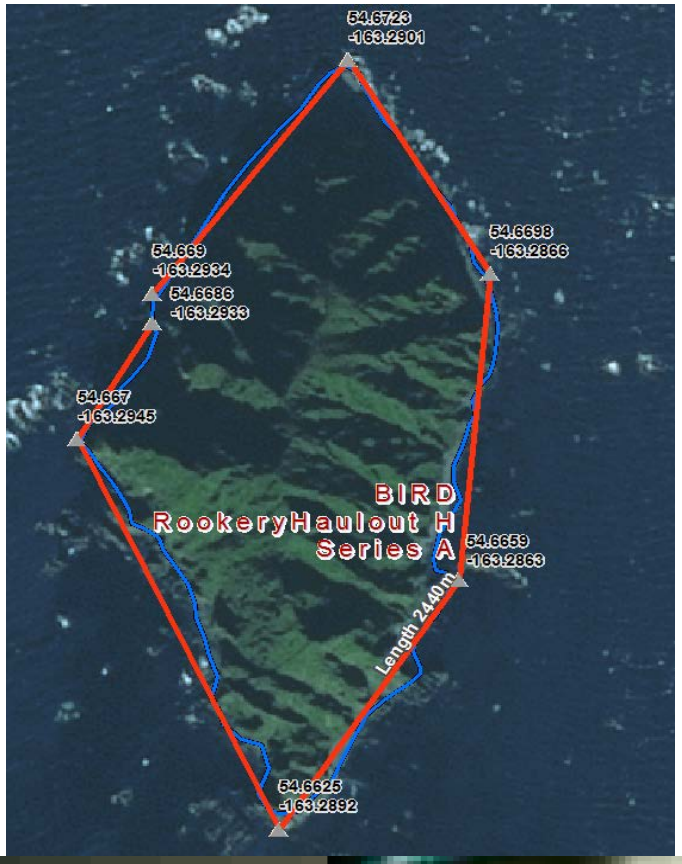

55.055
-159.2931
55.0518
-159.3134
55.0516
-159.2928
55.0506
-159.3032
Atkins
RookeryHaulout R
Series A
55.0498
-159.3064
Length 2048m
55.0482
-159.2968


52.922
172.4432
52.9341
172.4818
Length 6641m
52.9216
172.4535
52.9187
172.4461
Attu/Cape Wrangell
RookeryHaulout R
Series A
52.9169
172.4629
52.9127
172.461
52.9142
172.4738
52.9086
172.4651


51.7575
178.4055
51.7576
178.4064
51.7559
178.4045
51.756
178.4047
51.7553
178.4035
Length 908m
Ayugadak
RookeryHaulout R
Series A
51.7551
178.4072
51.7557
178.4079


Series A
56.7136
-135.3435
Biali Rock
RookeryHaulout H
Series A
56.7134
-135.3417
56.7126
-135.3412
56.7128
-135.3443
56.7119
-135.3416
56.7124
-135.3453
56.7124
-135.3437
56.7121
-135.3418
Length 1128m
56.7102
-135.3423
56.7102
-135.3448


56.7151
-135.3363
Length 839m
56.7149
-135.3371
eDPS rookery,
wDPS CH
haulout
Bialli Rock
RookeryHaulout R
Series B
Bialli Rock
RookeryHaulout H
Series B
56.7145
-135.3367
eDPS rookery, wDPS
CH haulout site-not
a CH rookery site
56.7138
-135.3368
56.7136
-135.3355
56.7139
-135.3389
56.7132
-135.3386
56.7133
-135.3379
56.7127
-135.338
56.7127
-135.3375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BIRD
RookeryHaulout H
Series A
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Length 2440m
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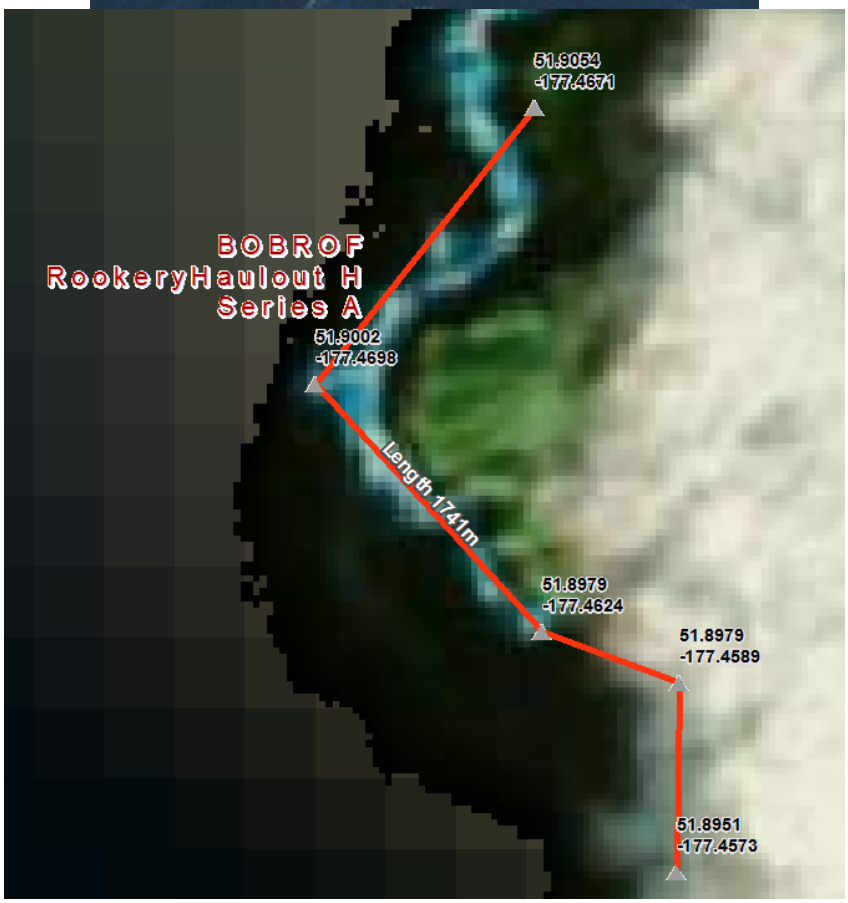
-163.2892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BOBROF
RookeryHaulout H
Series A
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Length 1741m
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51.8951
-177.4573


53.9376
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53.9385
-168.0363
53.9365
-168.0447
53.9347
-168.045
Bogoslof/Fire Island
RookeryHaulout R
Series A
53.9296
-168.041
Length 3591m
53.9268
-168.0281


52.3407
175.8982
52.3571
175.9641
52.3599
175.9796
Buldir
RookeryHaulout R
Series A
52.3335
175.9105
52.337
175.9268
Length 7395m
52.3355
175.9439


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CAPE GULL
RookeryHaulout H
Series A
Length 329m
58.2079
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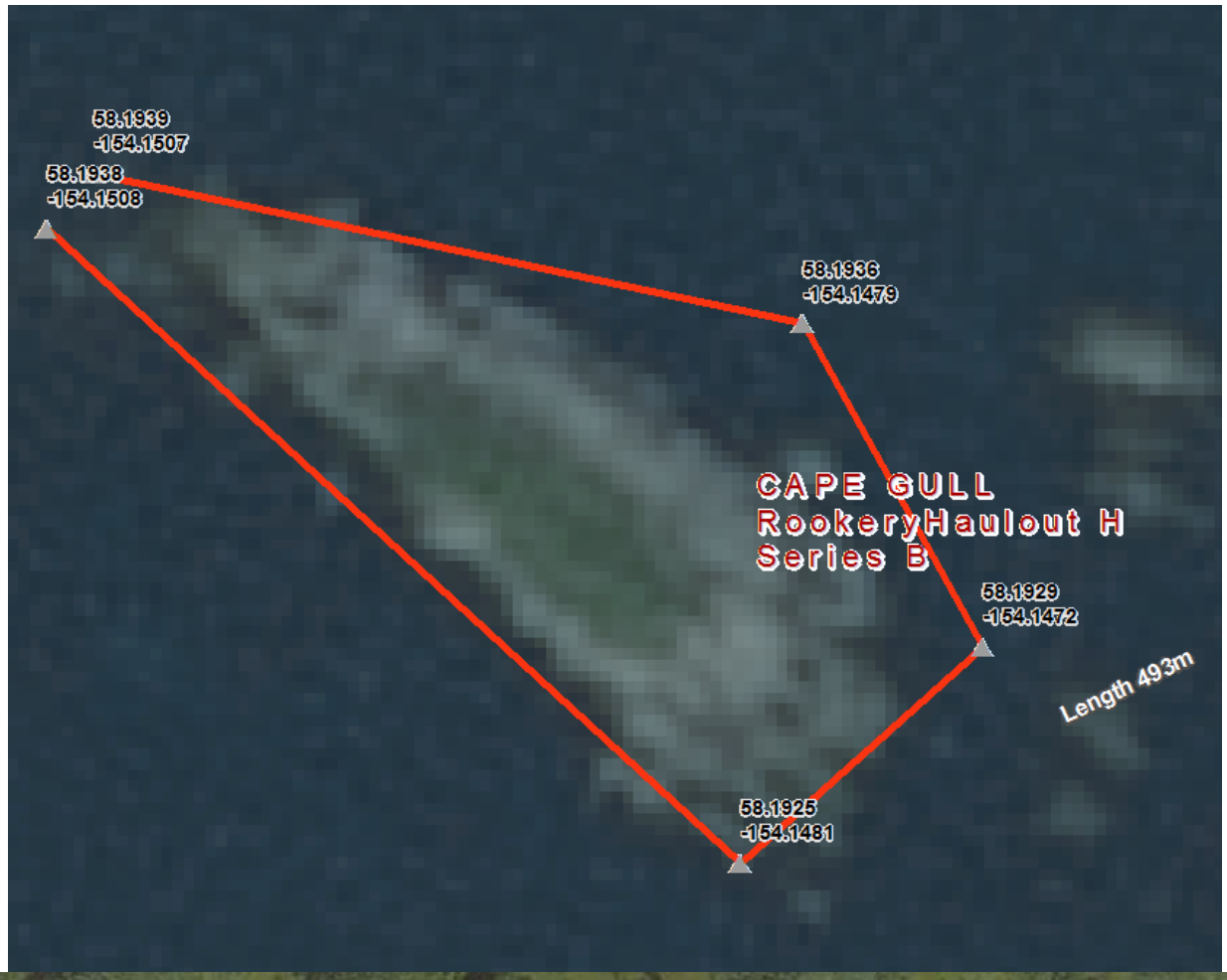
58.2067
-154.1741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58.1936
-154.1479
CAPE GULL
RookeryHaulout H
Series B
58.1929
-154.1472
Length 493m
58.1925
-154.1481


60.2398
-146.6515
60.2374
-146.6524
CAPE HINCHINBROOK
RookeryHaulout H
Series A
60.2373
-146.6146
60.2359
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-146.6295
Length 2684m
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60.2333
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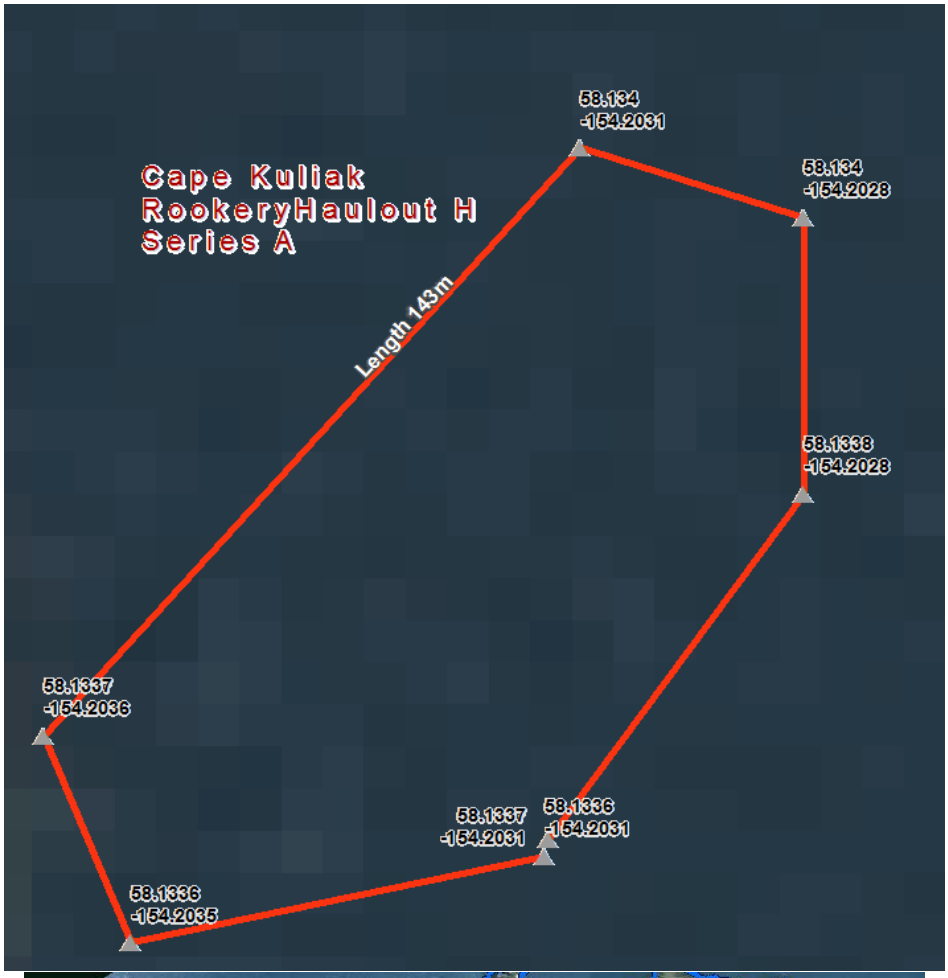
Cape Kuliak
RookeryHaulout H
Series A
Length 143m
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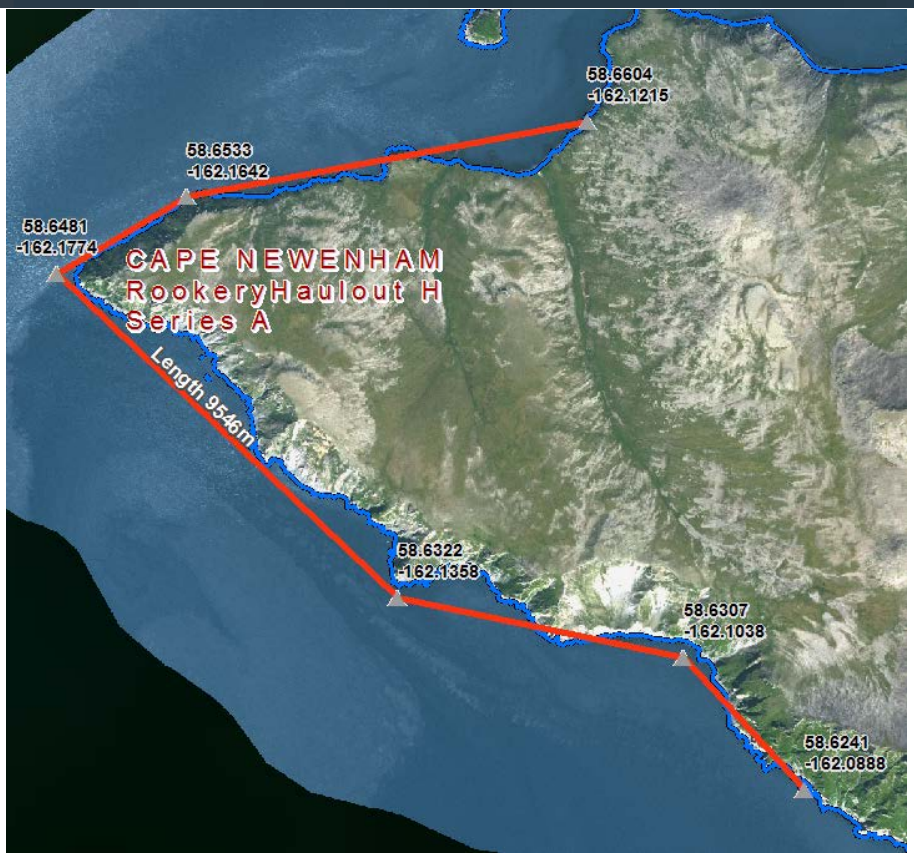
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CAPE NEWENHAM
RookeryHaulout H
Series A
Length 9546m
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58.6241
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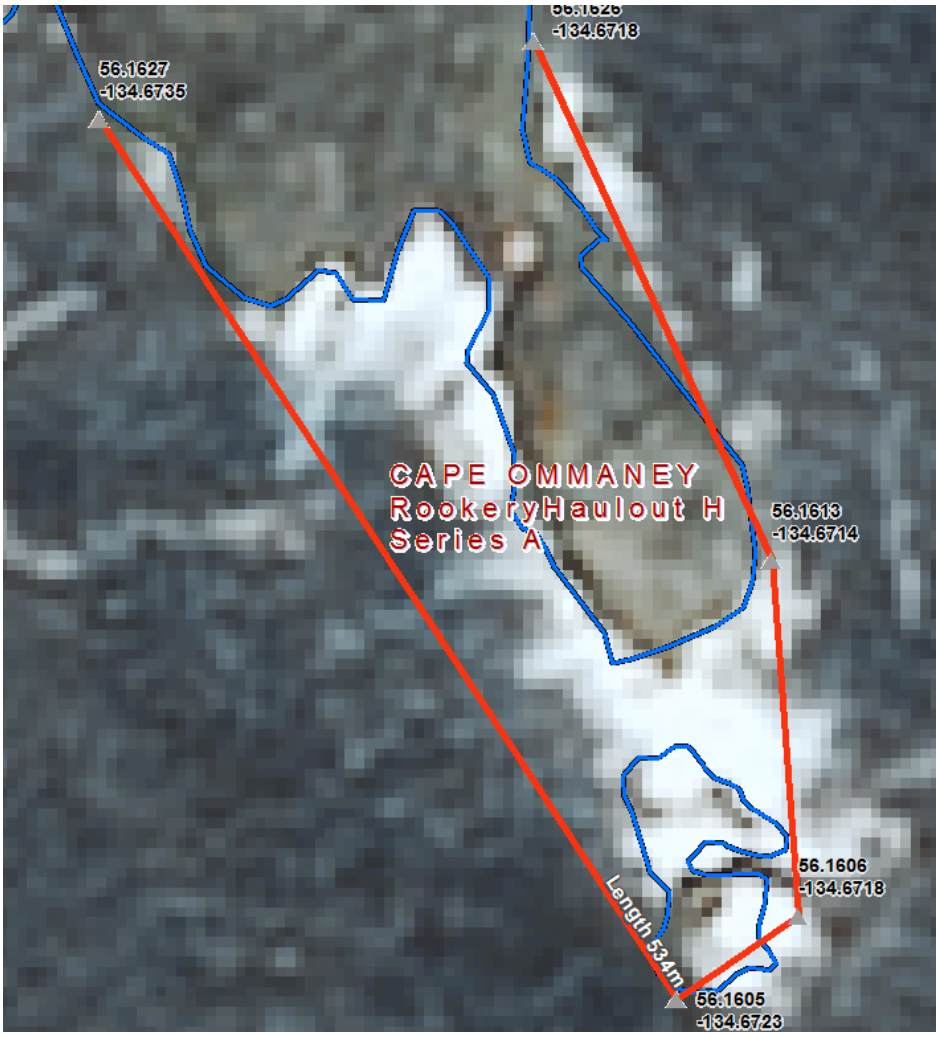
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CAPE OMMANEY
RookeryHaulout H
Series A
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-134.6714
56.1606
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Length 534m
56.1605
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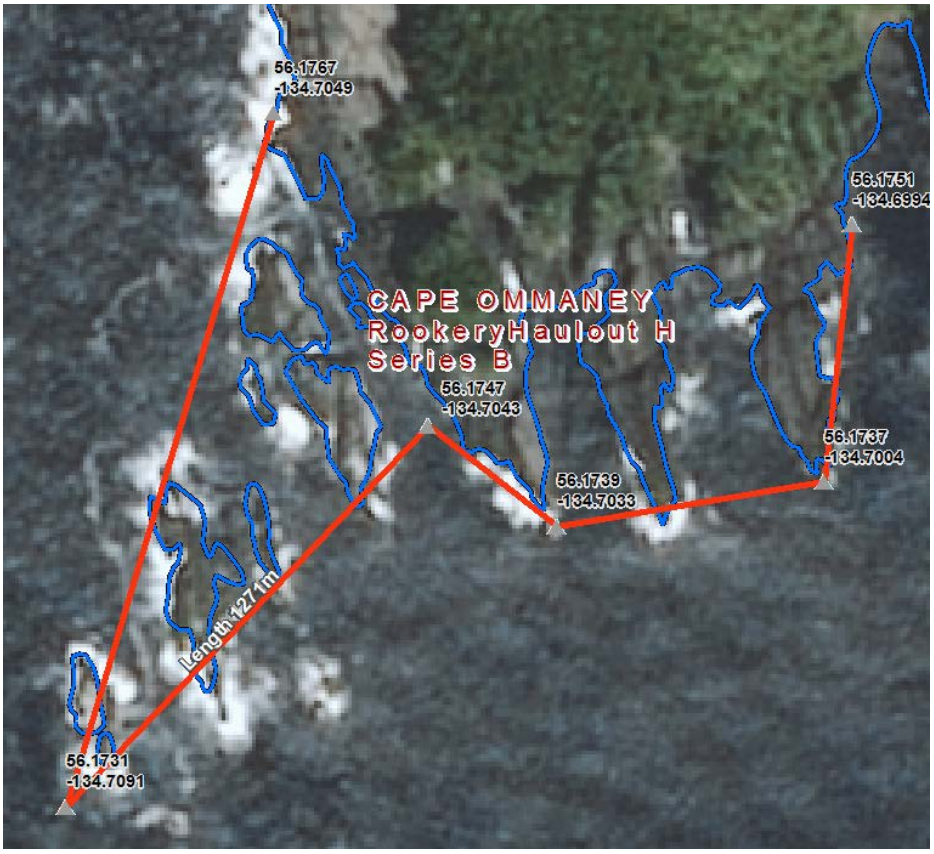
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CAPE OMMANEY
RookeryHaulout H
Series B
56.1747
-134.7043
56.1737
-134.7004
56.1739
-134.7033
Length:1271m
56.1731
-134.7091


56.1767
-134.7049
56.1751
-134.6994
CAPE OMMANEY
RookeryHaulout H
Series B
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56.1739
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Length:1271m
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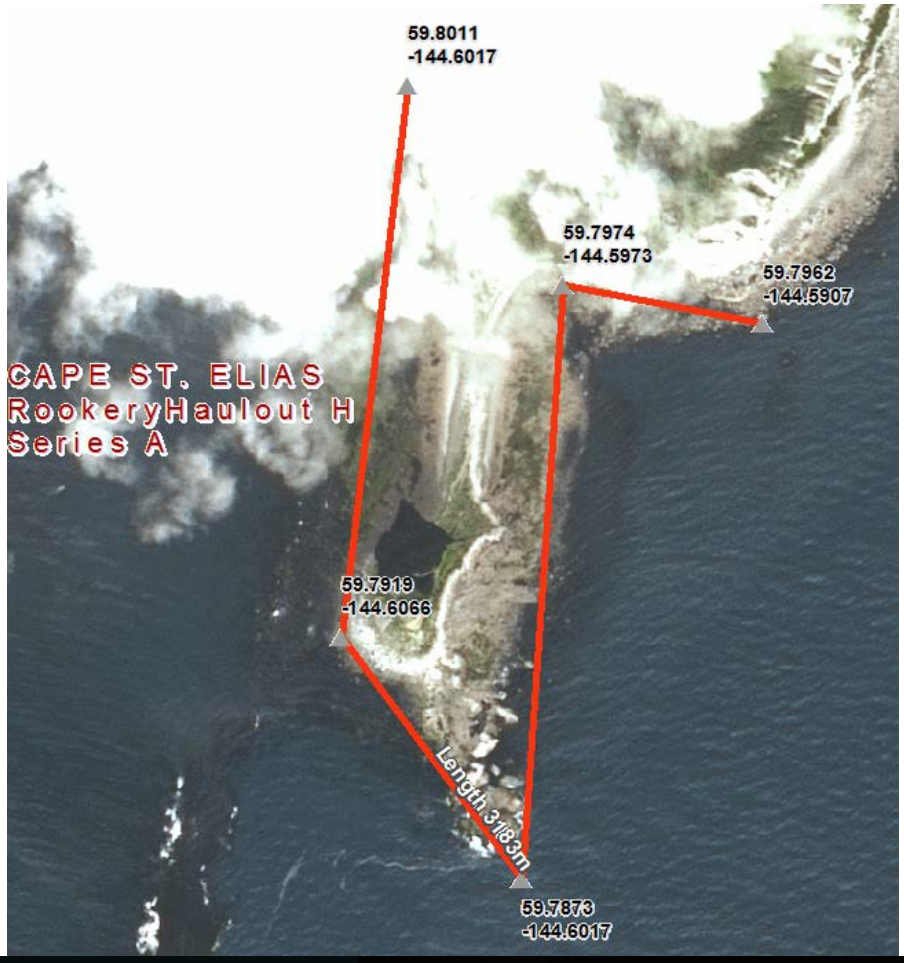
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59.7962
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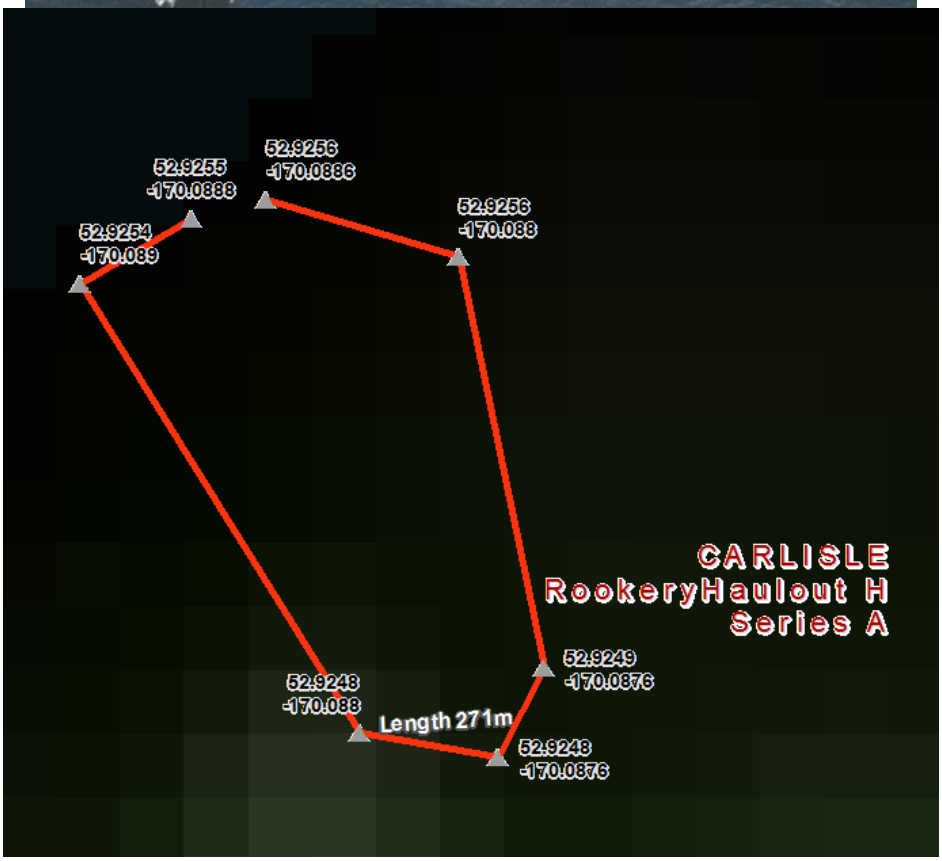
CAPE ST. ELIAS
RookeryHaulout H
Series A
59.7919
-144.6066
Length 3183m
59.7873
-144.6017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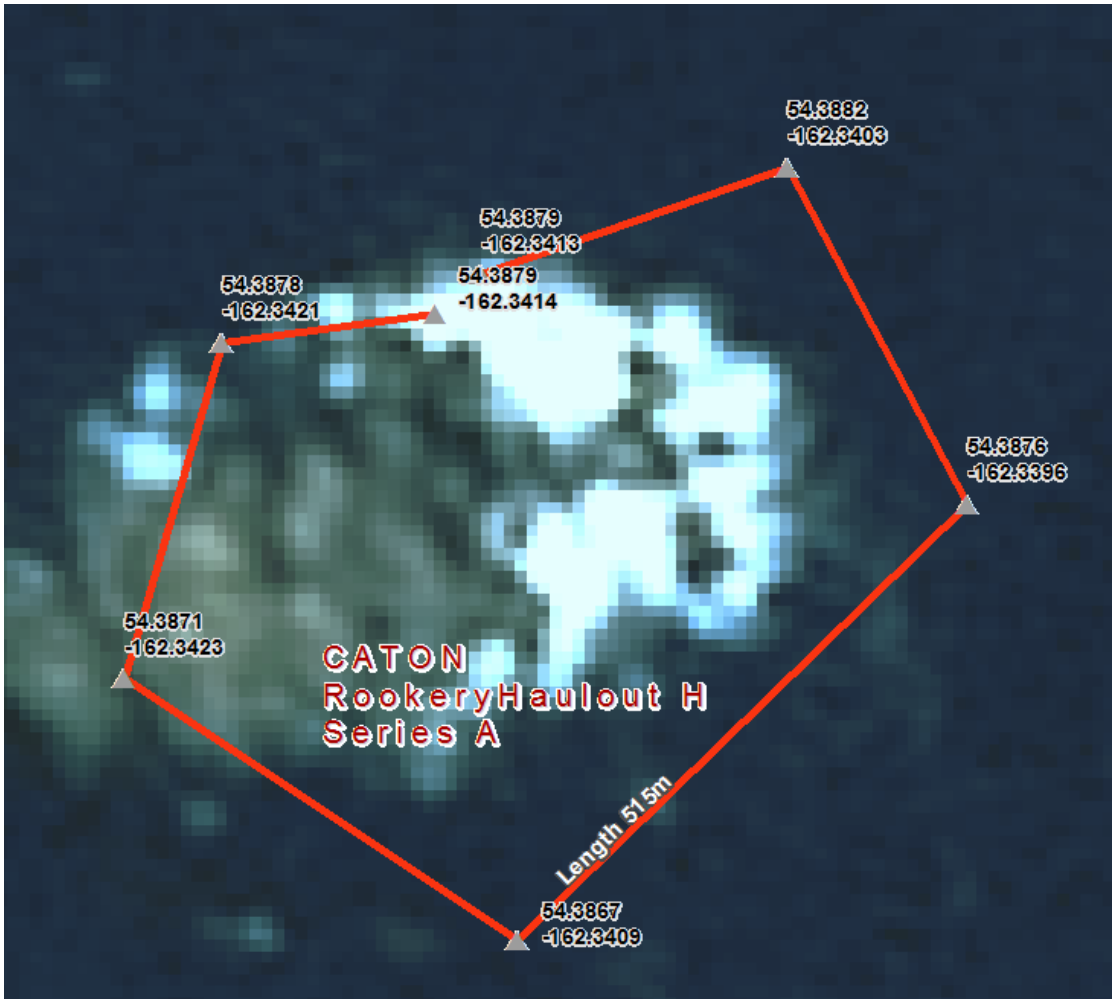
CARLISLE
RookeryHaulout H
Series A
52.9249
-170.0876
52.9248
-170.088
Length 271m
52.9248
-170.0876


55.2767
-159.4934
55.2757
-159.493
CASTLE ROCK
RookeryHaulout H
Series A
55.2753
-159.496
Length 338m
55.2749
-159.4953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-162.3414
54.3876
-162.3396
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-162.3423
CATON
RookeryHaulout H
Series A
Length 515m
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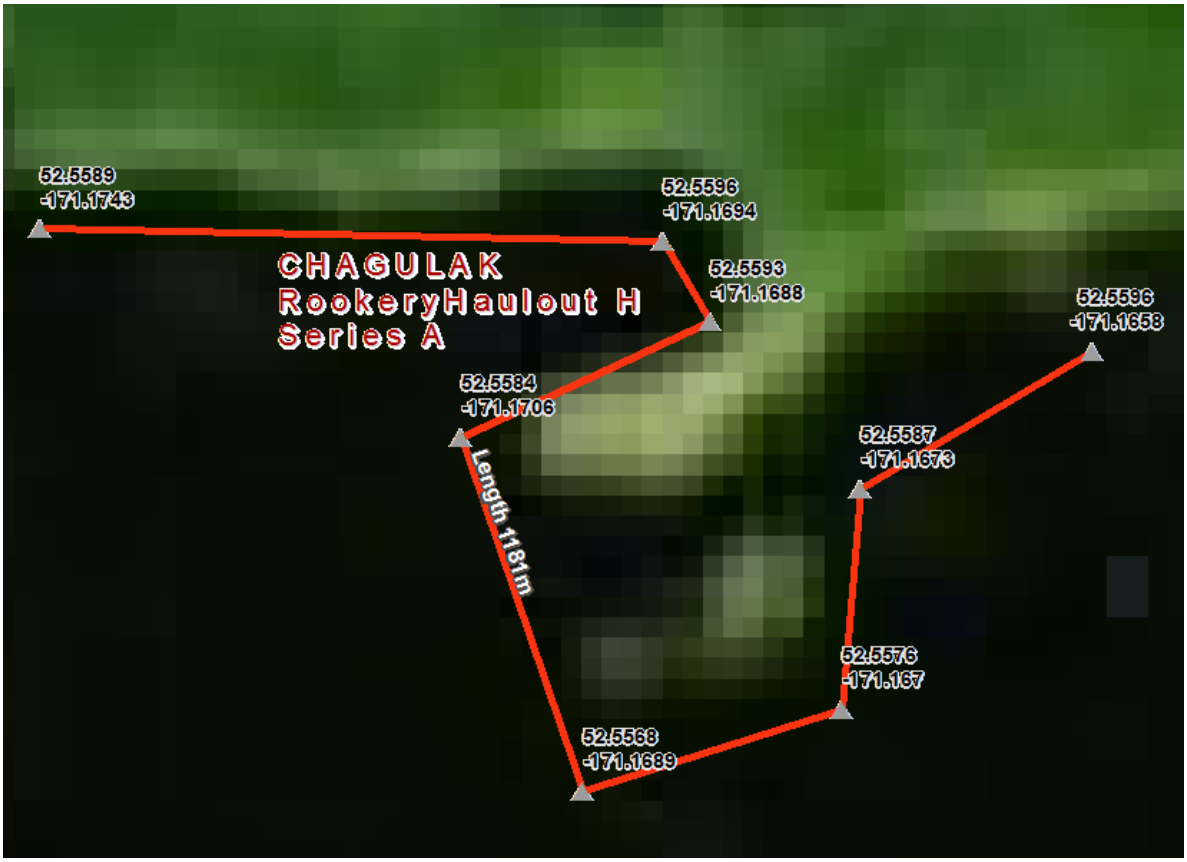
-162.3409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CHAGULAK
RookeryHaulout H
Series A
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-171.1688
52.5596
-171.1658
52.5584
-171.1706
52.5587
-171.1673
Length 181m
52.5576
-171.167
52.5568
-171.1689


Chernabura
RookeryHaulout R
Series A
54.7564
-159.5992
54.7587
-159.5822
Length 4044m
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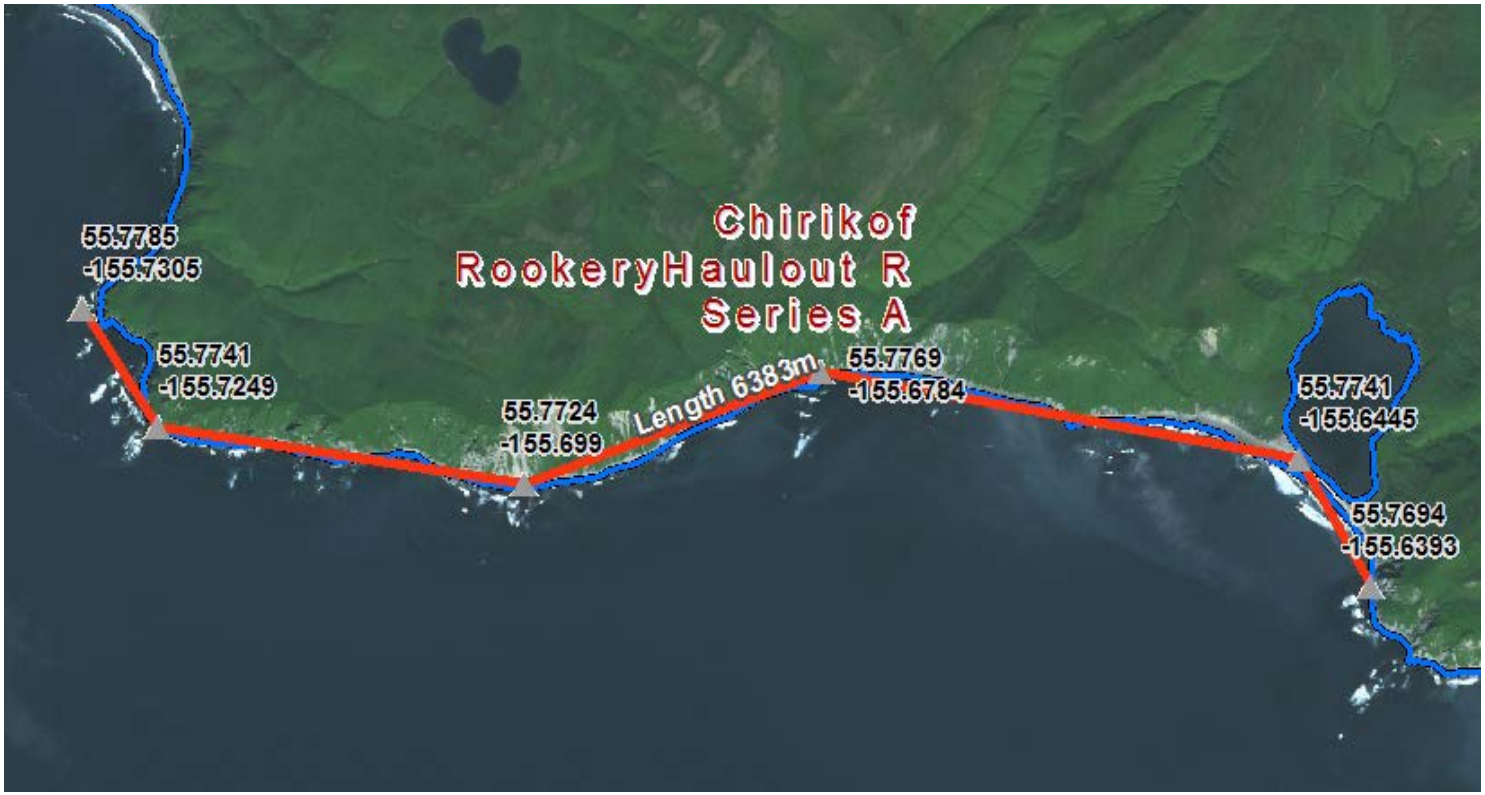
-159.5712
54.7579
-159.5599
54.7513
-159.5458


Chirikof
RookeryHaulout R
Series A
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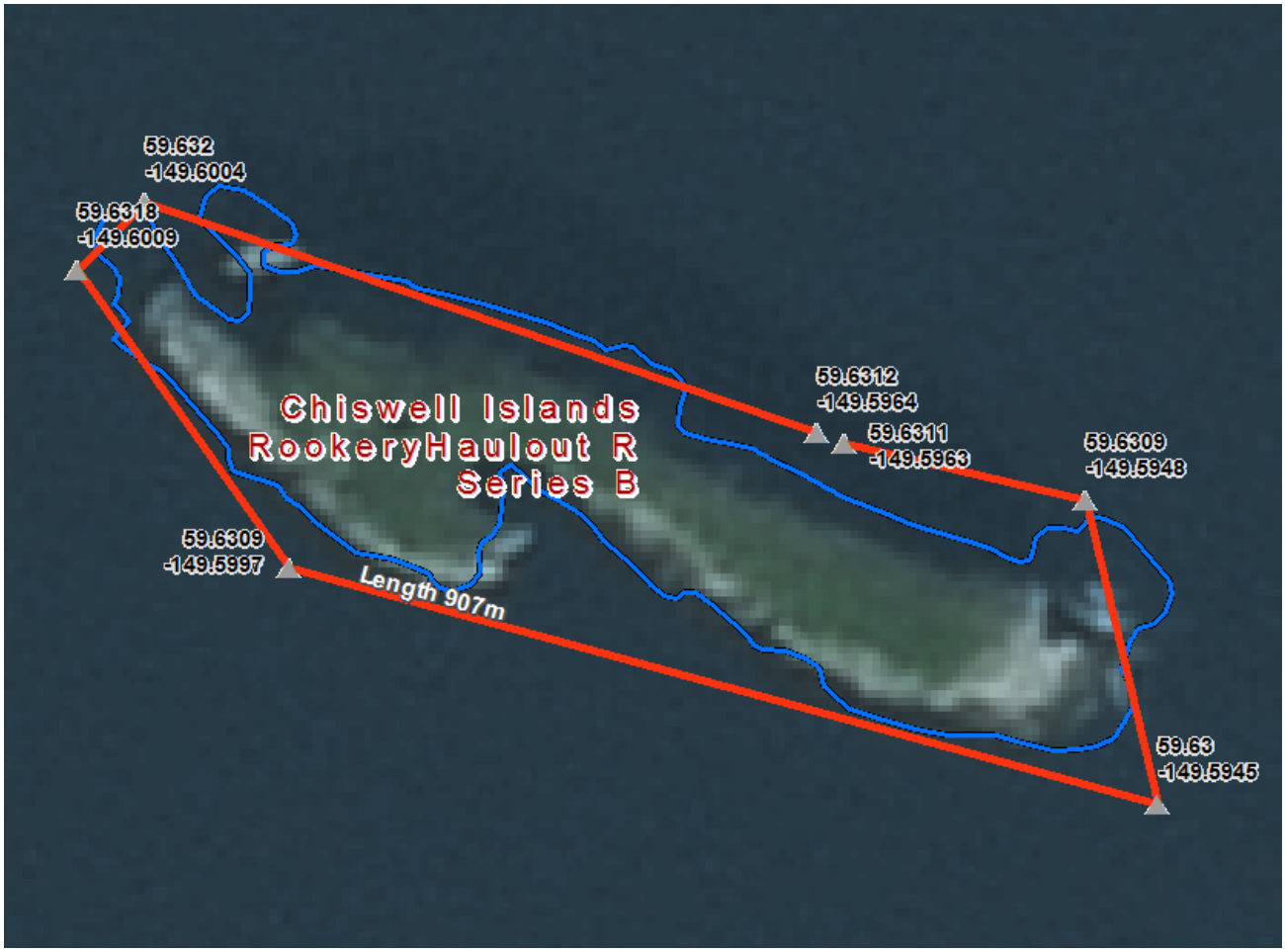
55.7741
-155.7249
55.7724
-155.699
Length 6383m
55.7769
-155.6784
55.7741
-155.6445
55.7694
-155.6393


59.602
-149.5704
Chiswell Islands
RookeryHaulout R
Series A
Length 186m
59.6008
-149.5727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Chiswell Islands
RookeryHaulout R
Series B
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59.6311
-149.5963
59.6309
-149.5948
59.6309
-149.5997
Length 907m
59.63
-149.5945


56.0282
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56.0264
-156.6861
56.026
-156.678
56.024
-156.6832
56.019
-156.6843
56.0177
-156.6802
Chowiet
RookeryHaulout R
Series A
Length 4751m
56.0117
-156.6919
56.0109
-156.6739
56.0097
-156.6767
56.0071
-156.6889
56.0056
-156.6919
56.0054
-156.6923
56.0054 -156.6926


56.0042
-156.692
56.004
-156.6921
56.0035
-156.6887
56.003
-156.6915
56.0029
-156.6884
Chowiet
RookeryHaulout R
Series B
Length 643m
56.0025
-156.6894


56.001
-156.6874
56.001
-156.6866
56.001
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56.0002
-156.6872
Chowiet
RookeryHaulout R
Series C
Length 404m
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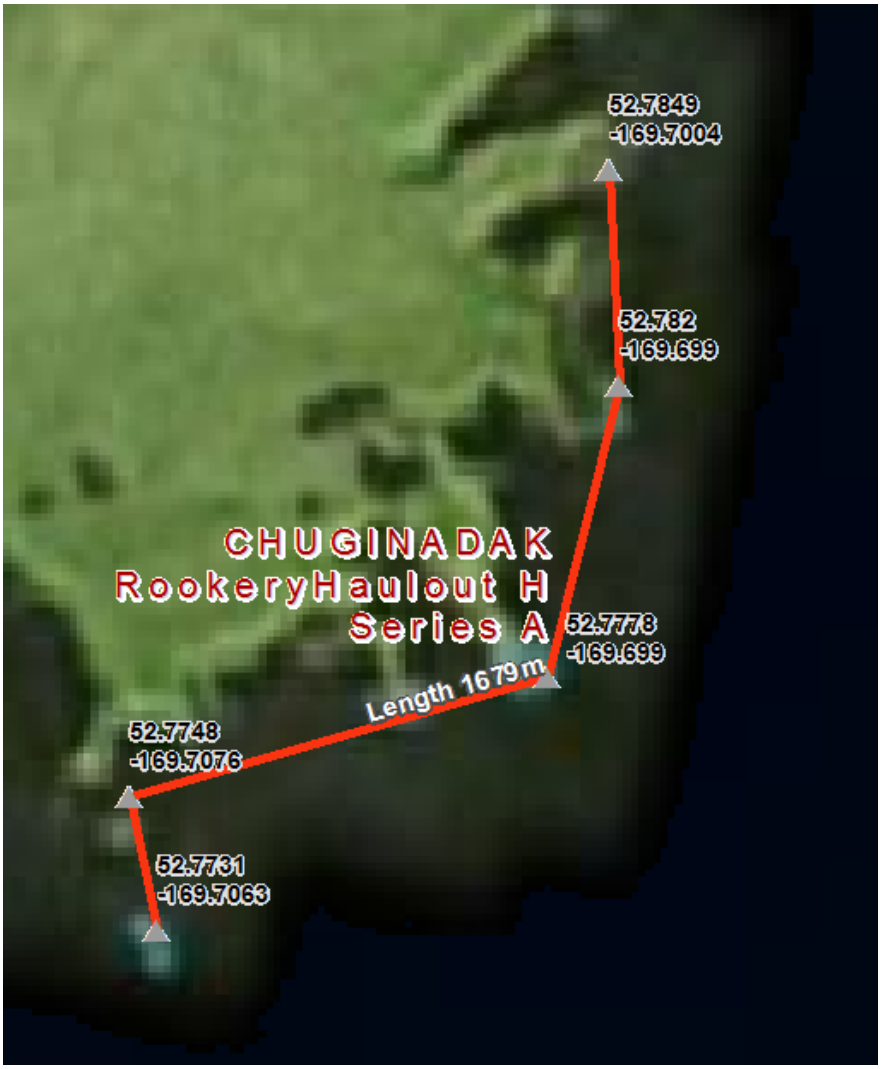
-156.6856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CHUGINADAK
RookeryHaulout H
Series A
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-169.699
Length 1679 m
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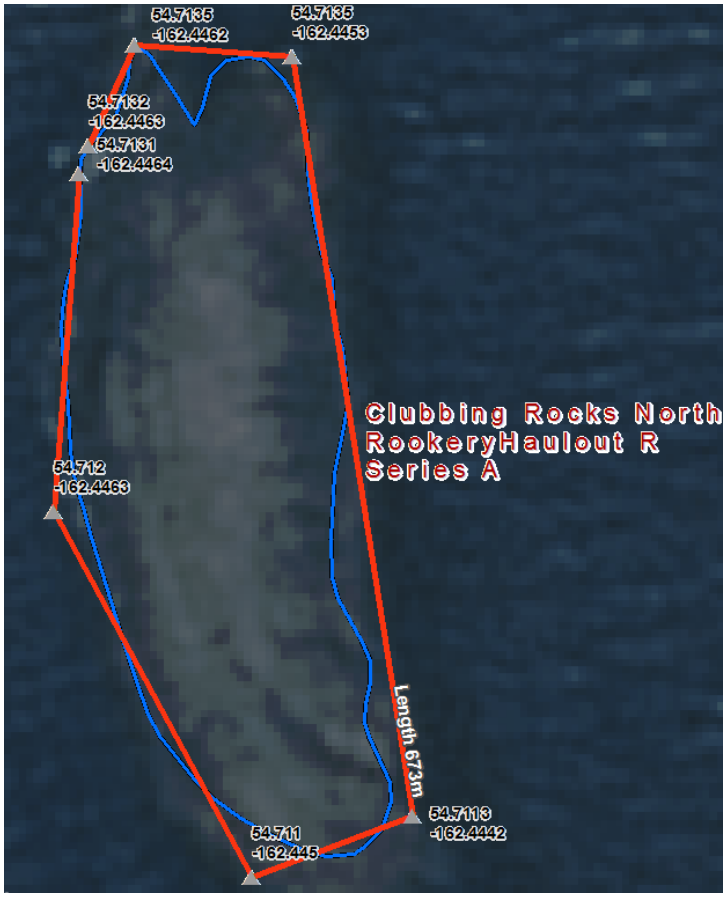
-169.7076
52.7731
-169.7063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54.7132
-162.4463
54.7131
-162.4464
Clubbing Rocks North
RookeryHaulout R
Series A
54.712
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Length 673m
54.7113
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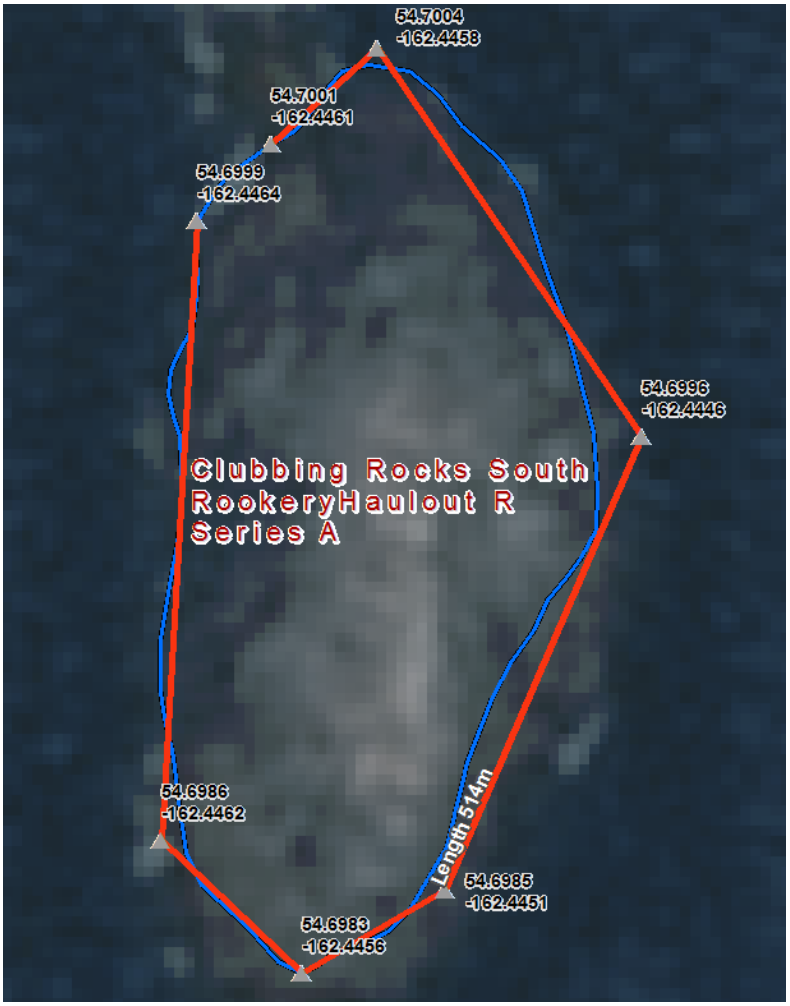
54.711
-162.445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Clubbing Rocks South
RookeryHaulout R
Series A
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Length 514m
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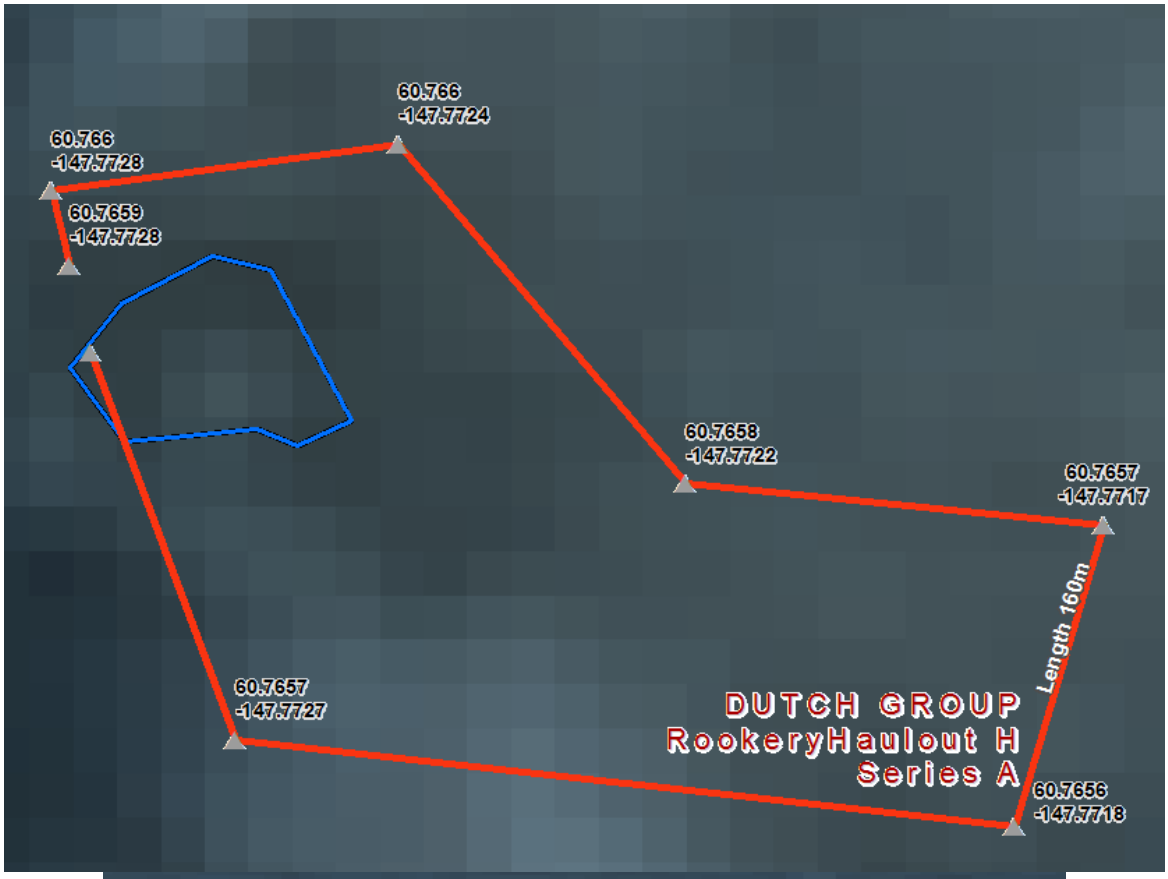
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60.7658
-147.7722
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Length 160m
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-147.7727
DUTCH GROUP
RookeryHaulout H
Series A
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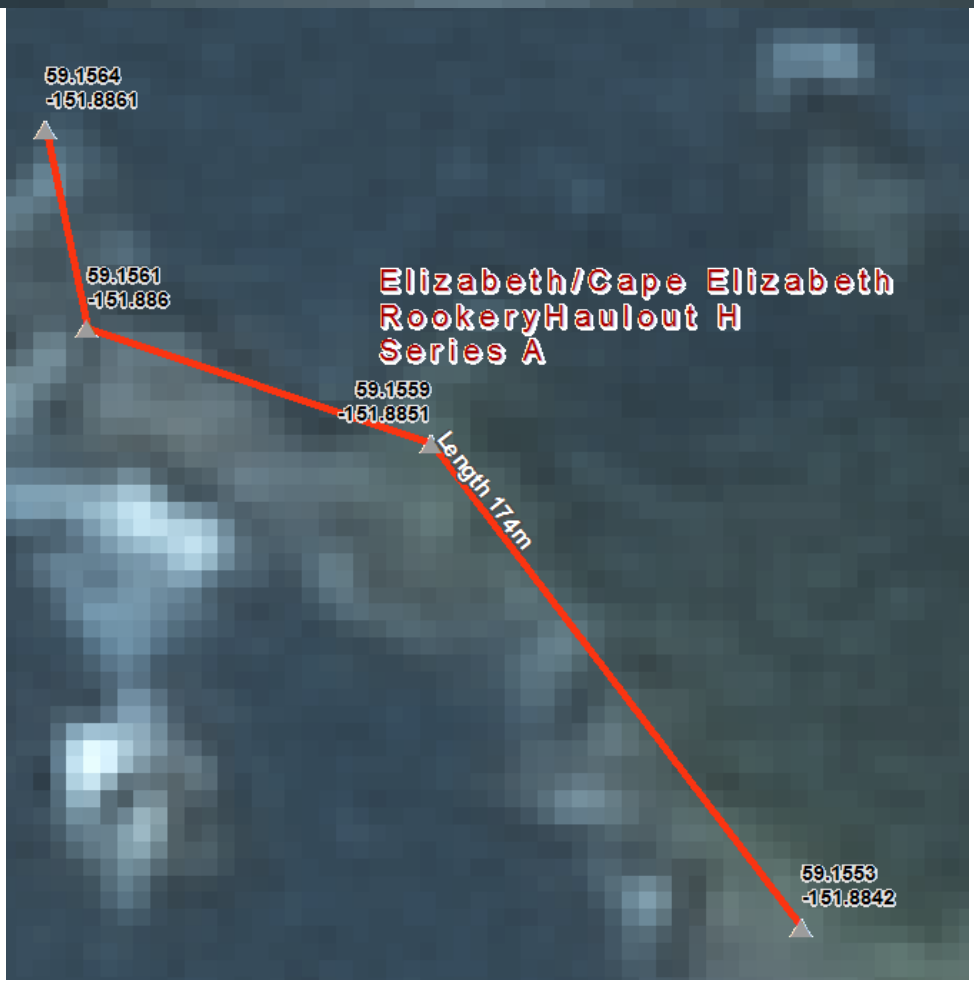
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Elizabeth/Cape Elizabeth
RookeryHaulout H
Series A
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Length 174m
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-151.8842


53.2913
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53.2906
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53.2917
-167.8591
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-167.8575
53.2911
-167.852
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-167.8536
53.2846
-167.8609
EMERALD
RookeryHaulout H
Series A
Length 3418m
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53.2848
-167.8482
53.2836
-167.8489


FLAT
RookeryHaulout H
Series A
59.3314
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-151.9963
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59.3291
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59.3288
-151.9941
Length 1185m
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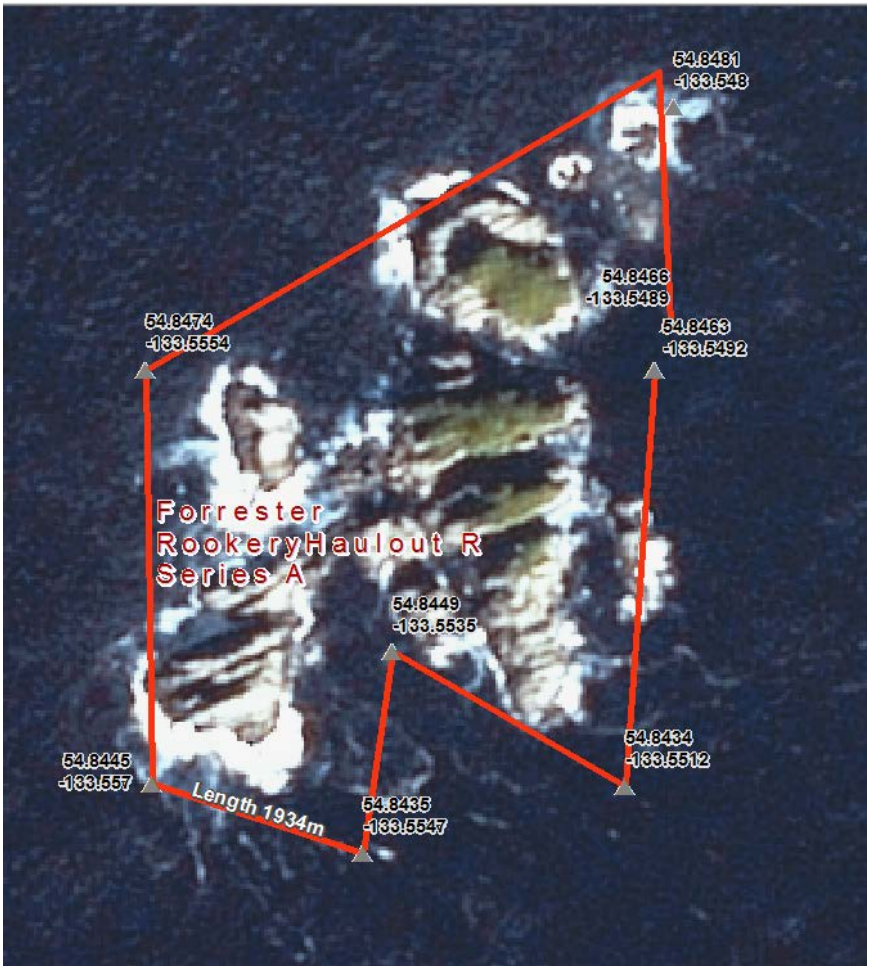
59.3271
-151.9929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Forrester
RookeryHaulout R
Series A
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-133.5512
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Length 1934m
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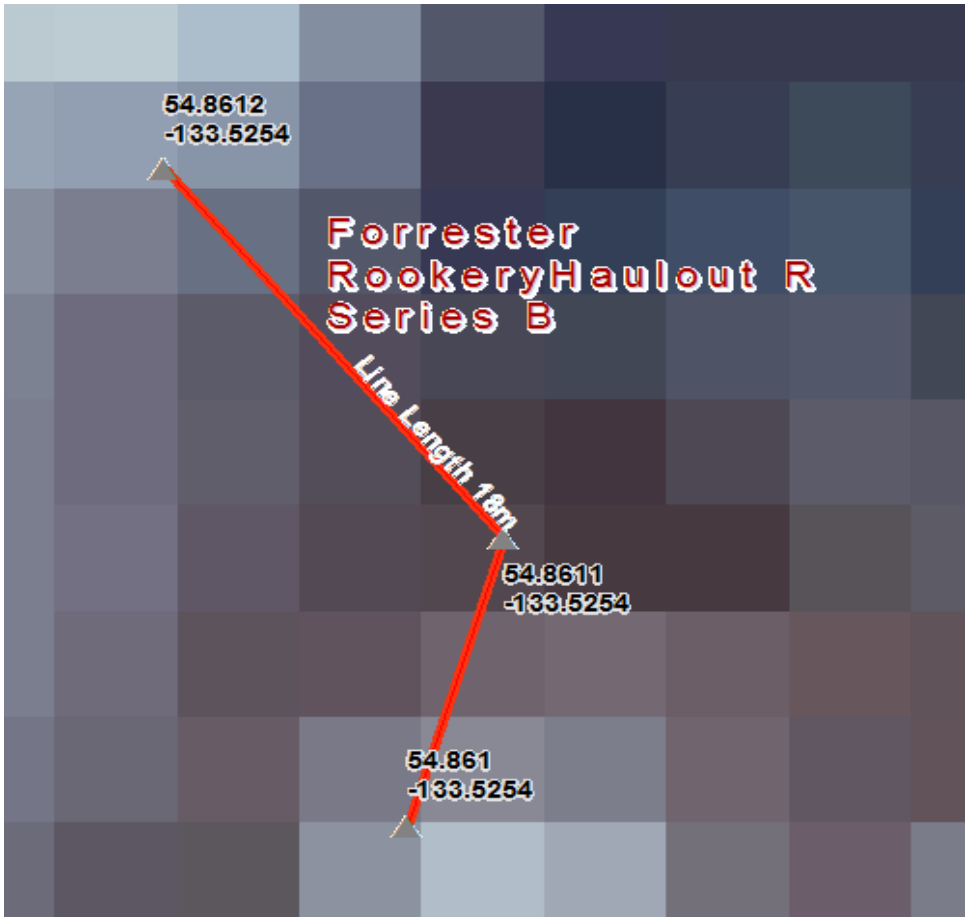
-133.5547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Forrester
RookeryHaulout R
Series B
Line Length 18m
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54.861
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Forrester
RookeryHaulout R
Series C
54.8378
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54.8372
-133.5299
Length 392m
54.8361
-133.5339


Forrester
RookeryHaulout R
Series D
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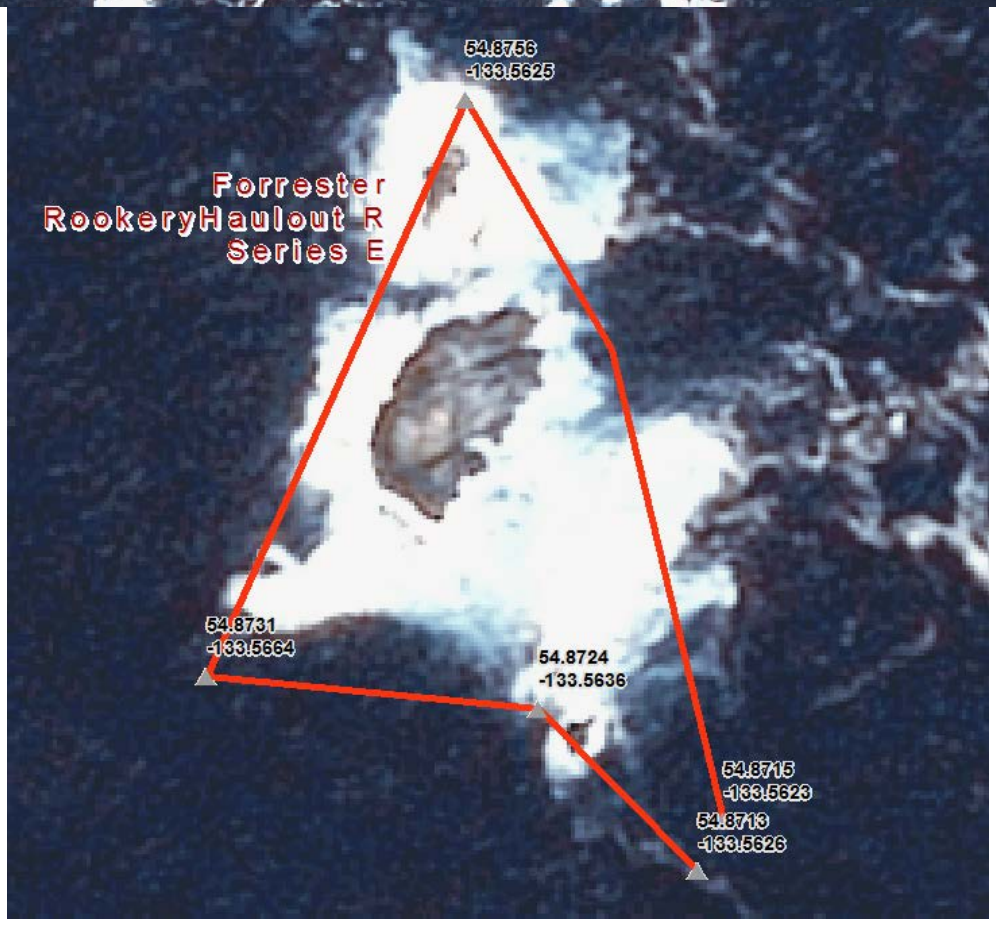
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RookeryHaulout R
Series E
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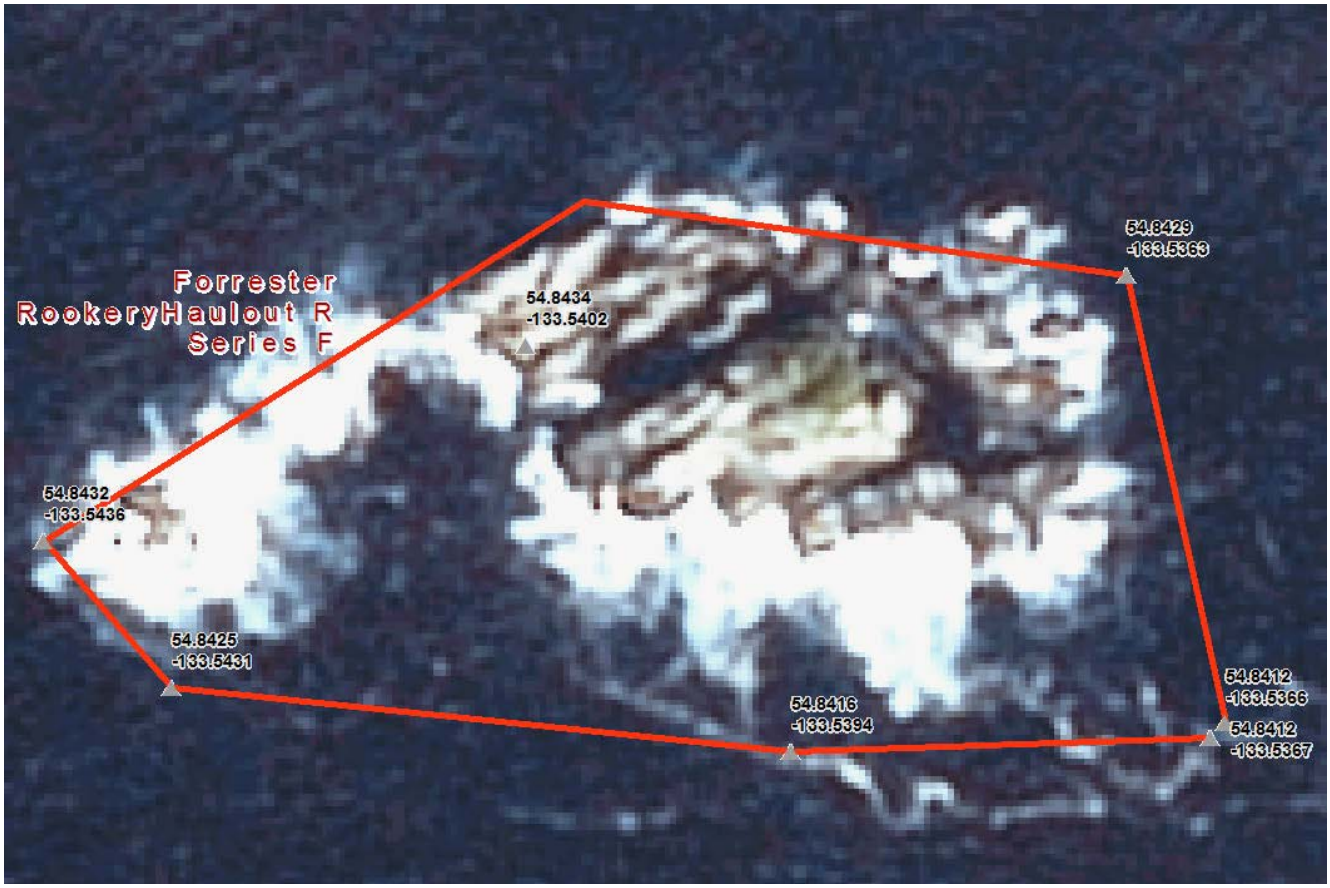
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RookeryHaulout R
Series F
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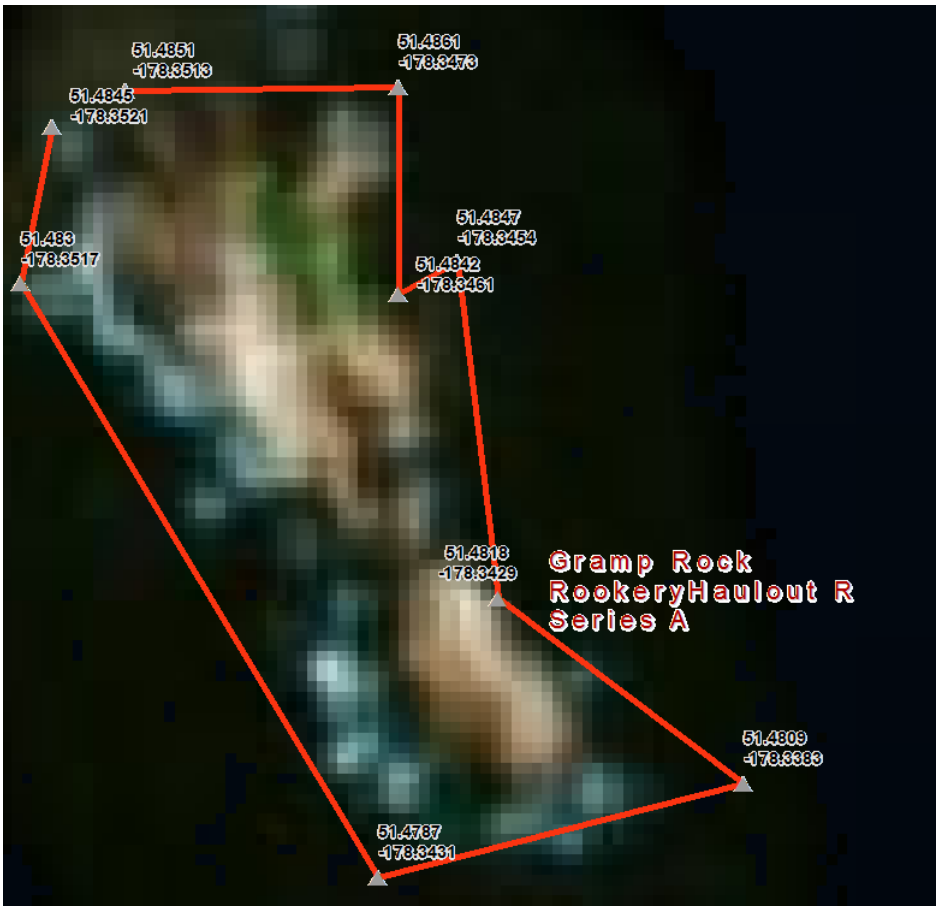
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Gramp Rock
RookeryHaulout R
Series A
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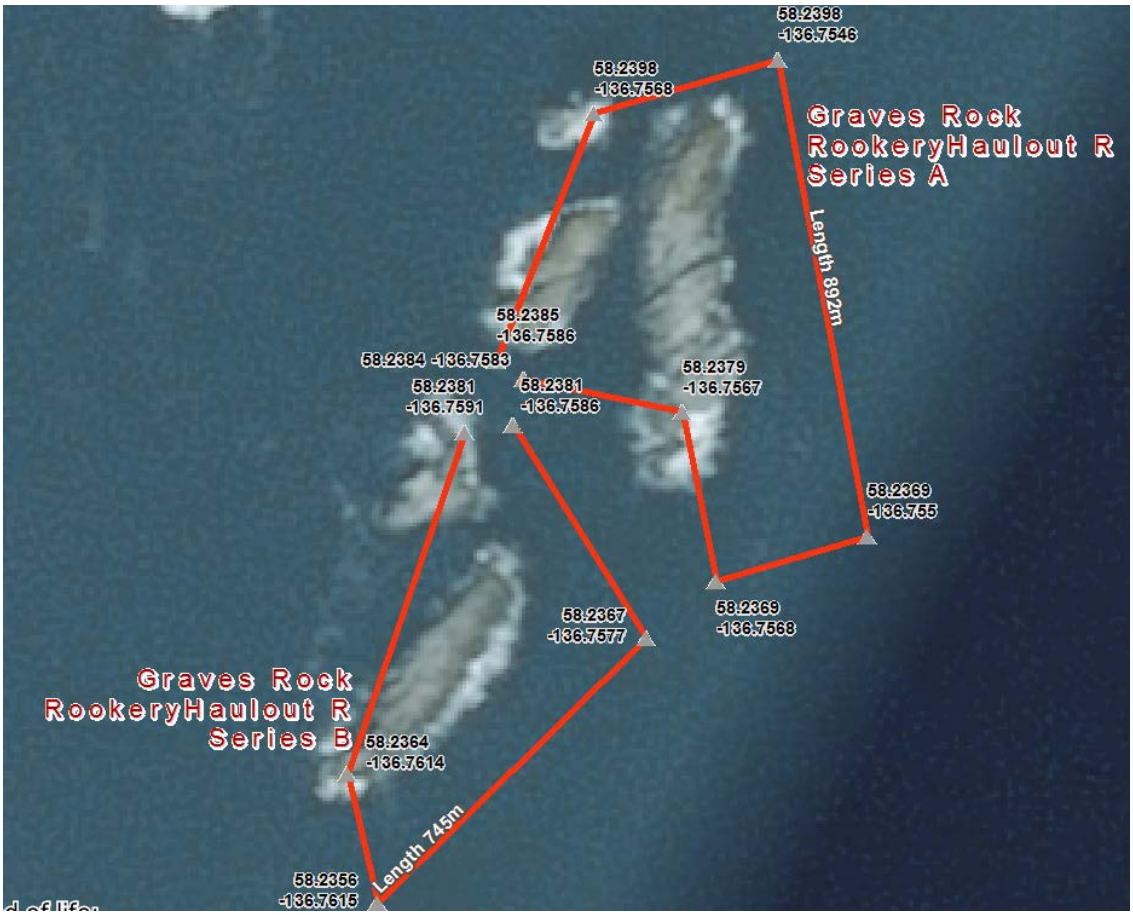
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Graves Rock
RookeryHaulout R
Series A
Length 892m
58.2385
-136.7586
58.2384 -136.7583
58.2381
-136.7591
58.2381
-136.7586
58.2379
-136.7567
58.2369
-136.755
58.2369
-136.7568
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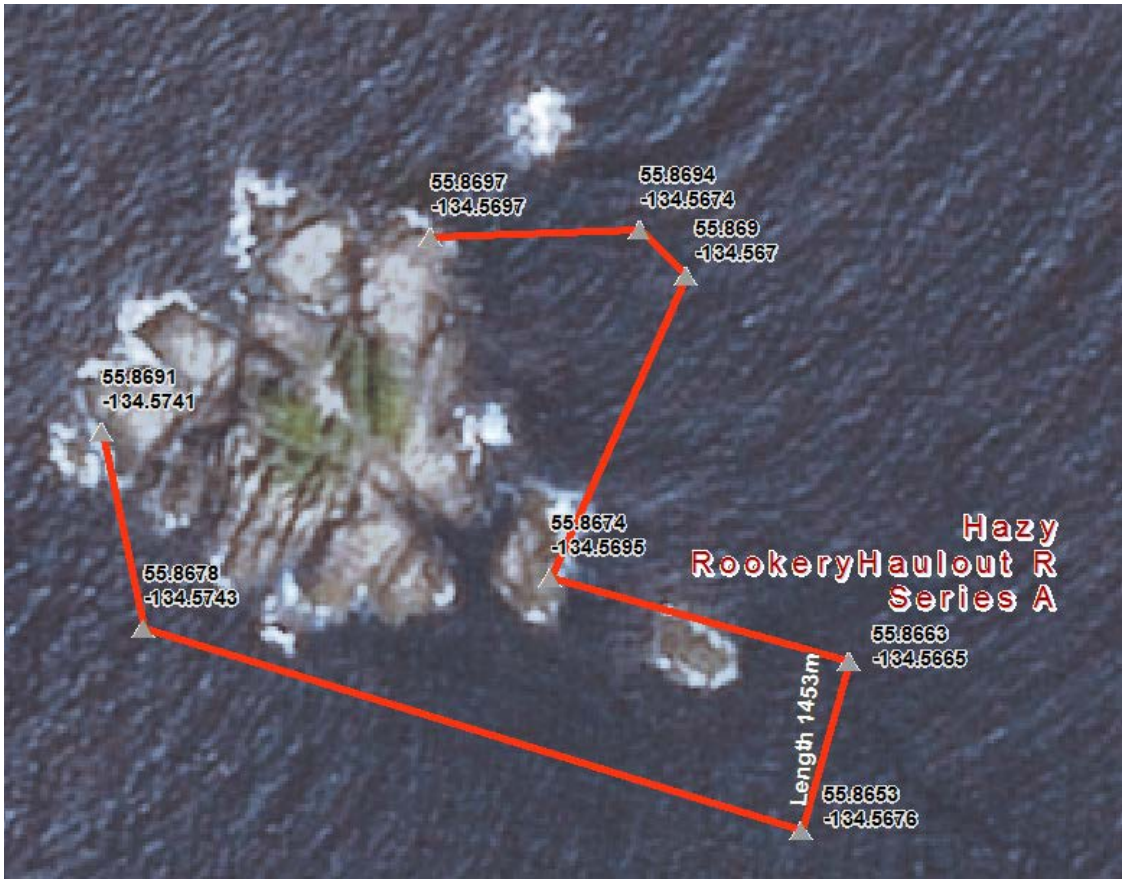
Graves Rock
RookeryHaulout R
Series B
58.2364
-136.7614
Length 745m
58.2356
-136.7615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Hazy
RookeryHaulout R
Series A
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Length 1453m
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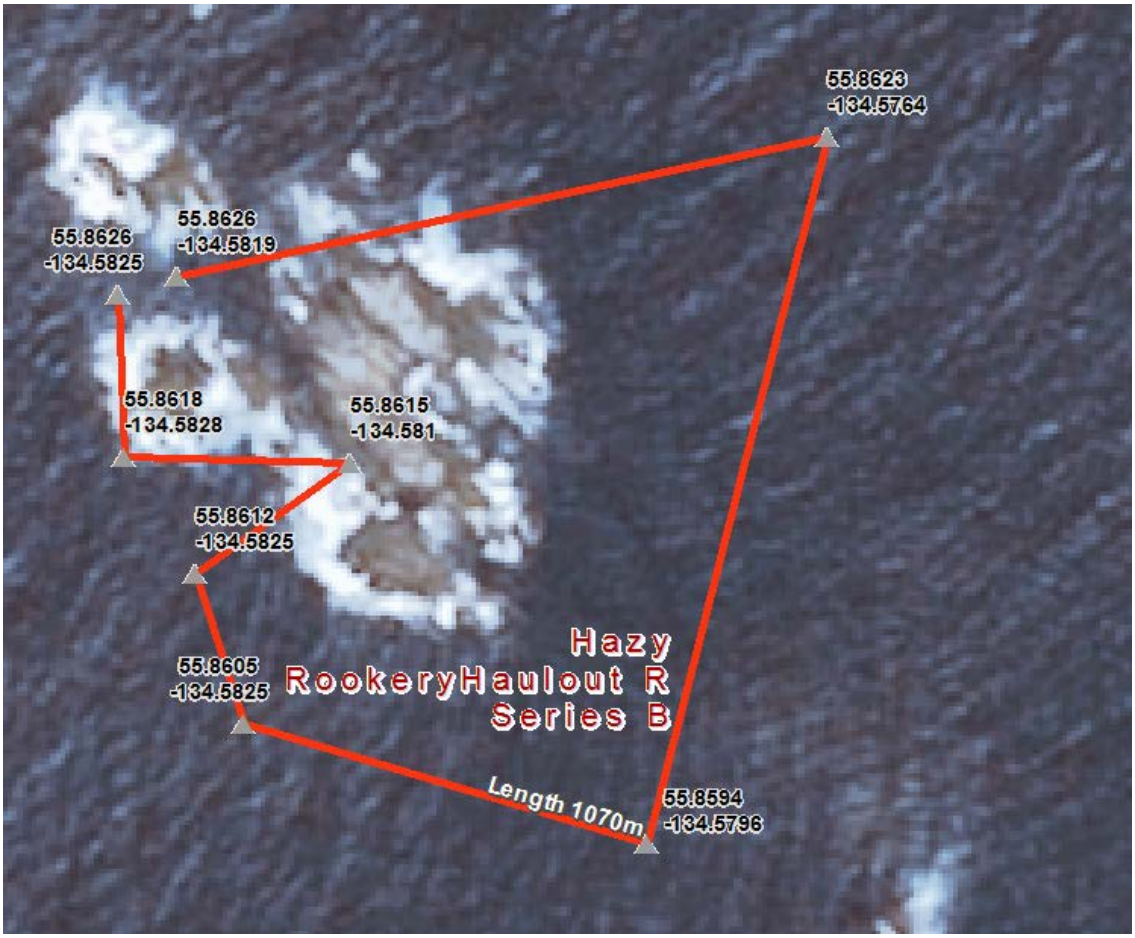
-134.5676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Hazy
RookeryHaulout R
Series B
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Length 1070m
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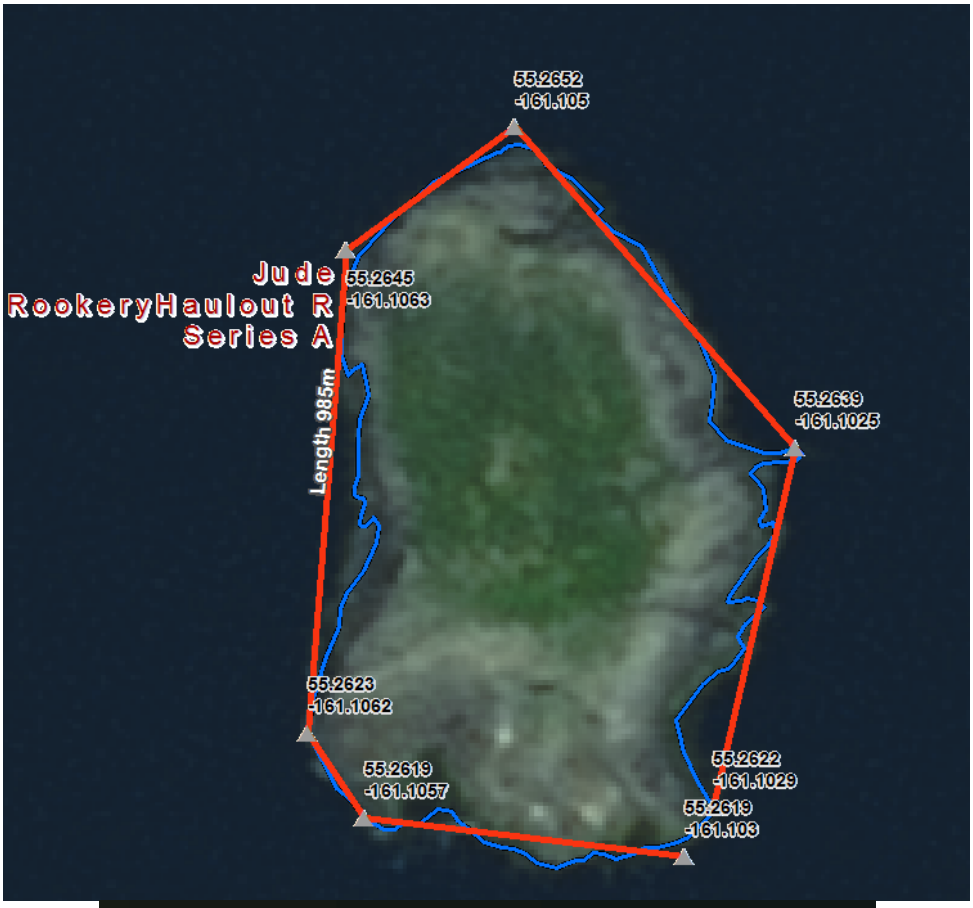
-134.5796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-161.105
Jude
RookeryHaulout R
Series A
55.2645
-161.1063
Length 985m
55.2639
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55.2619
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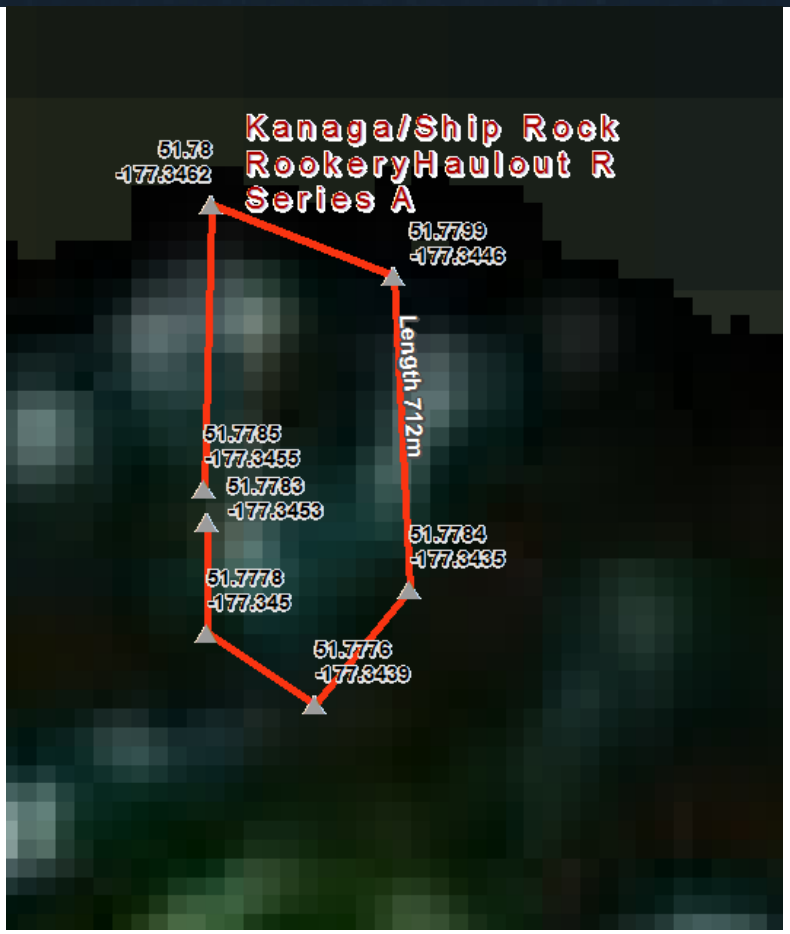
Kanaga/Ship Rock
RookeryHaulout R
Series A
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Length 712m
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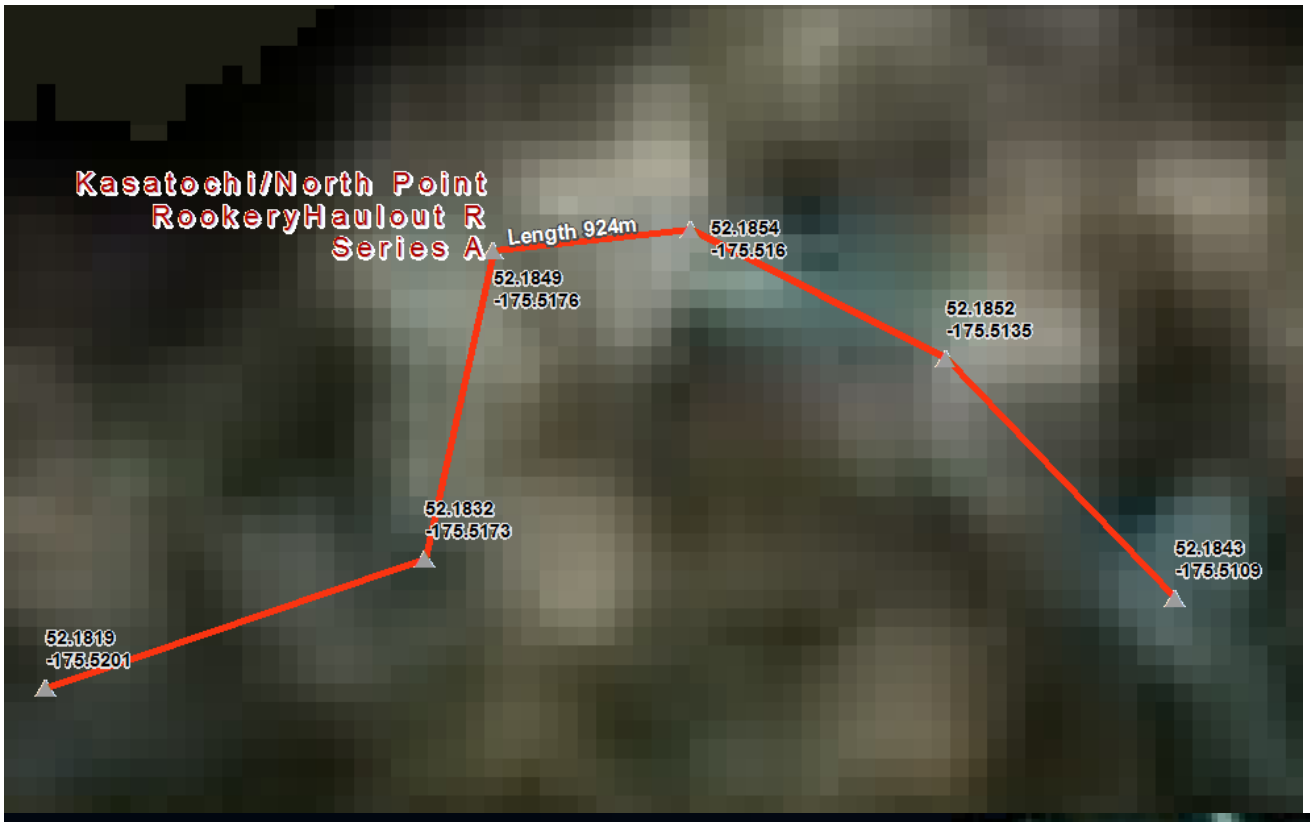
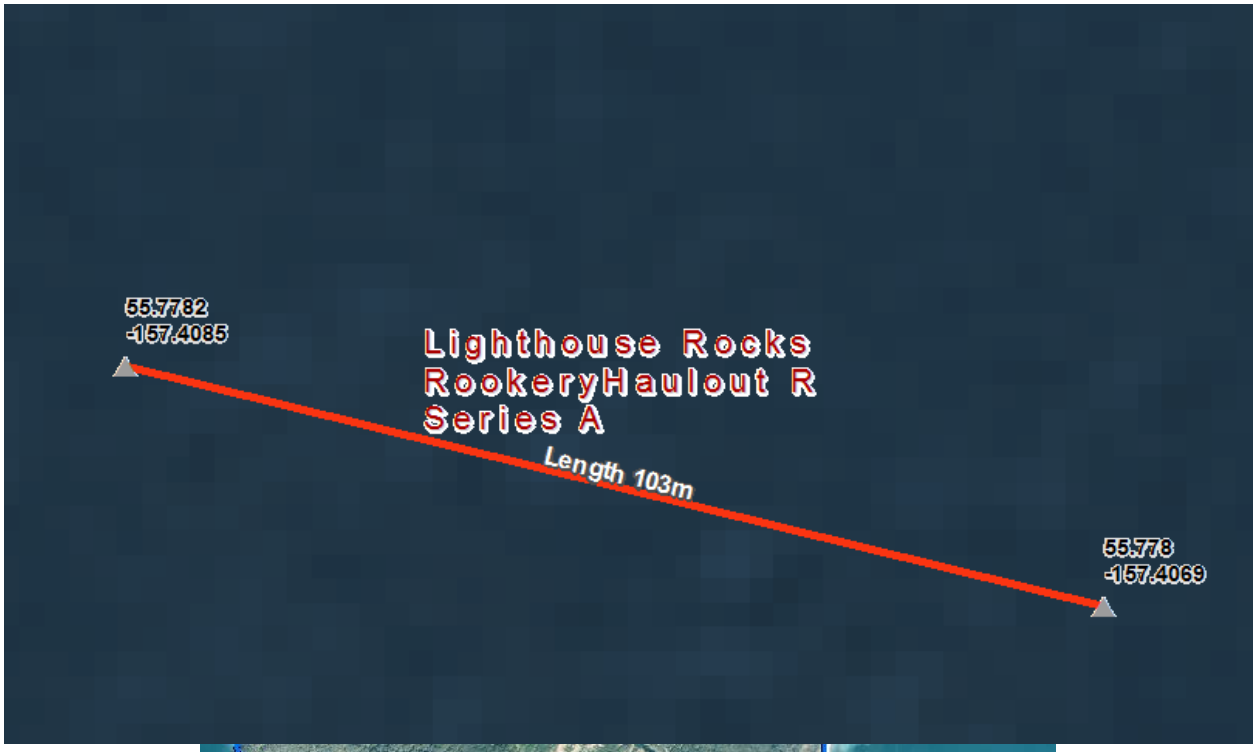
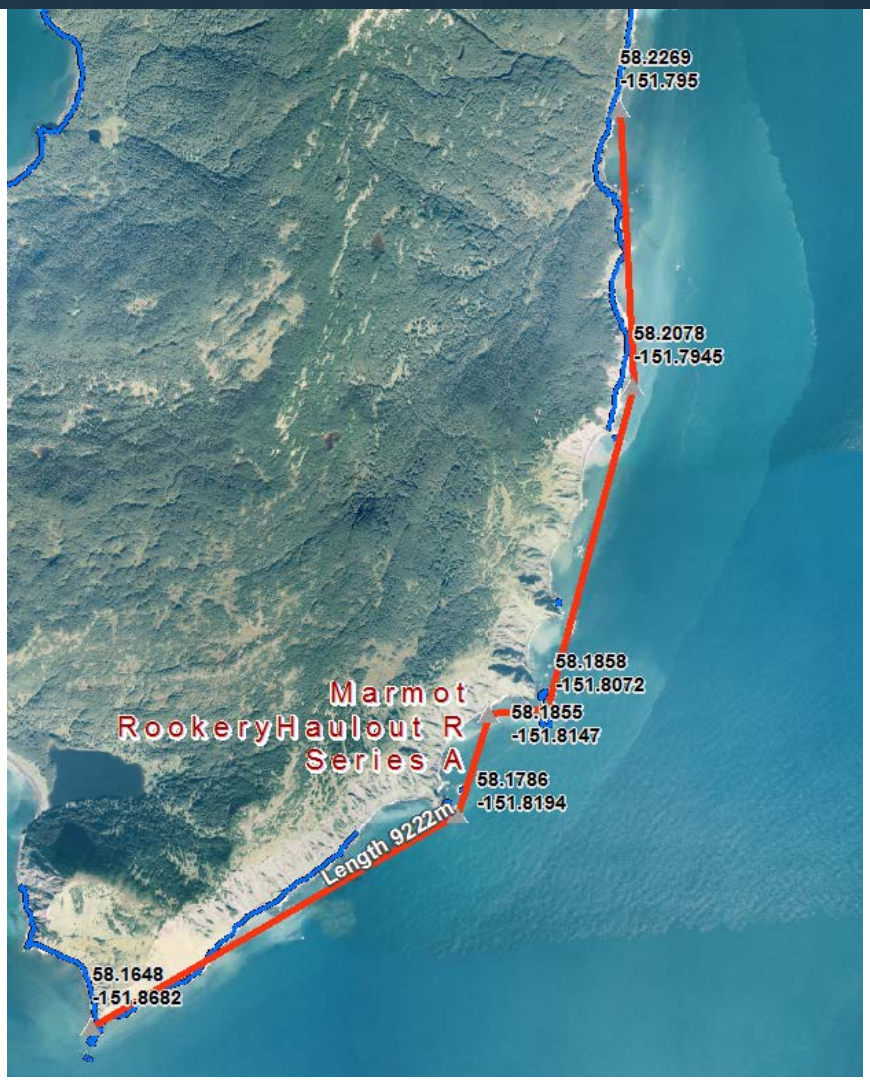
-177.3439

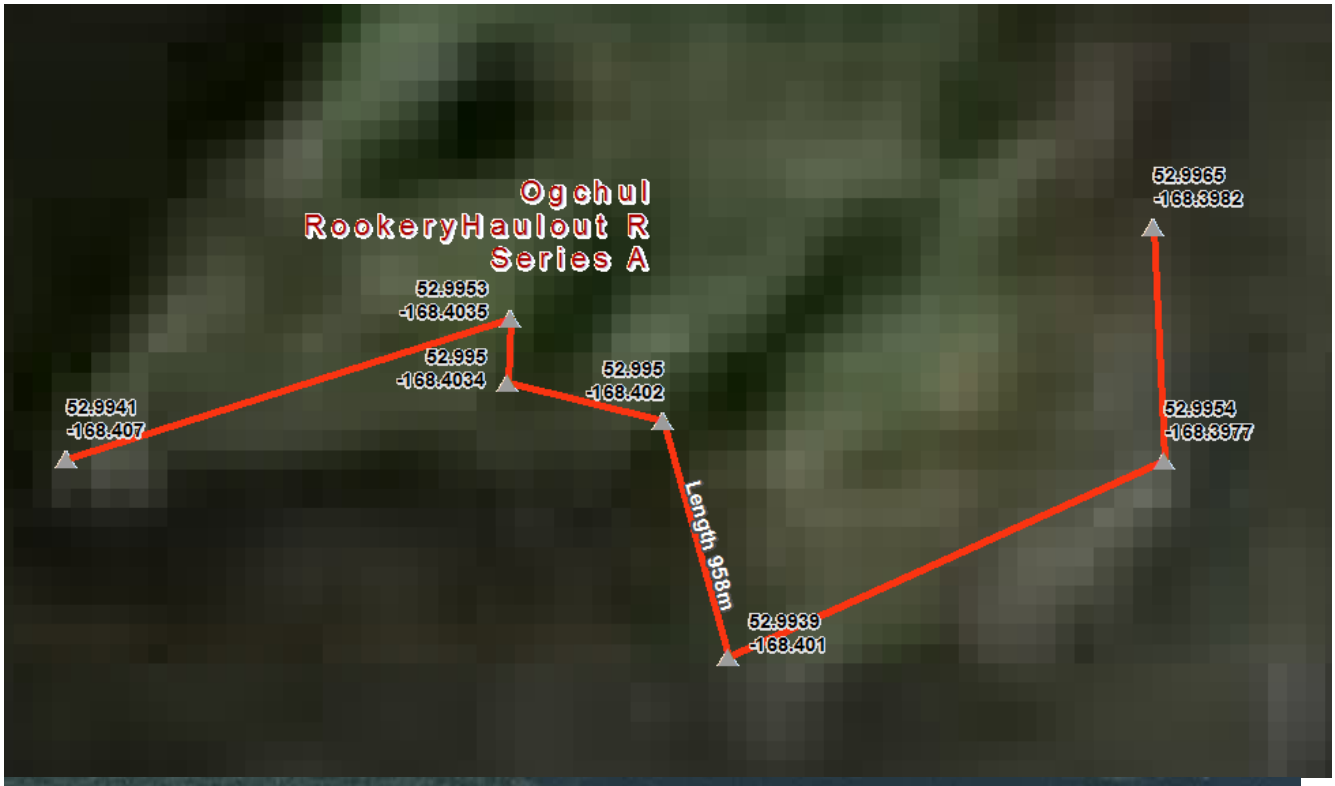

Kasatochi/North Point
RookeryHaulout R
Series A
Length 924m
52.1854
-175.516
52.1849
-175.5176
52.1852
-175.5135
52.1832
-175.5173
52.1843
-175.5109
52.1819
-175.5201


51.9639
177.3431
51.9612
177.3448
Kiska/Lief Cove
RookeryHaulout R
Series A
Length 2133m
51.9504
177.3297
51.9497
177.3348

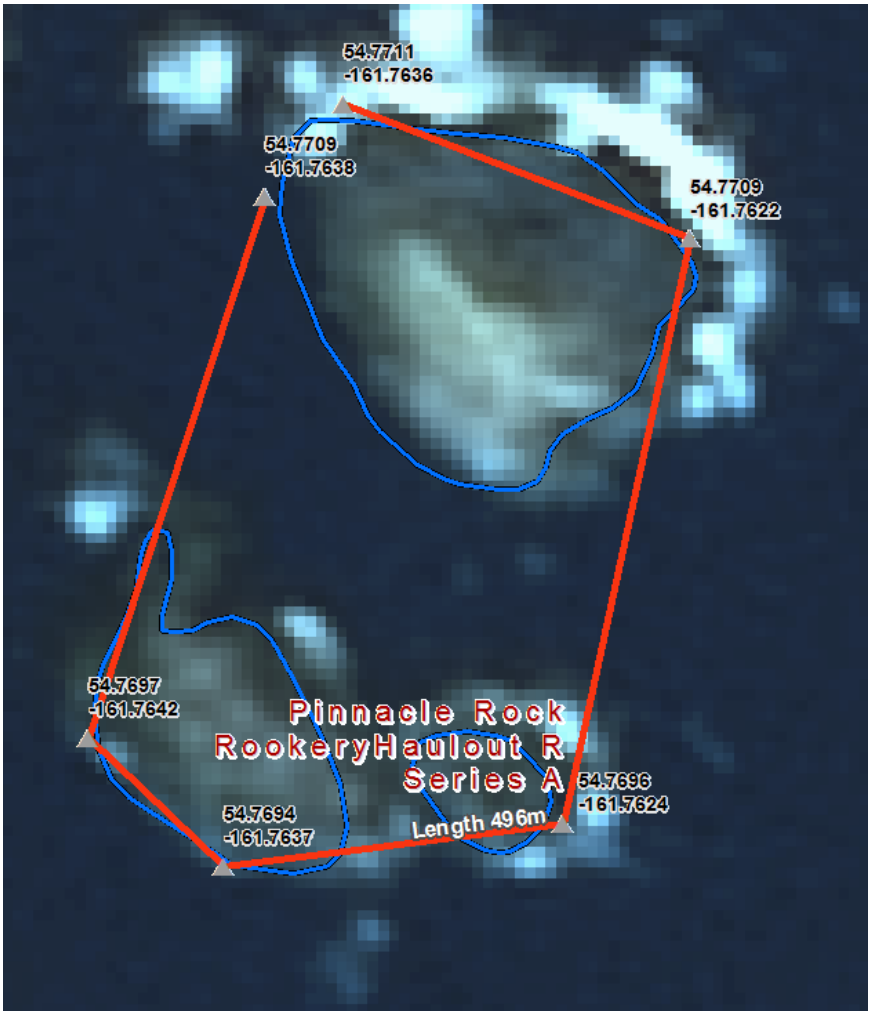

51.8919 177.2
51.8883
177.2019
51.8876
177.2042
51.8863
177.2023
Kiska/Cape St Stephen
RookeryHaulout R
Series A
Length 25.10m
51.8779
177.2027
51.8765
177.2111
51.8749
177.2119

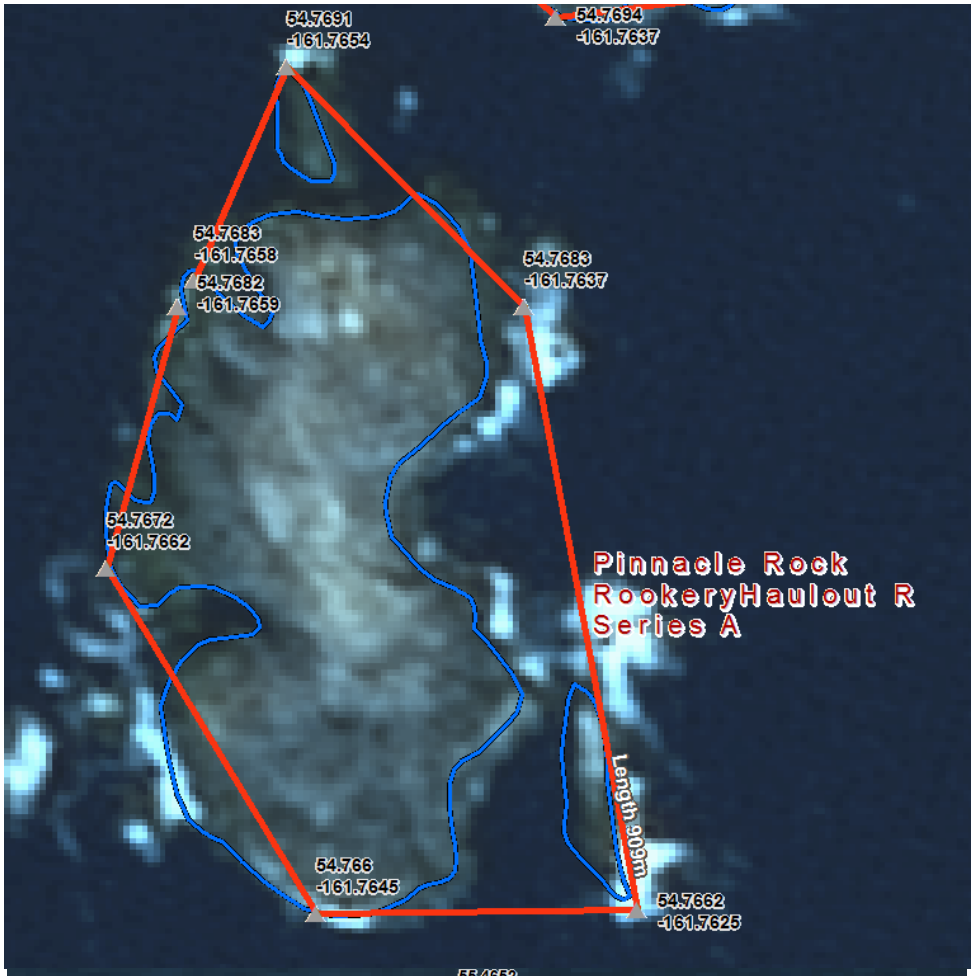

55.7782
-157.4085
Lighthouse Rocks
RookeryHaulout R
Series A
Length 103m
55.778
-157.4069

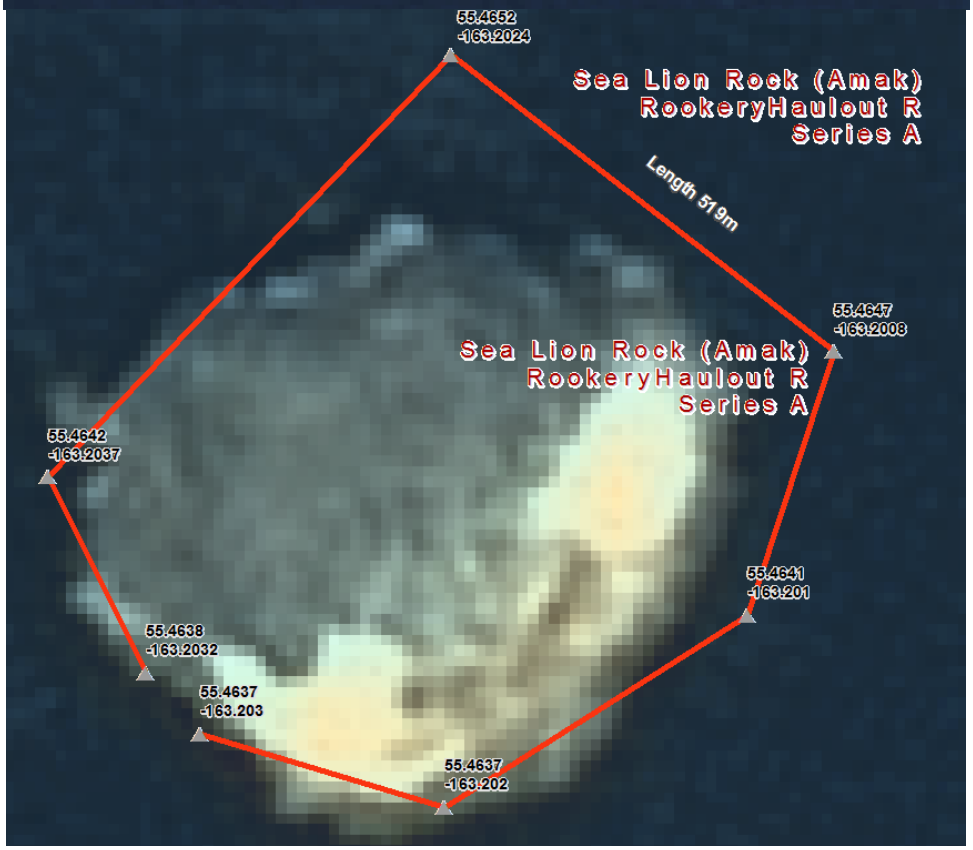

58.2269
-151.795
58.2078
-151.7945
58.1858
-151.8072
Marmot
RookeryHaulout R
Series A
58.1855
-151.8147
58.1786
-151.8194
Length 9222m
58.1648
-151.8682

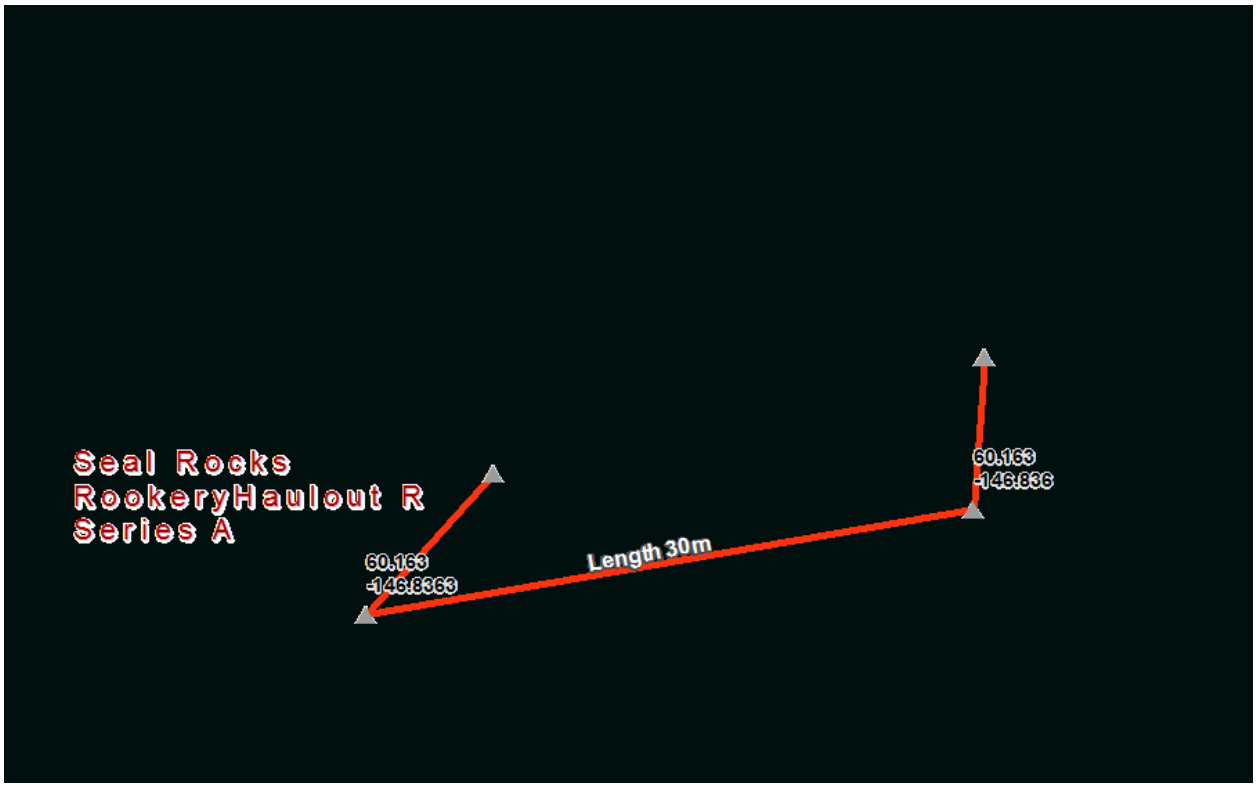

Ogchul
RookeryHaulout R
Series A
52.9953
-168.4035
52.995
-168.4034
52.995
-168.402
52.9941
-168.407
52.9965
-168.3982
52.9954
-168.3977
Length 958m
52.9939
-168.401

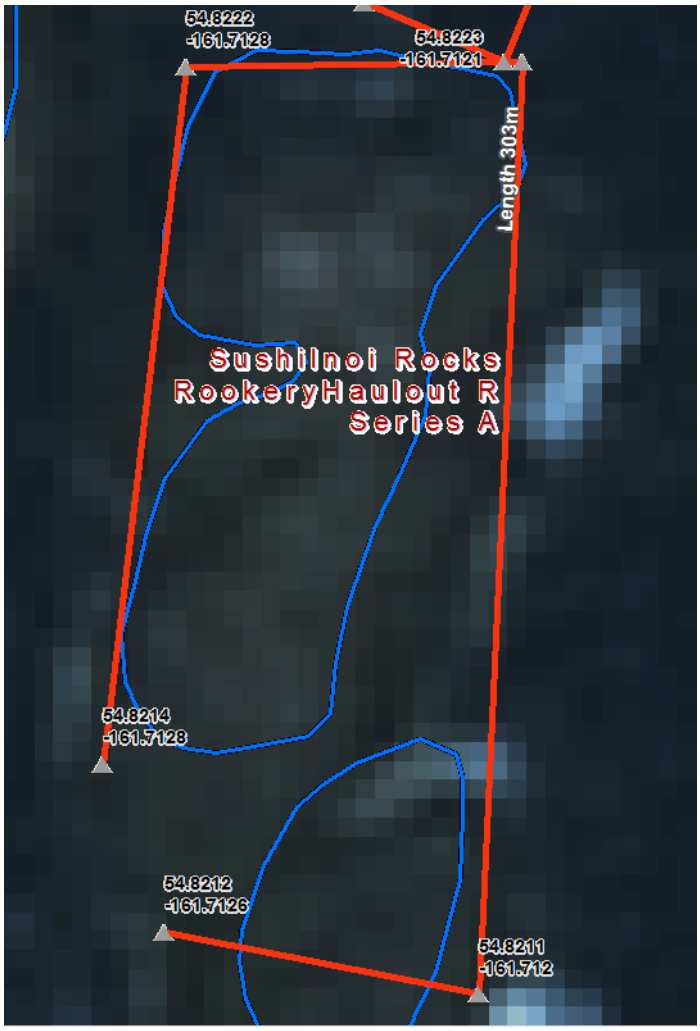

59.3508
-150.408
59.3481
-150.4047
59.3456
-150.4078
Outer (Pye)
RookeryHaulout R
Series A
Length 2223m
59.3442
-150.3981
59.3452
-150.3935
59.3433
-150.3927
59.3419
-150.3849

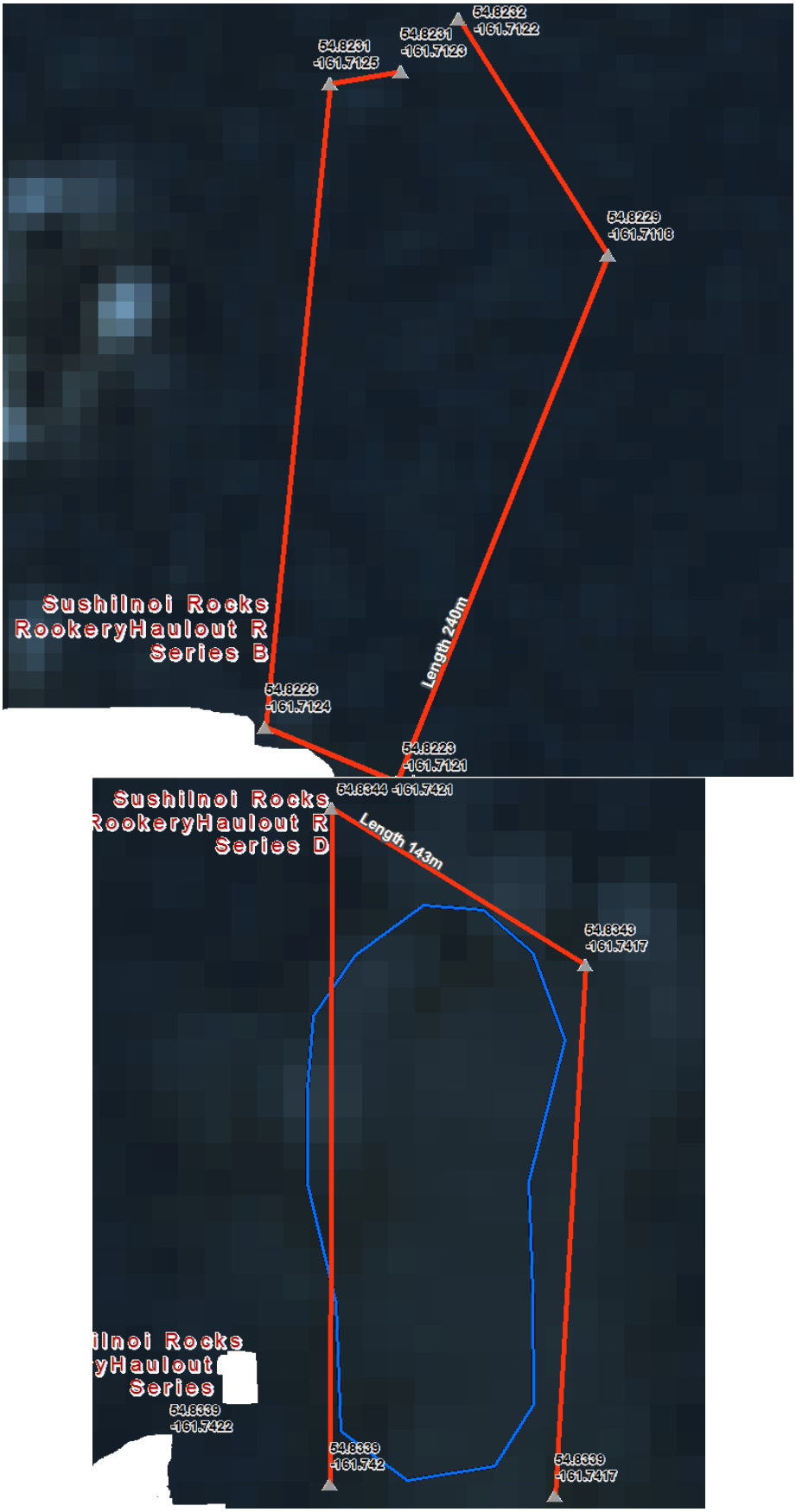

54.7711
-161.7636
54.7709
-161.7638
54.7709
-161.7622
54.7697
-161.7642
Pinnacle Rock
RookeryHaulout R
Series A
54.7696
-161.7624
54.7694
-161.7637
Length 496m

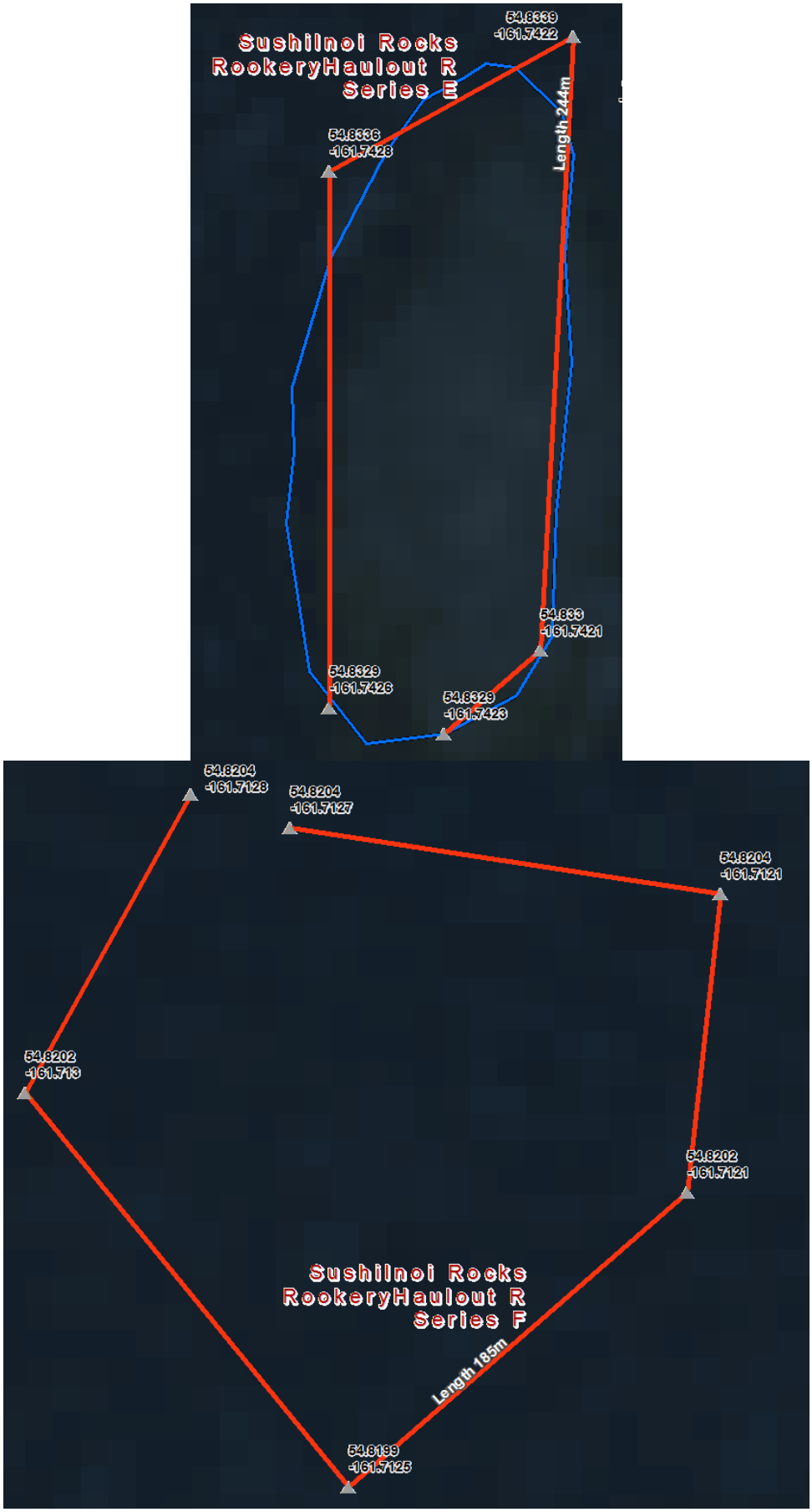

54.7691
-161.7654
54.7694
-161.7637
54.7683
-161.7658
54.7682
-161.7659
54.7683
-161.7637
54.7672
-161.7662
Pinnacle Rock
RookeryHaulout R
Series A
Length 909m
54.766
-161.7645
54.7662
-161.7625

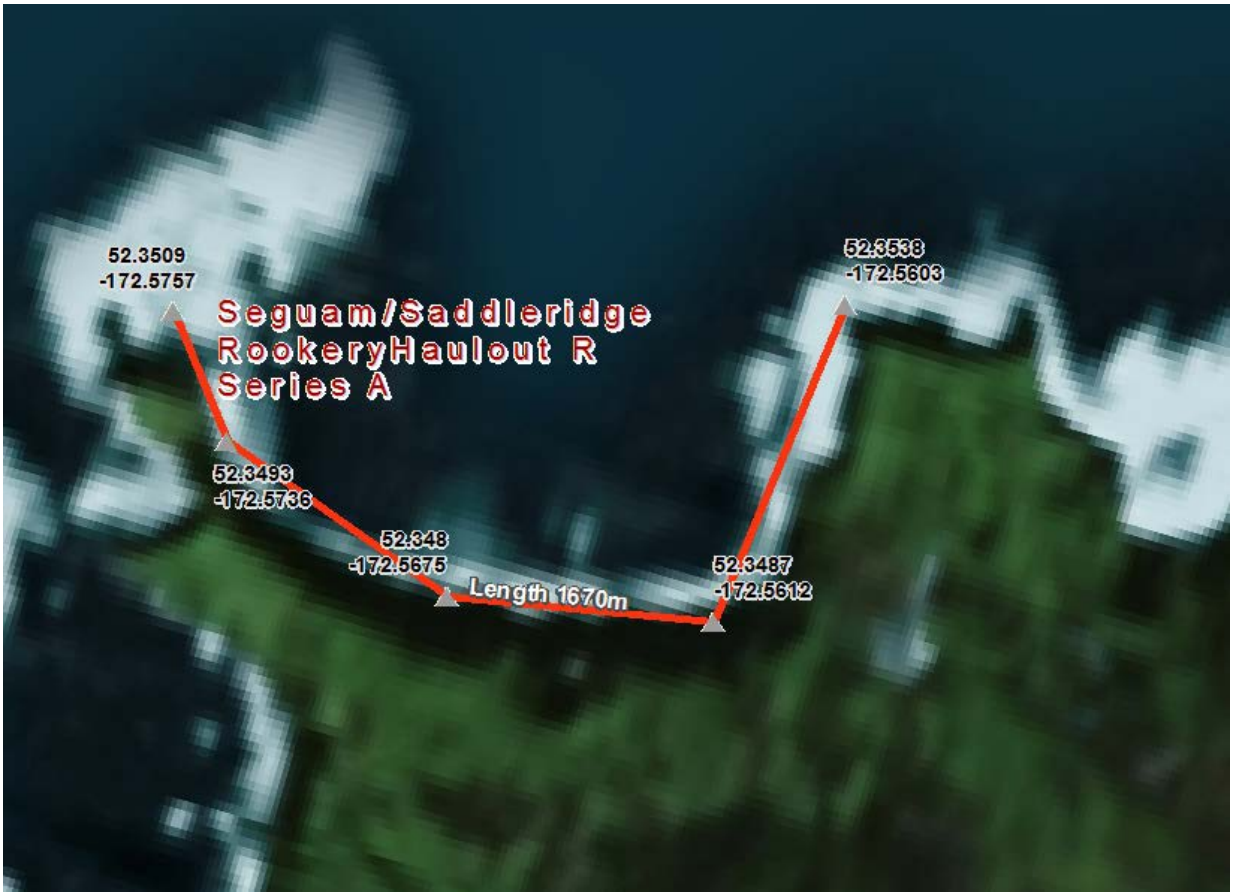

55.4652
-163.2024
Sea Lion Rock (Amak)
RookeryHaulout R
Series A
Length 519m
55.4647
-163.2008
Sea Lion Rock (Amak)
RookeryHaulout R
Series A
55.4642
-163.2037
55.4641
-163.201
55.4638
-163.2032
55.4637
-163.203
55.4637
-163.202


Seal Rocks
RookeryHaulout R
Series A
60.163
-146.8363
Length 30m
60.163
-146.836


54.8222
-161.7128
54.8223
-161.7121
Length 303m
Sushilnoi Rocks
RookeryHaulout R
Series A
54.8214
-161.7128
54.8212
-161.7126
54.8211
-161.712

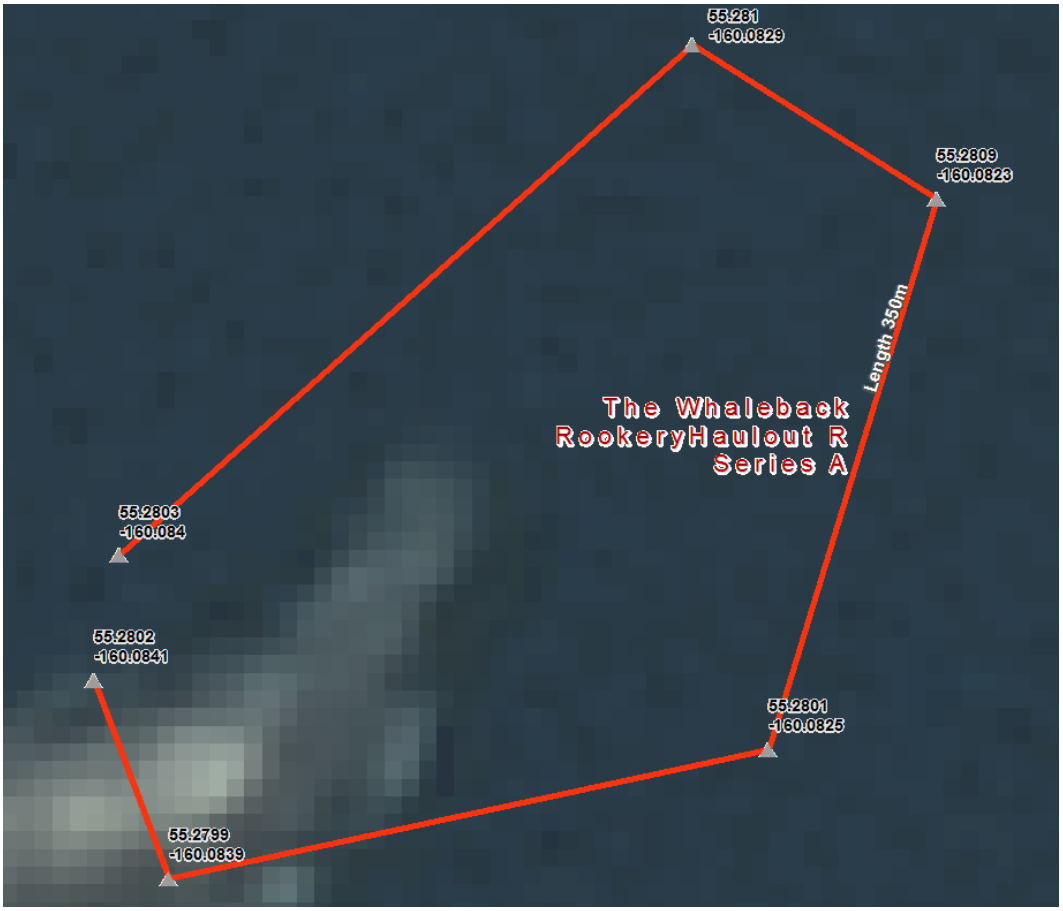

54.8232
-161.7122
54.8231
-161.7123
54.8231
-161.7125
54.8229
-161.7118
Sushilnoi Rocks
RookeryHaulout R
Series B
Length 240m
54.8223
-161.7124
54.8223
-161.7121
54.8344 -161.7421
Sushilnoi Rocks
RookeryHaulout R
Series D
Length 143m
54.8343
-161.7417
54.8339
-161.7422
54.8339
-161.742
54.8339
-161.7417

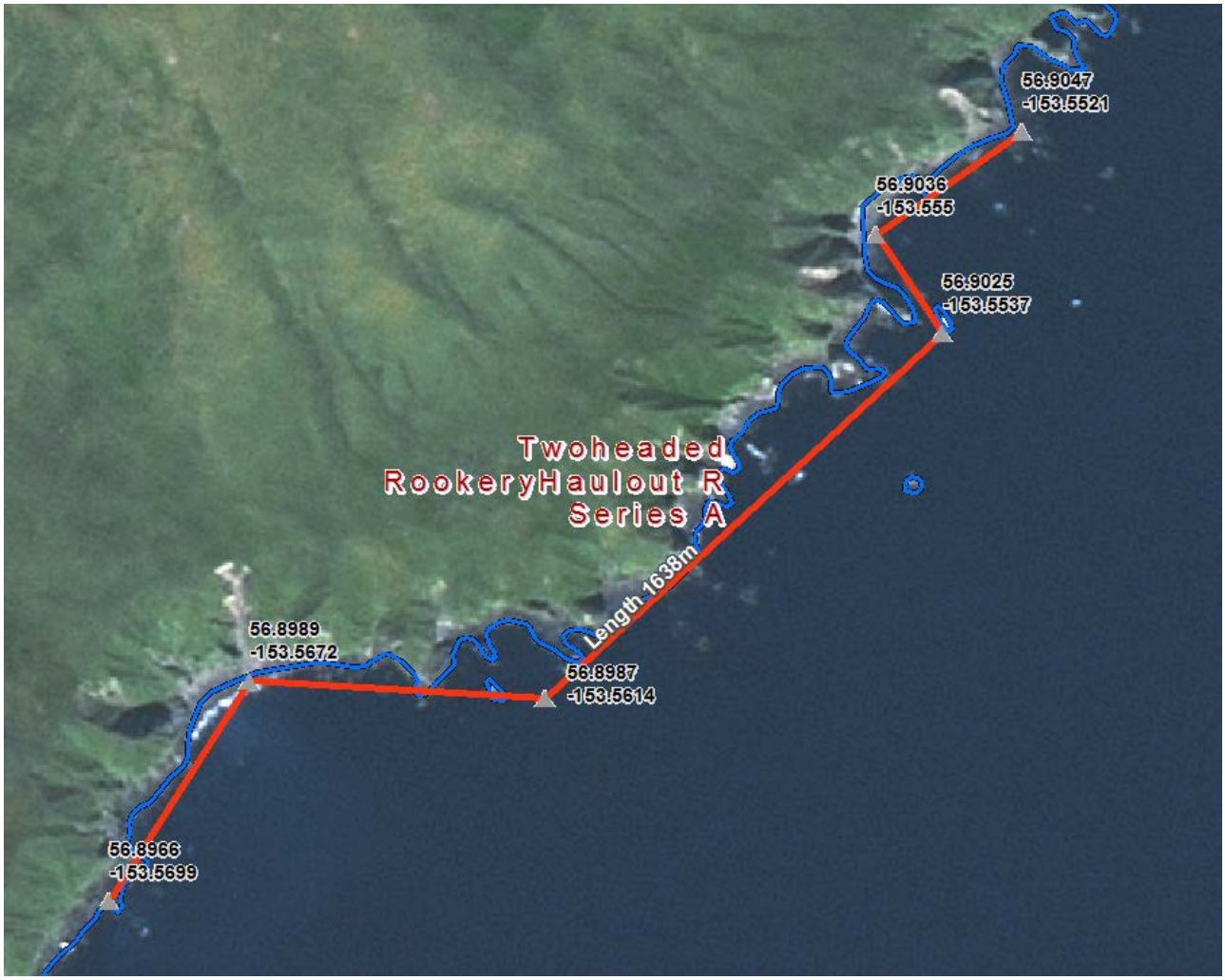

Sushilnoi Rocks
RookeryHaulout R
Series E
54.8339
-161.7422
54.8336
-161.7428
Length 244m
54.833
-161.7421
54.8329
-161.7426
54.8329
-161.7423
54.8204
-161.7128
54.8204
-161.7127
54.8204
-161.7121
54.8202
-161.713
54.8202
-161.7121
Sushilnoi Rocks
RookeryHaulout R
Series F
Length 185m
54.8199
-161.7125


52.3509
-172.5757
Seguam/Saddleridge
RookeryHaulout R
Series A
52.3493
-172.5736
52.348
-172.5675
Length 1670m
52.3487
-172.5612
52.3538
-172.5603

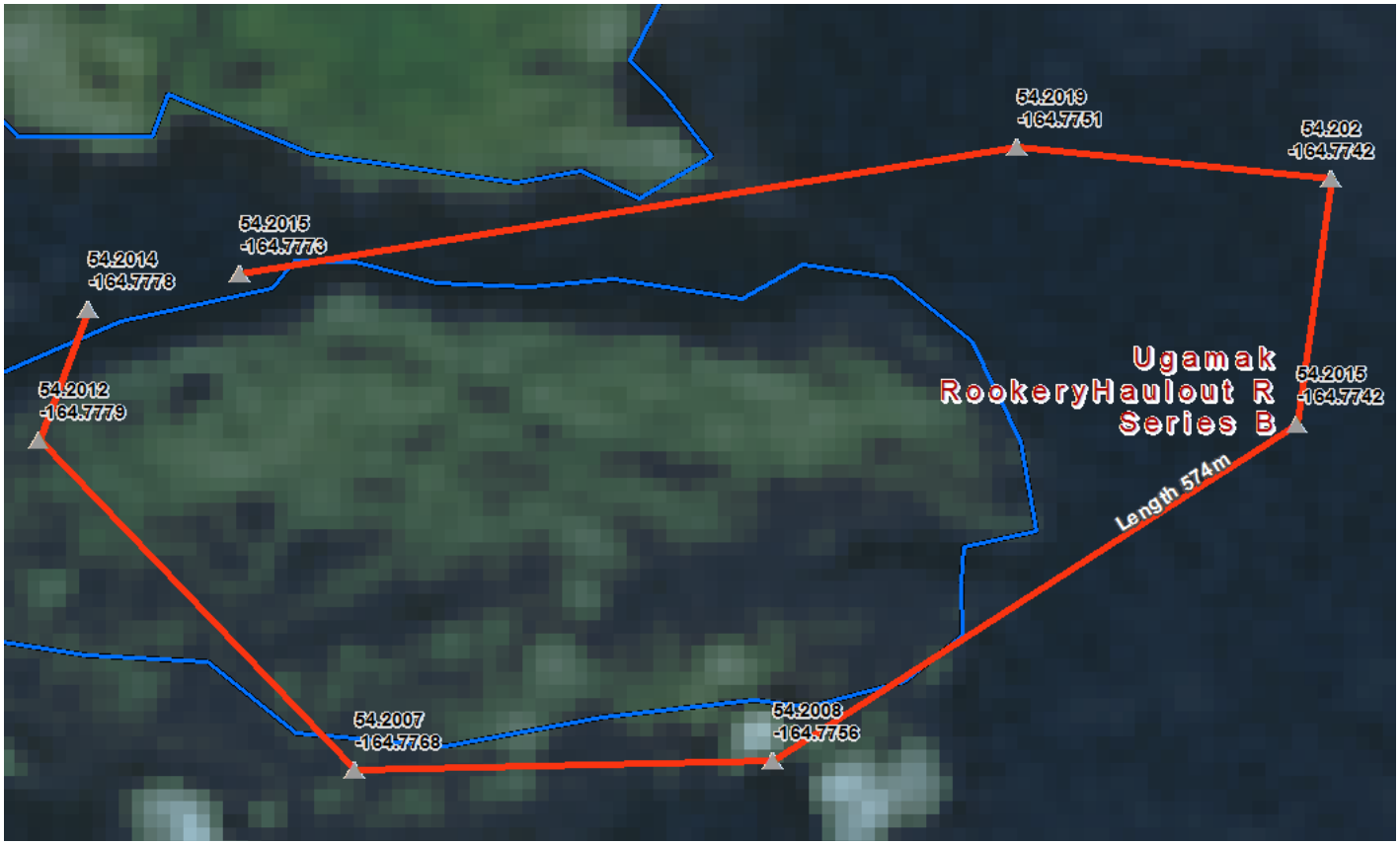

Sushilnoi Rocks
RookeryHaulout R
Series C
Length 303m
54.8338
-161.7442
54.8335
-161.7449
54.8329
-161.7437
54.8327
-161.7439
54.8326
-161.7443

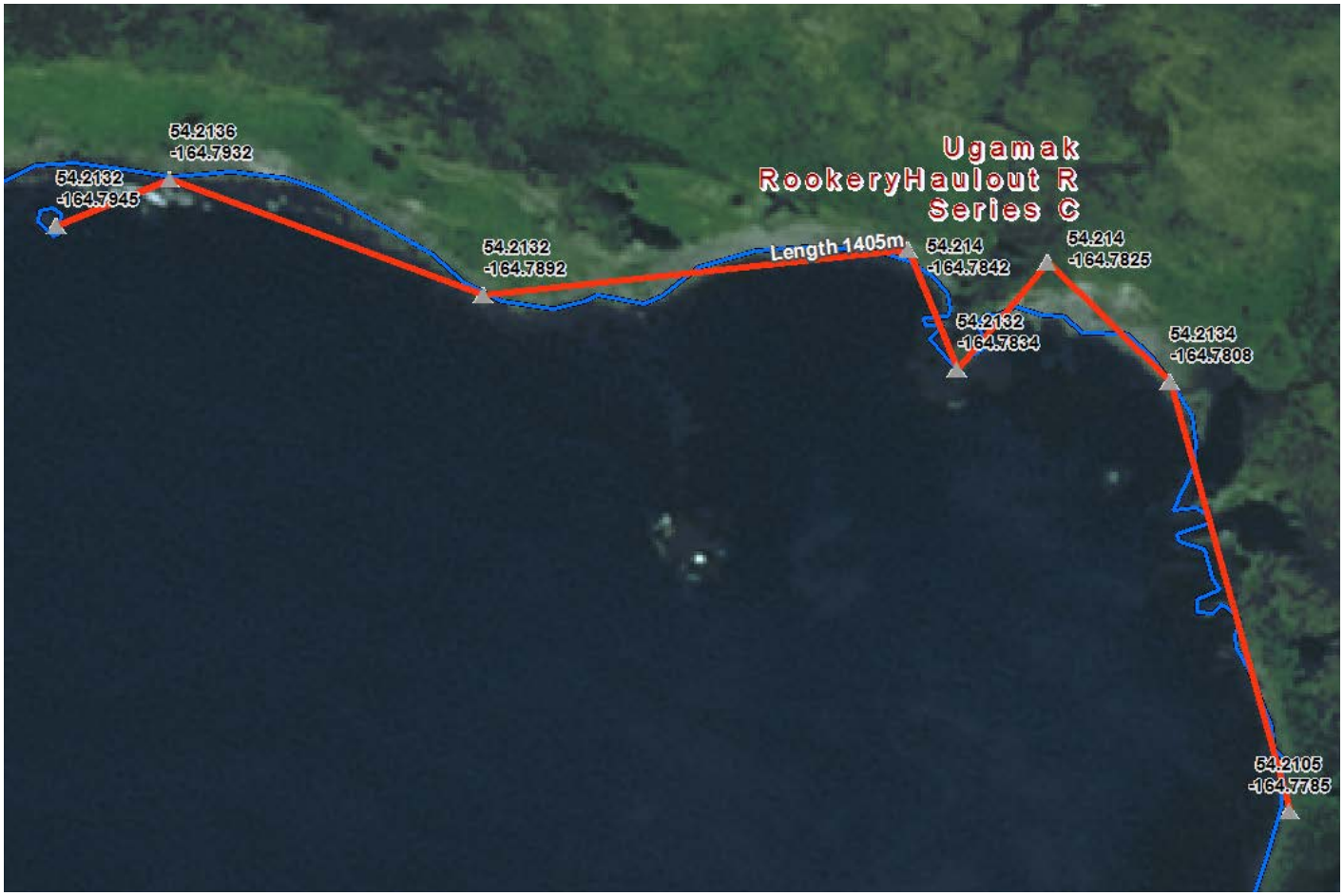

54.3035
-162.6877
54.3033
-162.6853
54.3028
-162.6893
South Rocks
RookeryHaulout R
Series A
Length 1821m
54.3008
-162.682
54.3004
-162.6849
54.3004
-162.6838
54.2993
-162.6885
54.2995
-162.6851
54.2983
-162.6851


55.281
-160.0829
55.2809
-160.0823
Length 350m
The Whaleback
RookeryHaulout R
Series A
55.2803
-160.084
55.2802
-160.0841
55.2801
-160.0825
55.2799
-160.0839


56.9047
-153.5521
56.9036
-153.555
56.9025
-153.5537
Twoheaded
RookeryHaulout R
Series A
Length 1638m
56.8989
-153.5672
56.8987
-153.5614
56.8966
-153.5699

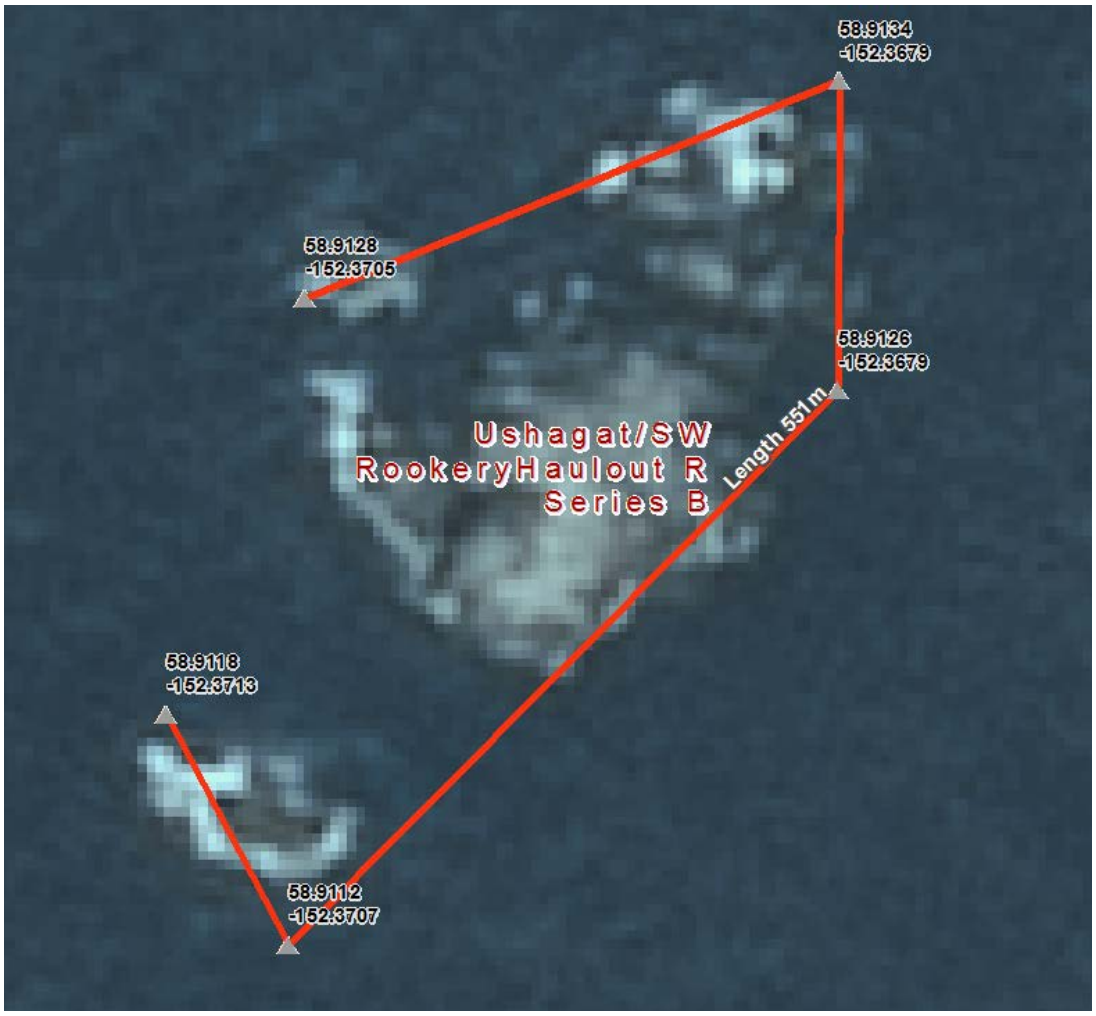

54.228
-164.7936
54.2266
-164.7953
54.2266
-164.7939
54.2257
-164.7941
Ugamak
RookeryHaulout R
Series A
54.2253
-164.7864
Length 1926m
54.2261
-164.7714
54.224
-164.78


54.2019
-164.7751
54.202
-164.7742
54.2015
-164.7773
54.2014
-164.7778
54.2012
-164.7779
Ugamak
RookeryHaulout R
Series B
54.2015
-164.7742
Length 574m
54.2007
-164.7768
54.2008
-164.7756

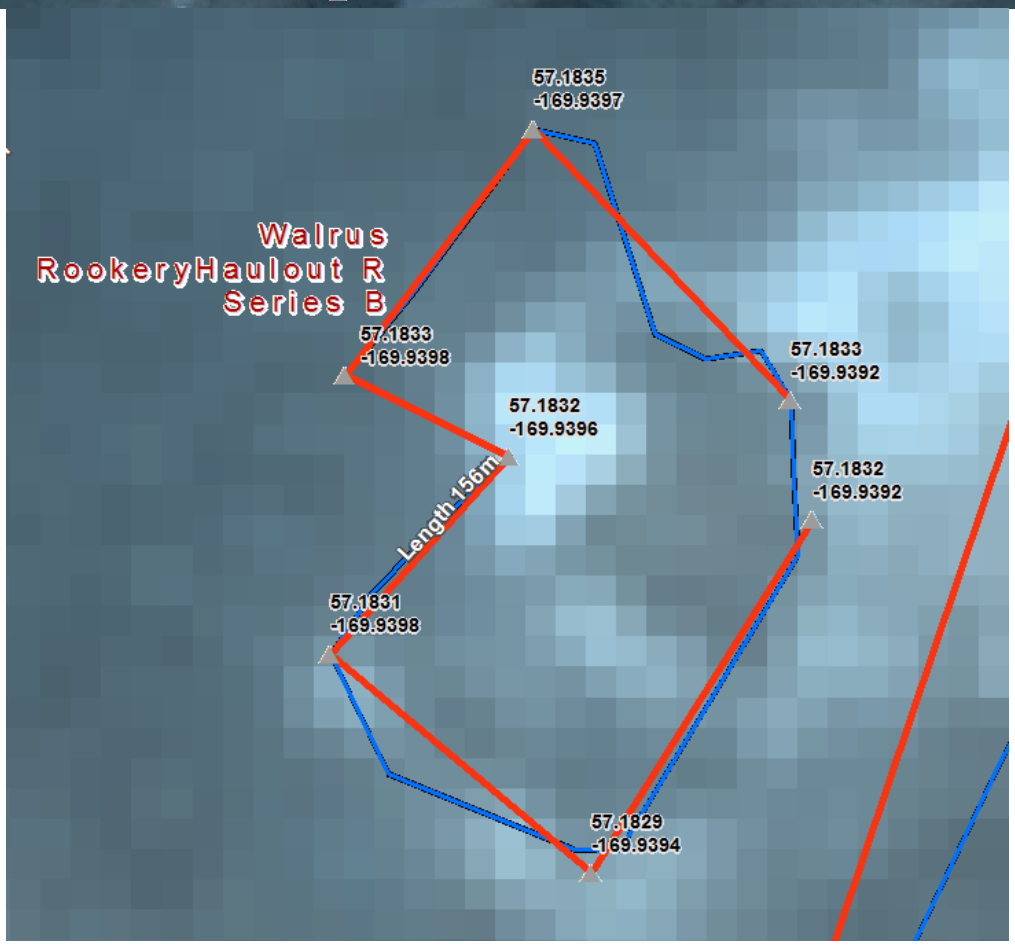

Ugamak
RookeryHaulout R
Series C
54.2136
-164.7932
54.2132
-164.7945
54.2132
-164.7892
Length 1405m
54.214
-164.7842
54.214
-164.7825
54.2132
-164.7834
54.2134
-164.7808
54.2105
-164.7785

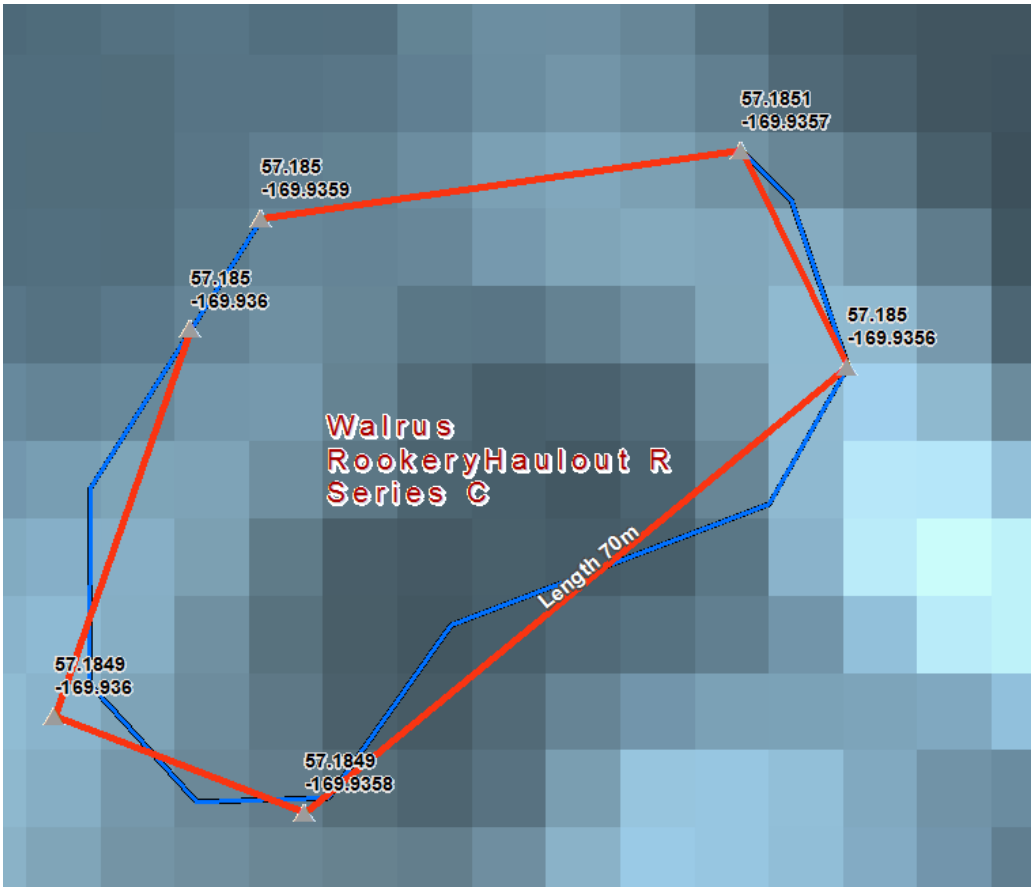

51.3119
-178.993
51.3139
-178.985
Ulak/Hasgox Point
RookeryHaulout R
Series A
51.3101
-178.9857
51.3074
-178.9913
Length 1719m
51.3057
-178.9892


Ushagat/SW
RookeryHaulout R
Series A
58.9069
-152.3297
Length 1247m
58.9058
-152.3391
58.905
-152.3219
58.9046
-152.3388
58.9044
-152.3362


58.9134
-152.3679
58.9128
-152.3705
58.9126
-152.3679
Ushagat/SW
RookeryHaulout R
Series B
Length 551m
58.9118
-152.3713
58.9112
-152.3707


57.1847
-169.9387
57.185 -169.936
57.185
-169.9356
Length
70m
57.1848
-169.9363
57.1849 -169.9358
57.1844
-169.9361
57.1842
-169.9365
Walrus
RookeryHaulout R
Series B
57.1835 -169.9397
Length
156m
57.1833
-169.9392
57.1832
-169.9392
57.1831
-169.9398
57.1829
-169.9394
57.1818
-169.9423
57.182
-169.9375
Walrus
RookeryHaulout R
Series A
57.1805
-169.9405
57.1795
-169.9428
Length 1643m
57.1792
-169.9406

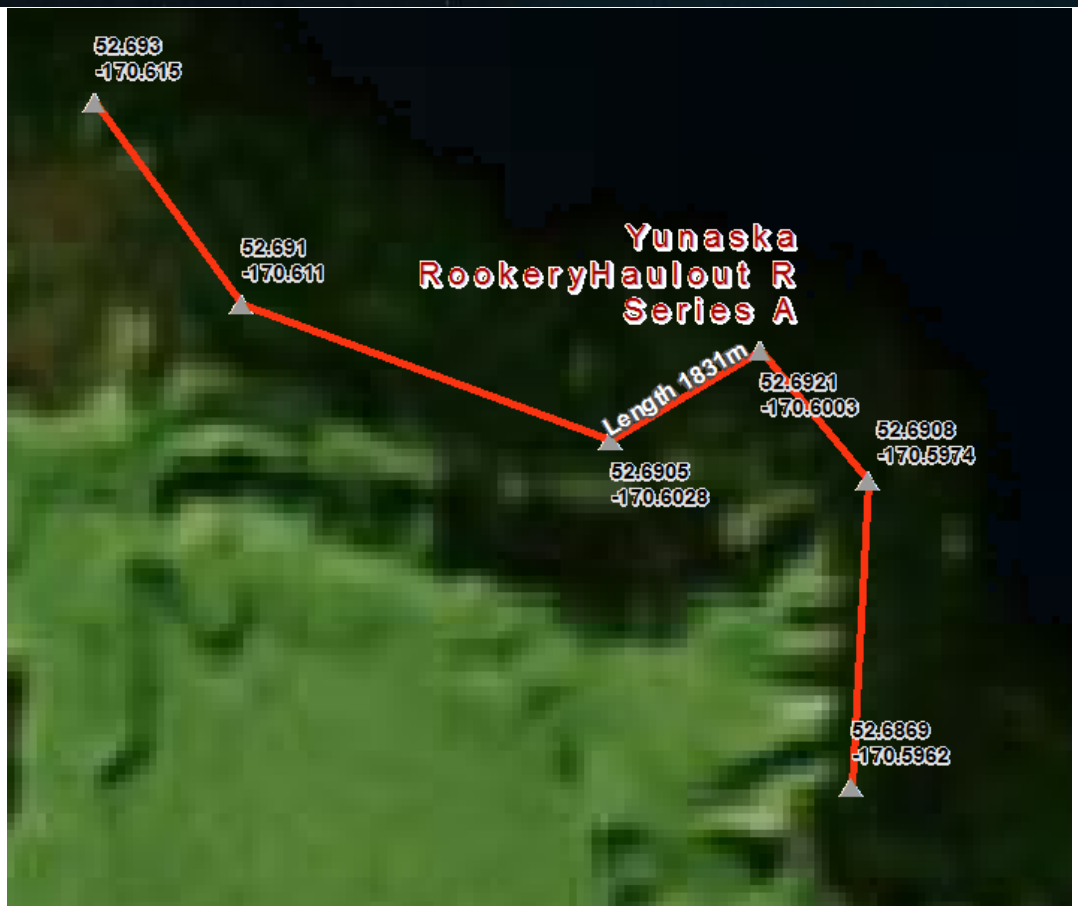

57.1835
-169.9397
Walrus
RookeryHaulout R
Series B
57.1833
-169.9398
57.1833
-169.9392
57.1832
-169.9396
57.1832
-169.9392
Length 156m
57.1831
-169.9398
57.1829
-169.9394

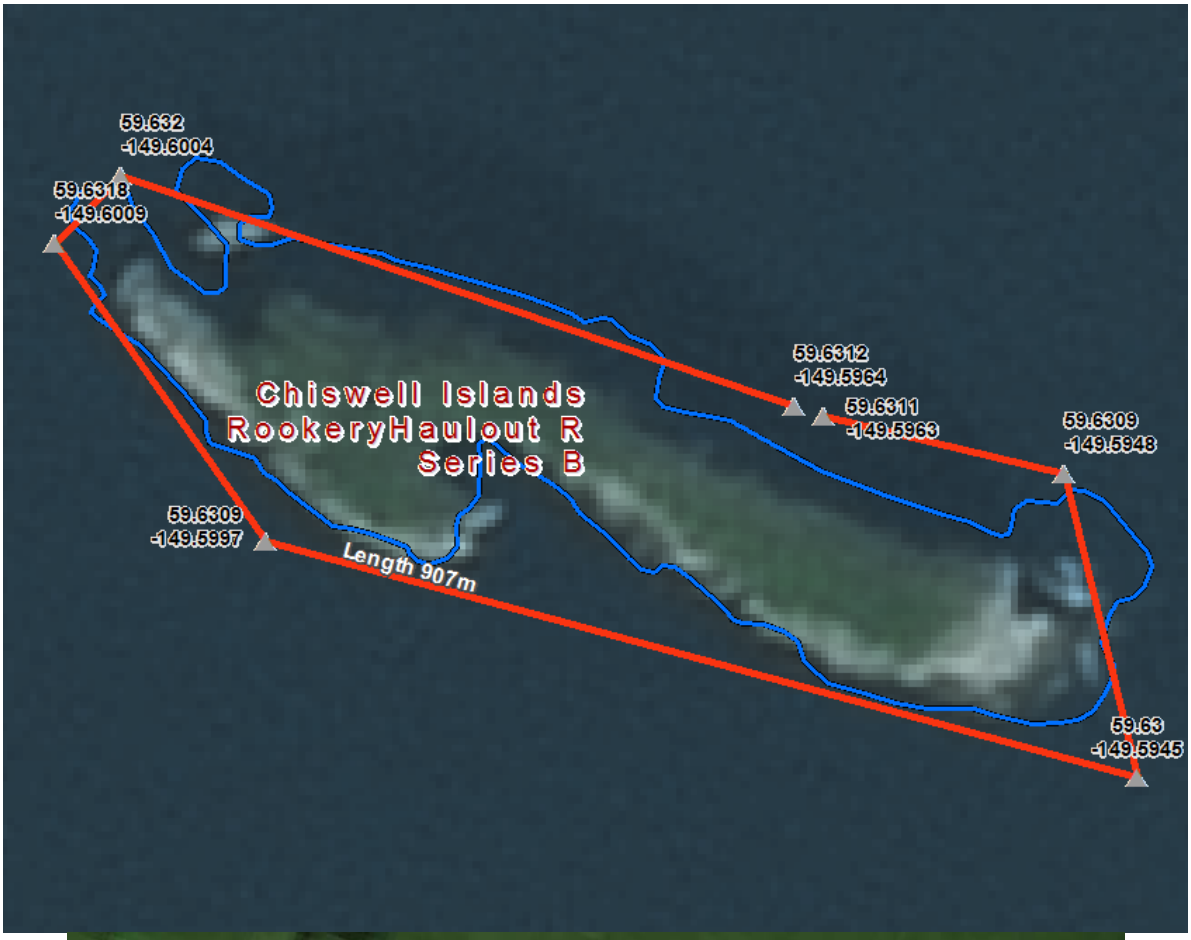

57.1851
-169.9357
57.185
-169.9359
57.185
-169.936
57.185
-169.9356
Walrus
RookeryHaulout R
Series C
Length 70m
57.1849
-169.936
57.1849
-169.9358

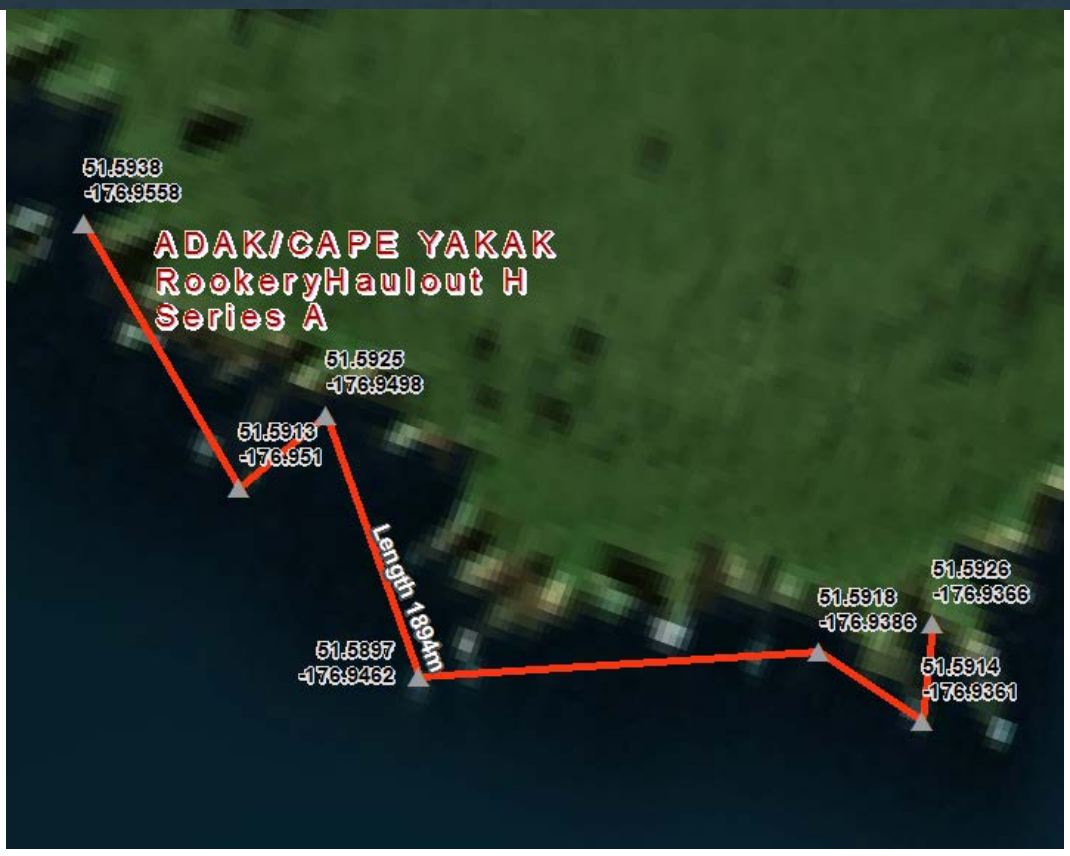

White Sisters
RookeryHaulout R
Series B
57.6377
-136.254
57.637
-136.253
57.6371
-136.256
Length 679m
57.6365
-136.2541
57.6364
-136.253
57.6357
-136.2555
57.6358
-136.256
57.6346
-136.2526
57.634
-136.2522
57.6344
-136.2558
57.6343
-136.2565
57.634
-136.2548
57.6343
-136.2548
57.6336
-136.2532
57.6338
-136.2582
Length 1270m
White Sisters
RookeryHaulout R
Series A
57.6324
-136.2564
57.6325
-136.2569
Length 1270m
57.6316
-136.2556
57.6314
-136.2574

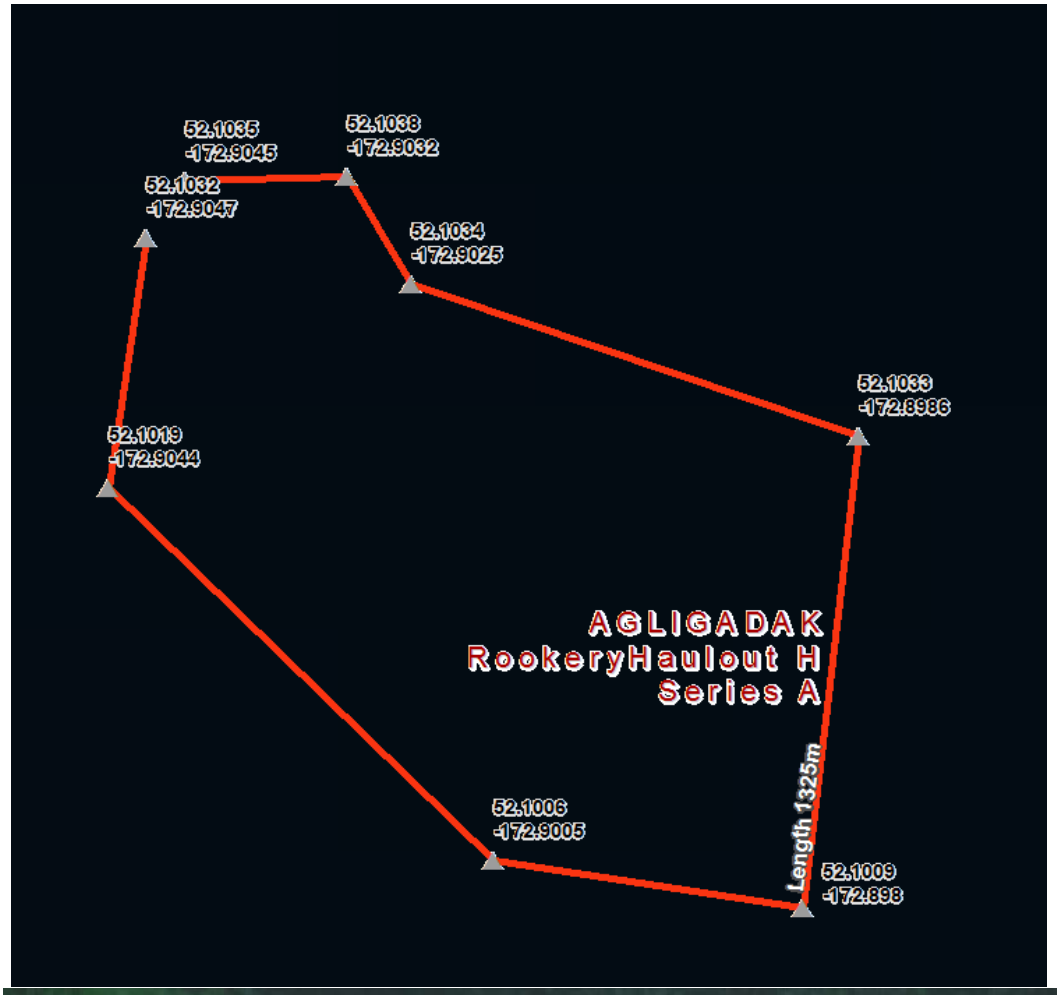

Wooded (Fish) RookeryHaulout R Series A
59.8829
-147.3426
Length 1611m
59.8823
-147.3467
59.8819
-147.3378
59.8806
-147.3452
59.8801
-147.3416
59.8796
-147.3466
59.8792
-147.3487
59.8791
-147.3473


59.8778
-147.3499
59.8777
-147.3495
59.8764
-147.3483
Wooded (Fish)
RookeryHaulout R
Series B
59.8762
-147.351
Length 564m
59.8756
-147.3495

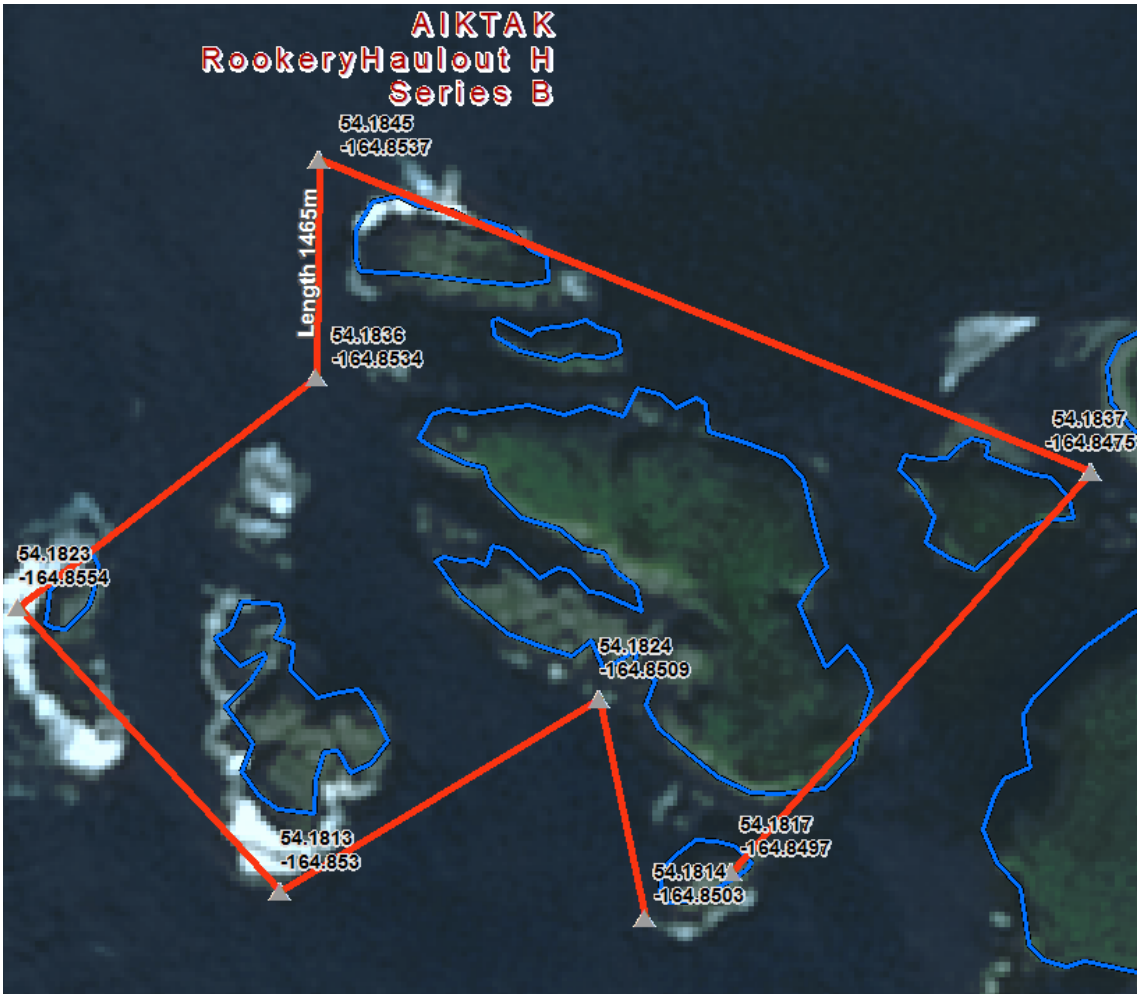

52.693
-170.615
52.691
-170.611
Yunaska
RookeryHaulout R
Series A
Length 1831m
52.6921
-170.6003
52.6908
-170.5974
52.6905
-170.6028
52.6869
-170.5962

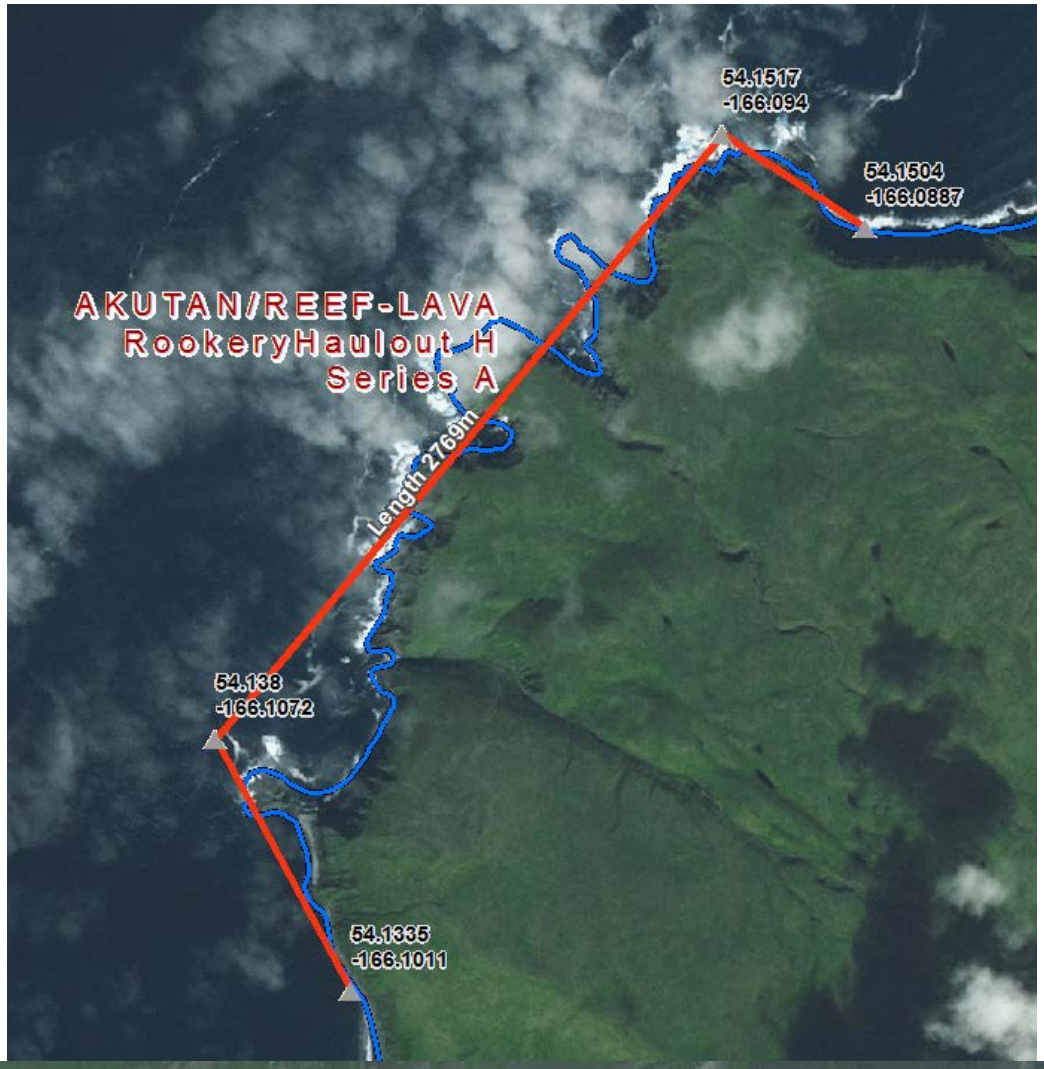

59.632
-149.6004
59.6318
-149.6009
Chiswell Islands
RookeryHaulout R
Series B
59.6312
-149.5964
59.6311
-149.5963
59.6309
-149.5948
59.6309
-149.5997
Length 907m
59.63
-149.5945


51.5938
-176.9558
ADAK/CAPE YAKAK
RookeryHaulout H
Series A
51.5925
-176.9498
51.5913
-176.951
Length 1894m
51.5926
-176.9366
51.5918
-176.9386
51.5897
-176.9462
51.5914
-176.9361


52.1035
-172.9045
52.1038
-172.9032
52.1032
-172.9047
52.1034
-172.9025
52.1033
-172.8986
52.1019
-172.9044
AGLIGADAK
RookeryHaulout H
Series A
Length 1325m
52.1006
-172.9005
52.1009
-172.898

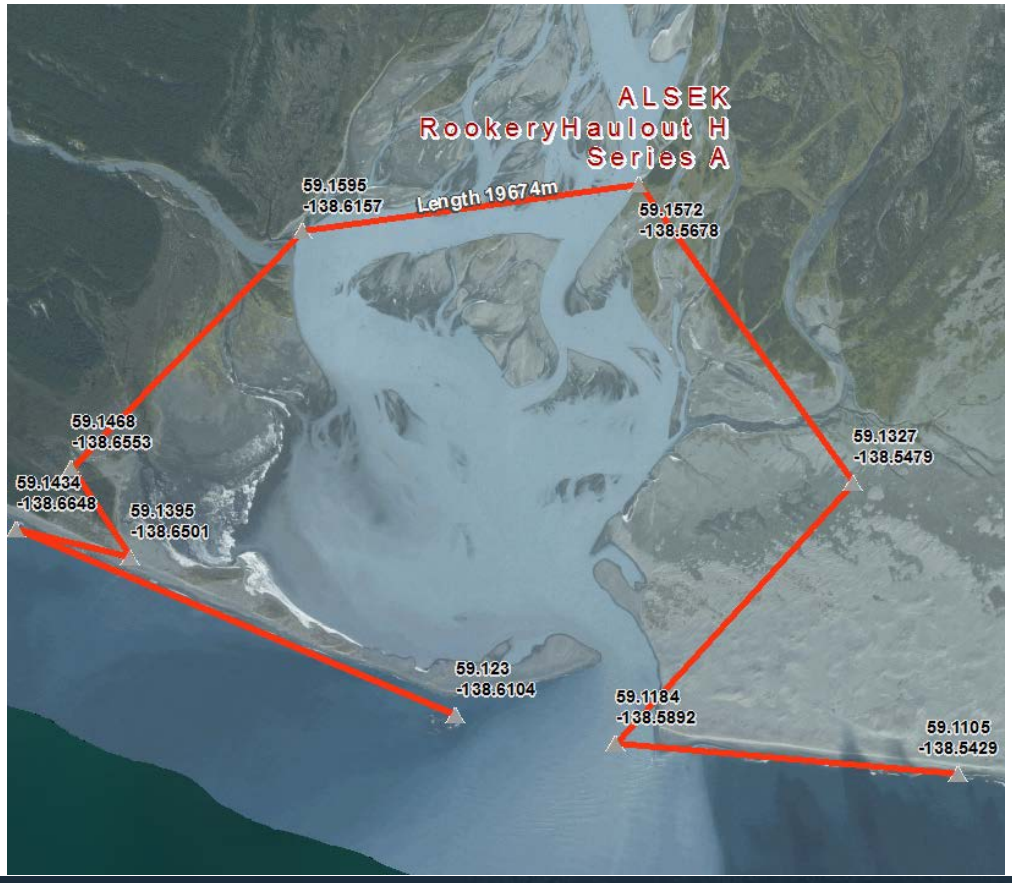

AIKTAK
RookeryHaulout H
Series A
54.1834
-164.8242
Length 870m
54.1822
-164.8294
54.1814
-164.8306
54.1804
-164.8208


AIKTAK
RookeryHaulout H
Series B
54.1845
-164.8537
Length 1465m
54.1836
-164.8534
54.1837
-164.8475
54.1823
-164.8554
54.1824
-164.8509
54.1813
-164.853
54.1817
-164.8497
54.1814
-164.8503


54.1517
-166.094
54.1504
-166.0887
AKUTAN/REEF-LAVA
RookeryHaulout H
Series A
Length 2769m
54.138
-166.1072
54.1335
-166.1011

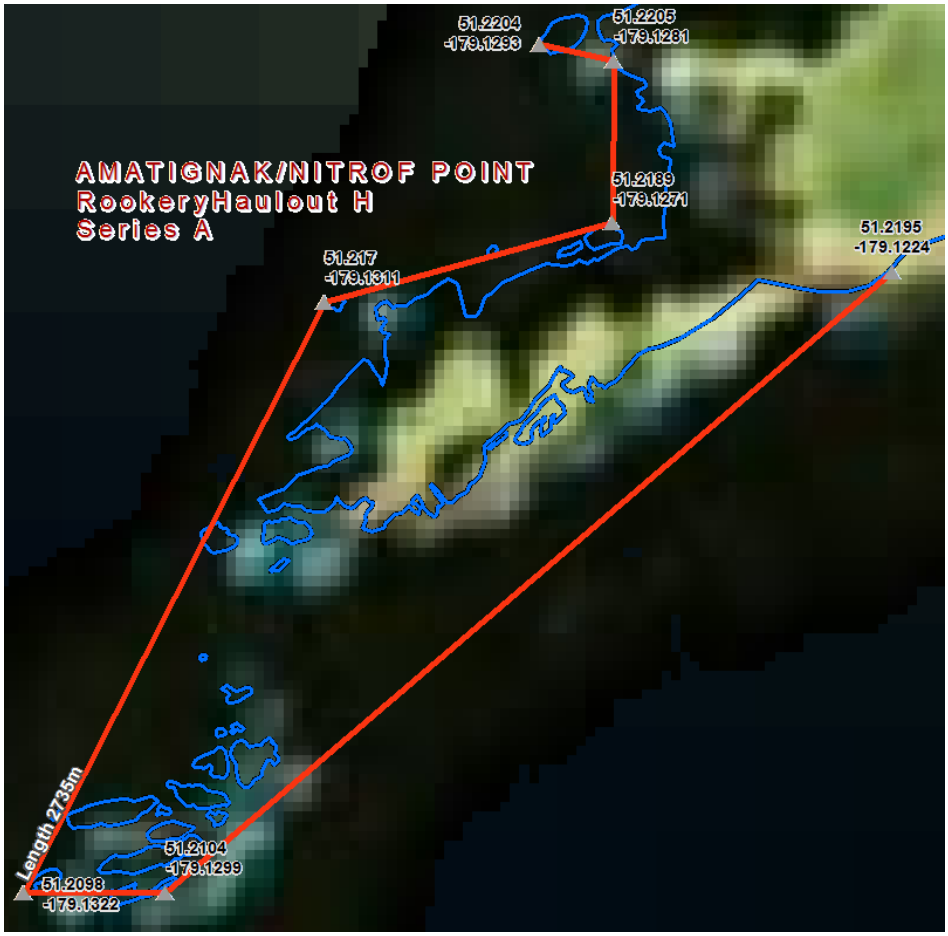

59.3181
-139.1685
59.3125
-139.1411
59.3113
-139.1723
59.31
-139.1646
59.3142
-139.1897
AKWE
RookeryHaulout H
Series A
Length 13614m
59.2748
-139.027


52.7745
173.8595
52.7686
173.8653
ALAID
RookeryHaulout H
Series A
52.7722
173.8984
Length 7574m
52.7567
173.9331
52.7481
173.9329
52.7493
173.938


ALSEK
RookeryHaulout H
Series A
59.1595
-138.6157
Length 19674m
59.1572
-138.5678
59.1468
-138.6553
59.1434
-138.6648
59.1395
-138.6501
59.1327
-138.5479
59.123
-138.6104
59.1184
-138.5892
59.1105
-138.5429


AMAK+ROCKS
RookeryHaulout H
Series A
55.4361
-169.1413
Length 3287m
55.434
-169.1332
55.4318
-169.1534
55.4318
-169.1626
55.429
-169.1707
55.4234
-169.1723


55.451
-163.1598
55.4511
-163.1572
55.4503
-163.1607
55.4499
-163.1553
55.4494
-163.1608
AMAK+ROCKS
RookeryHaulout H
Series B
55.4484
-163.1589
Length 9.4km
55.4486
-163.1559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RookeryHaulout H
Series A
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-179.1281
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-179.1271
51.2195
-179.1224
51.217
-179.1311
Length 2735m
51.2104
-179.1299
51.2098
-179.1322


51.4116
179.3992
51.4111
179.4031
Length 1596m
AMCHITKA/CAPE IVAKIN
RookeryHaulout H
Series A
51.4048
179.4068
51.4009
179.4031
51.4009
179.405


51.3673
179.4404
AMCHITKA/EAST CAPE
RookeryHaulout H
Series A
51.3754
179.4726
Length 329.8m
51.3703
179.4583
51.3729
179.4733
51.3634
179.444
51.3685
179.4645


52.0315
-173.3981
52.0312
-173.3984
52.0318
-173.3934
52.0312
-173.3944
52.0309
-173.3913
AMLIA/SVIECH. HARBOR
RookeryHaulout H
Series A
Length 1378m
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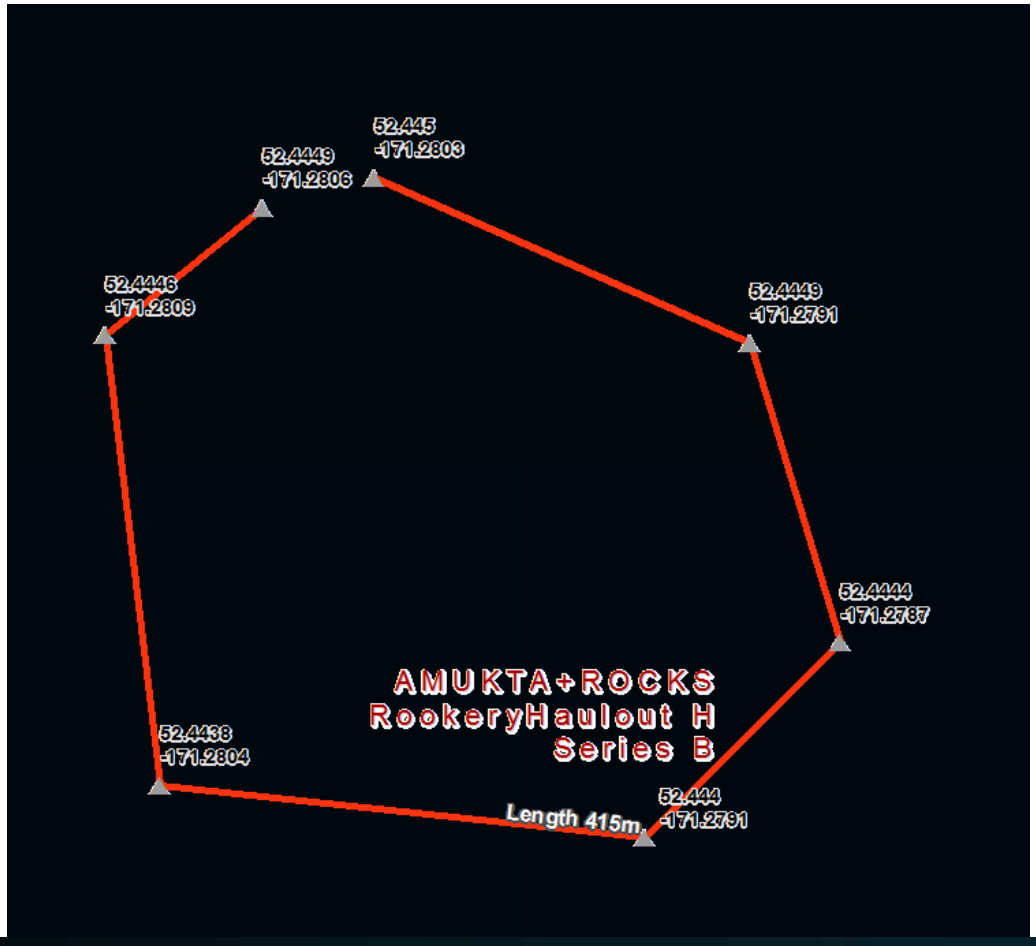
-173.3973
52.0287
-173.3946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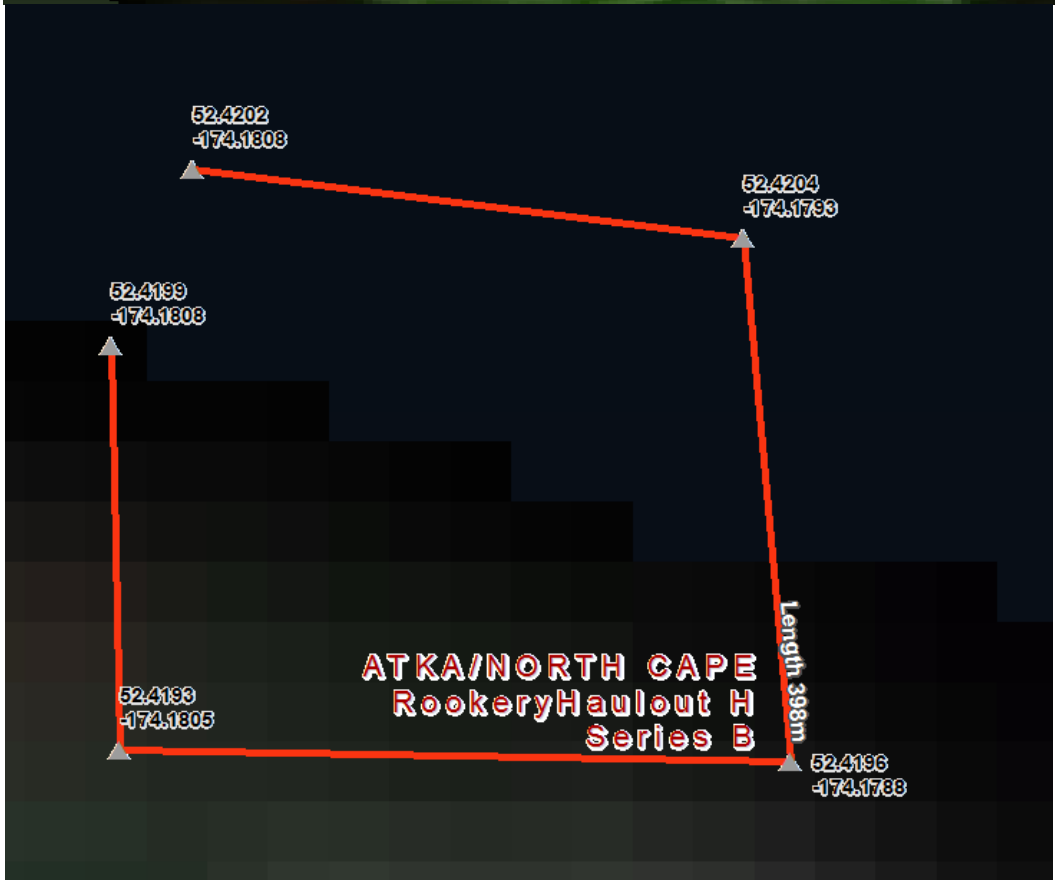
-171.2787
AMUKTA+ROCKS
RookeryHaulout H
Series B
52.4438
-171.2804
52.444
-171.2791
Length 415m


51.8525
-175.8965
ANAGAKSIK
RookeryHaulout H
Series A
Length 1621m
51.8532
-175.8845
51.8535
-175.886
51.8512
-175.8875
51.849
-175.8816


ATKA/NORTH CAPE
RookeryHaulout H
Series A
52.4035
-174.2812
52.4038
-174.2798
Length 2415m
52.4031
-174.2751
52.4025
-174.2697
52.3993
-174.2623
52.3964
-174.2723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52.4199
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ATKA/NORTH CAPE
RookeryHaulout H
Series B
Length 398m
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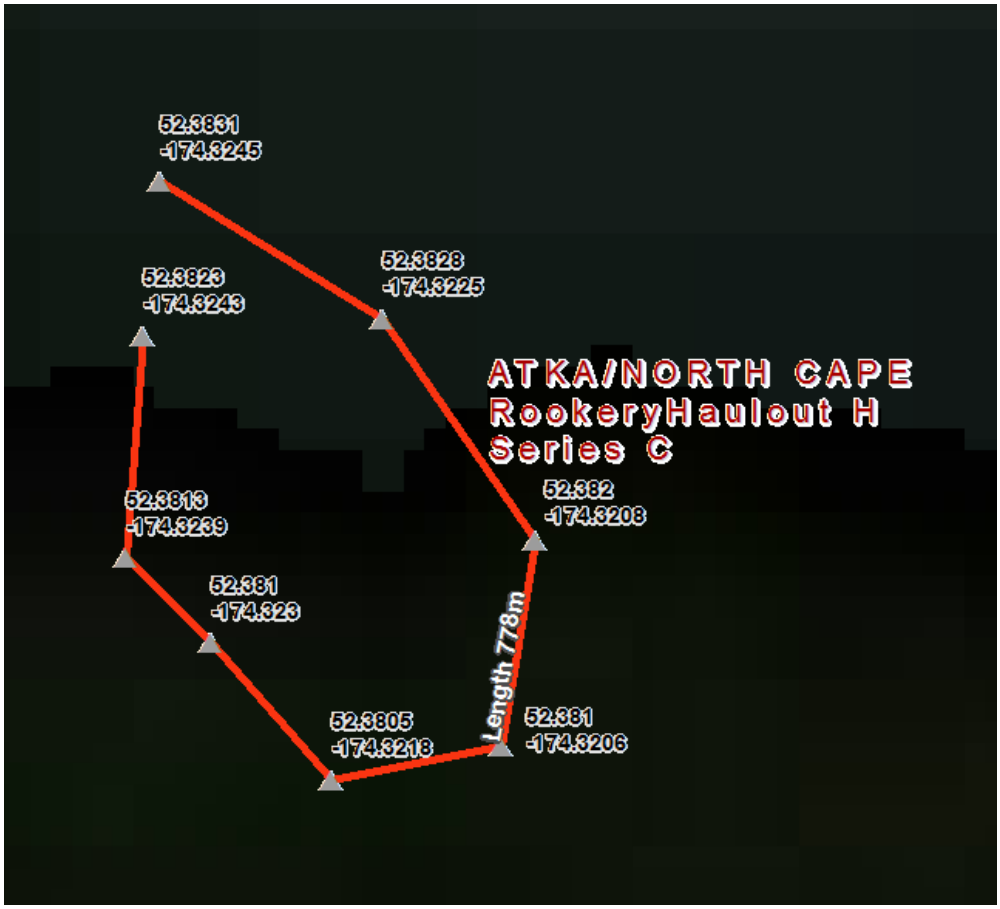
-174.1805
52.4196
-174.1788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-174.3225
52.3823
-174.3243
ATKA/NORTH CAPE
RookeryHaulout H
Series C
52.382
-174.3208
52.3813
-174.3239
52.381
-174.323
Length 778m
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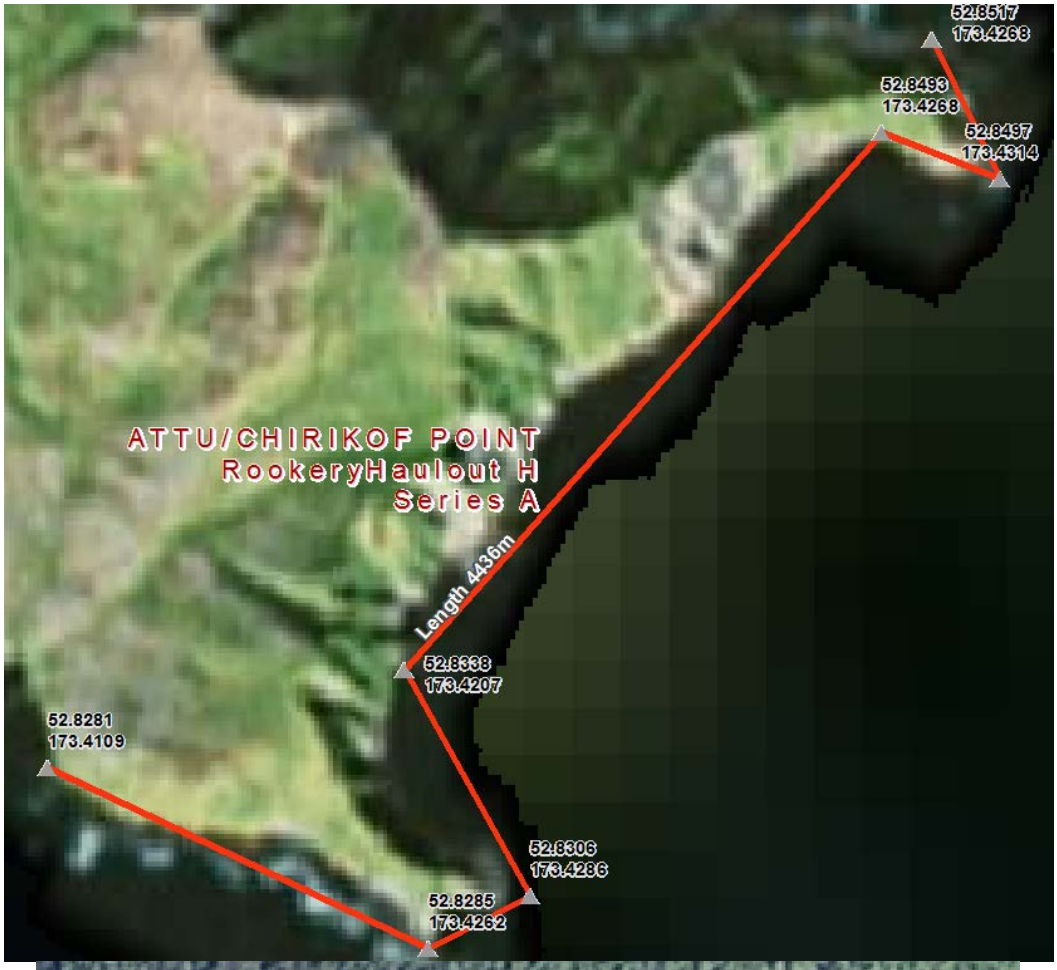
-174.3218
52.381
-174.3206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52.8493
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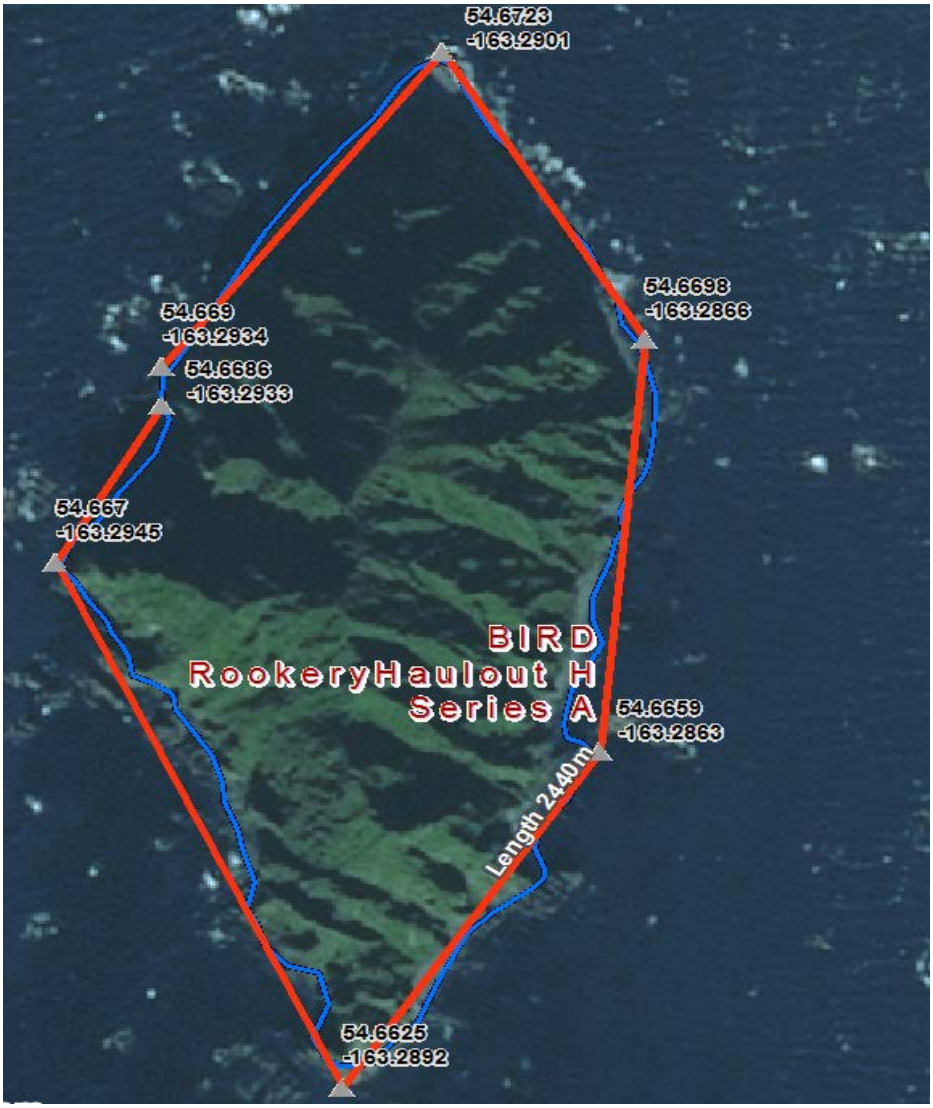
52.8497
173.4314
ATTU/CHIRIKOF POINT
RookeryHaulout H
Series A
Length 4436m
52.8338
173.4207
52.8281
173.4109
52.8306
173.4286
52.8285
173.4262


58.5614
-134.9175
58.5607
-134.9173
BENJAMIN
RookeryHaulout H
Series A
Length 322m
58.5597
-134.9166
58.5591
-134.9147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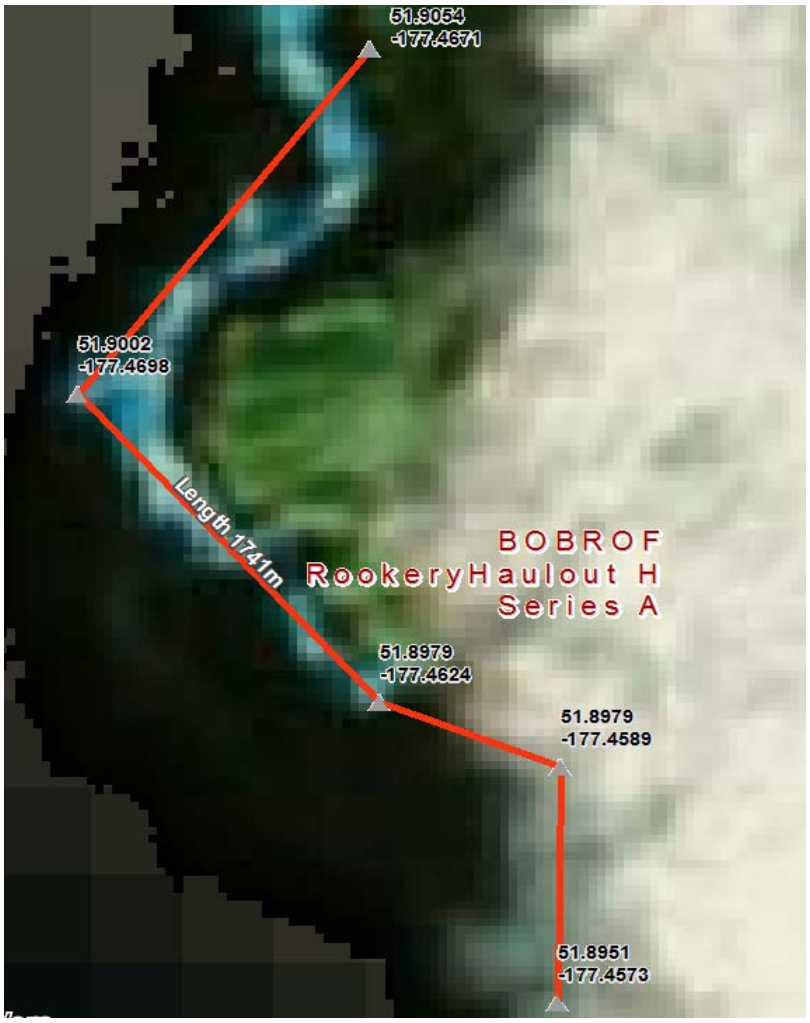
54.6698
-163.2866
54.669
-163.2934
54.6686
-163.2933
54.667
-163.2945
BIRD
RookeryHaulout H
Series A
54.6659
-163.2863
Length 2440m
54.6625
-163.2892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-177.4698
Length 1741m
BOBROF
RookeryHaulout H
Series A
51.8979
-177.4624
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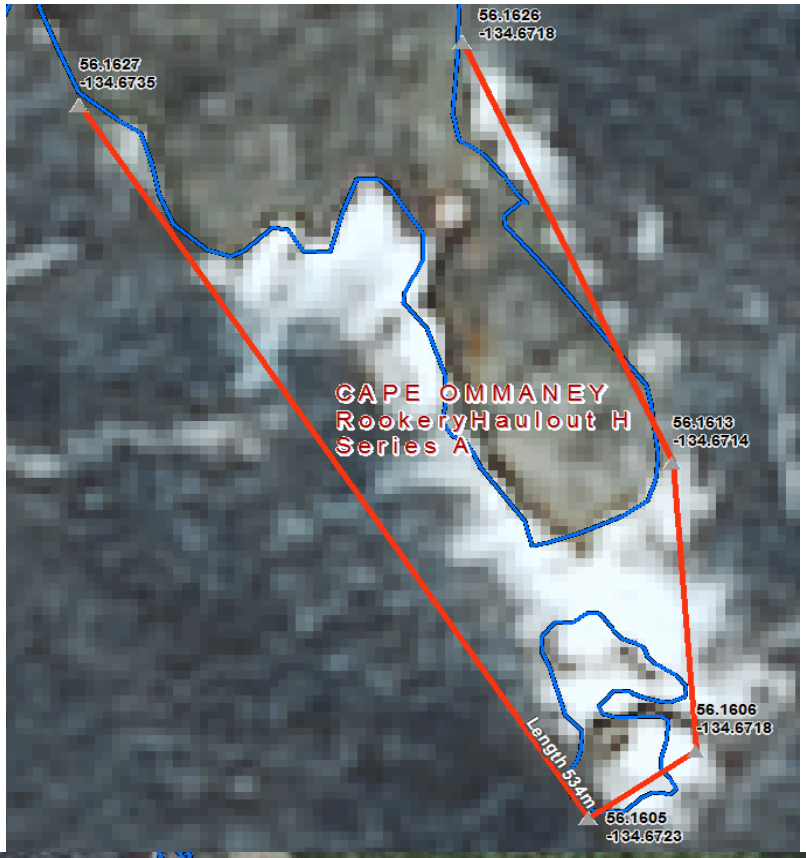
-177.4589
51.8951
-177.4573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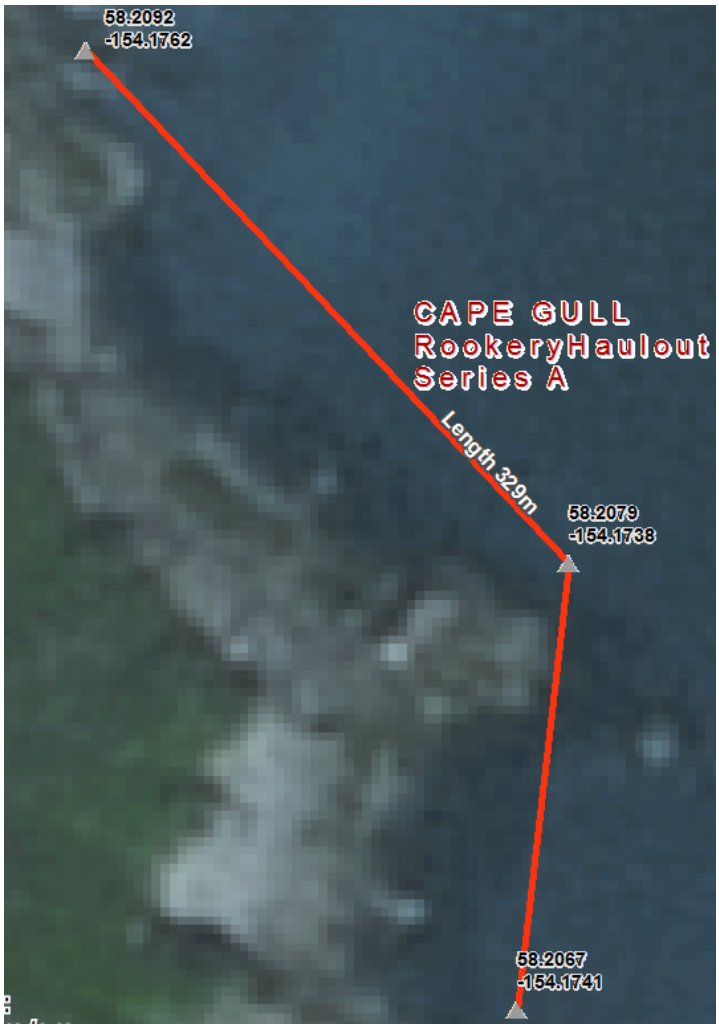
56.1627
-134.6735
CAPE OMMANEY
RookeryHaulout H
Series A
56.1613
-134.6714
56.1606
-134.6718
Length 334m
56.1605
-134.6723


56.1767
-134.7049
56.1751
-134.6994
CAPE OMMANEY
RookeryHaulout H
Series B
56.1747
-134.7043
56.1737
-134.7004
56.1739
-134.7033
Length 1271m
56.1731
-134.7091

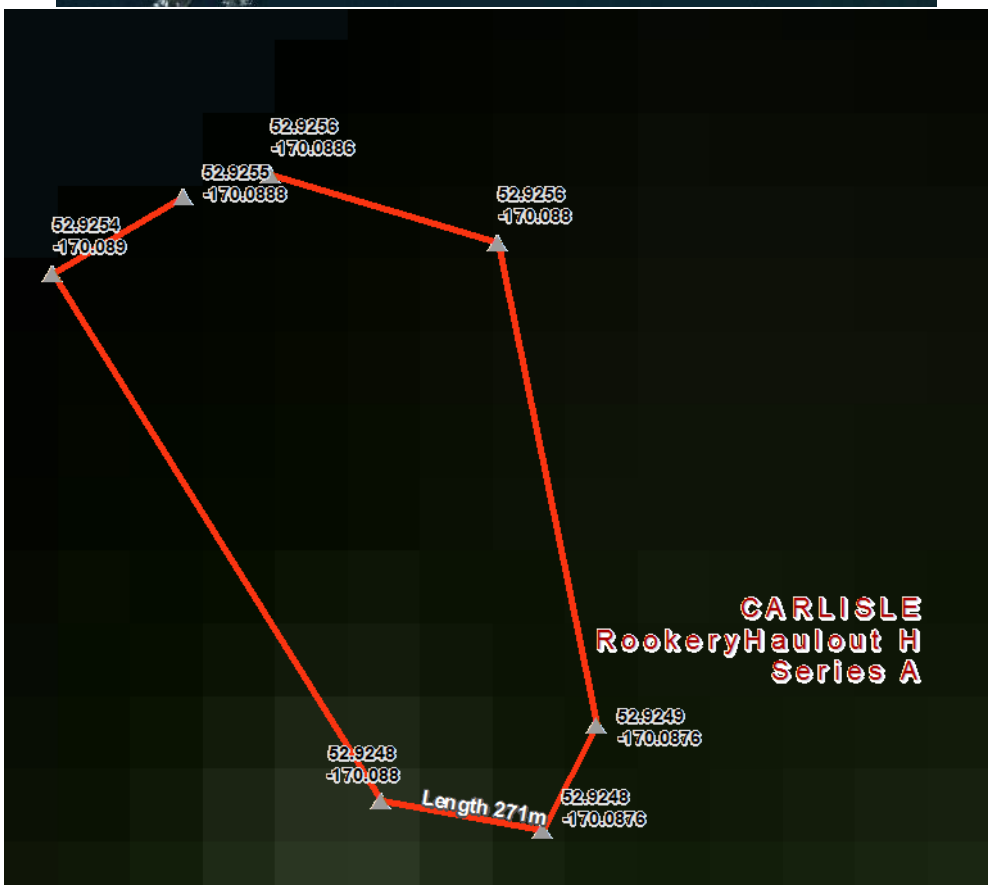

58.2092
-154.1762
CAPE GULL
RookeryHaulout
Series A
Length 329m
58.2079
-154.1738
58.2067
-154.1741


58.1939
-154.1507
58.1938
-154.1508
58.1936
-154.1479
CAPE GULL
RookeryHaulout H
Series B
58.1929
-154.1472
Length 493m
58.1925
-154.1481


60.2398
-146.6515
60.2374
-146.6524
60.2356
-146.6438
Length 2684m
60.2343
-146.6295
60.2333
-146.6282
60.2373
-146.6146
60.2359
-146.6146
CAPE HINCHINBROOK
RookeryHaulout H
Series A


-162.1215
58.6533
-162.1642
58.6481
-162.1774
CAPE NEWENHAM
RookeryHaulout H
Series A
Length 9546m
58.6322
-162.1358
58.6307
-162.1038
58.6241


59.8011
-144.6017
CAPE ST. ELIAS
RookeryHaulout H
Series A
59.7974
-144.5973
59.7862
-144.5907
59.7919
-144.6066
Length 3183m
59.7873
-144.6017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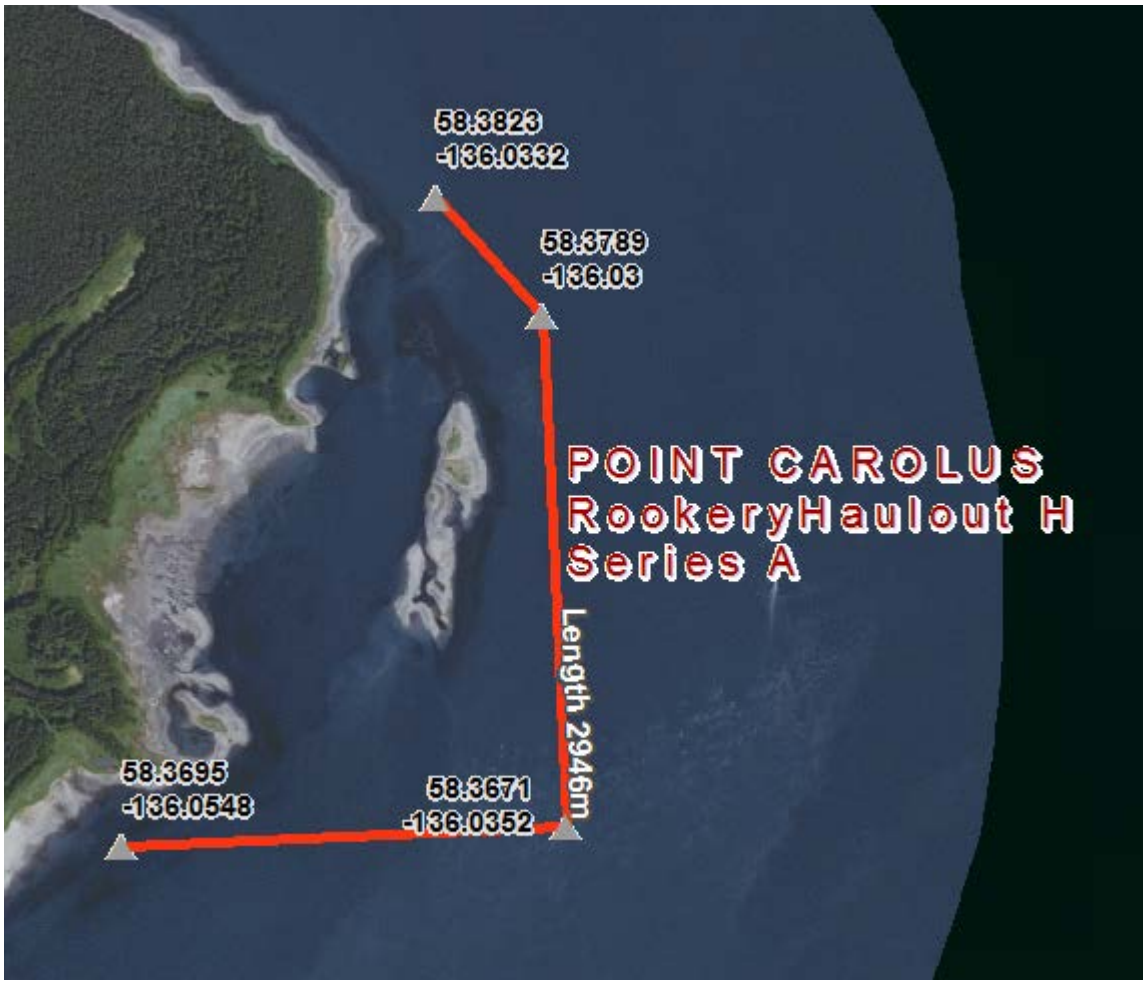
-170.088
52.9254
-170.089
CARLISLE
RookeryHaulout H
Series A
52.9249
-170.0876
52.9248
-170.088
Length 271m
52.9248
-170.0876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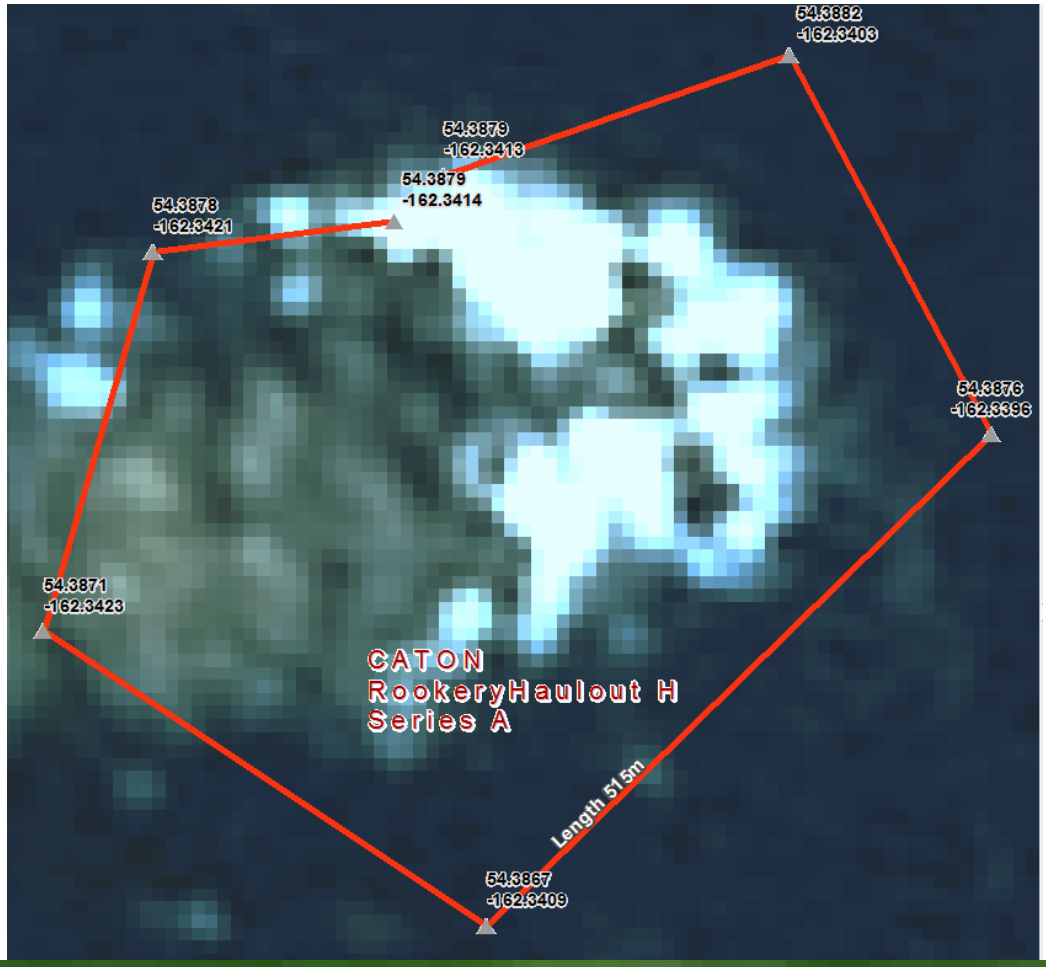
58.3789
-136.03
POINT CAROLUS
RookeryHaulout H
Series A
Length 2946m
58.3695
-136.0548
58.3671
-136.0352


55.2767
-159.4934
55.2757
-159.493
CASTLE ROCK
RookeryHaulout H
Series A
55.2753
-159.496
Length 338m
55.2749
-159.4953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54.3878
-162.3421
54.3876
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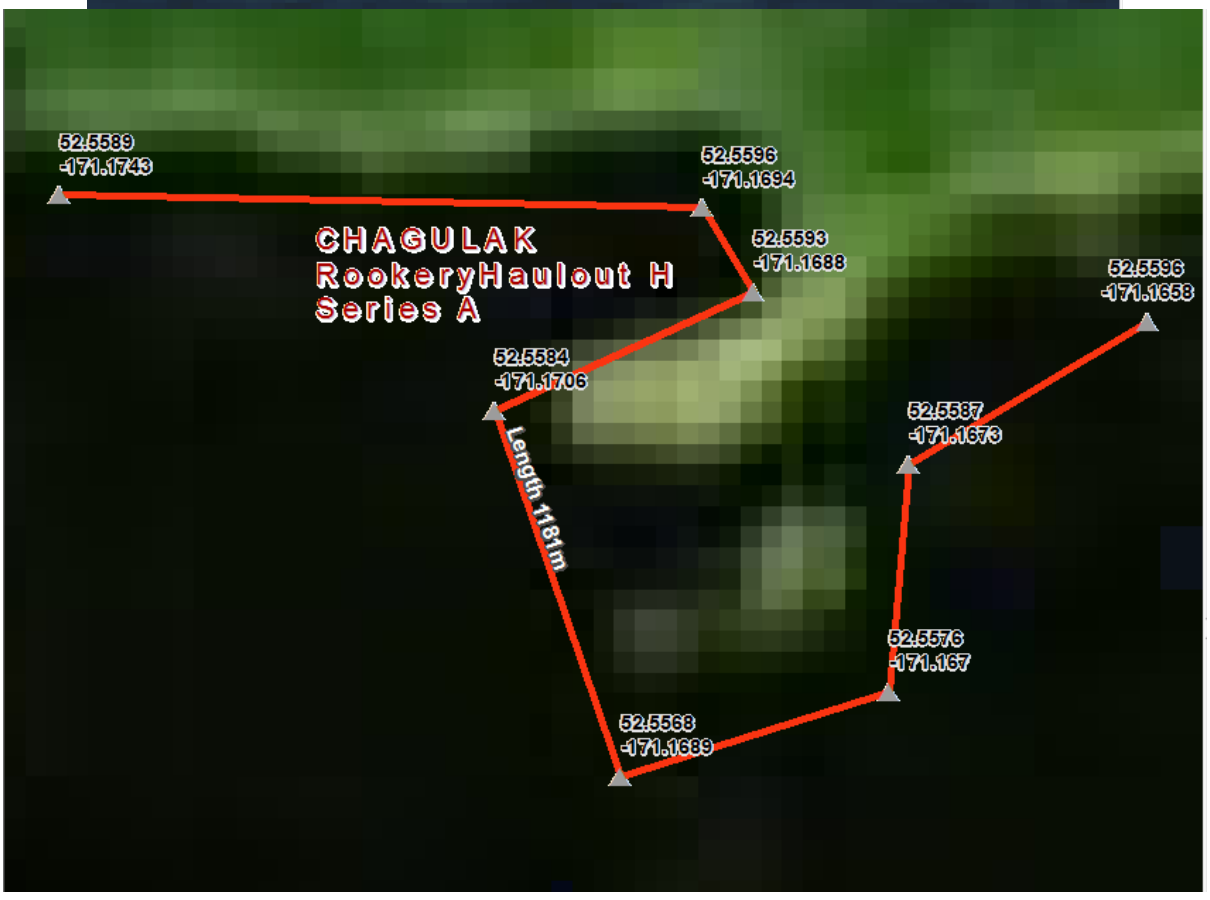
54.3871
-162.3423
CATON
RookeryHaulout H
Series A
Length 515m
54.3867
-162.3409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CHAGULAK
RookeryHaulout H
Series A
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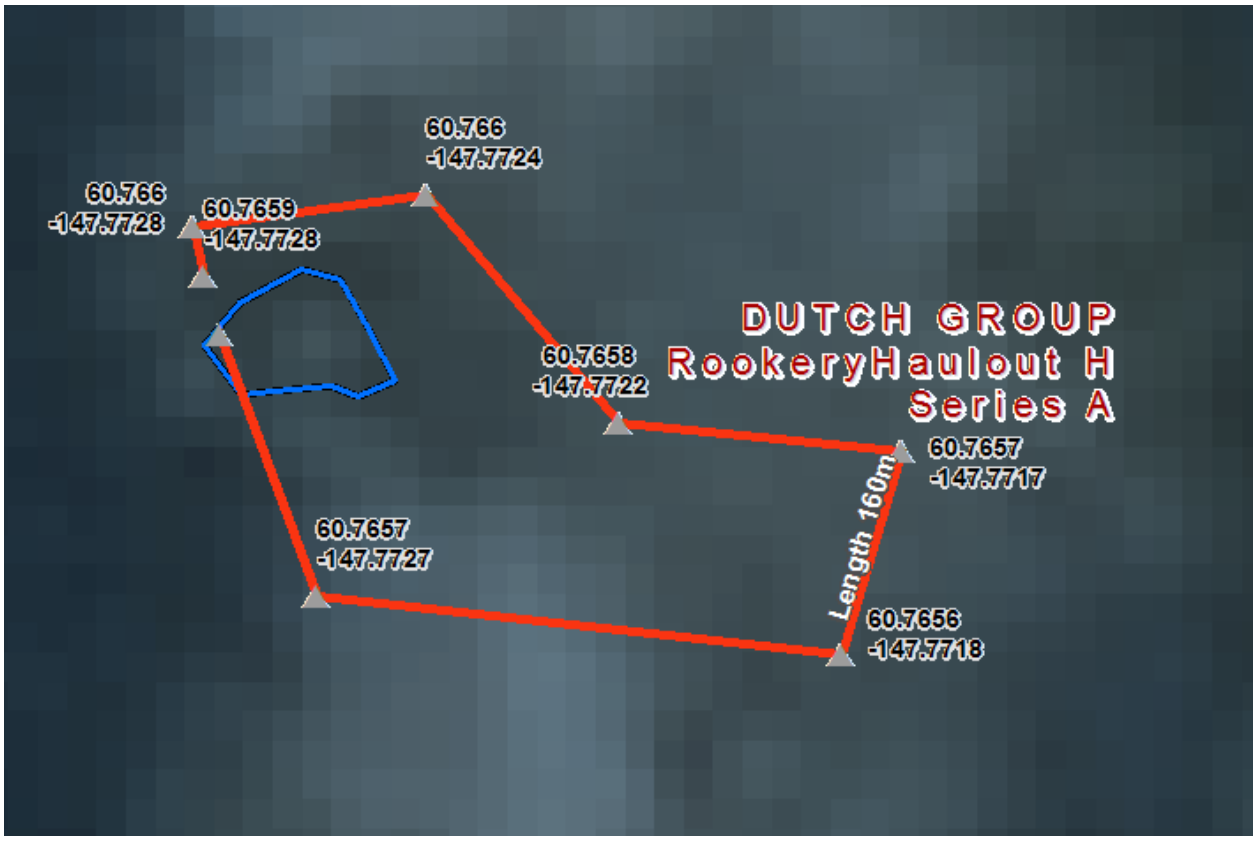
52.5596
-171.1658
52.5584
-171.1706
52.5587
-171.1673
Length 1181m
52.5576
-171.167
52.5568
-171.1689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DUTCH GROUP
RookeryHaulout H
Series A
60.7658
-147.7722
60.7657
-147.7717
Length 160m
60.7657
-147.7727
60.7656
-147.7718


53.2913
-167.8651
53.2906
-167.8659
53.2917
-167.8591
53.292
-167.8575
53.2911
-167.852
53.2895
-167.8536
53.2846
-167.8609
EMERALD
RookeryHaulout H
Series A
Length 3418m
53.2848
-167.8482
53.2835
-167.8549
53.2836
-167.8489


GREAT SITKIN
RookeryHaulout H
Series A
52.1175
-176.1478
Length 9814m
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-176.1819
52.1043
-176.1639
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-176.1869
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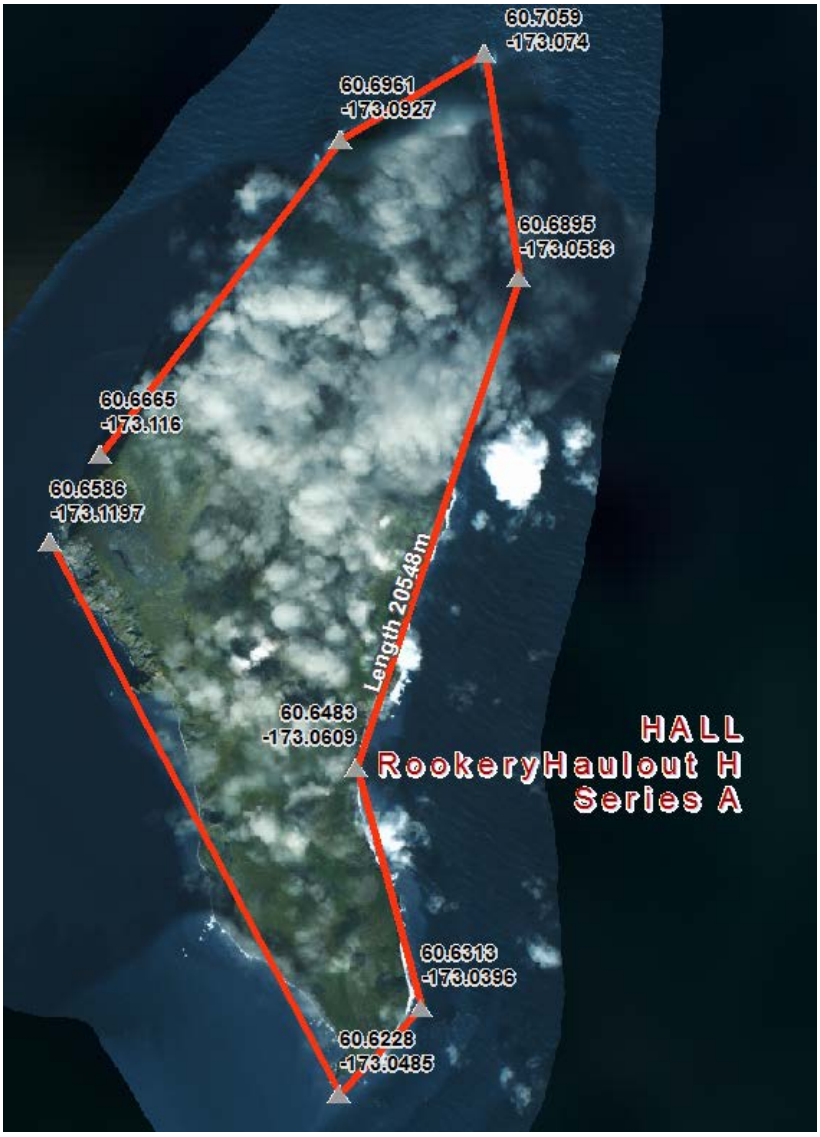
-176.0663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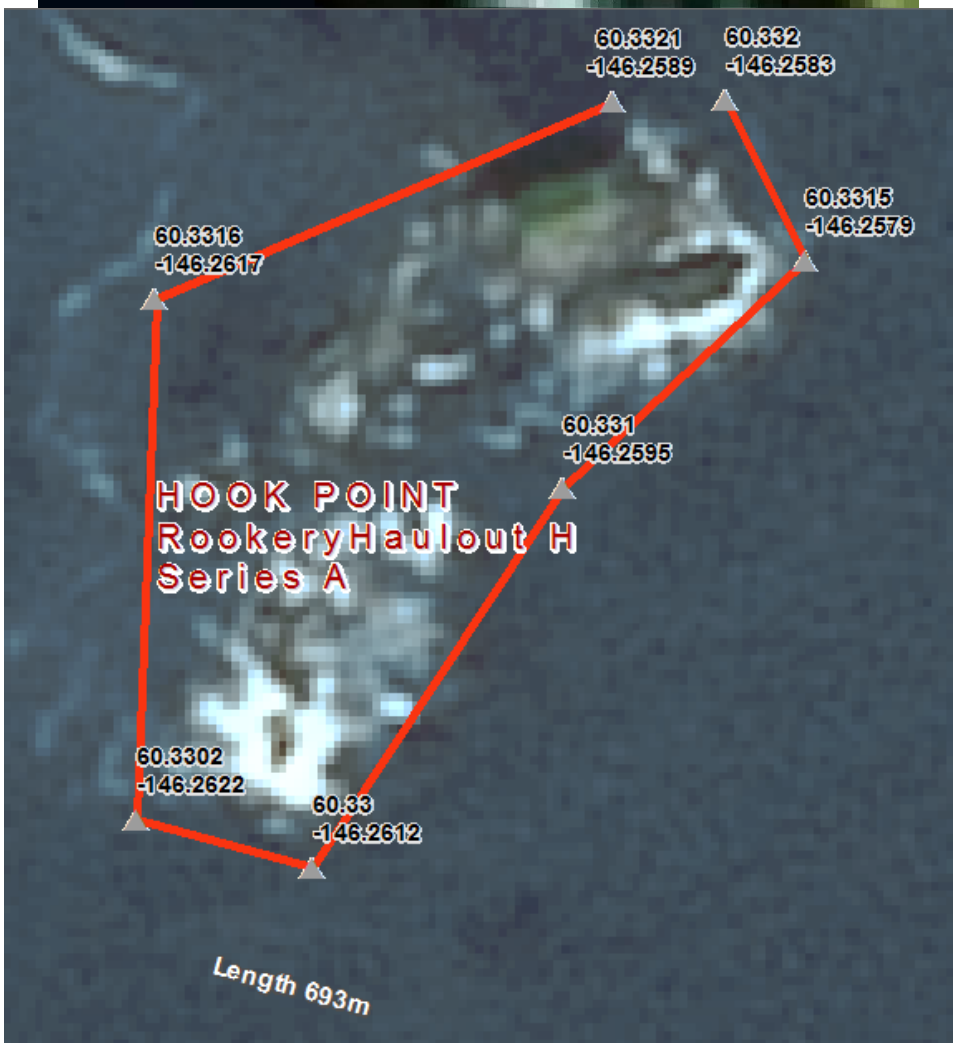
60.6961
-173.0927
60.6895
-173.0583
60.6665
-173.116
60.6586
-173.1197
Length 2054.8m
60.6483
-173.0609
HALL
RookeryHaulout H
Series A
60.6313
-173.0396
60.6228
-173.0485


HAWADAX (RAT)
RookeryHaulout H
Series A
51.8364
178.2112
51.8327
178.2015
51.8361
178.2152
Length 2385m
51.8302
178.2028
51.8295
178.216
51.8284
178.2154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-146.2617
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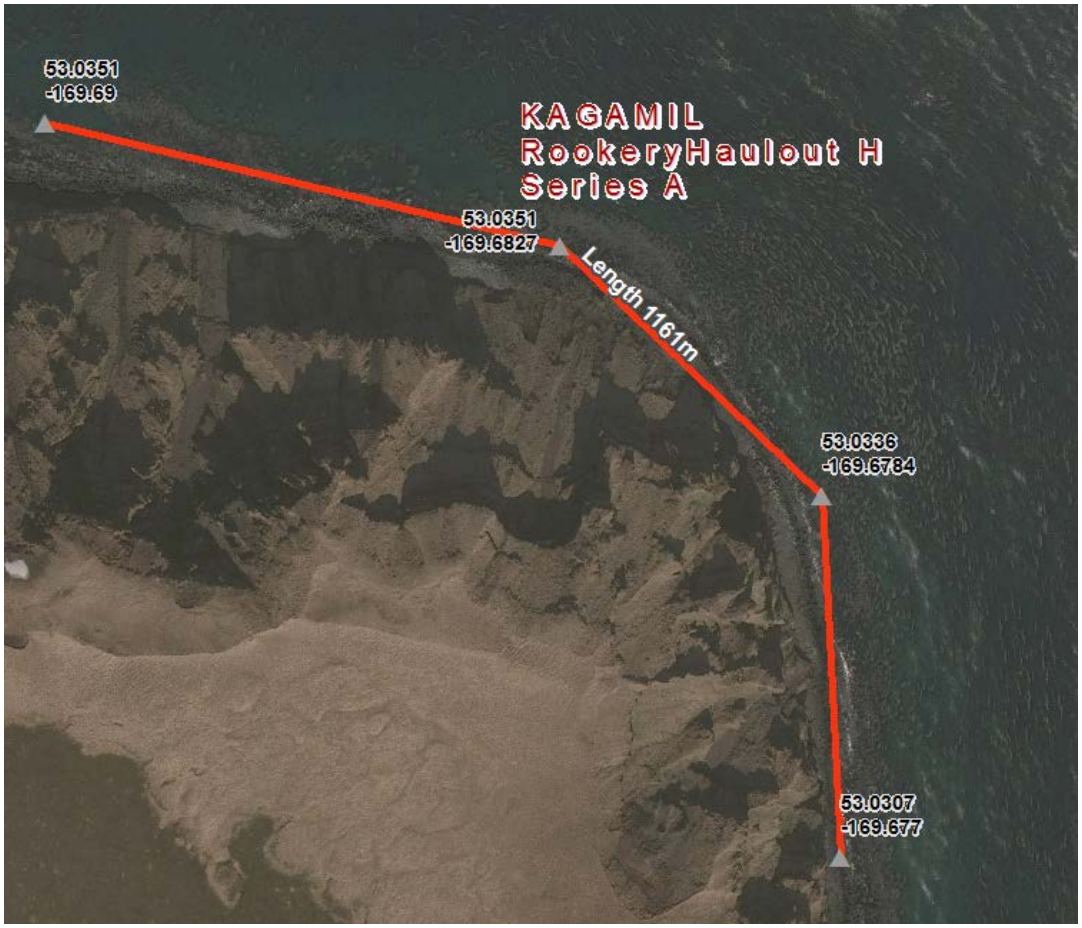
-146.2595
HOOK POINT
RookeryHaulout H
Series A
60.3302
-146.2622
60.33
-146.2612
Length 693m


KAGALASKA
RookeryHaulout H
Series A
51.869
-176.3167
Length 1131m
51.8716
-176.3072
51.8714
-176.3054
51.872
-176.3033
51.8717
-176.3015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KAGAMIL
RookeryHaulout H
Series A
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-169.6827
Length 1161m
53.0336
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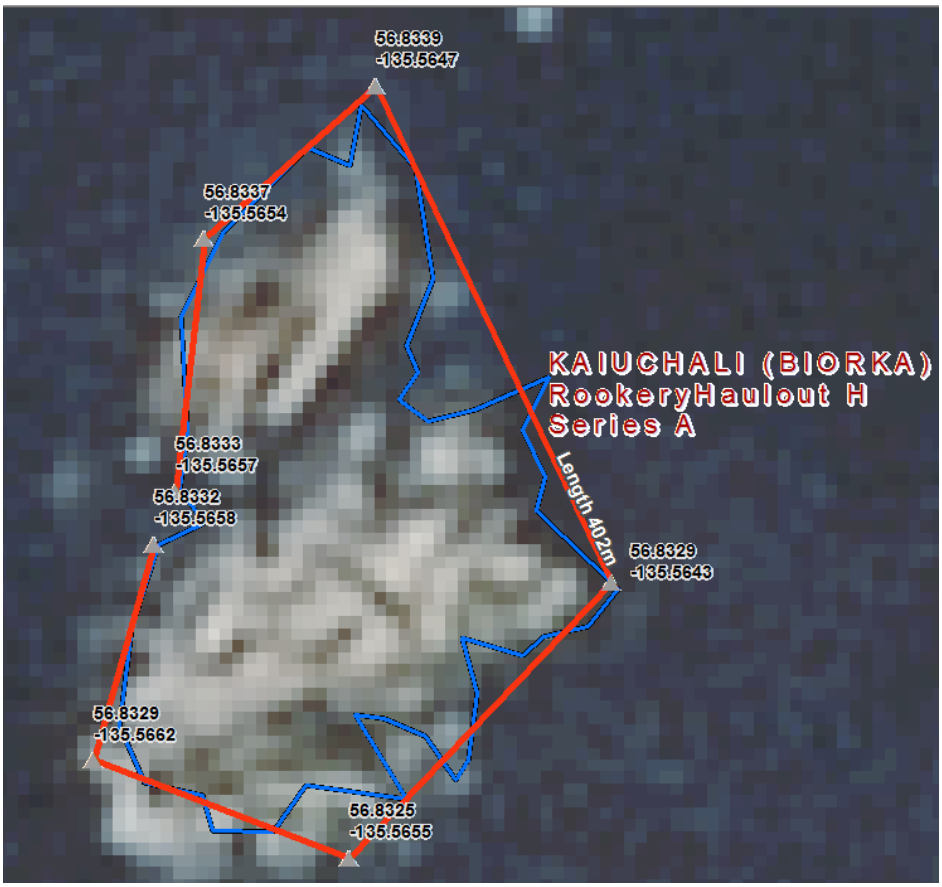
53.0307
-169.677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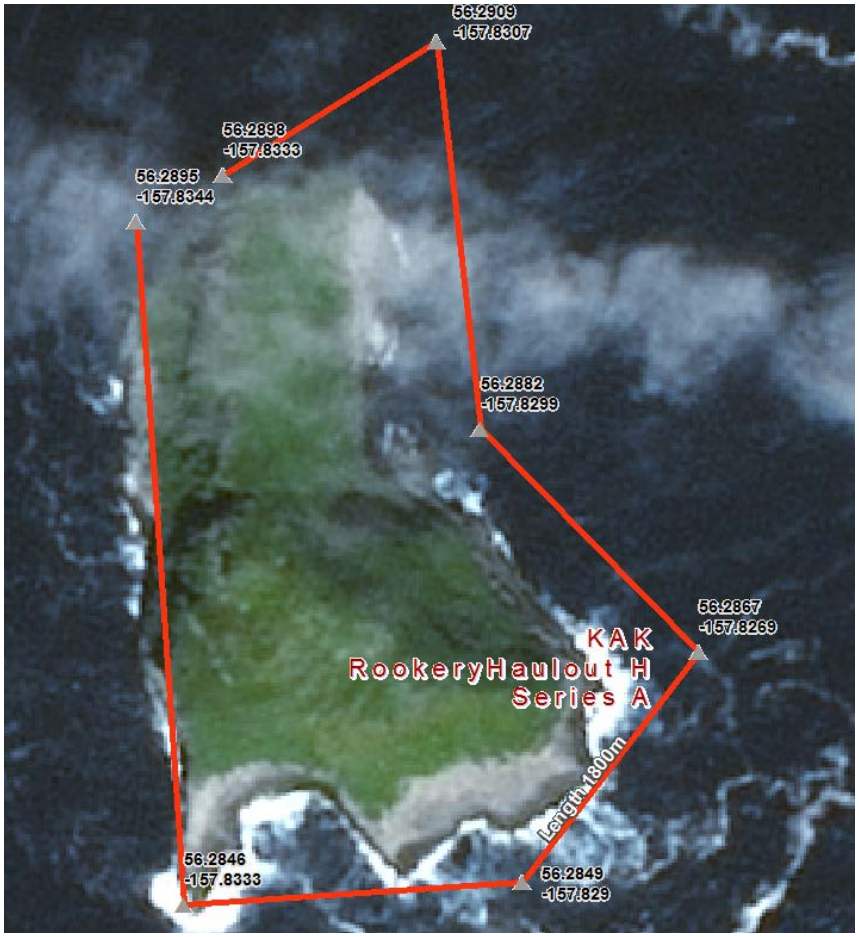
56.8332
-135.5658
56.8329
-135.5662
56.8325
-135.5655
56.8329
-135.5643
Length 402m
KAIUCHALI (BIORKA)
RookeryHaulout H
Series A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56.2882
-157.8299
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KAK
RookeryHaulout H
Series A
Length 1800m
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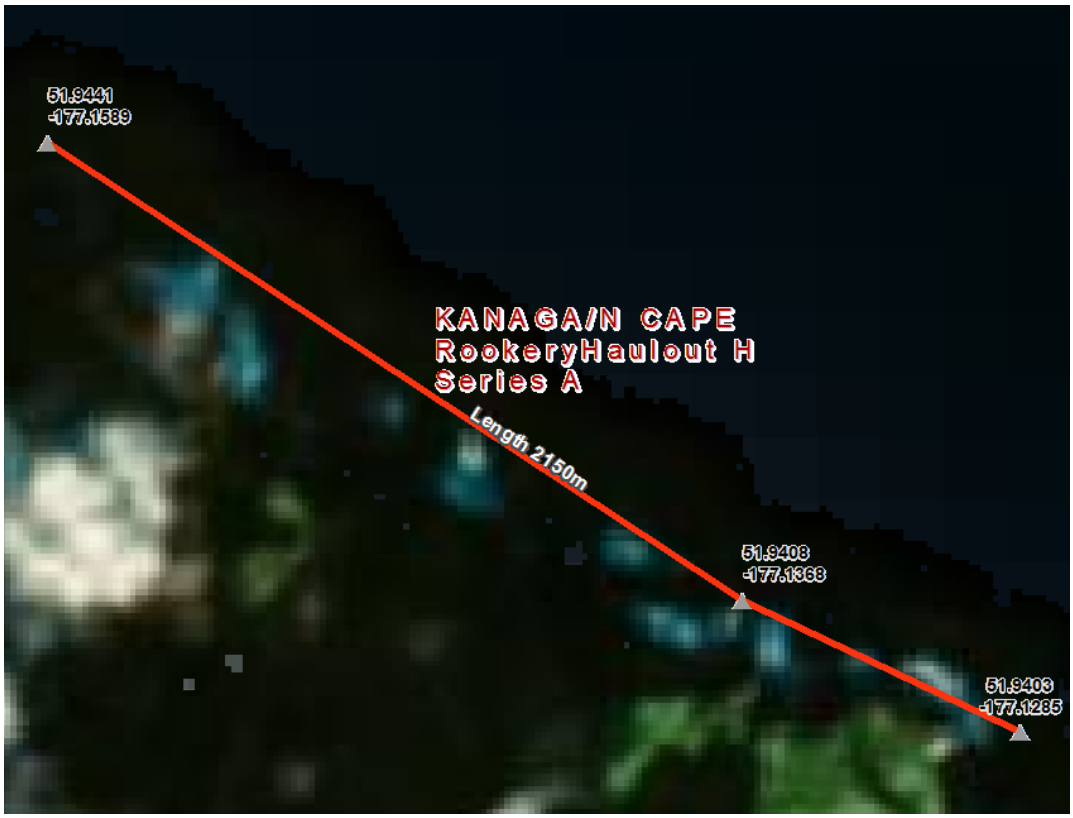
56.2849
-157.829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KANAGA/N CAPE
RookeryHaulout H
Series A
Length 2150m
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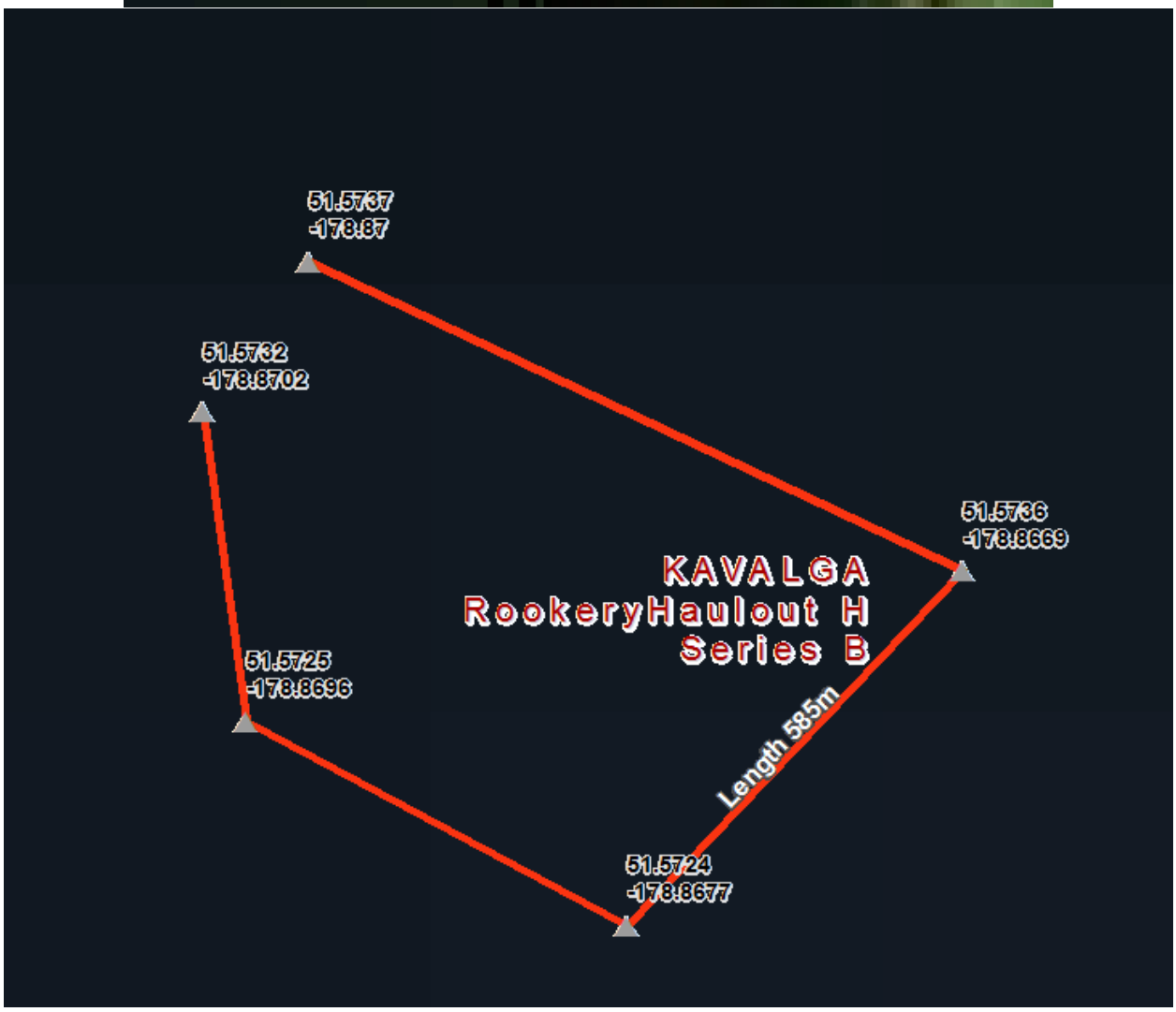
-177.1368
51.9403
-177.1285


KAVALGA
RookeryHaulout H
Series A
51.5762 -178.8656
Length 2459m
51.578
-178.849
51.5735
-178.8621
51.5727
-178.8492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KAVALGA
RookeryHaulout H
Series B
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Length 585m
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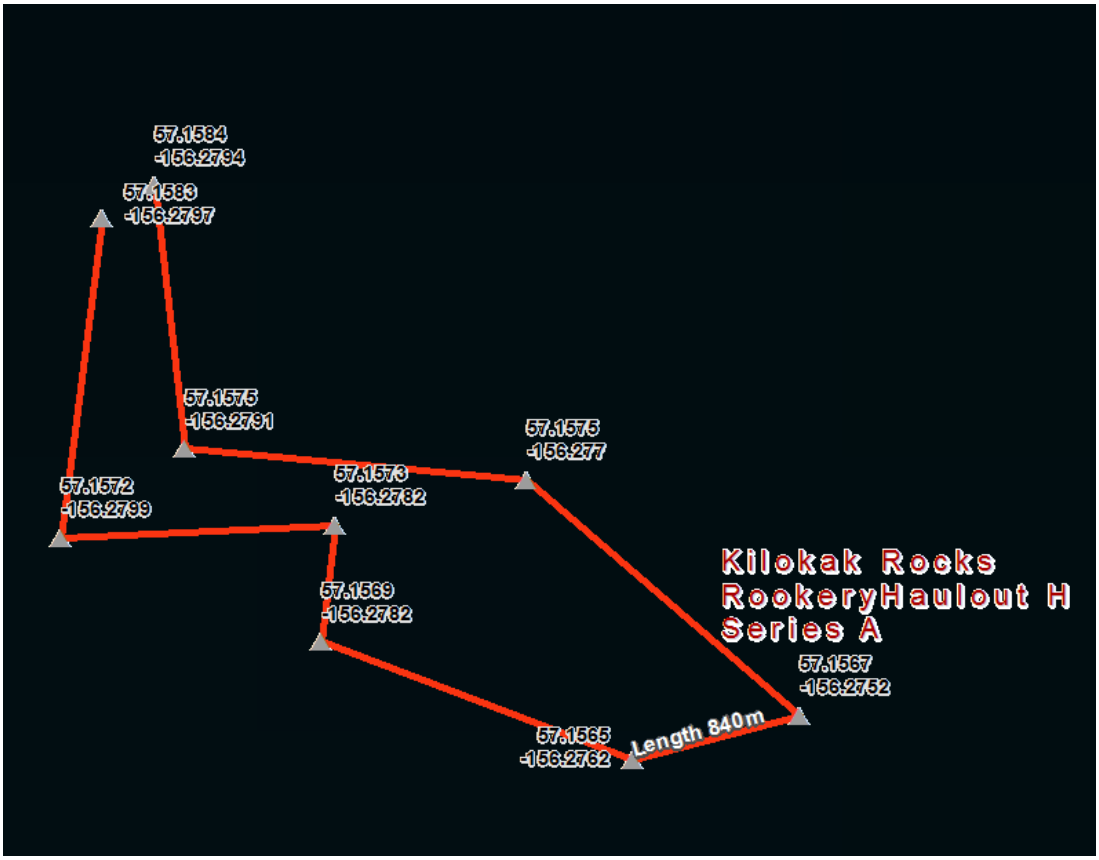
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-156.277
57.1573
-156.2782
57.1572
-156.2799
57.1569
-156.2782
Kilokak Rocks
RookeryHaulout H
Series A
57.1567
-156.2752
57.1565
-156.2762
Length 840m


52.1357
177.6026
52.1349
177.6082
KISKA/SIRIUS POINT
RookeryHaulout H
Series A
Length 2023m
52.1318
177.614
52.1304
177.6125
52.1247
177.6193


51.83
177.3011
51.8291
177.3012
51.8333
177.321
KISKA/SOBAKA-VEGA
RookeryHaulout H
Series A
51.8318
177.3217
51.8313
177.325
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177.3156
Length 27.97m
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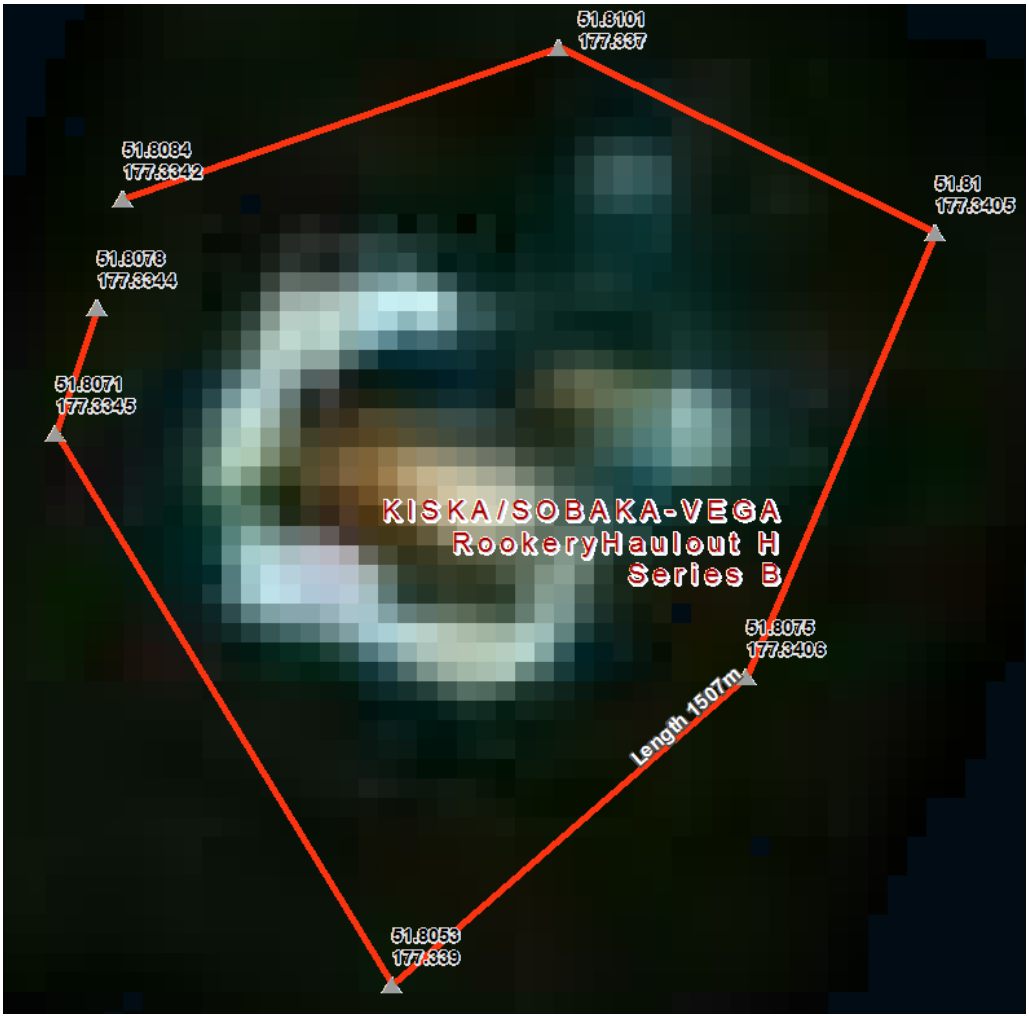
177.3245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51.8071
177.3345
KISKA/SOBAKA-VEGA
RookeryHaulout H
Series B
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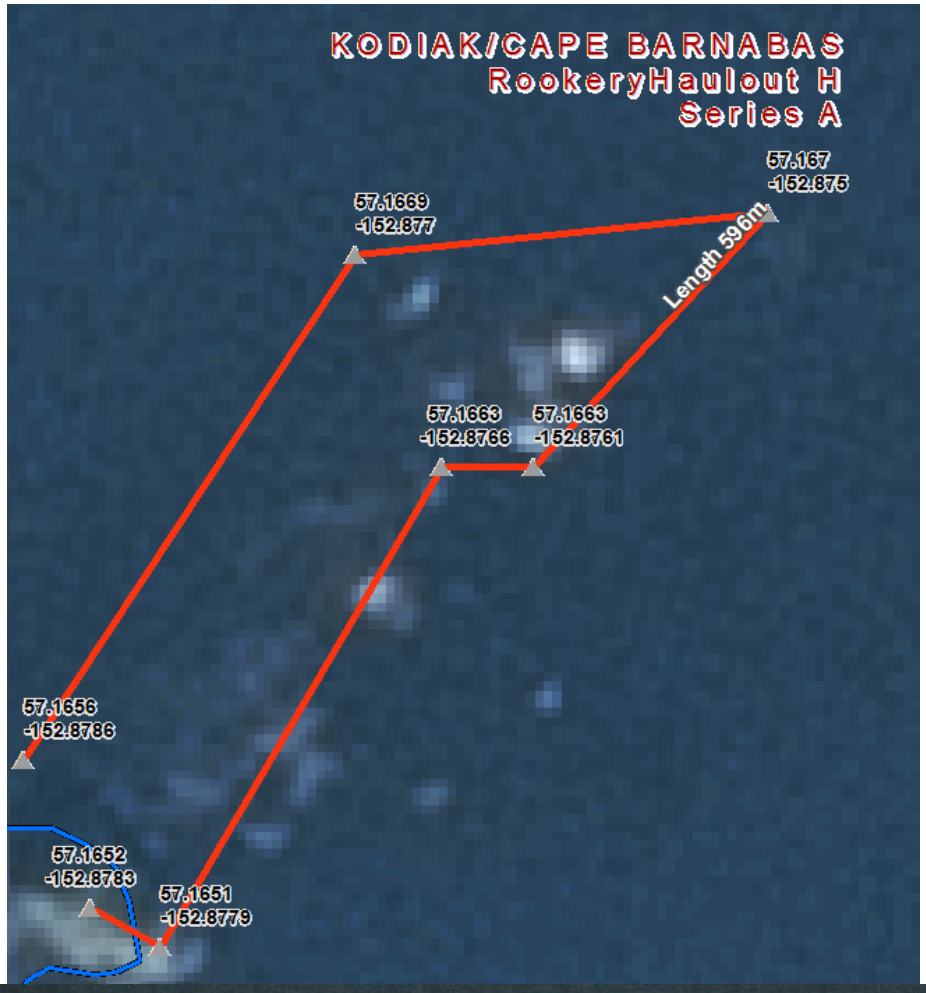
177.3406
Length 1507m
51.8053
177.339


KODIAK/CAPE BARNABAS
RookeryHaulout H
Series A
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57.1669
-152.877
Length 596m
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-152.8761
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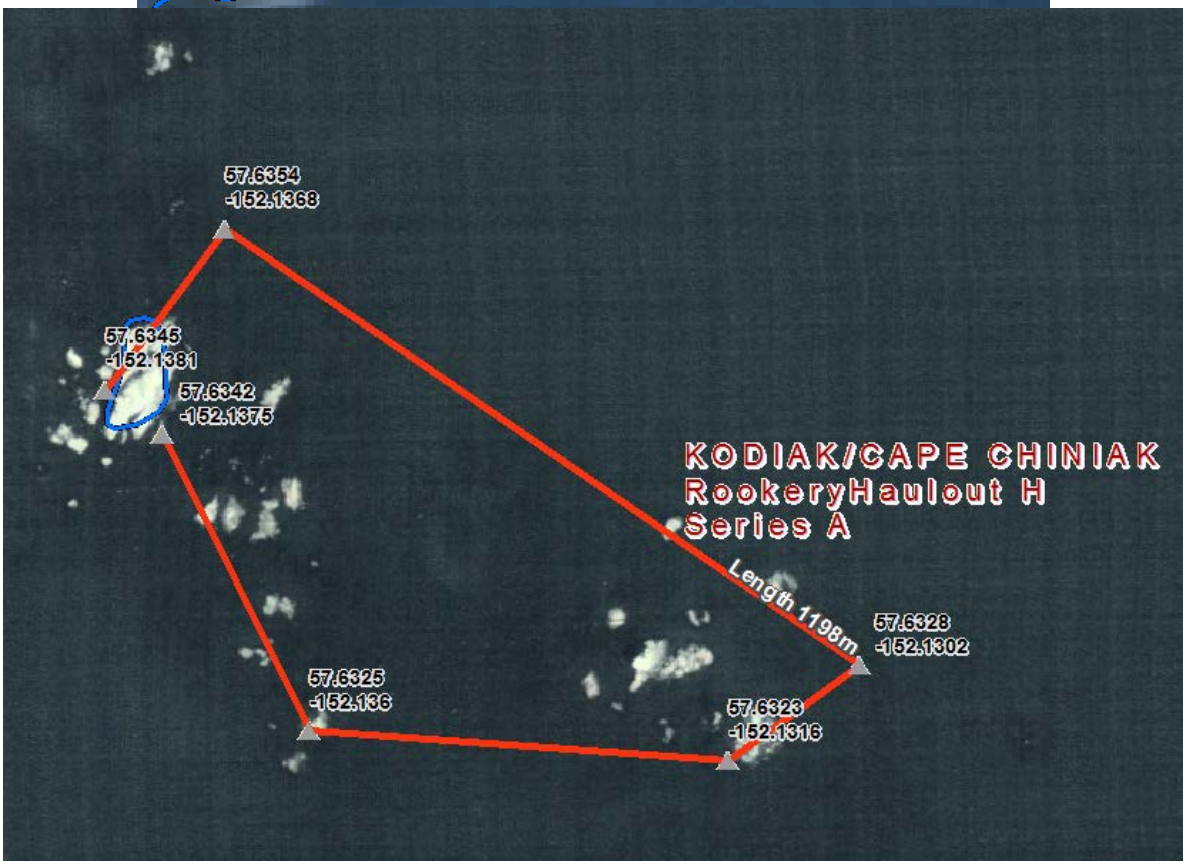
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KODIAK/CAPE CHINIAK
RookeryHaulout H
Series A
Length 1198m
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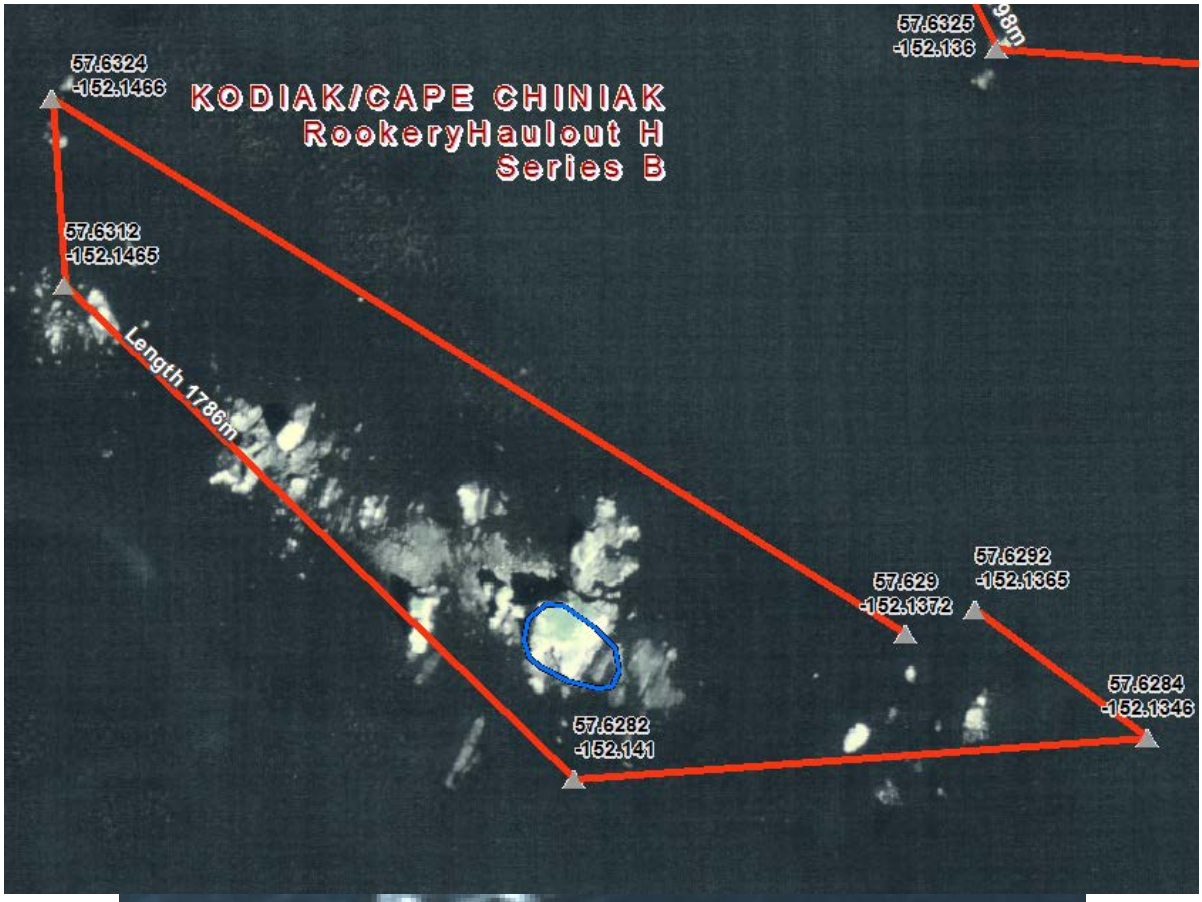
-152.1316


KODIAK/CAPE CHINIAK
RookeryHaulout H
Series B
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Length 1786m
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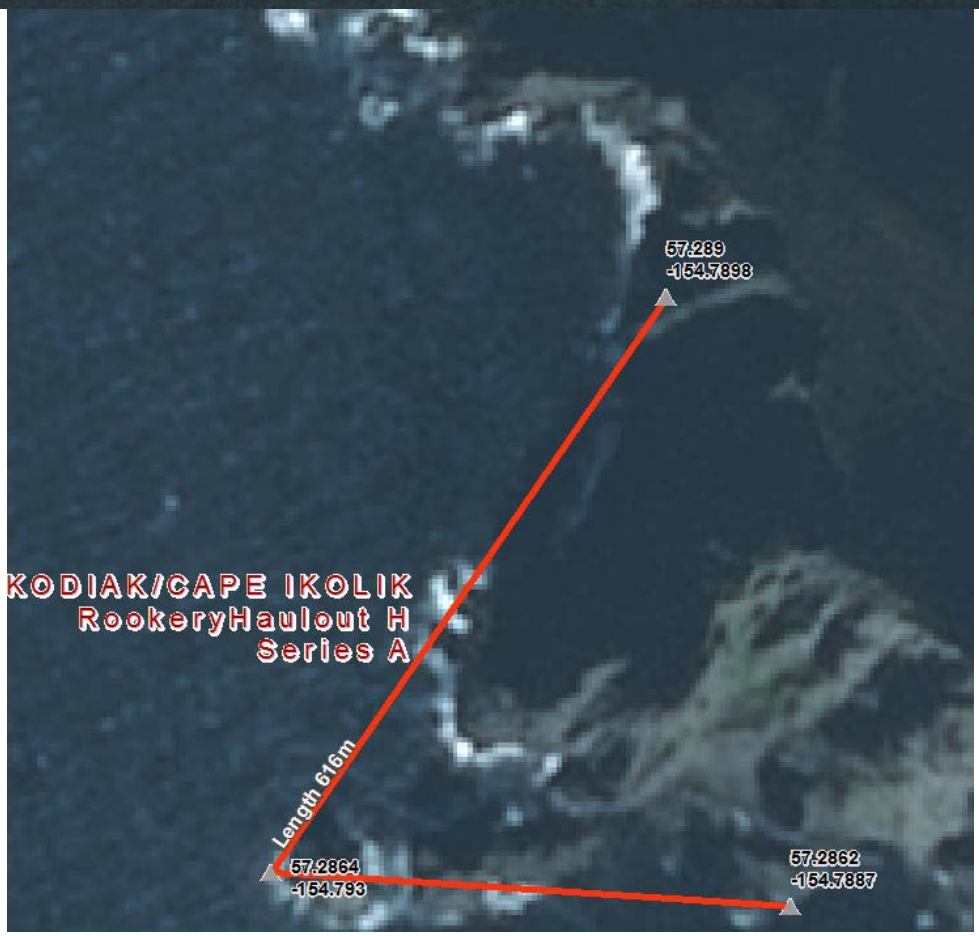
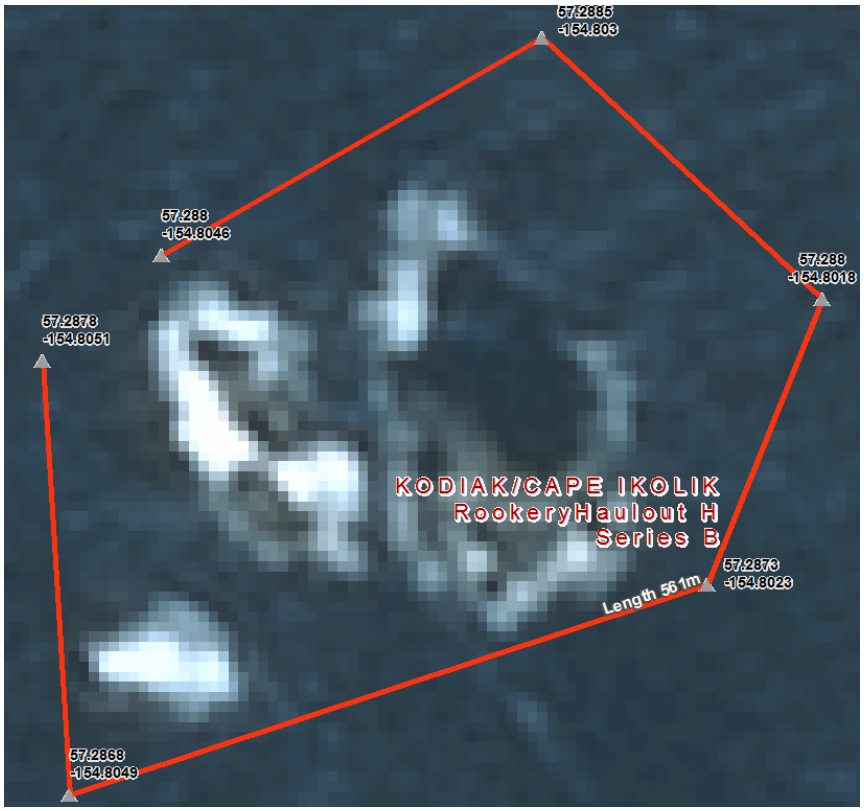
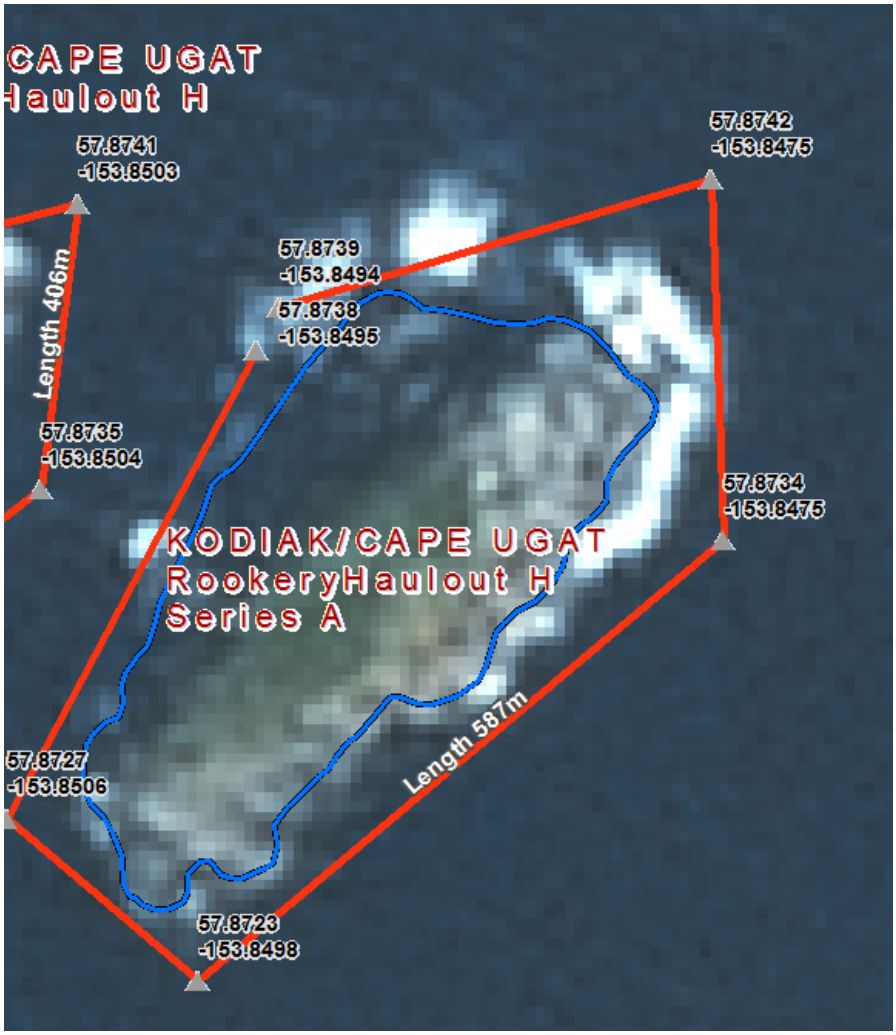
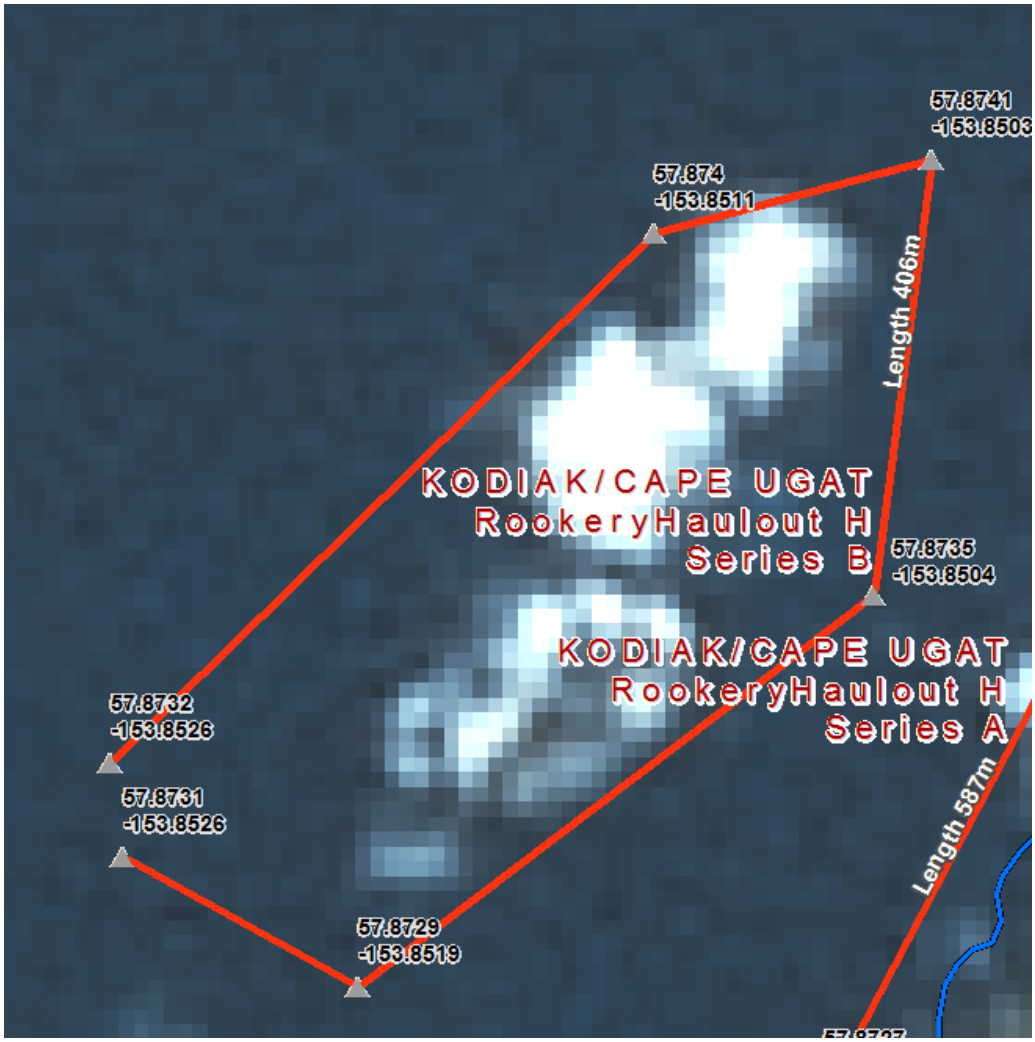
-152.141


KODIAK/CAPE IKOLIK
RookeryHaulout H
Series A
57.289
-154.7898
Length 616m
57.2864
-154.793
57.2862
-154.7887


57.2885
-154.803
57.288
-154.8046
57.288
-154.8018
57.2878
-154.8051
KODIAK/CAPE IKOLIK
RookeryHaulout H
Series B
57.2873
-154.8023
Length 561m
57.2868
-154.8049


CAPE UGAT
Haulout H
57.8741
-153.8503
57.8742
-153.8475
57.8739
-153.8494
57.8738
-153.8495
Length 406m
57.8735
-153.8504
57.8734
-153.8475
KODIAK/CAPE UGAT
RookeryHaulout H
Series A
57.8727
-153.8506
Length 587m
57.8723
-153.8498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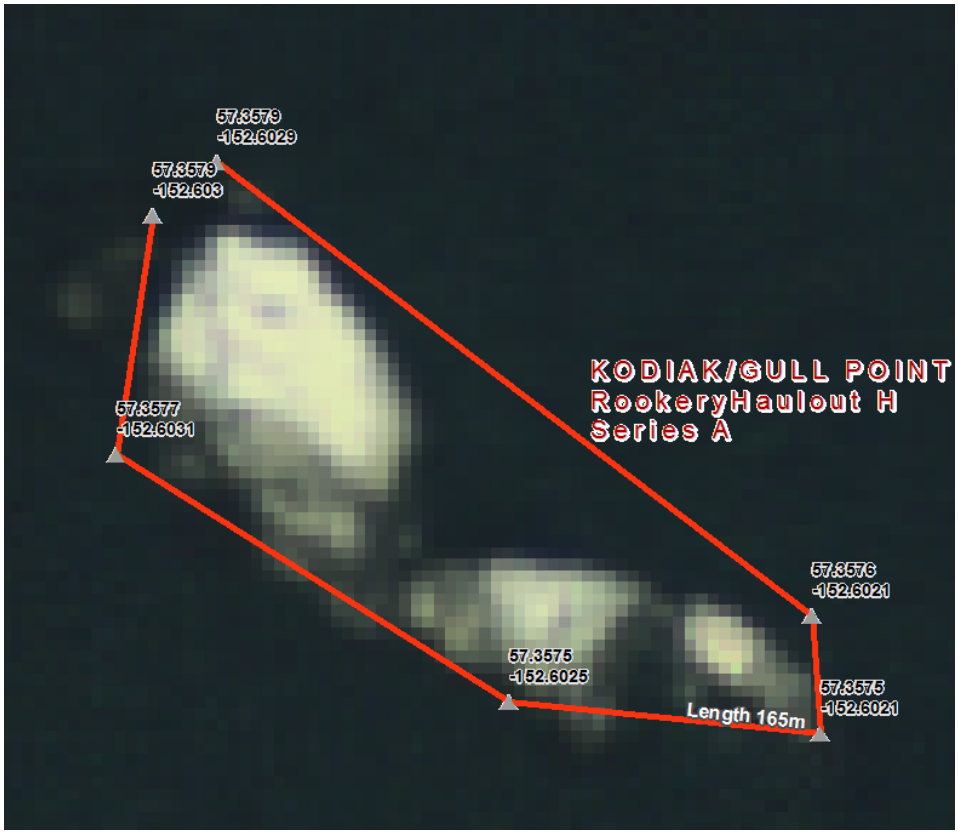
-153.8503
57.874
-153.8511
Length 406m
KODIAK/CAPE UGAT
RookeryHaulout H
Series B
57.8735
-153.8504
KODIAK/CAPE UGAT
RookeryHaulout H
Series A
57.8732
-153.8526
57.8731
-153.8526
Length 587m
57.8729
-153.8519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-152.6029
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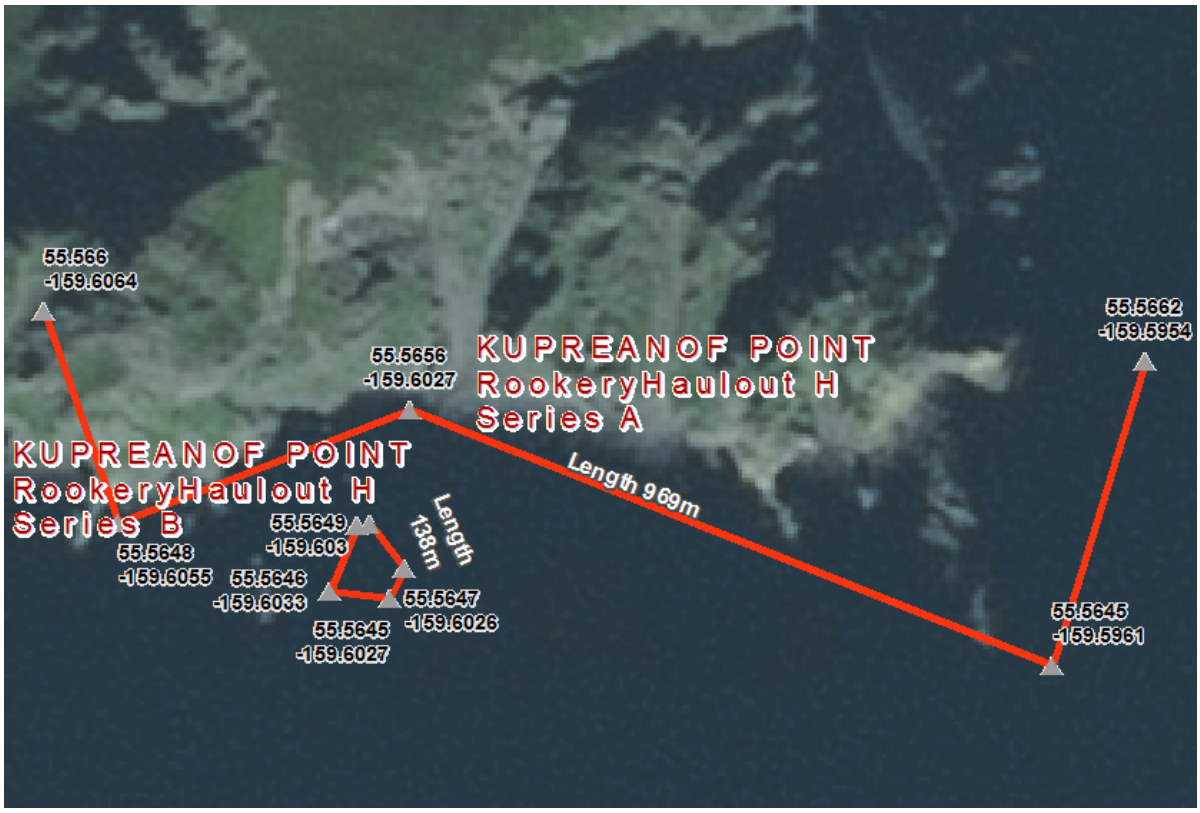
-152.603
KODIAK/GULL POINT
RookeryHaulout H
Series A
57.3577
-152.6031
57.3576
-152.6021
57.3575
-152.6025
57.3575
-152.6021
Length 165m


55.566
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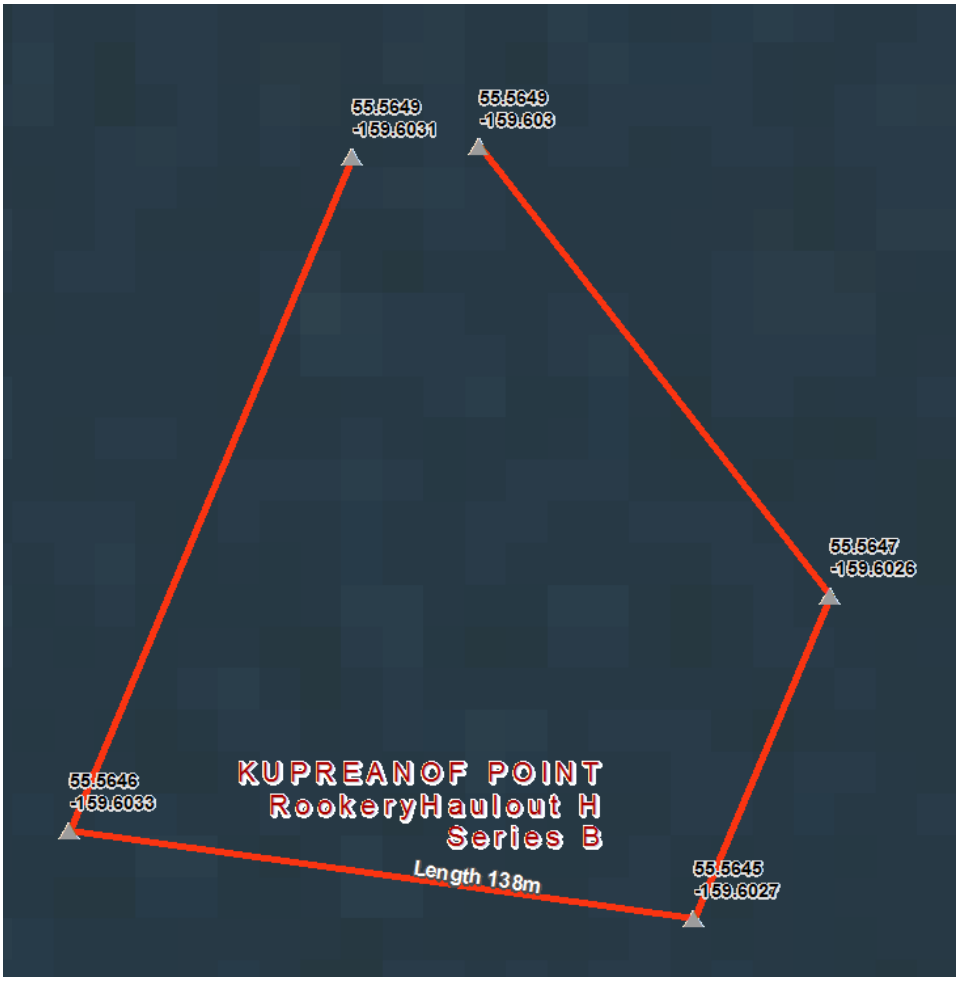
55.5656
-159.6027
KUPREANOF POINT
RookeryHaulout H
Series A
55.5662
-159.5954
KUPREANOF POINT
RookeryHaulout H
Series B
Length 969m
55.5649
-159.603
Length
138m
55.5648
-159.6055
55.5646
-159.6033
55.5647
-159.6026
55.5645
-159.6027
55.5645
-159.5961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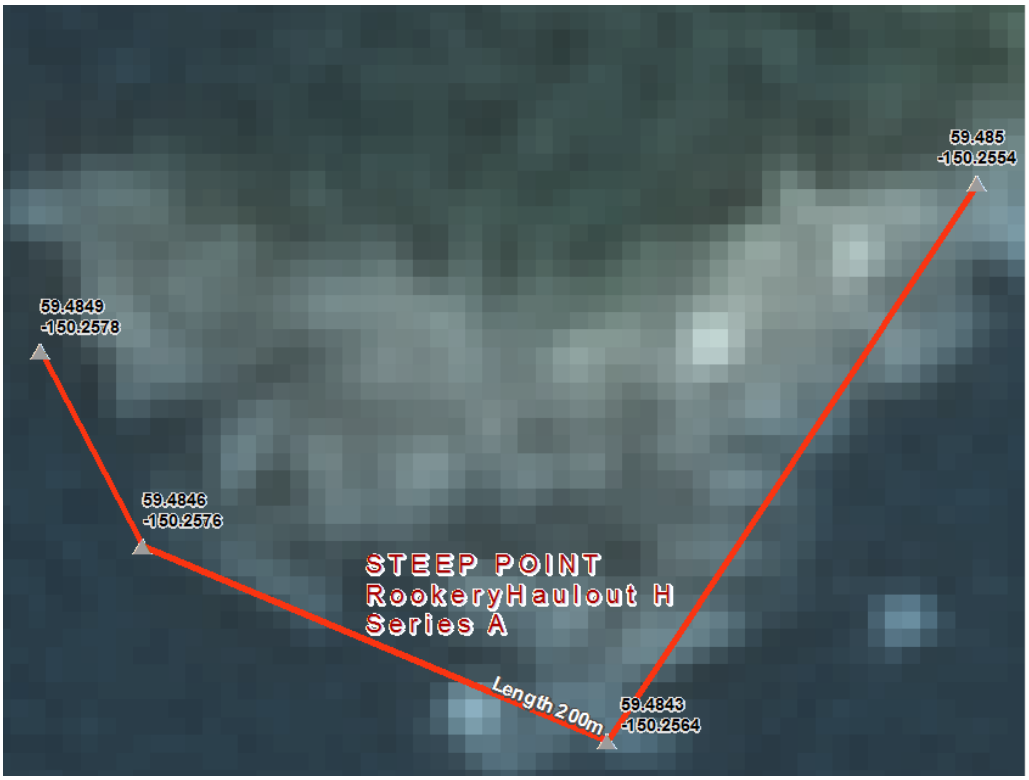
-159.6033
KUPREANOF POINT
RookeryHaulout H
Series B
Length 138m
55.5645
-159.6027


59.485
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59.4849
-150.2578
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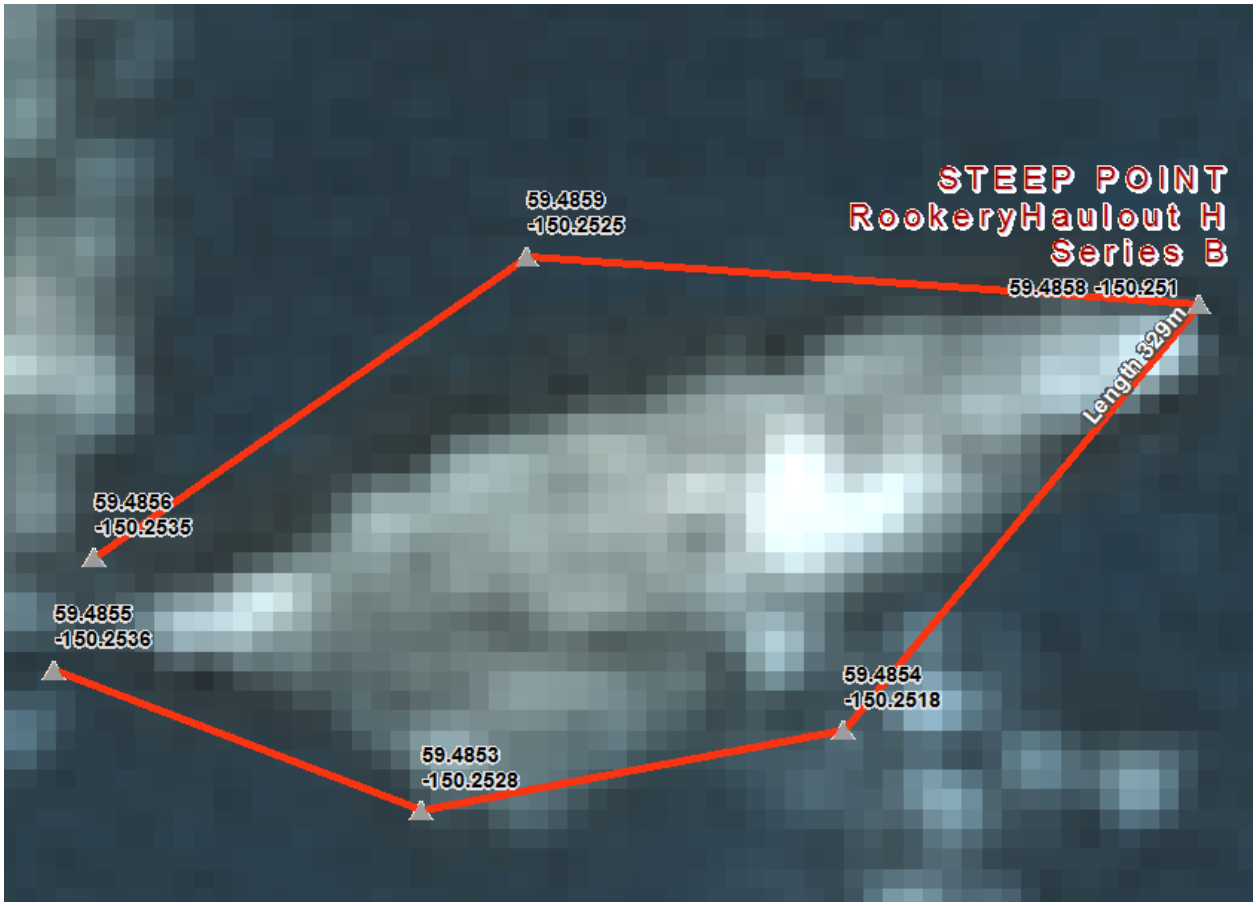
-150.2576
STEEP POINT
RookeryHaulout H
Series A
Length 200m
59.4843
-150.2564


STEEP POINT
RookeryHaulout H
Series B
59.4859
-150.2525
59.4858 -150.251
Length 329m
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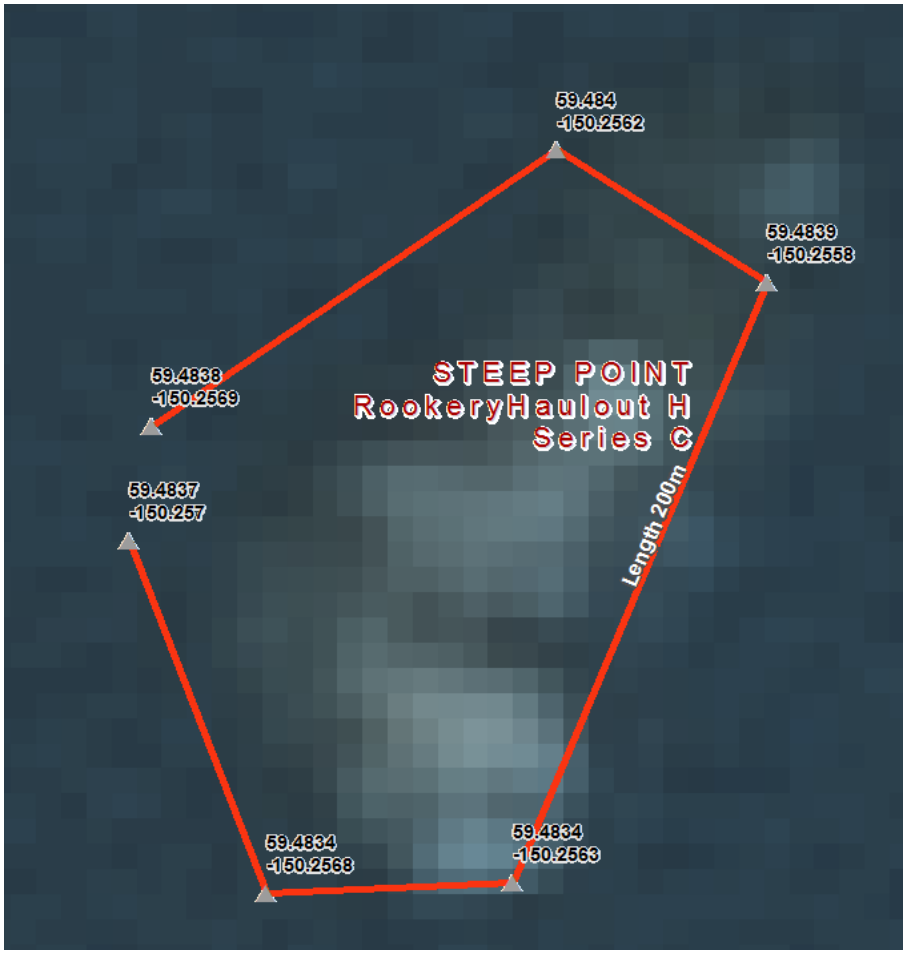
-150.2535
59.4855
-150.2536
59.4854
-150.2518
59.4853
-150.2528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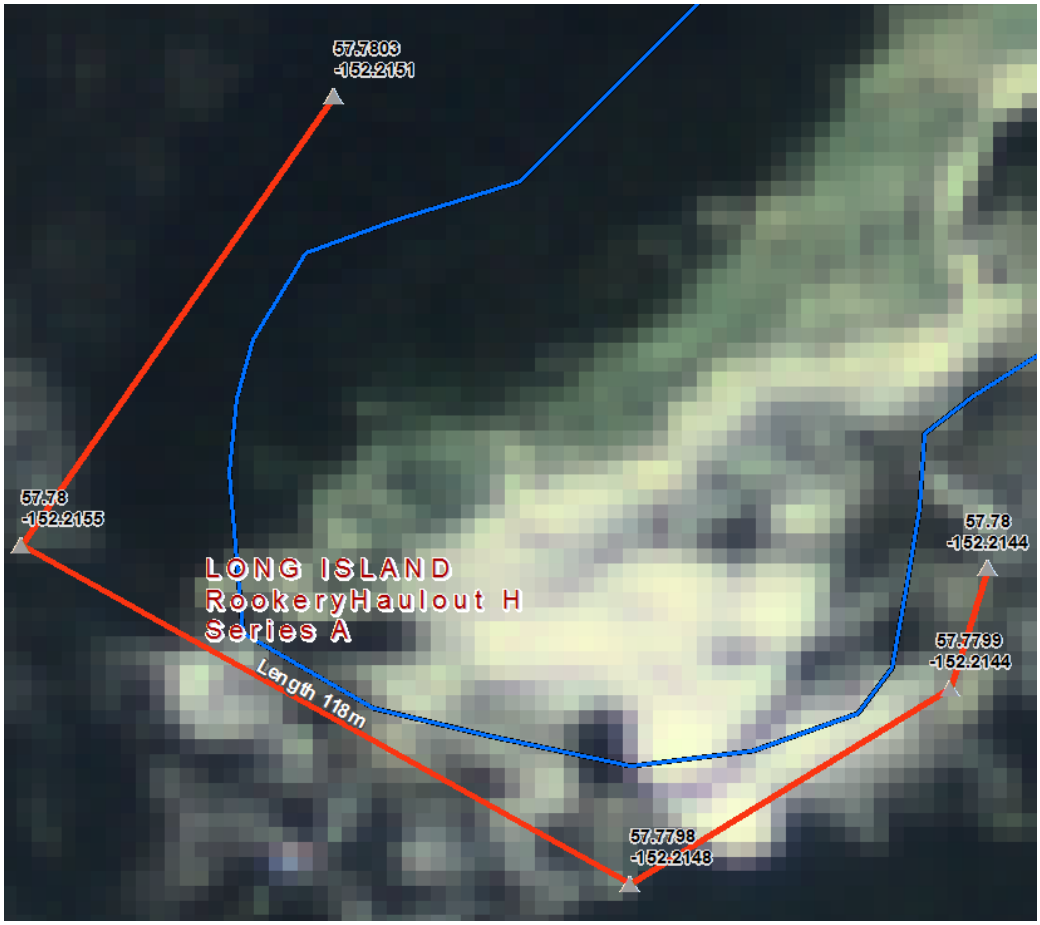
-150.2562
59.4839
-150.2558
59.4838
-150.2569
STEEP POINT
RookeryHaulout H
Series C
59.4837
-150.257
Length 200m
59.4834
-150.2568
59.4834
-150.2563


58.5447
-135.0484
58.5449
-135.0479
58.5436
-135.0443
LITTLE ISLAND
RookeryHaulout H
Series A
58.541
-135.0425
58.5404
-135.0495
58.5383
-135.0444
Length 1864 m
58.5376
-135.0483


51.9861
178.4976
51.9831
178.4916
Length 3453m
LITTLE SITKIN
RookeryHaulout H
Series A
51.9867
178.4944
51.9852
178.4909
51.9826
178.5146


51.8241
-176.235
51.8216
-176.2338
LITTLE TANAGA STRAIT
RookeryHaulout H
Series A
Length 1875m
51.8122
-176.2164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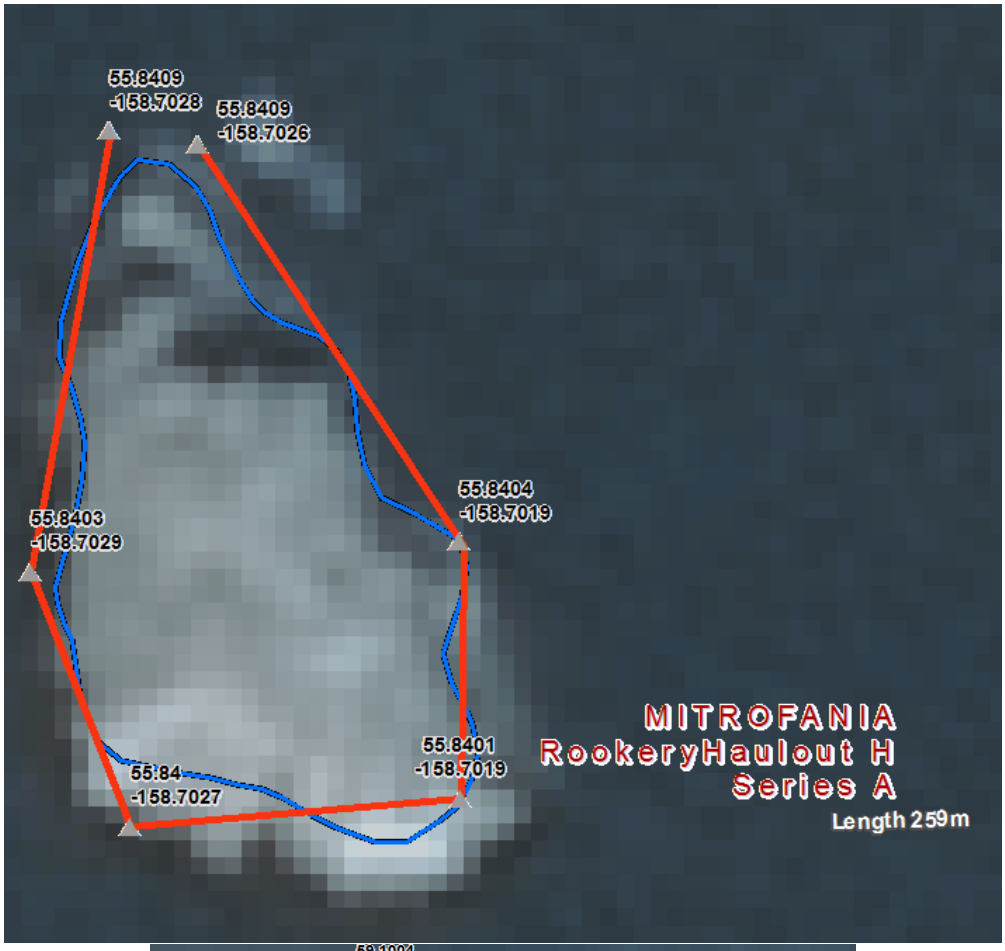
57.78
-152.2155
LONG ISLAND
RookeryHaulout H
Series A
Length 118 m
57.78
-152.2144
57.7799
-152.2144
57.7798
-152.2148


59.4704
-146.308
59.4686
-146.3021
59.4619
-146.2826
MIDDLETON
RookeryHaulout H
Series A
59.4055
-146.3874
Length 19898m
59.4039
-146.3372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-158.7029
55.8401
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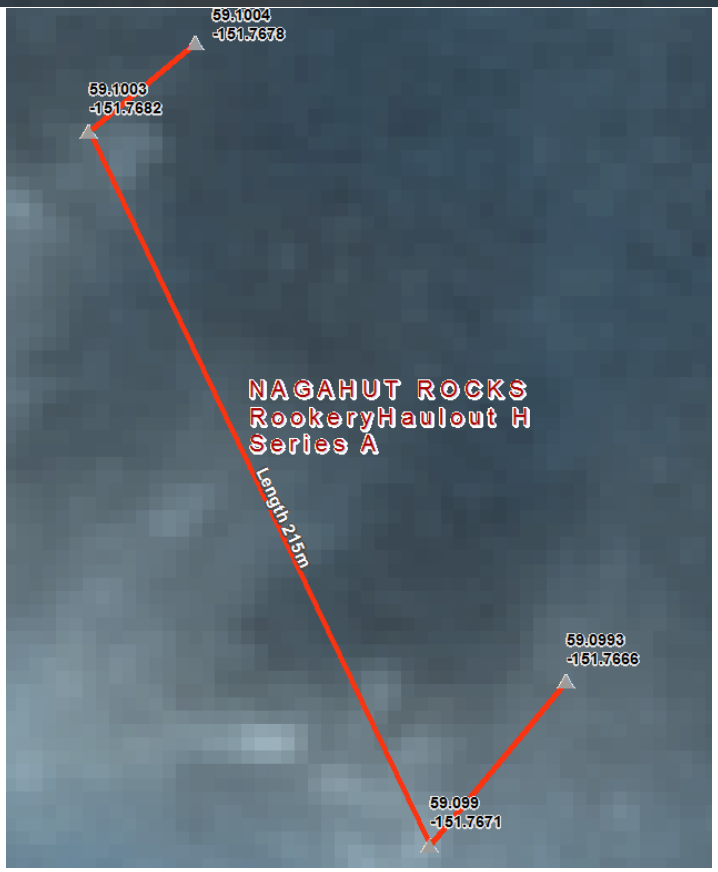
55.84
-158.7027
MITROFANIA
RookeryHaulout H
Series A
Length 259m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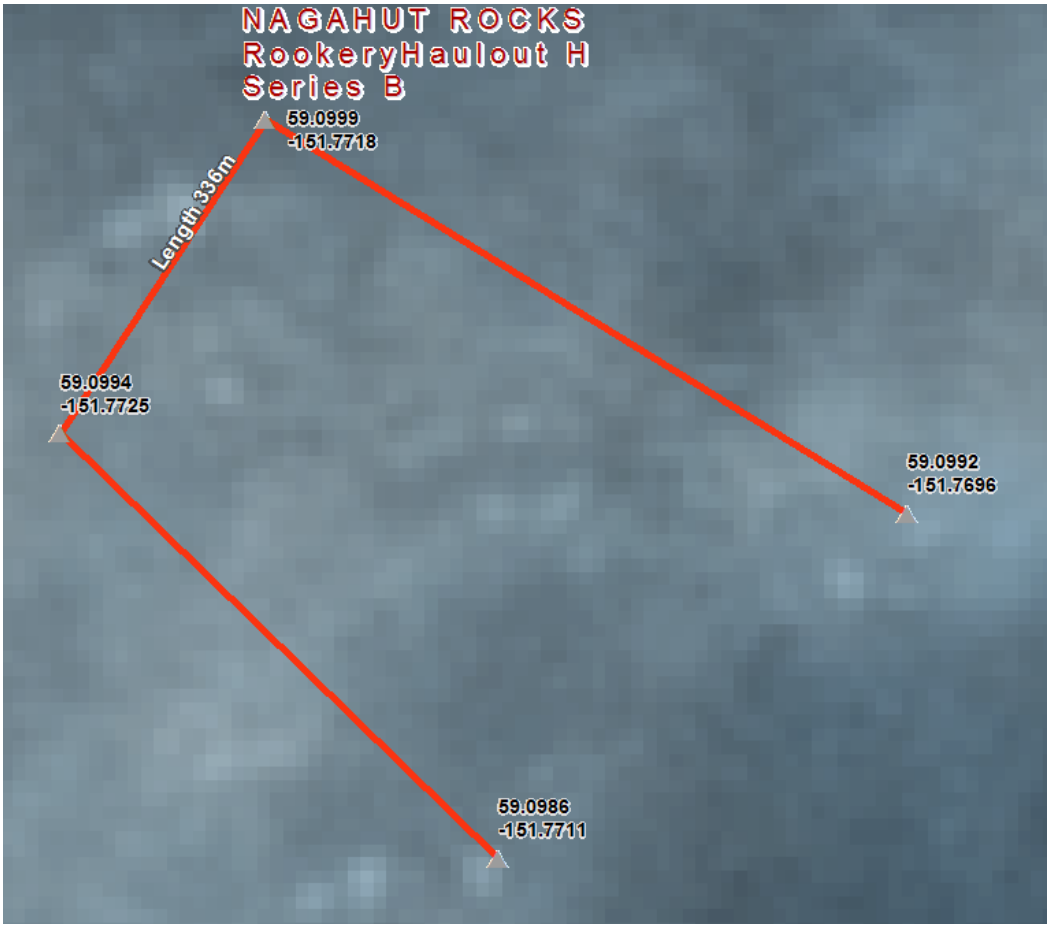
-151.7678
59.1003
-151.7682
NAGAHUT ROCKS
RookeryHaulout H
Series A
Length 215m
59.0993
-151.7666
59.099
-151.7671


NAGAHUT ROCKS
RookeryHaulout H
Series B
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Length 336m
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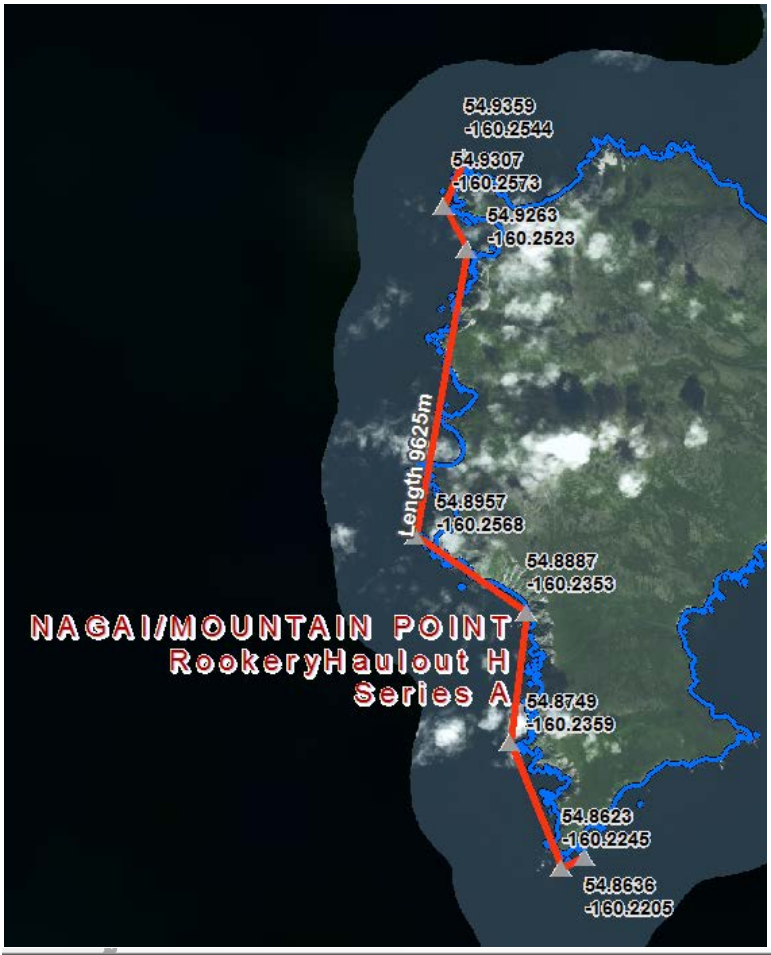
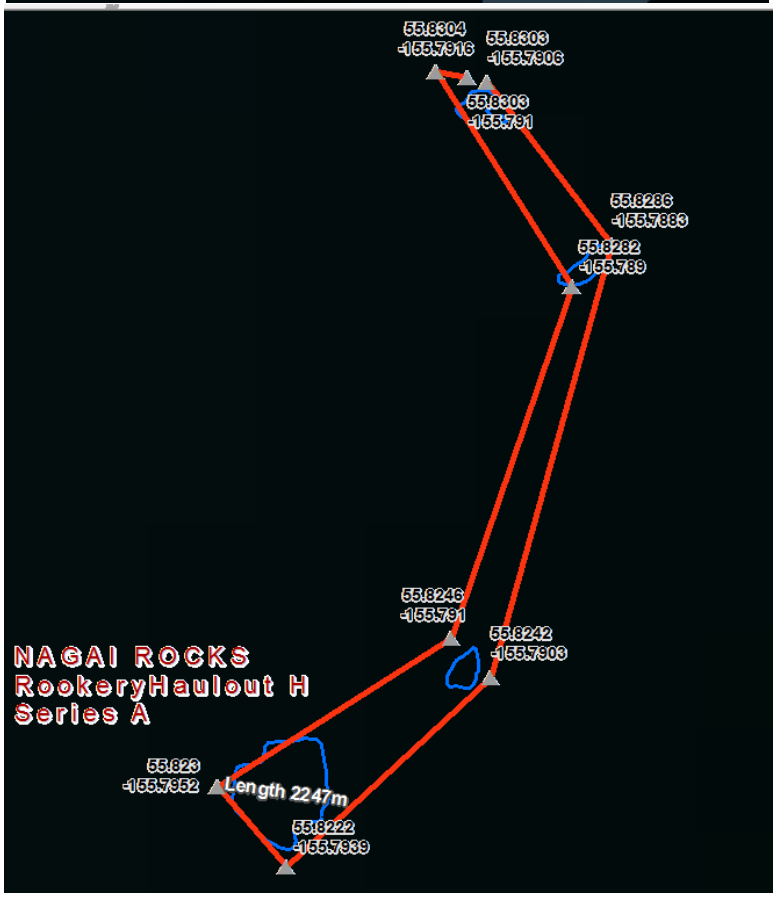
-151.7725
59.0992
-151.7696
59.0986
-151.7711


54.9359
-160.2544
54.9307
-160.2573
54.9263
-160.2523
Length 9625m
54.8957
-160.2568
54.8887
-160.2353
NAGAI/MOUNTAIN POINT
RookeryHaulout H
Series A
54.8749
-160.2359
54.8623
-160.2245
54.8636
-160.2205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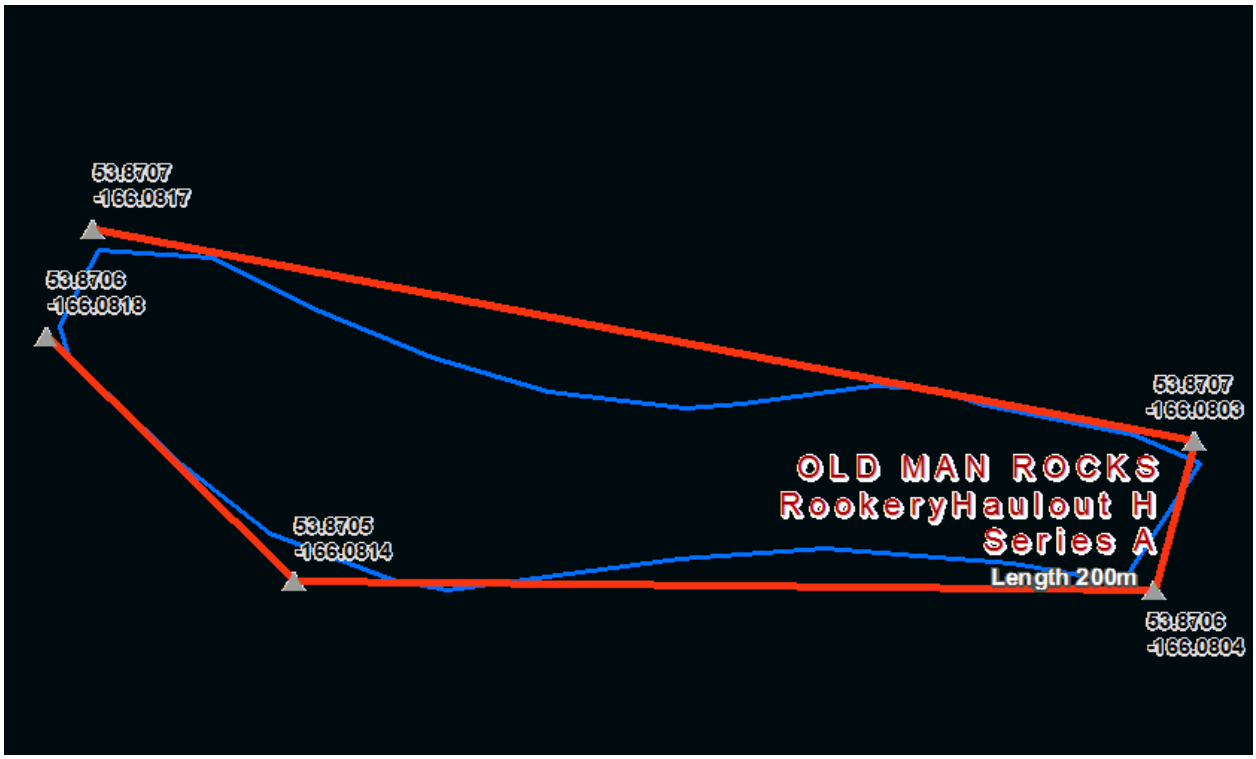
55.8303
-155.791
55.8286
-155.7889
55.8282
-155.789
55.8246
-155.791
55.8242
-155.7903
NAGAI ROCKS
RookeryHaulout H
Series A
55.823
-155.7952
Length 2247m
55.8222
-155.7939


51.9791
-175.4621
51.9777
-175.4665
OGLODAK
RookeryHaulout H
Series A
51.9777
-175.4603
Length 1285m
51.9783
-175.451
51.9767
-175.4528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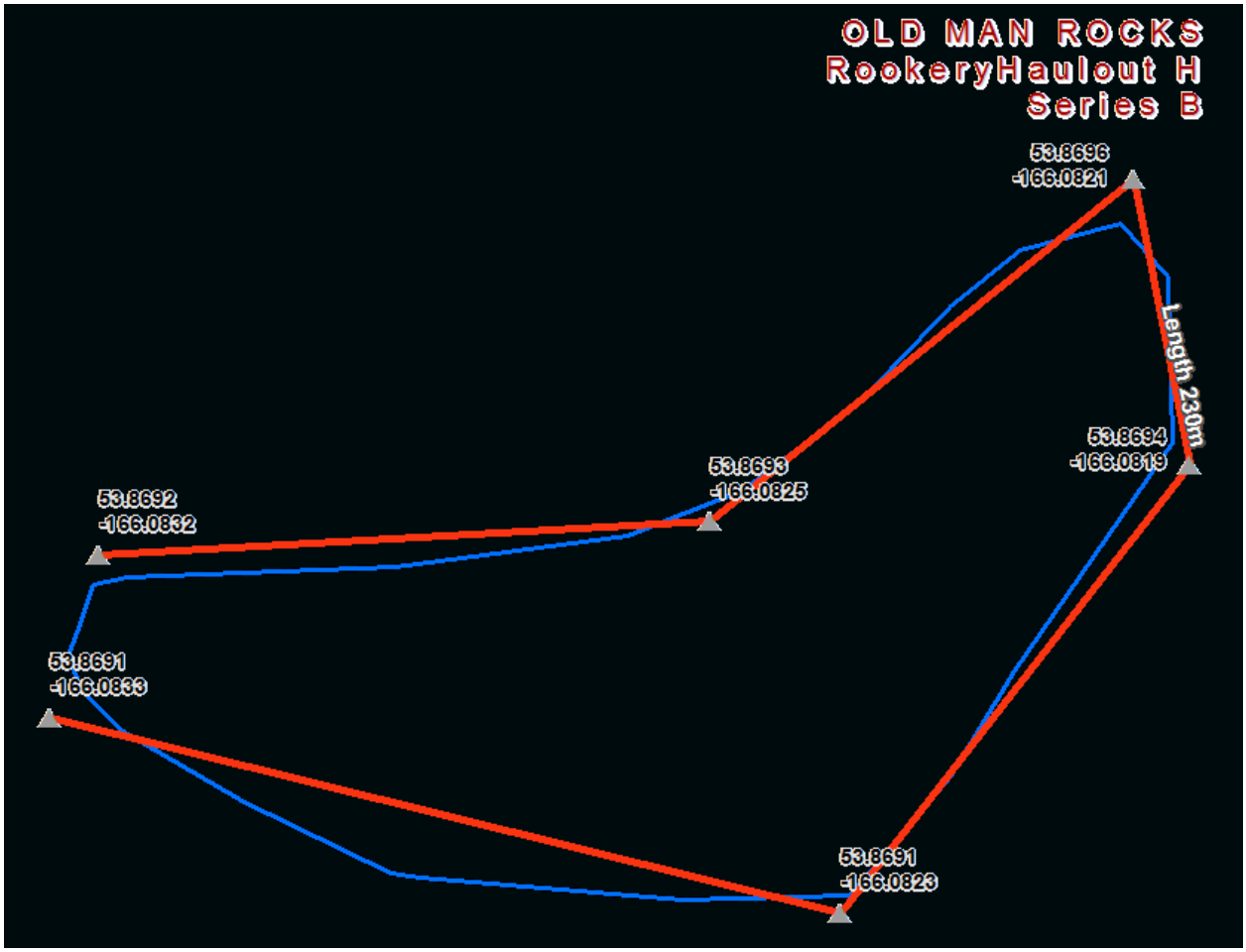
-166.0818
53.8707
-166.0803
OLD MAN ROCKS
RookeryHaulout H
Series A
Length 200m
53.8705
-166.0814
53.8706
-166.0804


OLD MAN ROCKS
RookeryHaulout H
Series B
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Length 230m
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-166.0819
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-166.0825
53.8692
-166.0832
53.8691
-166.0833
53.8691
-166.0823


55.0082
-161.4977
55.0083
-161.4967
55.0071
-161.4989
OLGA ROCKS
RookeryHaulout H
Series A
55.0071
-161.4955
Length 653m
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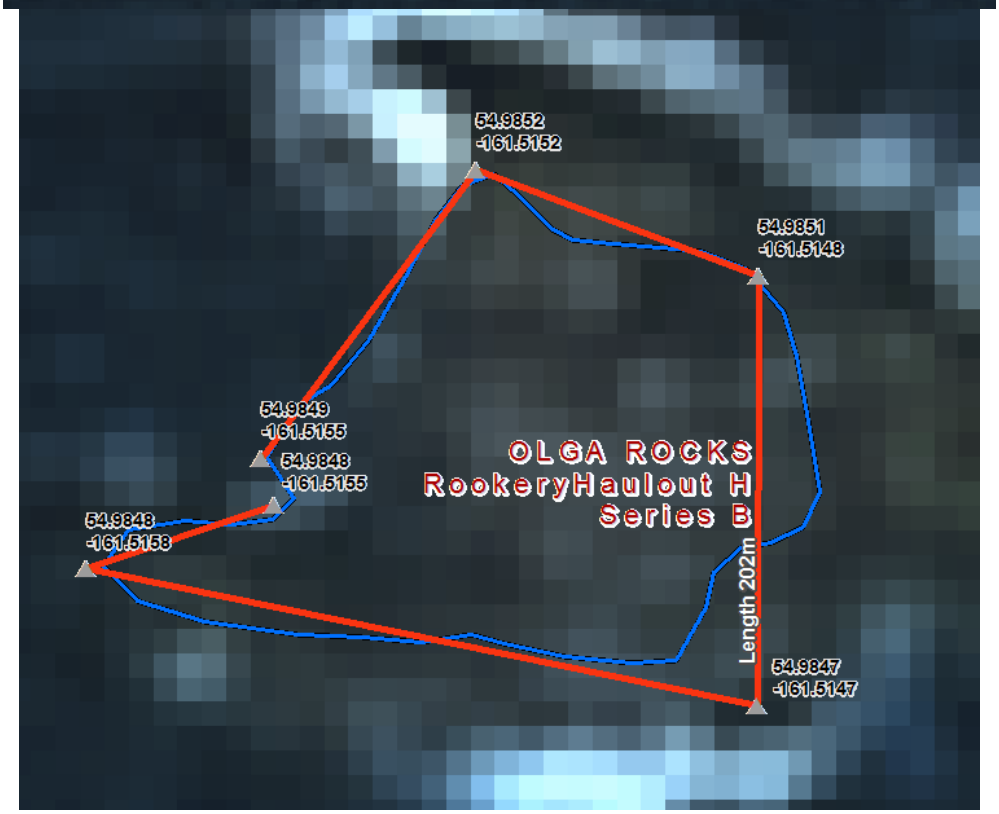
-161.4984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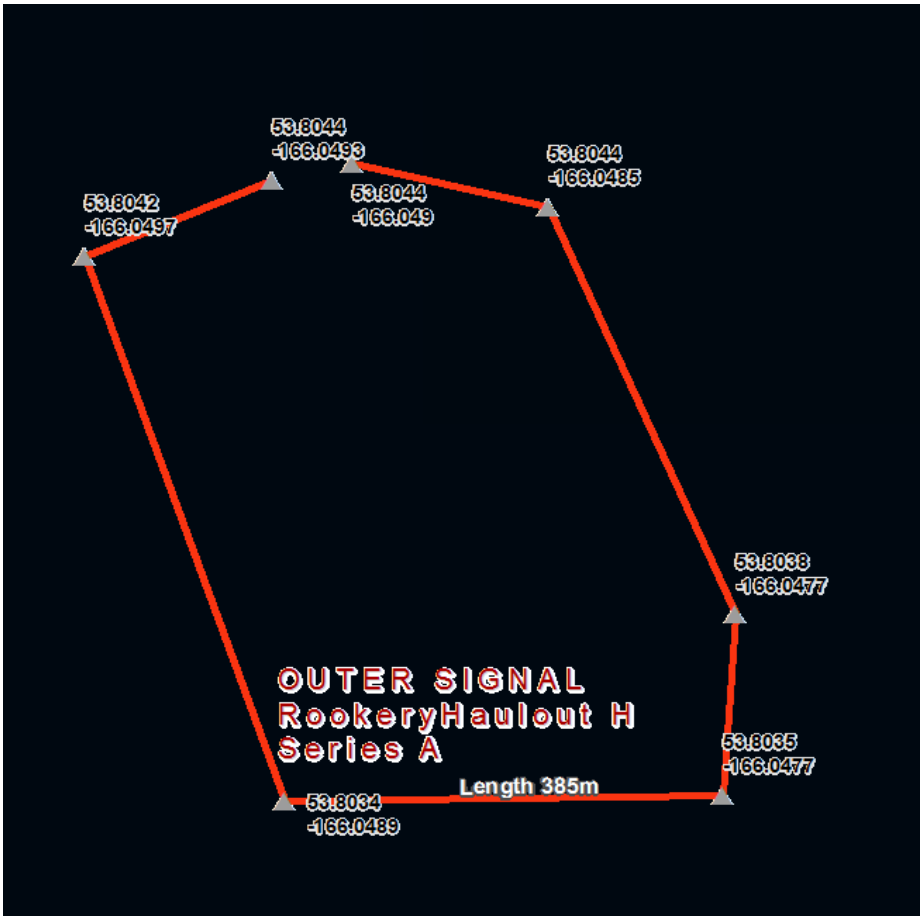
54.9848
-161.5155
OLGA ROCKS
RookeryHaulout H
Series B
54.9848
-161.5158
Length 202m
54.9847
-161.5147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-166.049
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-166.0477
OUTER SIGNAL
RookeryHaulout H
Series A
53.8035
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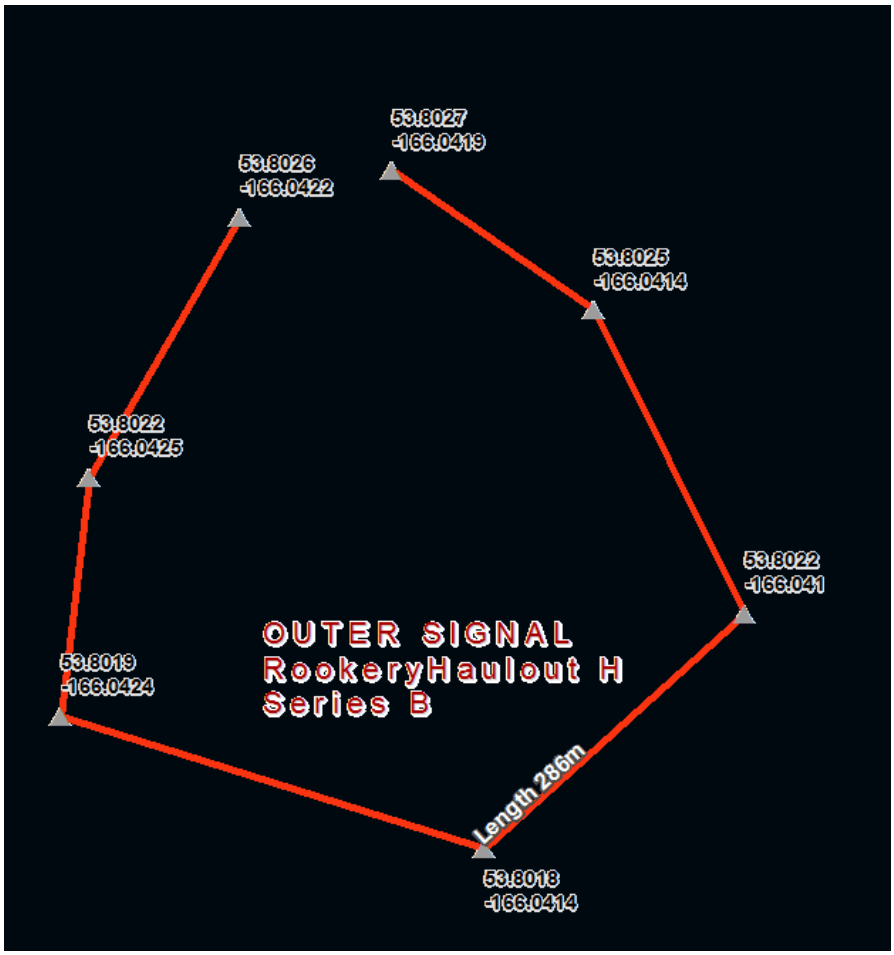
Length 385m
53.8034
-166.0489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OUTER SIGNAL
RookeryHaulout H
Series B
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Length 286m
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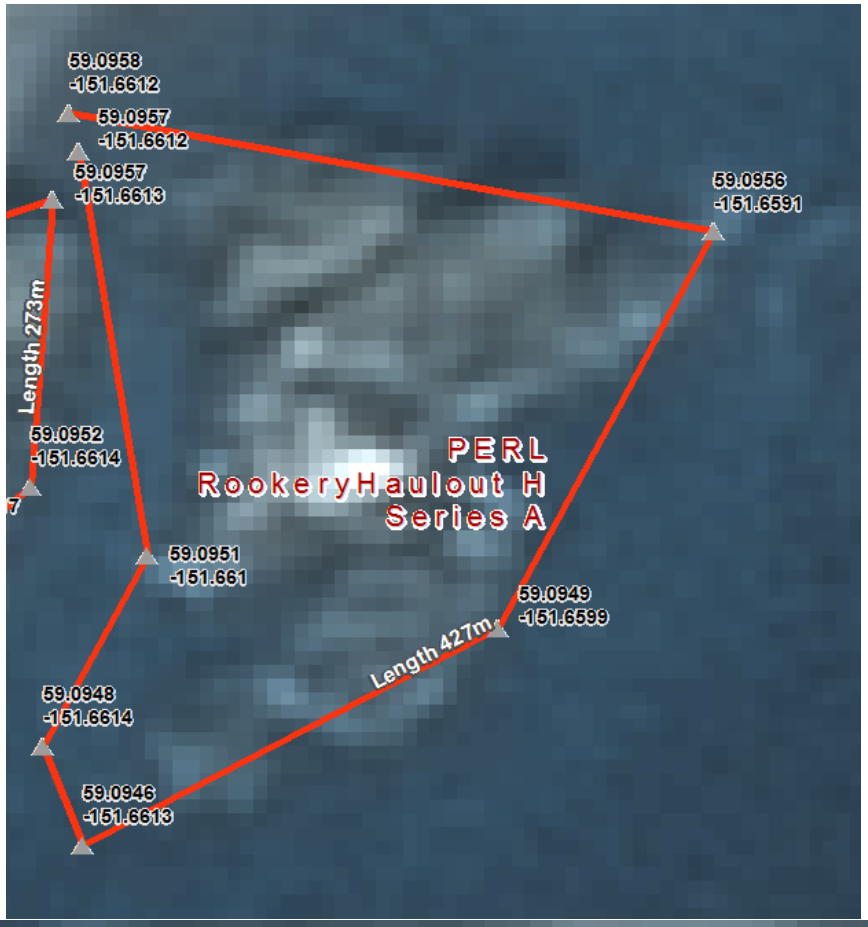
-166.0414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-151.6613
59.0956
-151.6591
Length 273m
59.0952
-151.6614
PERL
RookeryHaulout H
Series A
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-151.661
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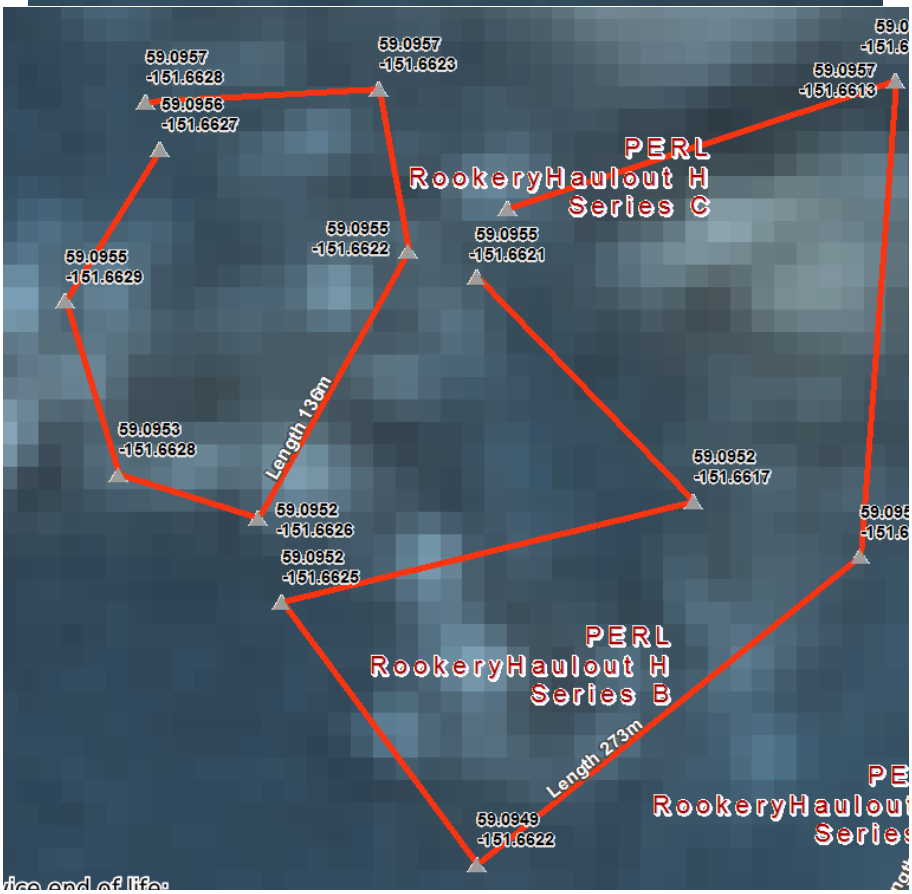
-151.6599
Length 427m
59.0948
-151.6614
59.0946
-151.6613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PERL
RookeryHaulout H
Series C
59.0955
-151.6622
59.0955
-151.6621
59.0955
-151.6629
Length 136m
59.0953
-151.6628
59.0952
-151.6617
59.0952
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59.0952
-151.6625
PERL
RookeryHaulout H
Series B
Length 273m
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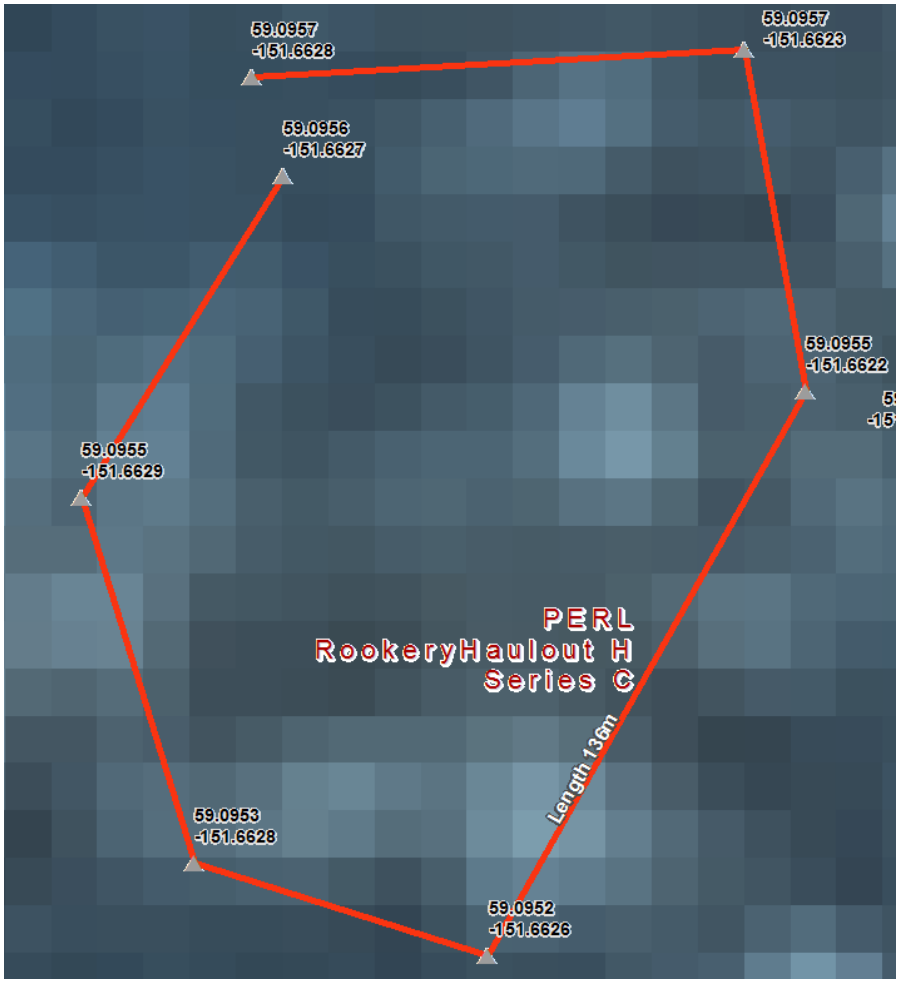
-151.6622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-151.6629
PERL
RookeryHaulout H
Series C
Length 136m
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-151.6628
59.0952
-151.6626


60.7352
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60.7352
-147.9065
PERRY
RookeryHaulout H
Series A
60.7348
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Length 447m
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60.7384
-147.9023


60.5803
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60.5802
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-147.5611
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POINT ELEANOR
RookeryHaulout H
Series A
Length 181m
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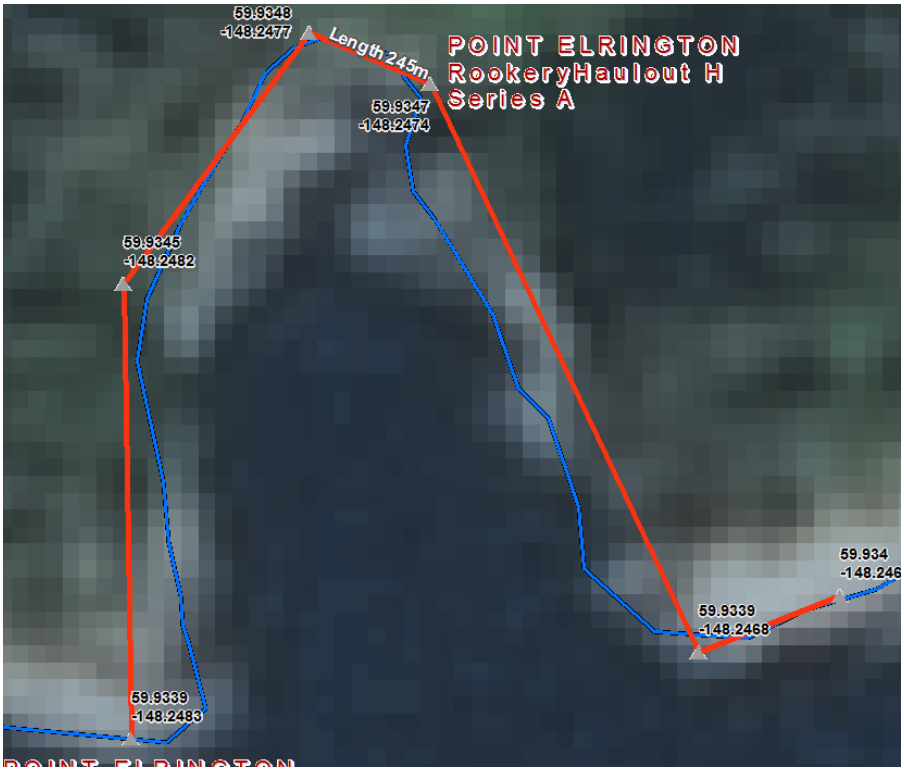
-147.5602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Length 245m
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POINT ELRINGTON
RookeryHaulout H
Series A
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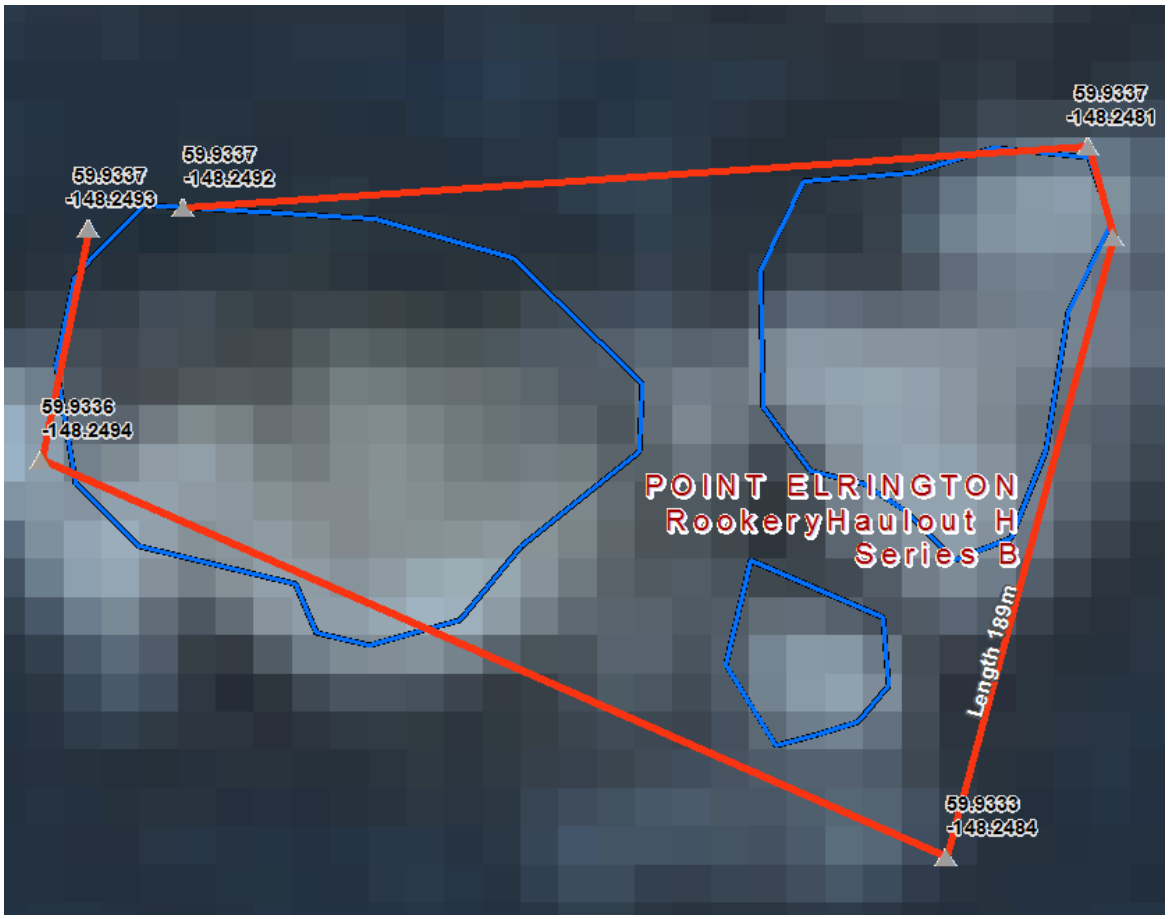
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POINT ELRINGTON
RookeryHaulout H
Series B
Length 189m
59.9333
-148.2484


53.2669
-167.9666
53.2667
-167.9668
53.2669
-167.965
53.2661
-167.9678
53.2665
-167.9643
POLIVNOI ROCK
RookeryHaulout H
Series A
53.2656
-167.967
Length 610m
53.2659
-167.9641


59.4192
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59.4185
-150.2984
59.4182
-150.2961
STEEP POINT
RookeryHaulout H
Series D
59.417
-150.2951
Length 899m
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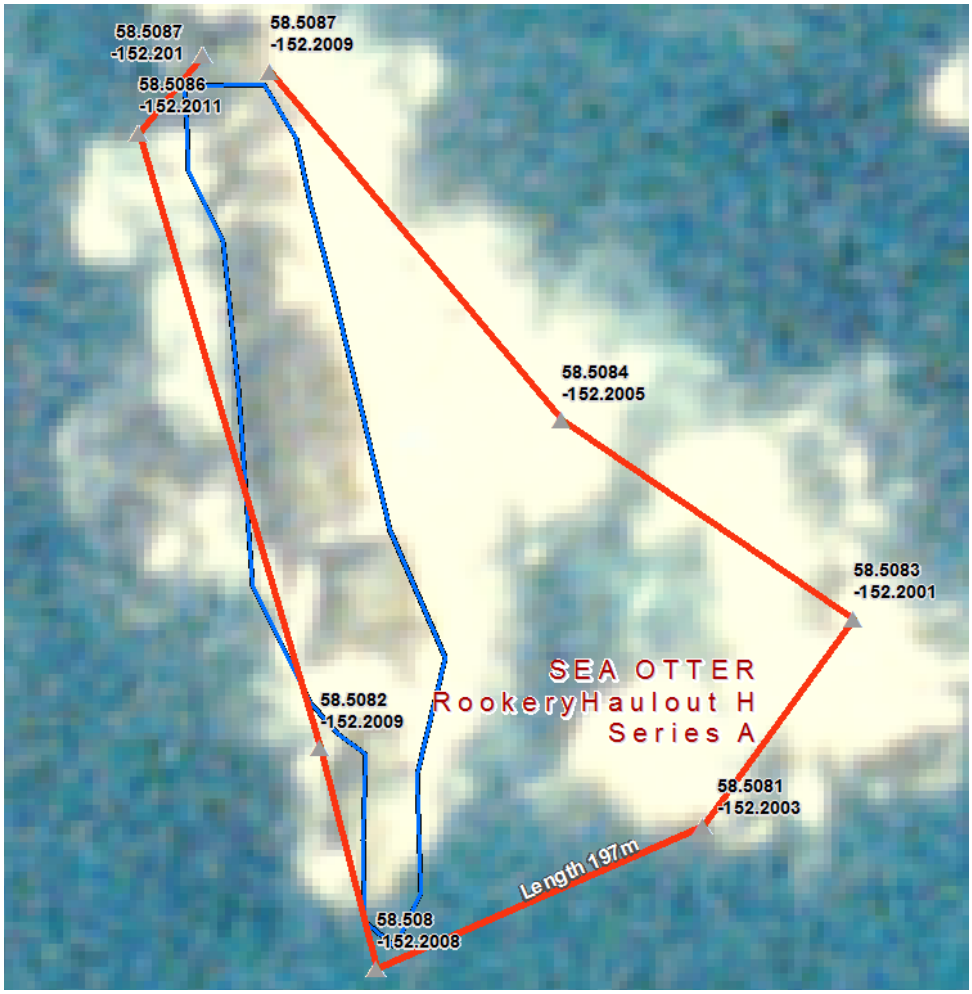
-150.2998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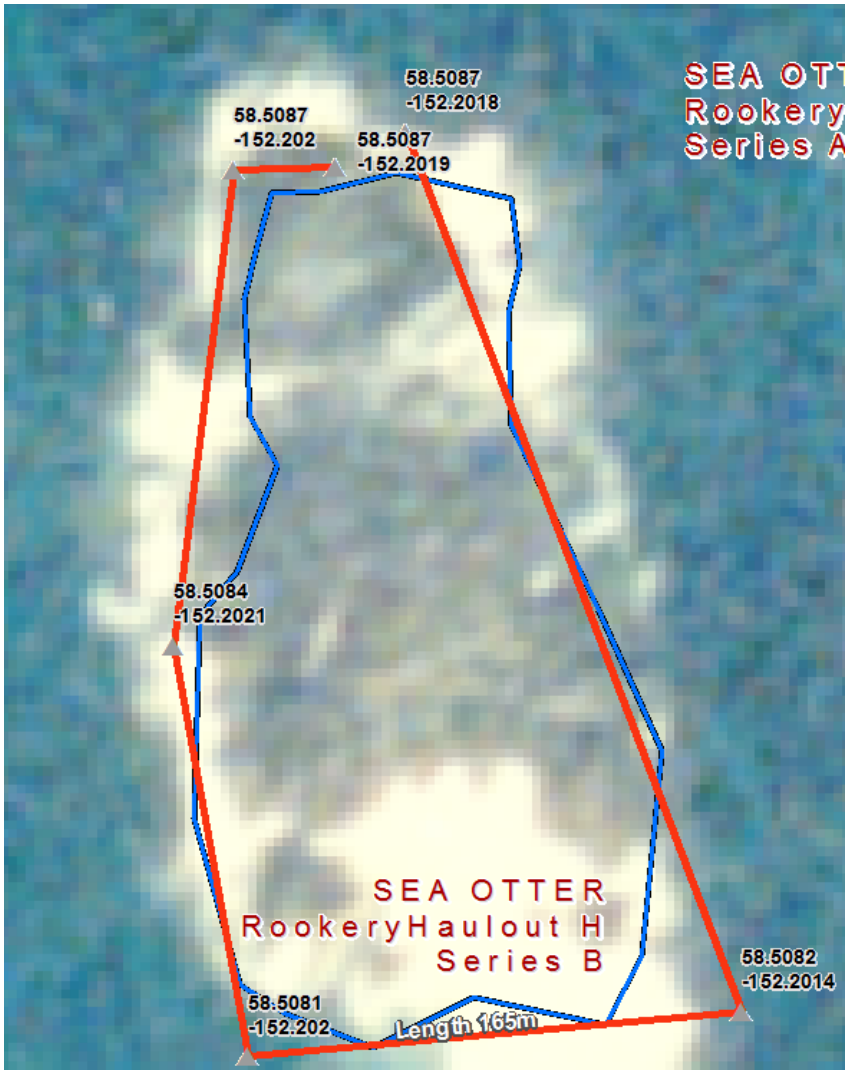
-152.2011
58.5084
-152.2005
58.5083
-152.2001
SEA OTTER
RookeryHaulout H
Series A
58.5082
-152.2009
58.5081
-152.2003
Length 197m
58.508
-152.2008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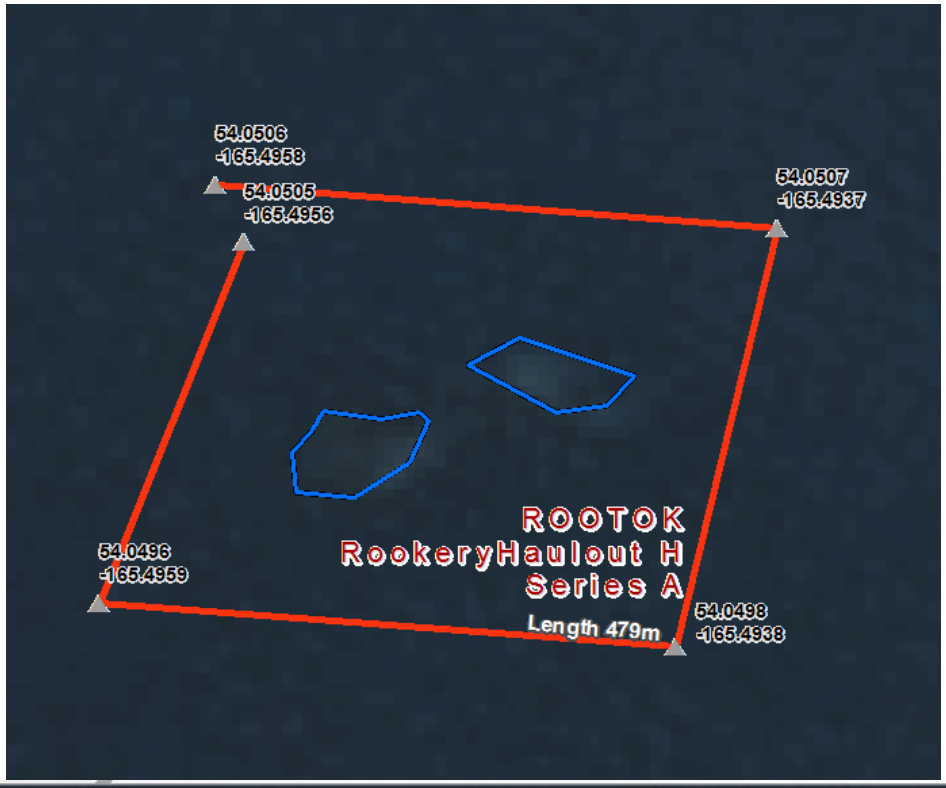
-152.2019
SEA OTT
Rookery
Series A
58.5084
-152.2021
SEA OTTER
RookeryHaulout H
Series B
58.5082
-152.2014
58.5081
-152.202
Length 165m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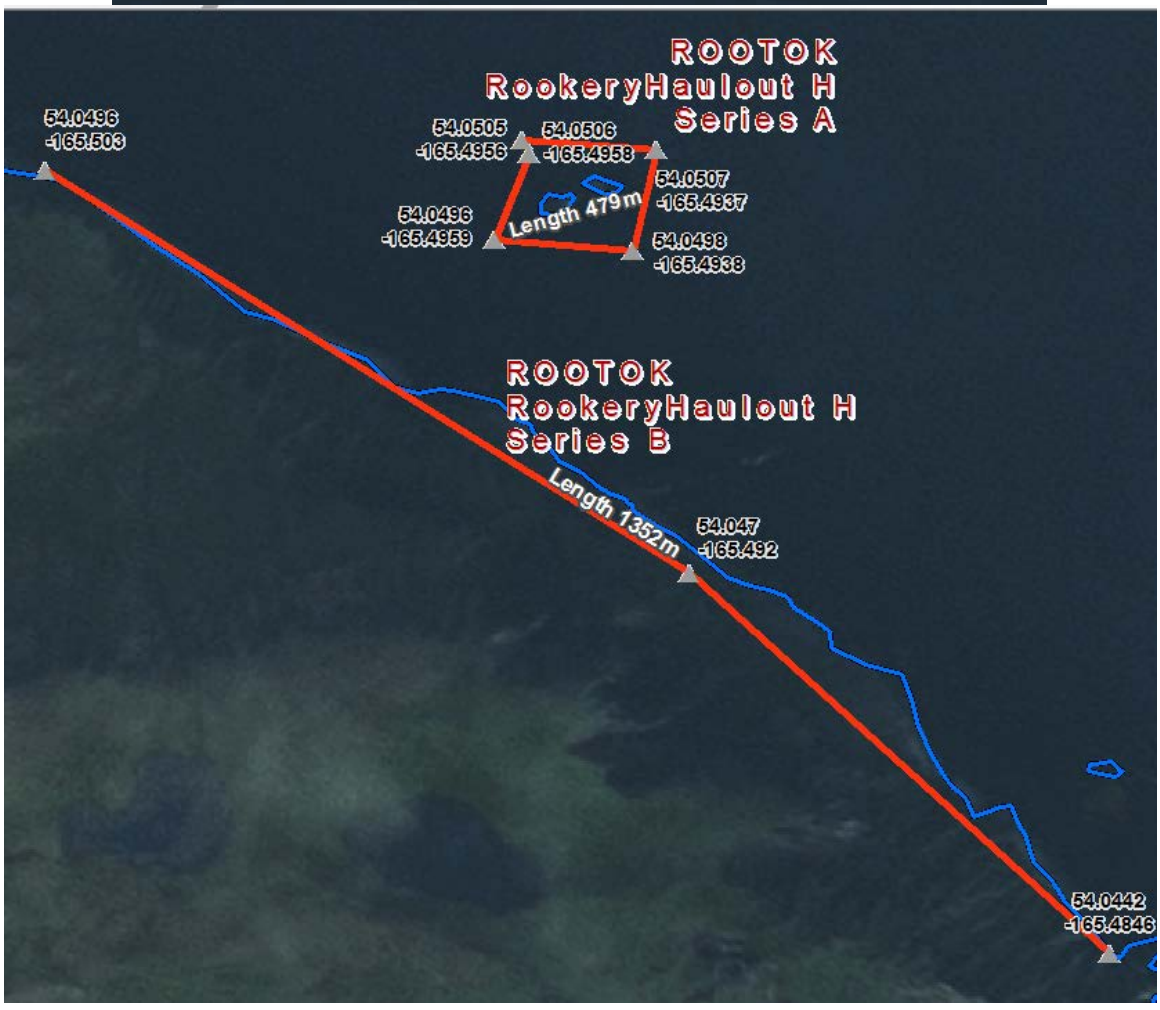
ROOTOK
RookeryHaulout H
Series A
54.0496
-165.4959
Length 479m
54.0498
-165.4938


ROOTOK
RookeryHaulout H
Series A
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-165.503
54.0505
-165.4956
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-165.4958
54.0507
-165.4937
54.0496
-165.4959
Length 479m
54.0498
-165.4938
ROOTOK
RookeryHaulout H
Series B
Length 1352m
54.047
-165.492
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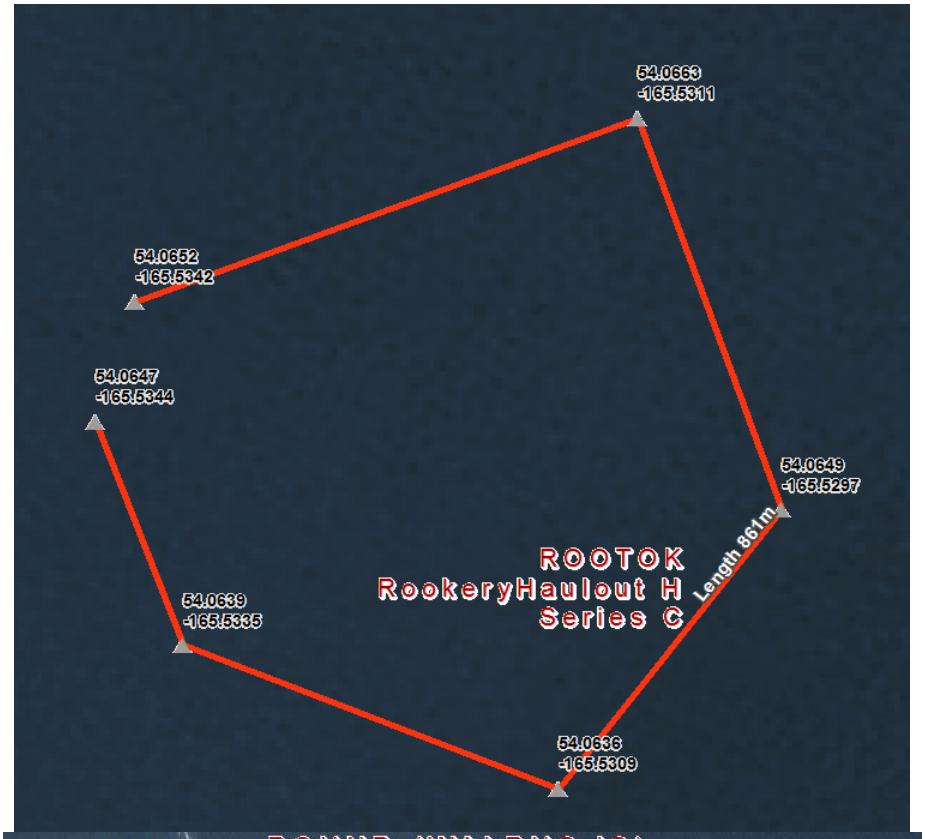
-165.4846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54.0647
-165.5344
54.0649
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ROOTOK
RookeryHaulout H
Series C
Length 861m
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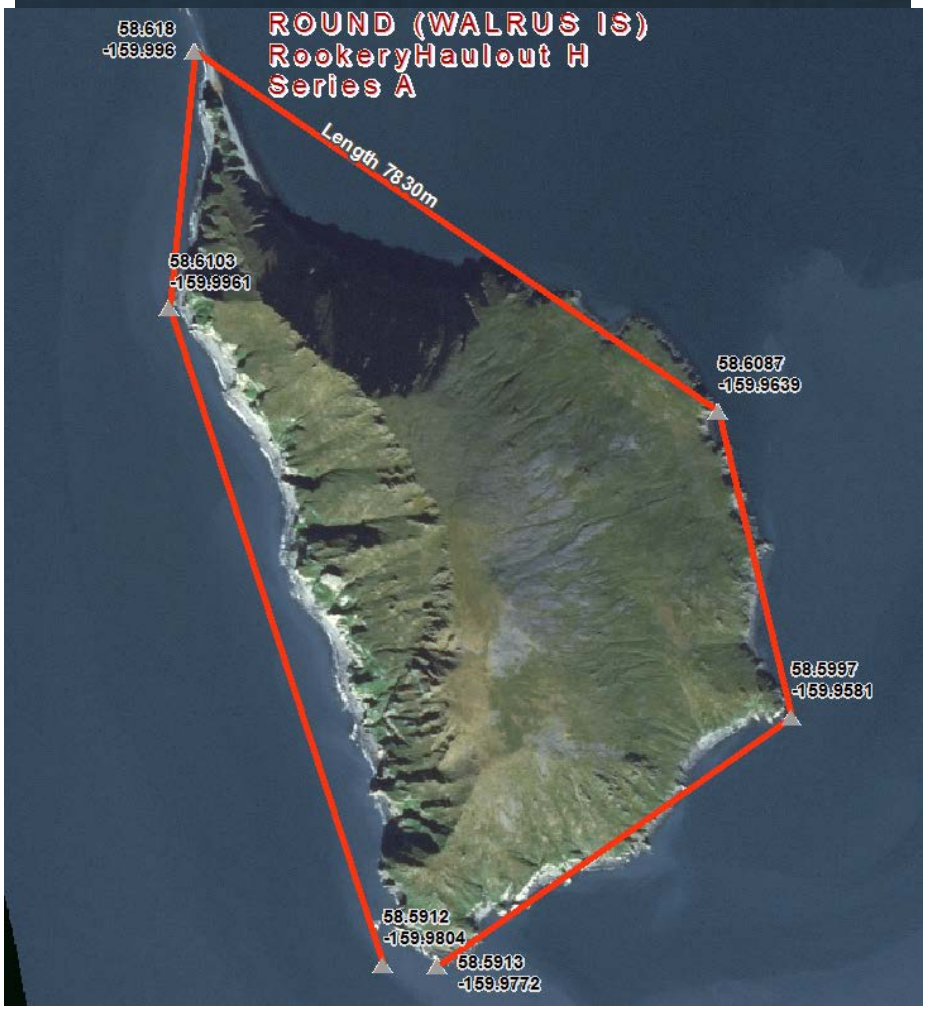
54.0636
-165.5309


58.618
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ROUND (WALRUS IS)
RookeryHaulout H
Series A
Length 7830m
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-159.9639
58.5997
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58.5912
-159.9804
58.5913
-159.9772


59.8516
-149.4101
59.8513
-149.4127
RUGGED
RookeryHaulout H
Series A
Length 458m
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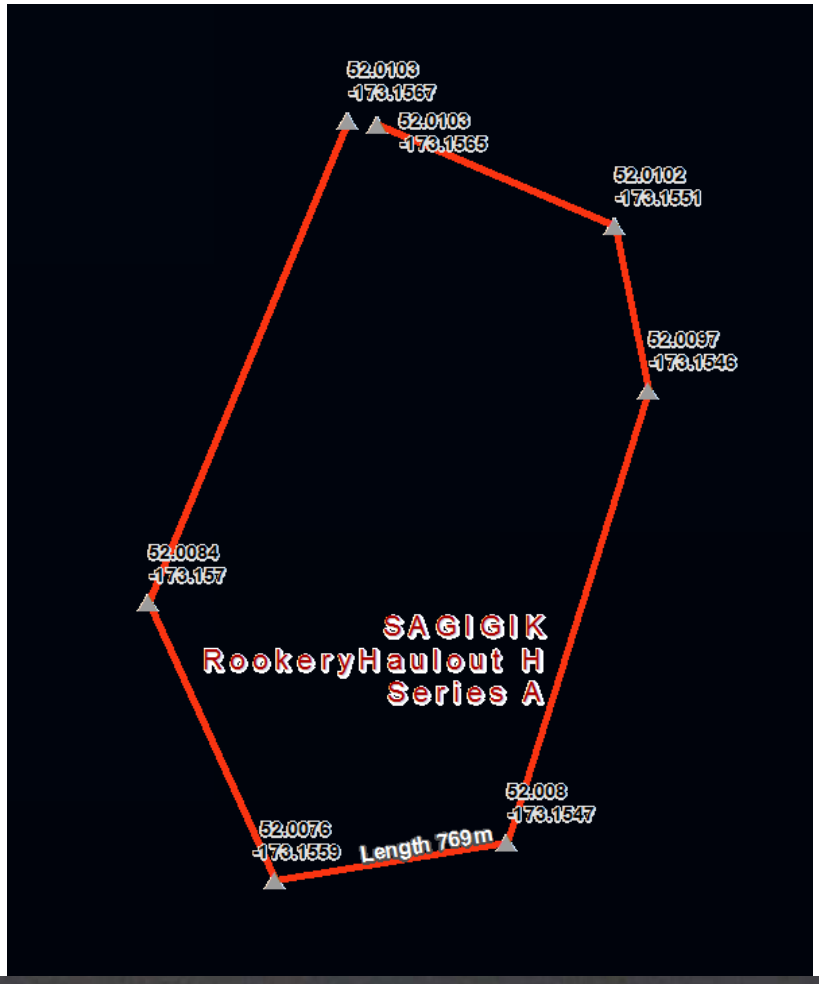
59.8504
-149.4089
59.8504
-149.4111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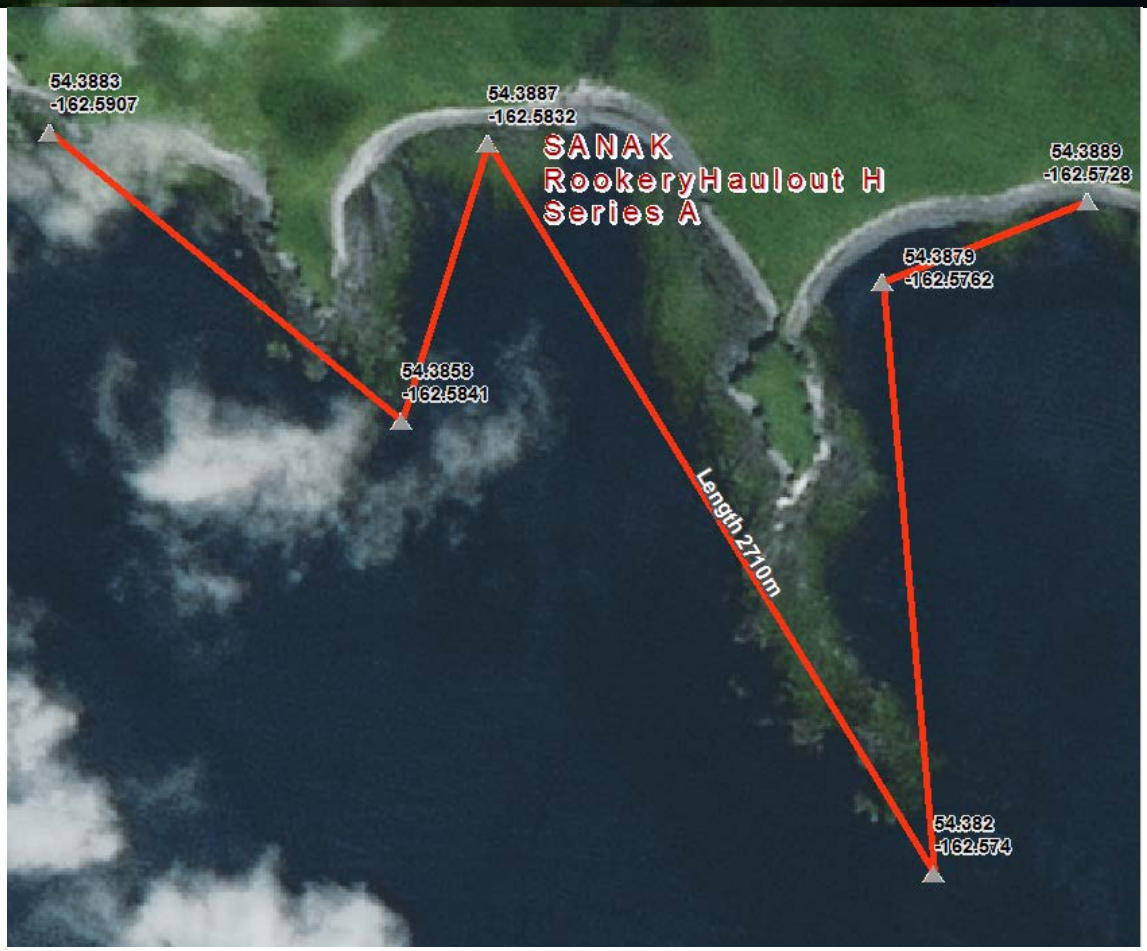
-173.157
SAGIGIK
RookeryHaulout H
Series A
52.008
-173.1547
52.0076
-173.1559
Length 769m


57.3527
-133.7229
57.3526
-133.7234
Length 1099m
57.3507
-133.7211
SAIL
RookeryHaulout H
Series A
57.3499
-133.7234
57.349
-133.722
57.3476
-133.7194
57.3476
-133.72


SALT
RookeryHaulout H
Series A
52.1727
-174.6493
52.1729
-174.6449
Length 1078m
52.1746
-174.6419
52.1758
-174.6417
52.1748
-174.6393
52.176
-174.6378


52.1614
-174.6227
52.1612
-174.623
52.1616
-174.6206
52.1557
-174.6228
52.1588
-174.6257
52.1575
-174.6243
SALT
RookeryHaulout H
Series B
Length 1417m
52.1579
-174.62


SAMALGA
RookeryHaulout H
Series A
52.7724
-169.2349
52.7705
-169.2319
52.7667
-169.2538
52.7681
-169.2385
52.7658
-169.2531
Length 3083m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SANAK
RookeryHaulout H
Series A
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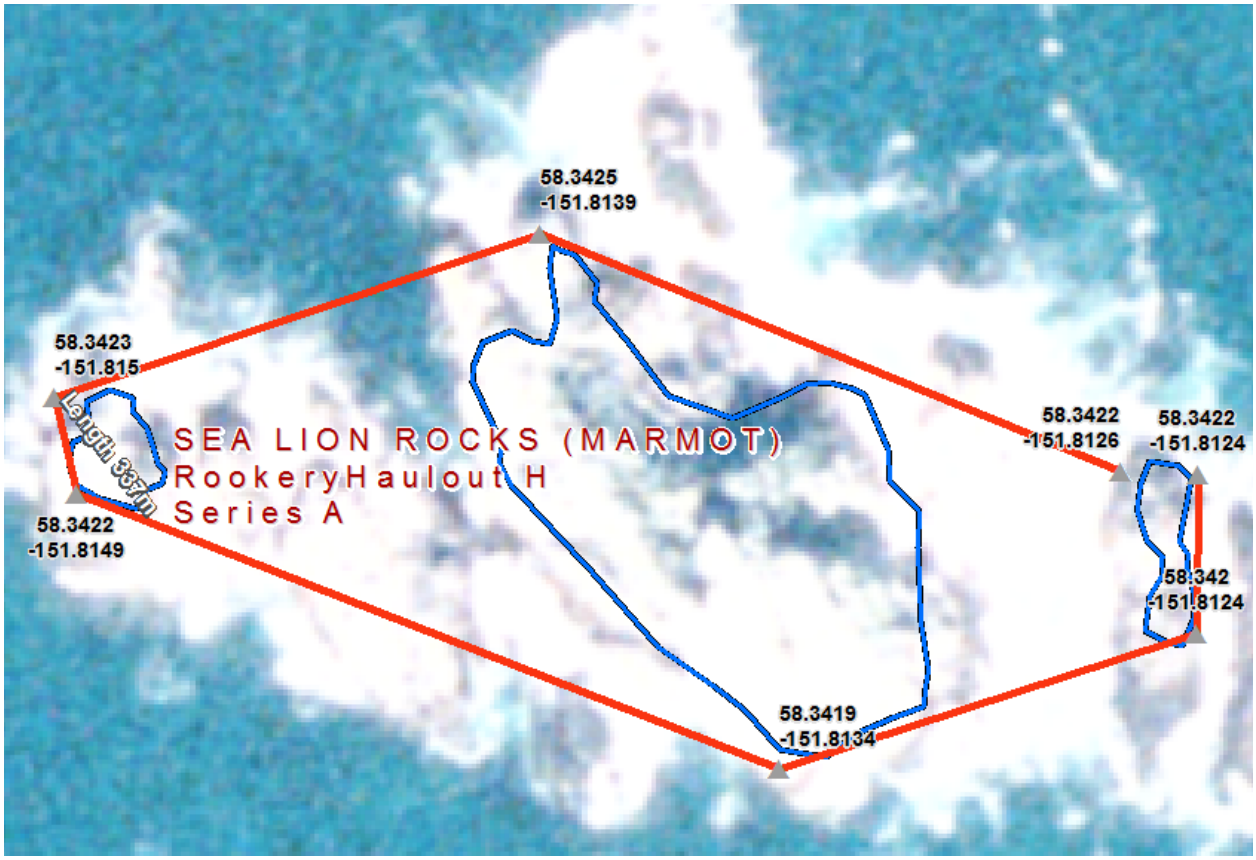
54.3879
-162.5762
54.3858
-162.5841
Length 2710m
54.382
-162.574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58.3423
-151.815
SEA LION ROCKS (MARMOT)
RookeryHaulout H
Series A
Length 367m
58.3422
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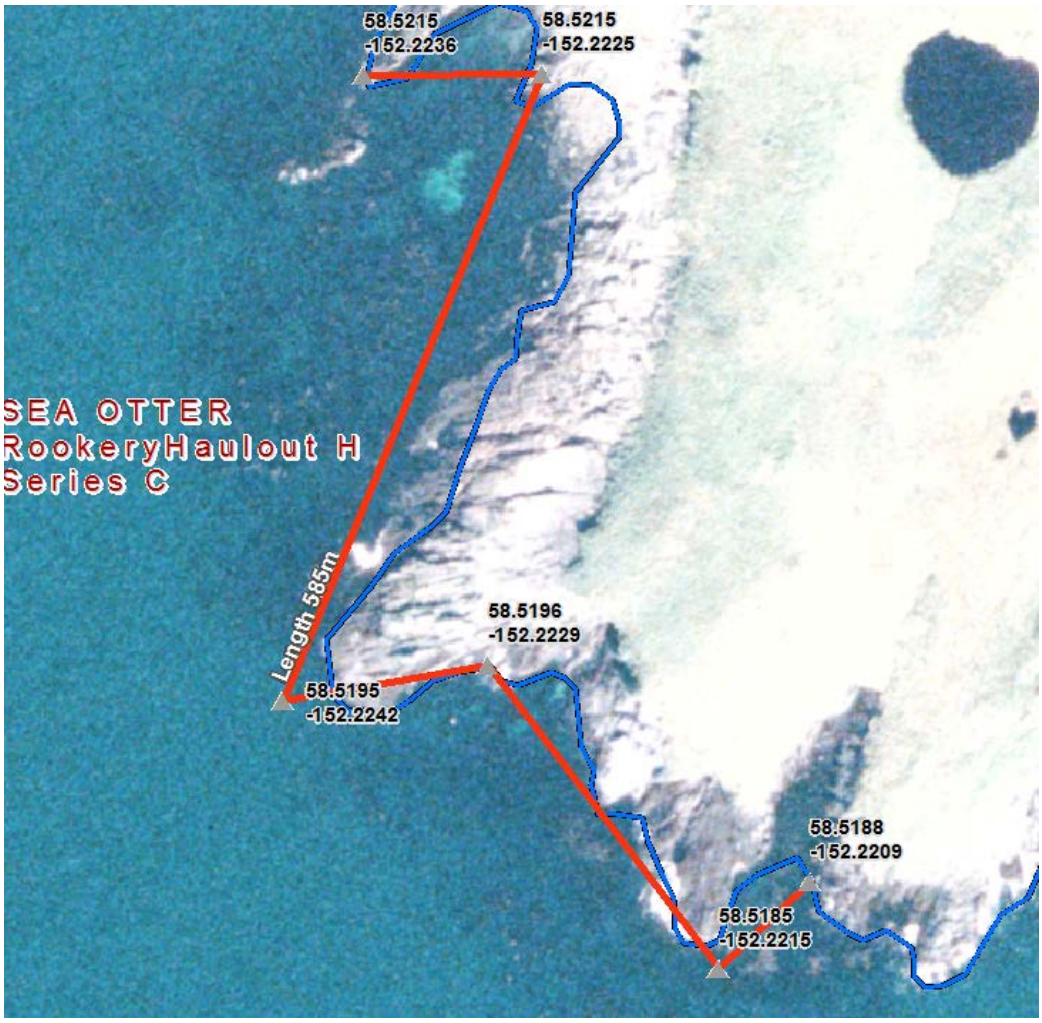
58.3422
-151.8126
58.3422
-151.8124
58.342
-151.8124
58.3419
-151.8134


58.5215
-152.2236
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-152.2225
SEA OTTER
RookeryHaulout H
Series C
Length 585m
58.5196
-152.2229
58.5195
-152.2242
58.5188
-152.2209
58.5185
-152.2215


59.522
-149.6265
59.5209
-149.635
SEAL ROCKS (KENAI)
RookeryHaulout H
Series A
Length 2054 m
59.519
-149.6222
59.5192
-149.6339
59.5195
-149.6289
59.5184
-149.6251
59.5178
-149.6191
59.5177
-149.6237
59.5175
-149.6184
59.5167
-149.6204


55.0789
-160.5186
55.0789
-160.5156
SEA LION ROCKS (SHUMAGINS)
RookeryHaulout H
Series A
55.0779
-160.5158
55.0776
-160.519
55.0775
-160.5175
Length 1148 m
55.0776
-160.518
55.0761
-160.52
55.0761
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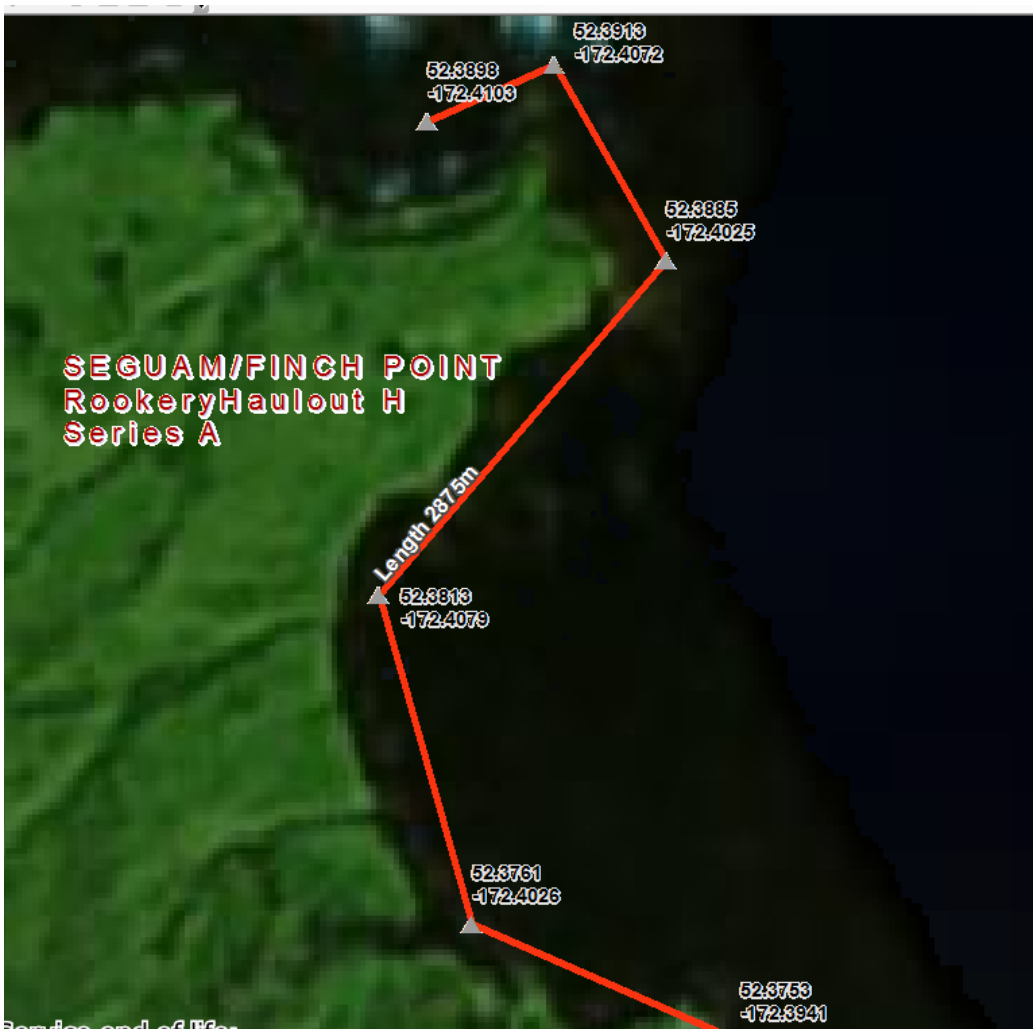
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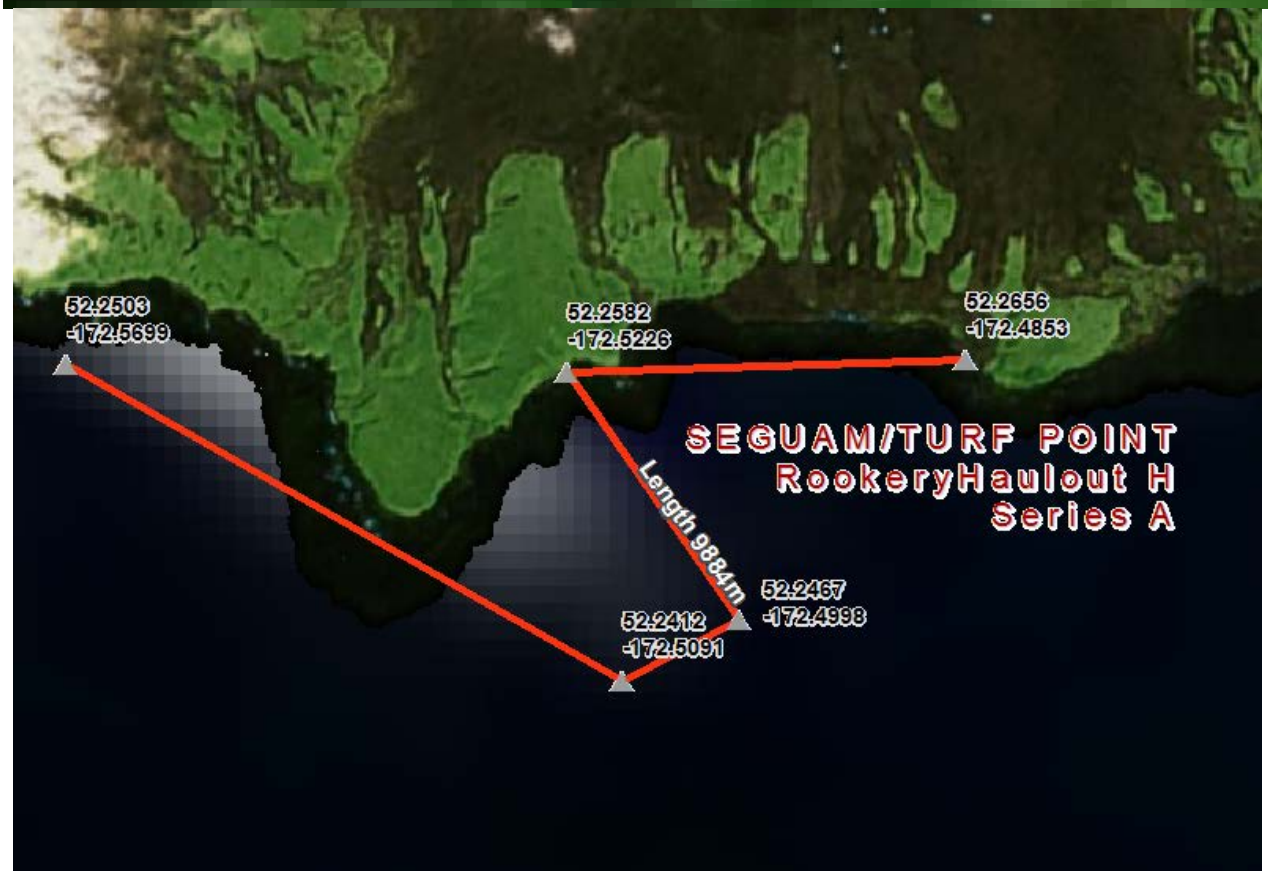
SEGUAM/FINCH POINT
RookeryHaulout H
Series A
Length 2875m
52.3813
-172.4079
52.3761
-172.4026
52.3753
-172.3941


SEGUAM/FINCH POINT
RookeryHaulout H
Series B
52.3885
-172.4621
52.3887
-172.4597
52.3885
-172.4552
Length 1089m
52.386
-172.4635
52.385
-172.468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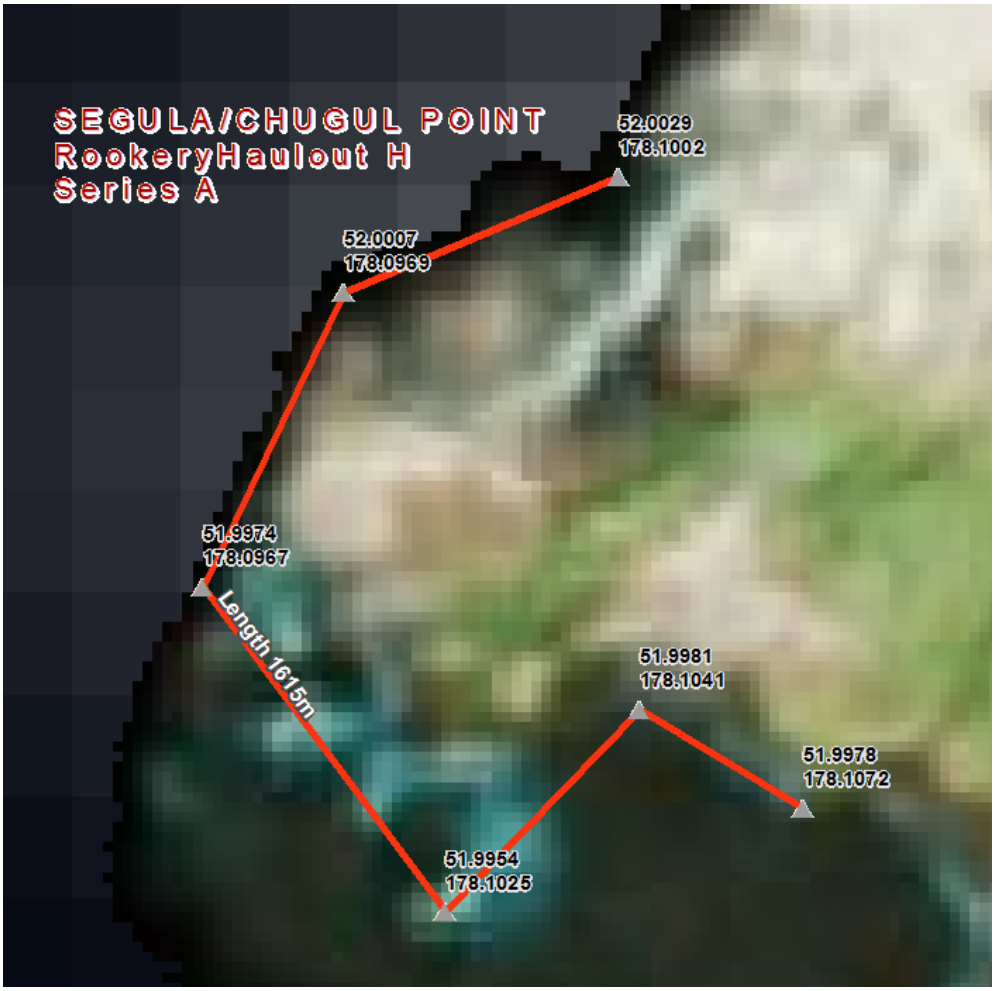
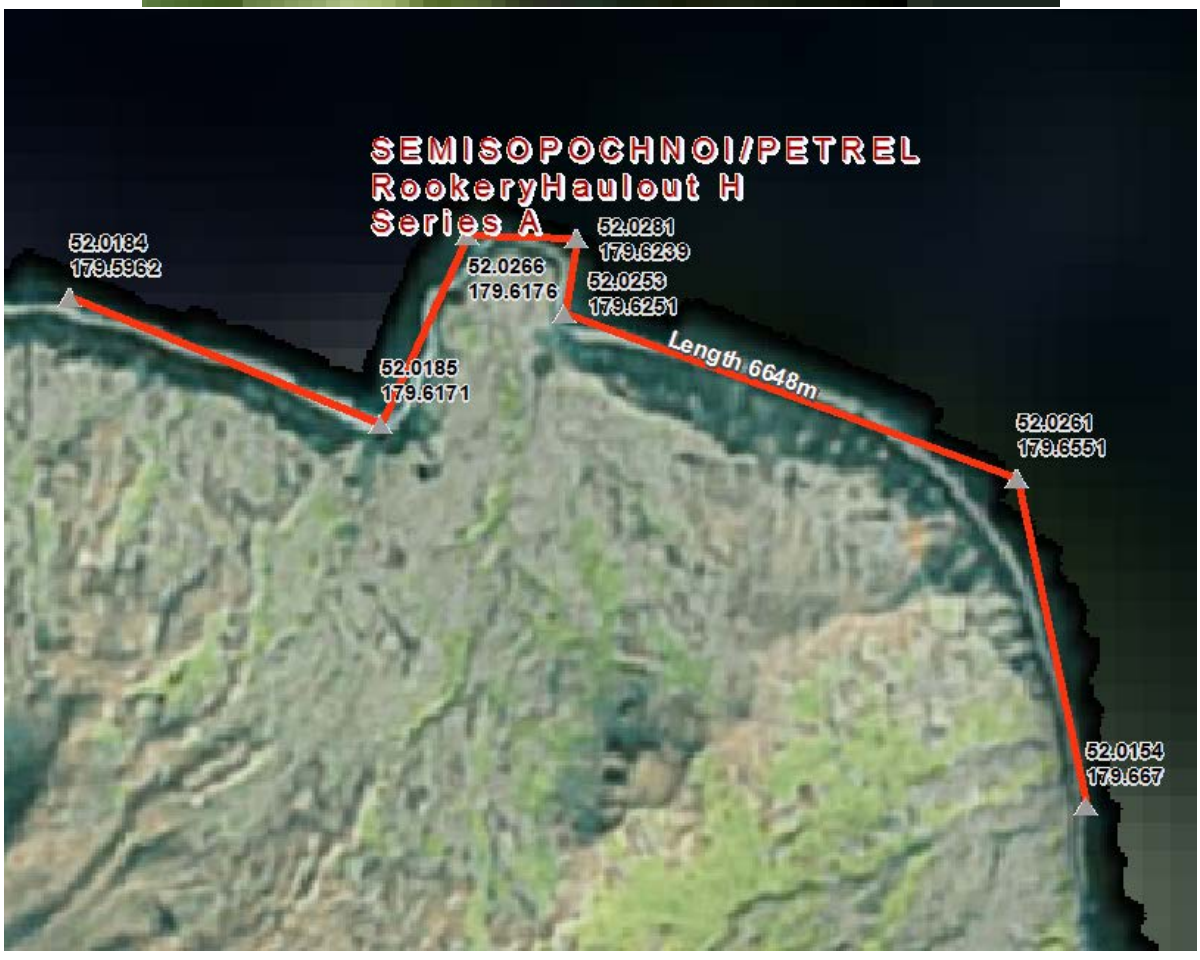
52.2656
-172.4853
SEGUAM/TURF POINT
RookeryHaulout H
Series A
Length 9884m
52.2467
-172.4998
52.2412
-172.5091

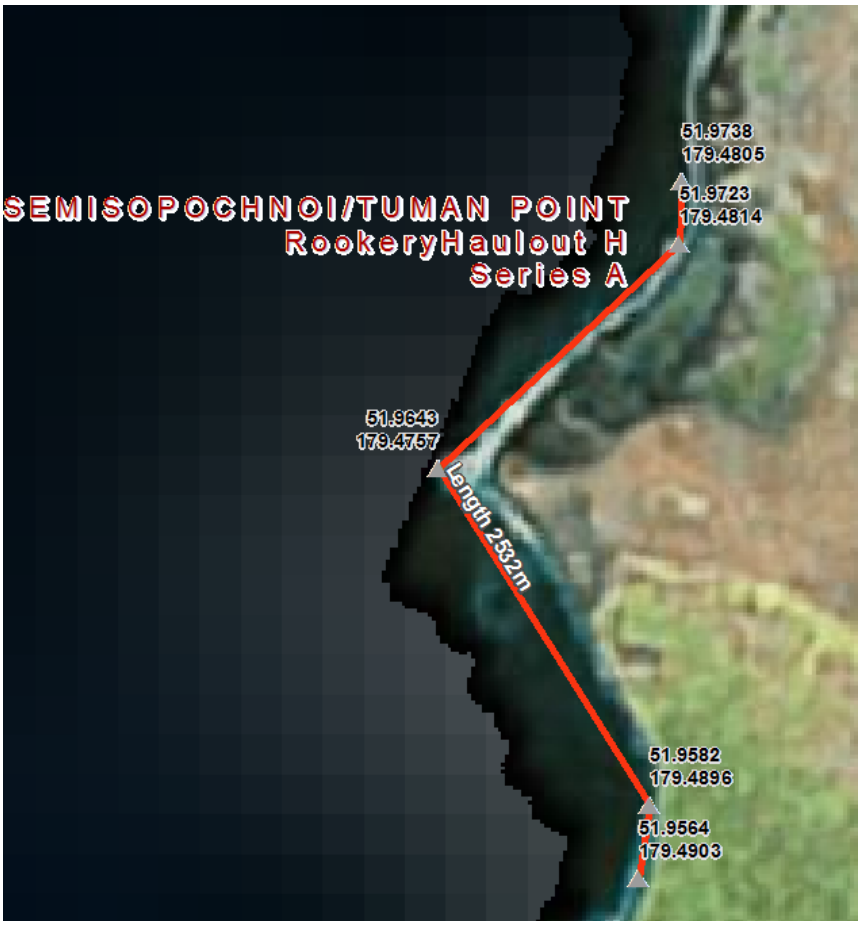

52.3602
-172.3228
52.3596
-172.3218
SEGUAM/WHARF POINT
RookeryHaulout H
Series A
Length 910m
52.3595
-172.3162
52.3564
-172.3123


SEGULA/CHUGUL POINT
RookeryHaulout H
Series A
52.0029
178.1002
52.0007
178.0969
51.9974
178.0967
Length 1615m
51.9981
178.1041
51.9978
178.1072
51.9954
178.1025


52.0529
178.1448
52.0505
178.1392
52.0513
178.1424
Length 1334m
52.0521
178.1478
SEGULA/GULA POINT
RookeryHaulout H
Series A
52.0471
178.148
52.0467
178.147


SEMISOPOCHNOI/PETREL
RookeryHaulout H
Series A
52.0184
179.5962
52.0281
179.6239
52.0266
179.6176
52.0253
179.6251
52.0185
179.6171
Length 6648m
52.0261
179.6551
52.0154
179.667


SEMISOPOCHNOI/POCHNOI
RookeryHaulout H
Series A
51.9614
179.7742
51.9488
179.7443
51.9417
179.7326
51.9471
179.7555
Length 4099m
51.9484
179.763


SEMISOPOCHNOI/TUMAN POINT
RookeryHaulout H
Series A
51.9738
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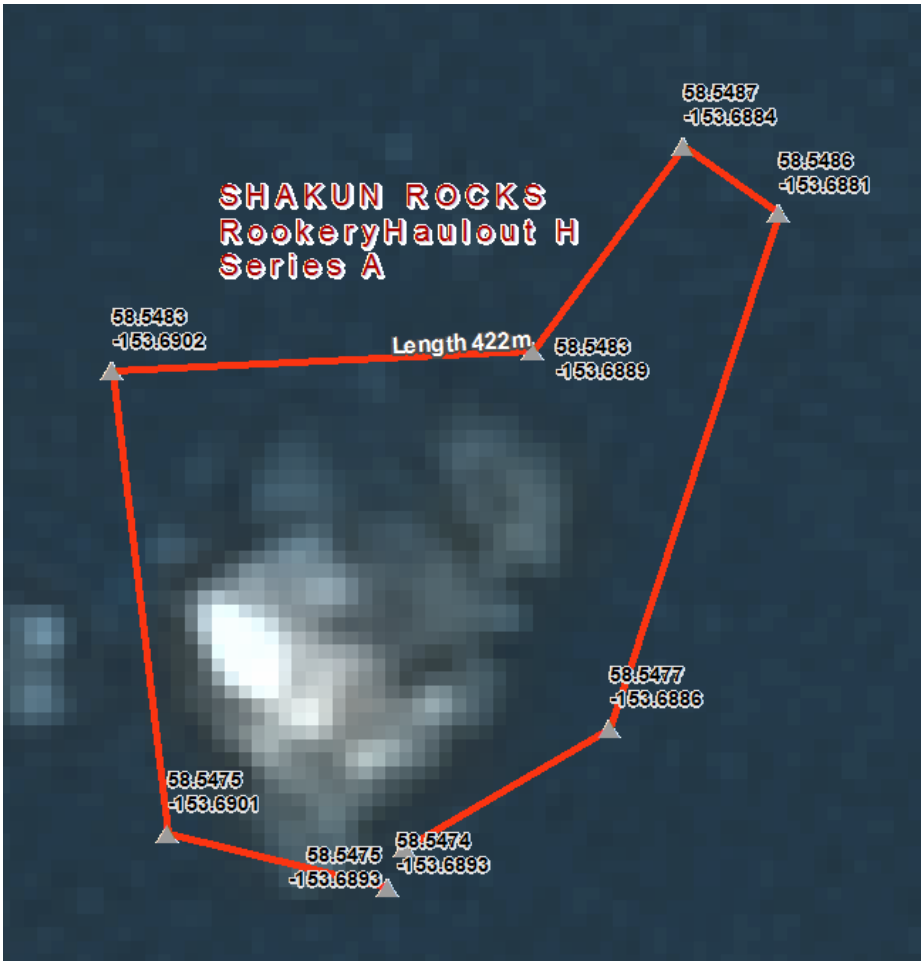
Length 2532m
51.9582
179.4896
51.9564
179.4903


SHAKUN ROCKS
RookeryHaulout H
Series A
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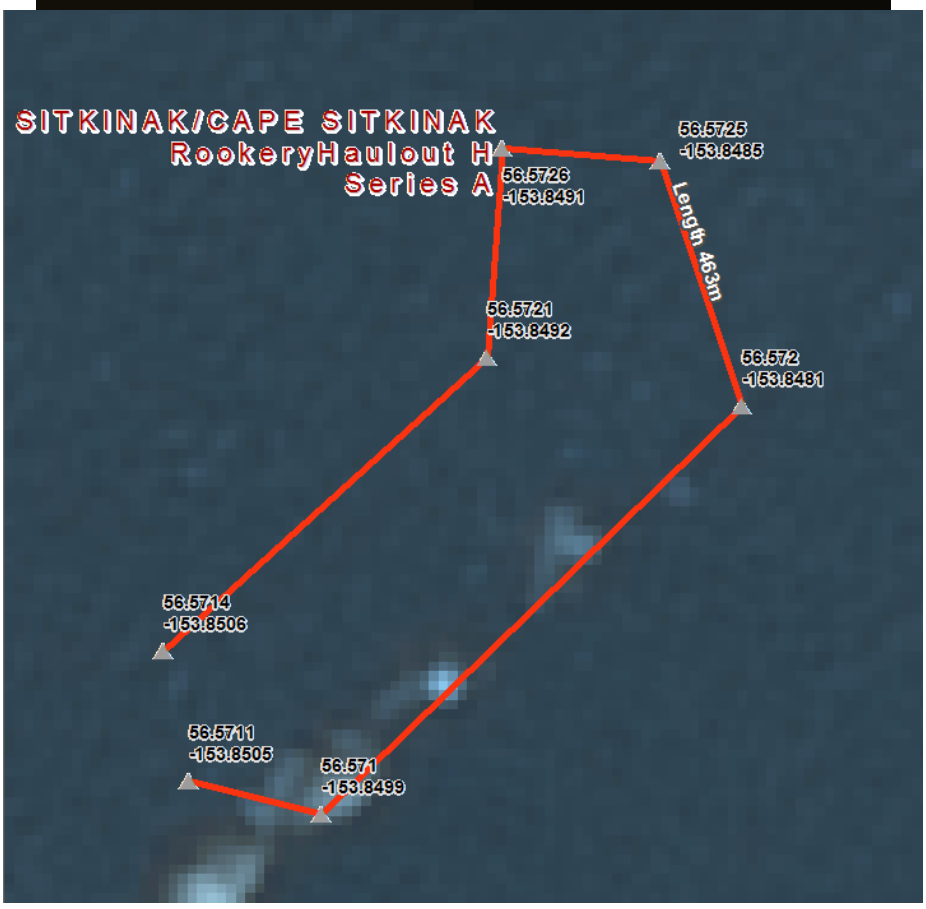
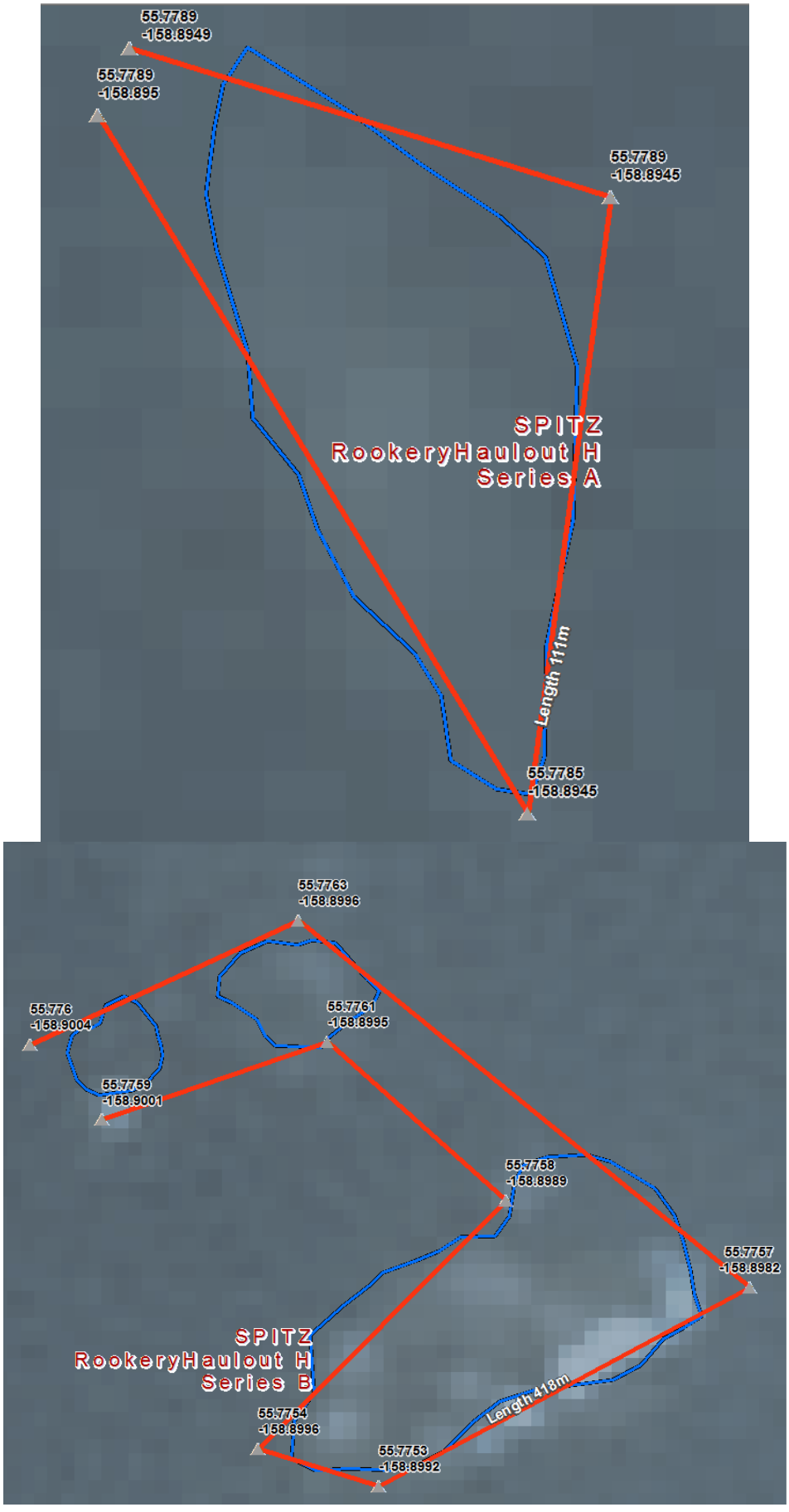
58.5486
-153.6881
58.5483
-153.6902
Length 422 m
58.5483
-153.6889
58.5477
-153.6886
58.5475
-153.6901
58.5475
-153.6893
58.5474
-153.6893


59.0091
-153.3733
59.0052
-153.3731
59.0049
-153.378
Length 1434m
SHAW
RookeryHaulout H
Series A
59.0024
-153.3777
58.9998
-153.3835


SHEMYA
RookeryHaulout H
Series A
52.7332
174.1439
52.7339
174.1457
Length 442m
52.7326
174.1446
52.7324
174.1454
52.7329
174.1468


SITKINAK/CAPE SITKINAK
RookeryHaulout H
Series A
56.5725
-153.8485
56.5726
-153.8491
Length 463m
56.5721
-153.8492
56.572
-153.8481
56.5714
-153.8506
56.5711
-153.8505
56.571
-153.8499


58.6474
-136.0505
58.6471
-136.0512
SOUTH MARBLE
RookeryHaulout H
Series A
58.6436
-136.0426
58.6407
-136.0469
Length 1941m
58.6396
-136.0427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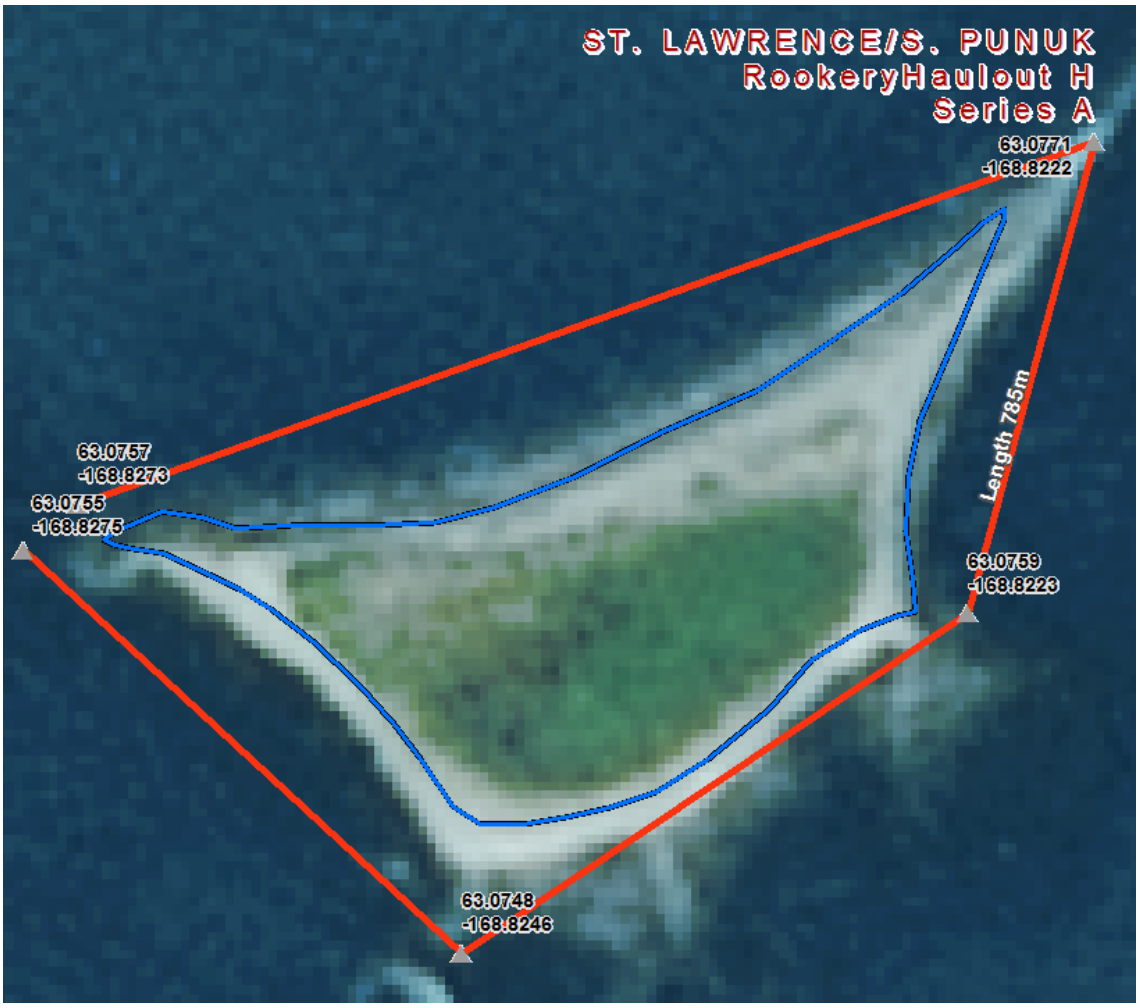
-158.8945
SPITZ
RookeryHaulout H
Series A
Length 111m
55.7785
-158.8945
55.7763
-158.8996
55.776
-158.9004
55.7761
-158.8995
55.7759
-158.9001
55.7758
-158.8989
55.7757
-158.8982
SPITZ
RookeryHaulout H
Series B
Length 418m
55.7754
-158.8996
55.7753
-158.8992


56.6067
-169.7731
56.6045
-169.7698
56.6038
-169.7707
ST. GEORGE/DALNOI POINT
RookeryHaulout H
Series A
56.604
-169.7688
Length 1703m
56.5998
-169.7608
56.5956
-169.7589


56.601
-169.4879
ST. GEORGE/KITOSILOX
RookeryHaulout H
Series A
56.5981
-169.4827
56.5983
-169.4754
Length 1773m
56.5964
-169.4668
56.5938
-169.4661


ST. LAWRENCE/S. PUNUK
RookeryHaulout H
Series A
63.0771
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63.0755
-168.8275
Length 785m
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63.0748
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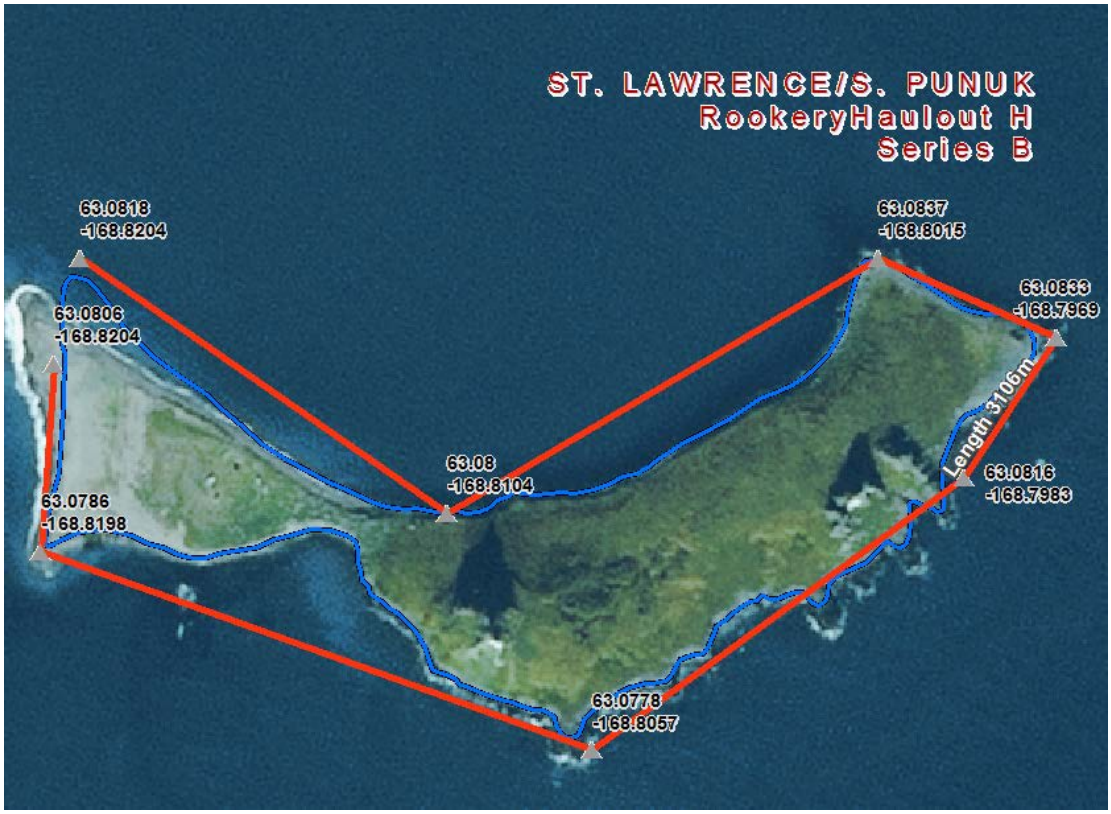
ST. LAWRENCE/S. PUNUK
RookeryHaulout H
Series B
63.0818
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63.0837
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63.0833
-168.7969
63.0806
-168.8204
Length 3106m
63.08
-168.8104
63.0816
-168.7983
63.0786
-168.8198
63.0778
-168.8057


ST. LAWRENCE/S. PUNUK
RookeryHaulout H
Series C
63.0729
-168.8325
63.07
-168.8385
63.0704
-168.8319
63.0693
-168.8388
63.0679
-168.8409
Length 2057m
63.0651
-168.8415
63.0655
-168.8372


63.751
-171.6331
63.7085
-171.651
ST. LAWRENCE/SIVUONOK
RookeryHaulout H
Series A
63.6895
-171.6327
Length 1602.0m
63.6497
-171.477


ST. LAWRENCE/SW CAPE
RookeryHaulout H
Series A
63.3204
-171.5599
63.3249
-171.504
63.3166
-171.4705
63.3353
-171.3566
63.3322
-171.3161
63.3001
-171.4754
Length 1578.4m


57.2485
-170.1174
57.2488
-170.1145
ST. PAUL/NE POINT
RookeryHaulout H
Series A
57.2495
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57.2482
-170.1079
Length 1306m
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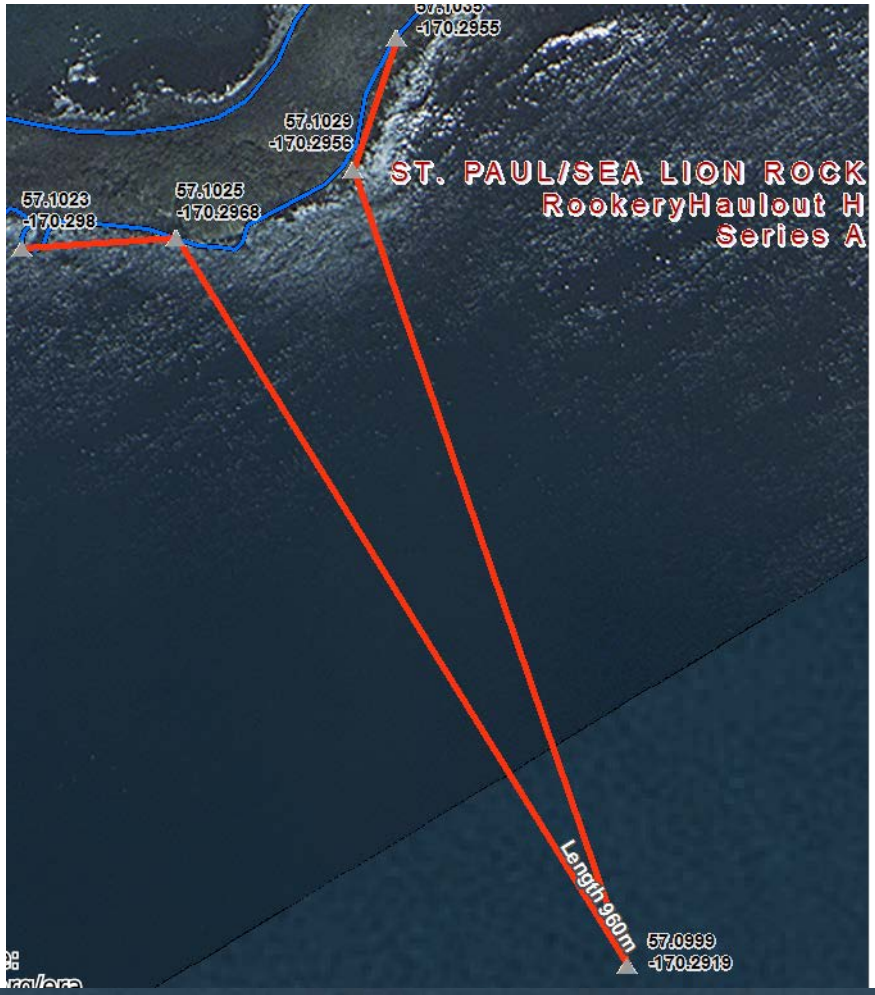
57.2483
-170.0976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ST. PAUL/SEA LION ROCK
RookeryHaulout H
Series A
57.1023
-170.298
57.1025
-170.2968
Length 960m
57.0999
-170.2919


58.9048
-152.1991
SUD
RookeryHaulout H
Series A
Length 93.4m
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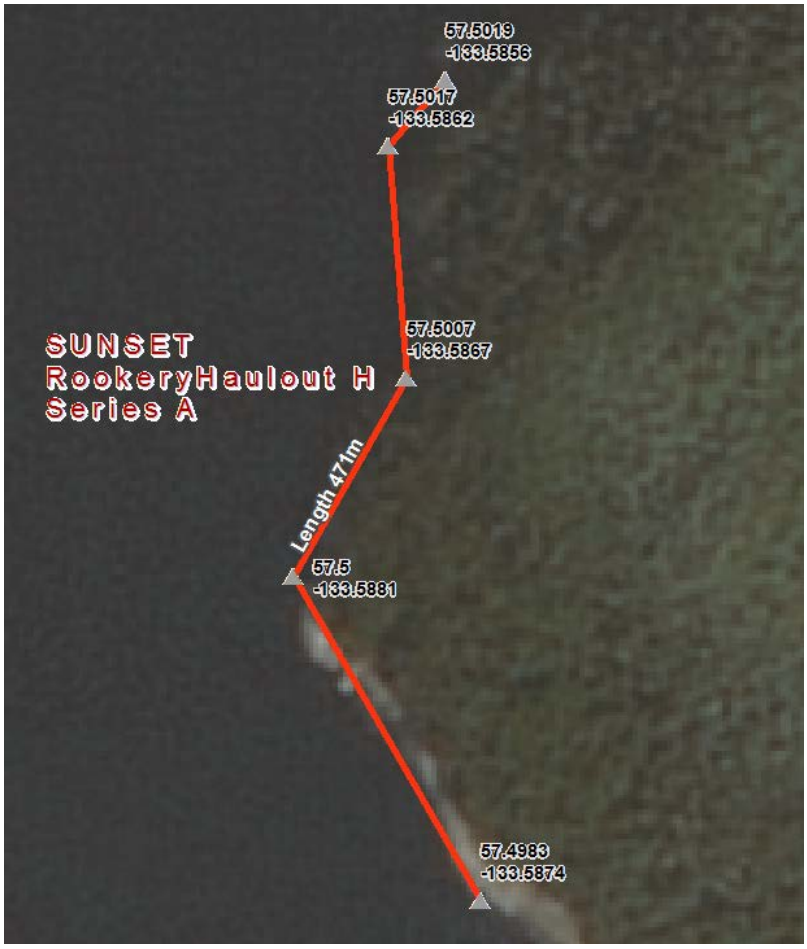
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SUNSET
RookeryHaulout H
Series A
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-133.5867
Length 471m
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-133.5881
57.4983
-133.5874


56.5421
-157.3177
56.5405
-157.3328
SUTWIK
RookeryHaulout H
Series A
56.53
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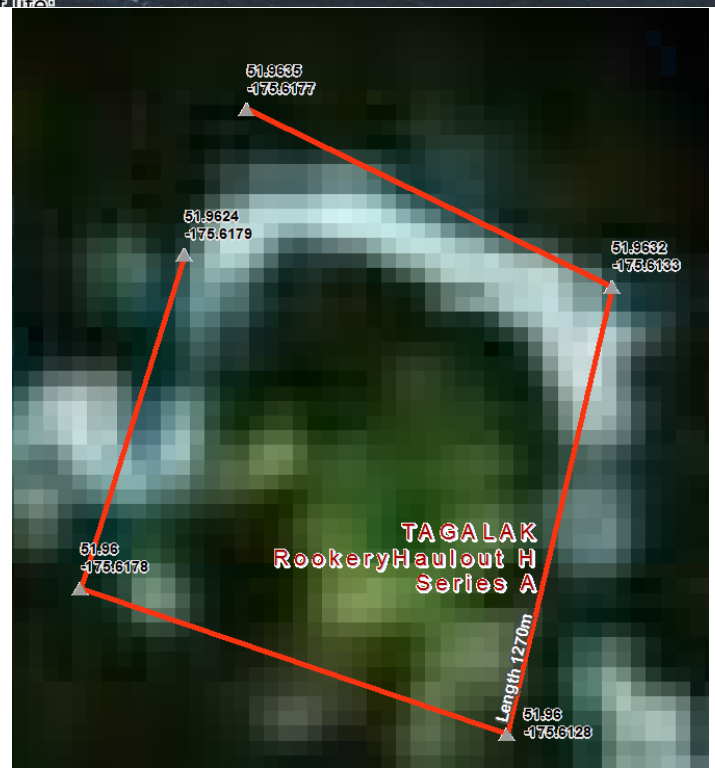
56.5291
-157.3194
56.5271
-157.3139
Length 4838m
56.5219
-157.3281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51.9624
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51.9632
-175.6133
TAGALAK
RookeryHaulout H
Series A
51.96
-175.6178
Length 1270m
51.96
-175.6128


51.952
-175.7462
TAGALAK
RookeryHaulout H
Series B
Length 1292m
51.946
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51.9455
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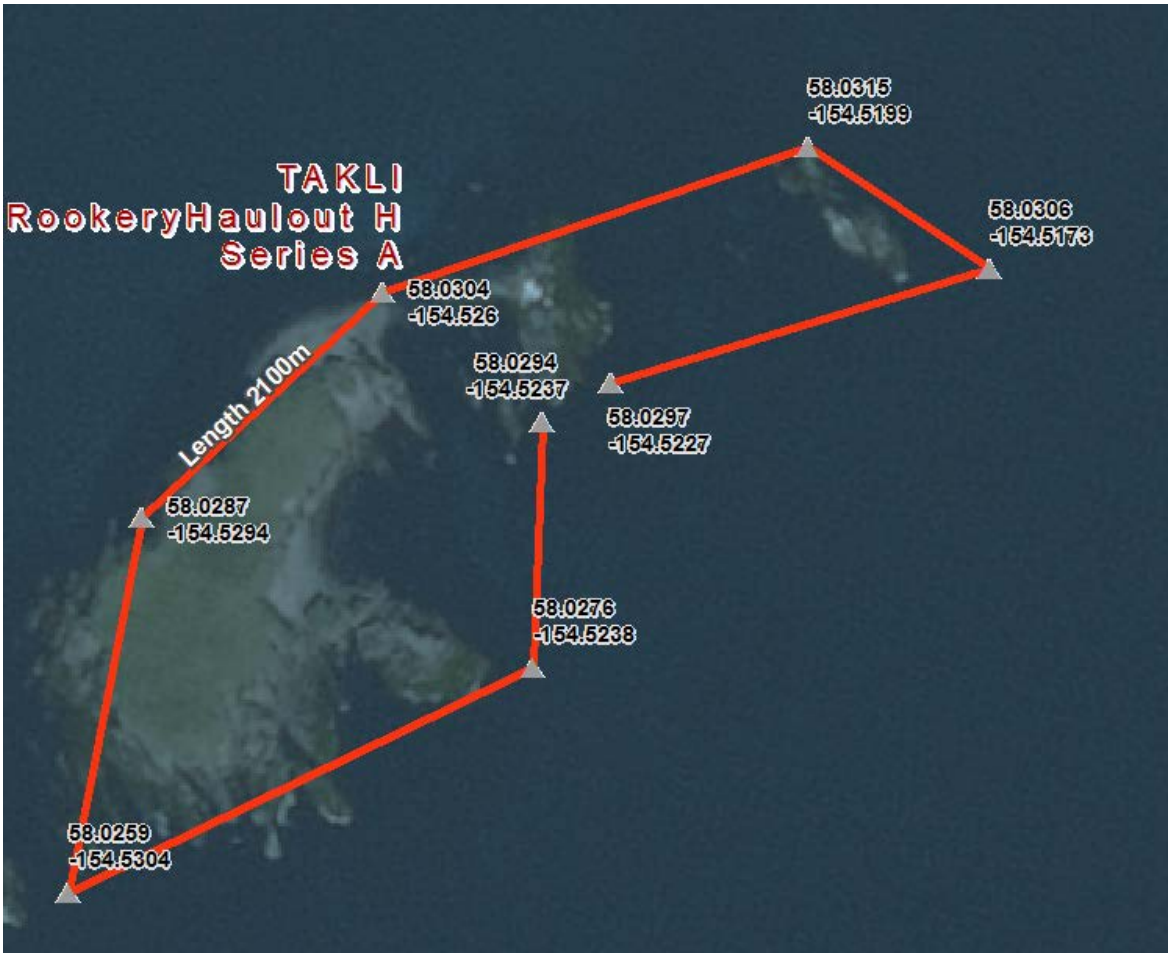
-175.7423


TAKLI
RookeryHaulout H
Series A
58.0315
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58.0306
-154.5173
58.0304
-154.526
58.0294
-154.5237
58.0297
-154.5227
Length 2100m
58.0287
-154.5294
58.0276
-154.5238
58.0259
-154.5304


52.0731
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52.0709
-172.9655
52.0704
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52.0695
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52.0708
-172.9555
TANADAK (AMLIA)
RookeryHaulout H
Series A
52.0678
-172.9598
Length 2290m
52.066
-172.9596
52.066
-172.9574


51.9482
177.7786
TANADAK (KISKA)
RookeryHaulout H
Series A
51.9468
177.7848
Length 1861m
51.944
177.7765
51.9463
177.7821
51.9433
177.778
51.9447
177.7859
51.9429
177.7824


51.9183
-177.9801
TANAGA/BUMPY POINT
RookeryHaulout H
Series A
51.9123
-177.9941
51.92
-177.9638
Length 5157m
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-177.954


54.2012
-165.3231
54.2006
-165.3252
54.2011
-165.3203
54.201
-165.3194
54.2
-165.3253
TANGINAK
RookeryHaulout H
Series A
54.1995
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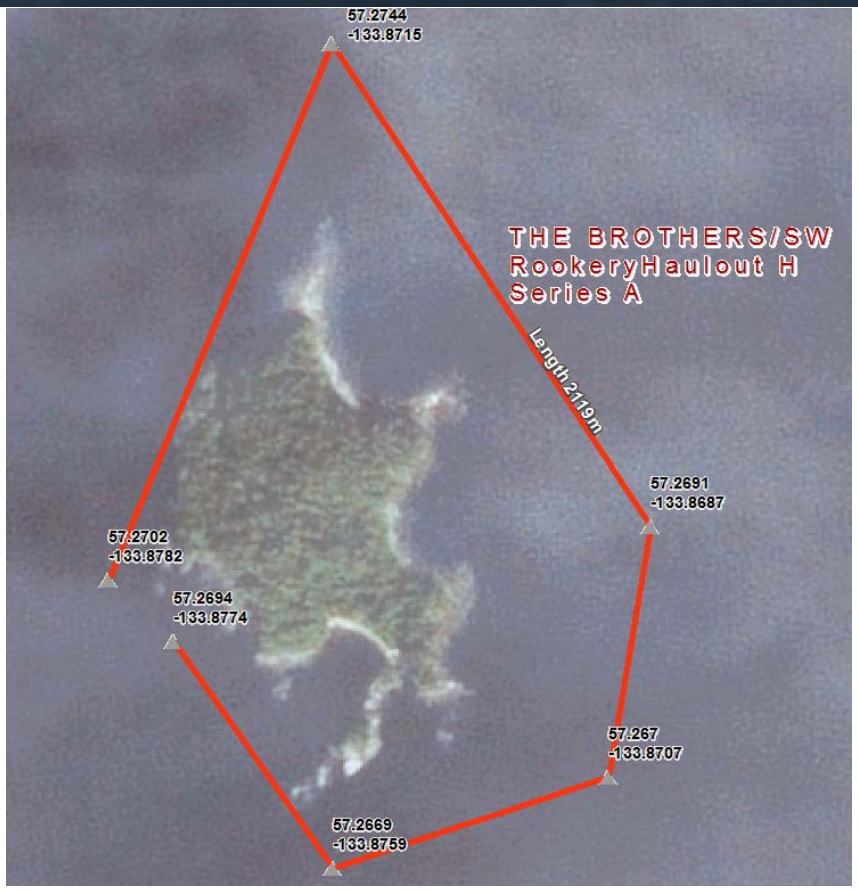
Length 1133m
54.1984
-165.3251
54.1986
-165.3218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THE BROTHERS/SW
RookeryHaulout H
Series A
Length 2119m
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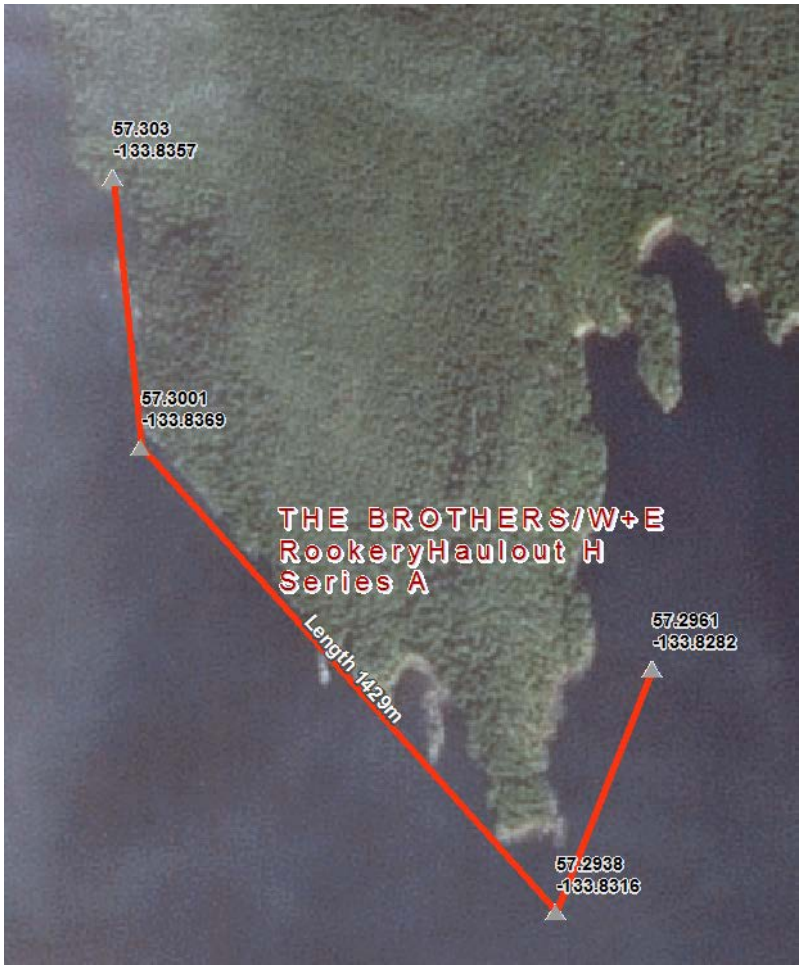
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THE BROTHERS/W+E
RookeryHaulout H
Series A
Length 1429m
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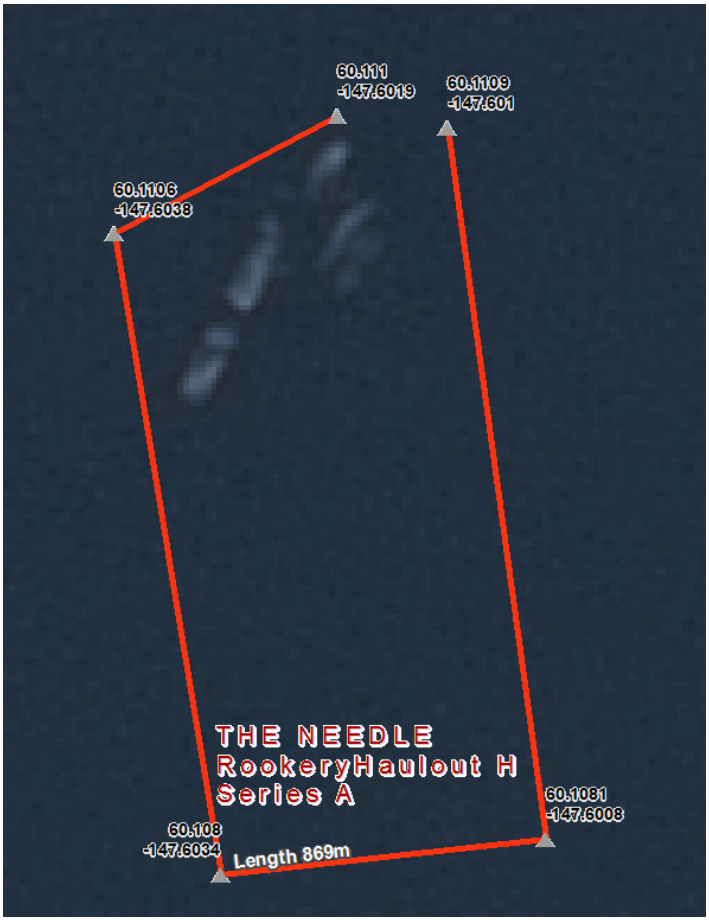
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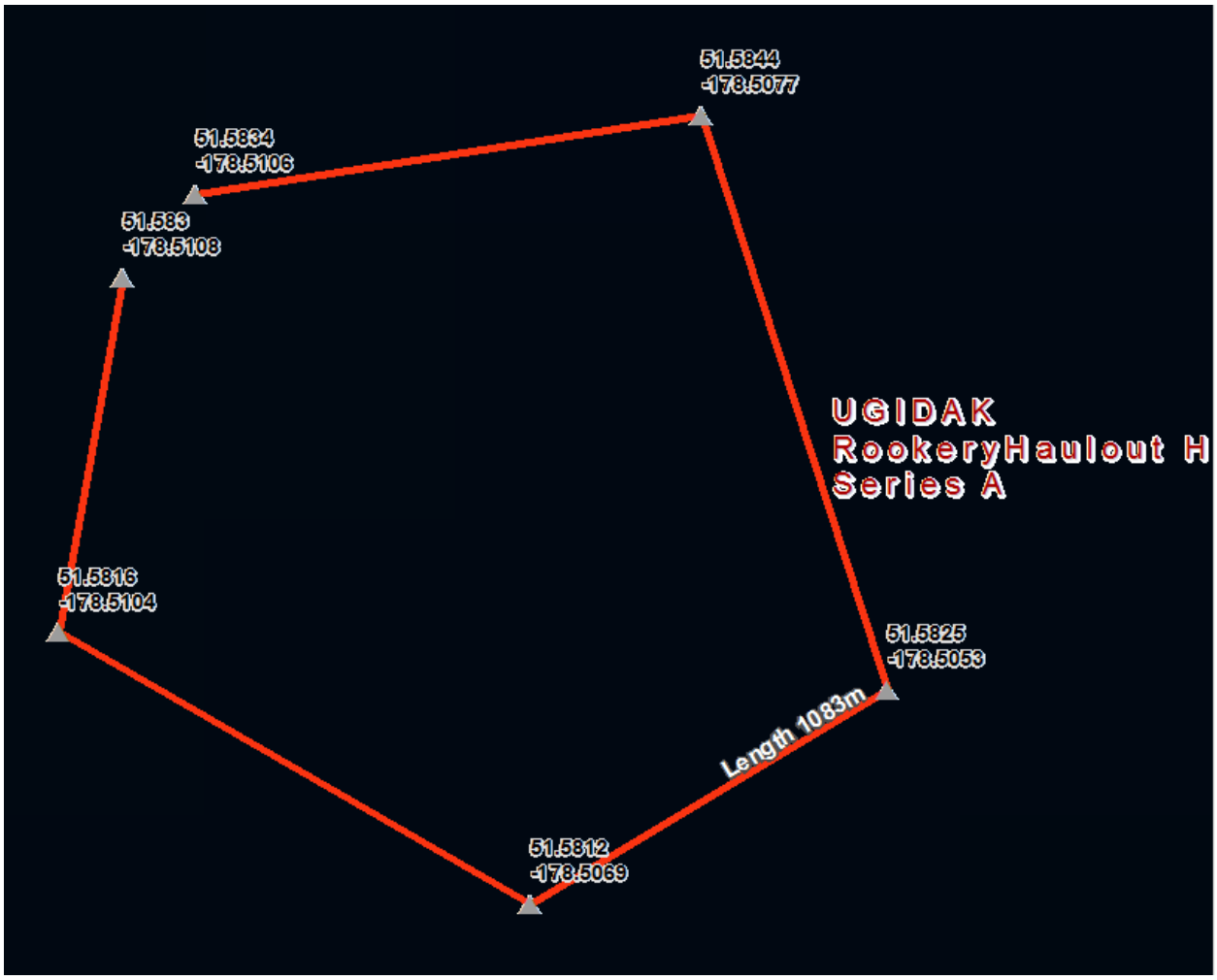
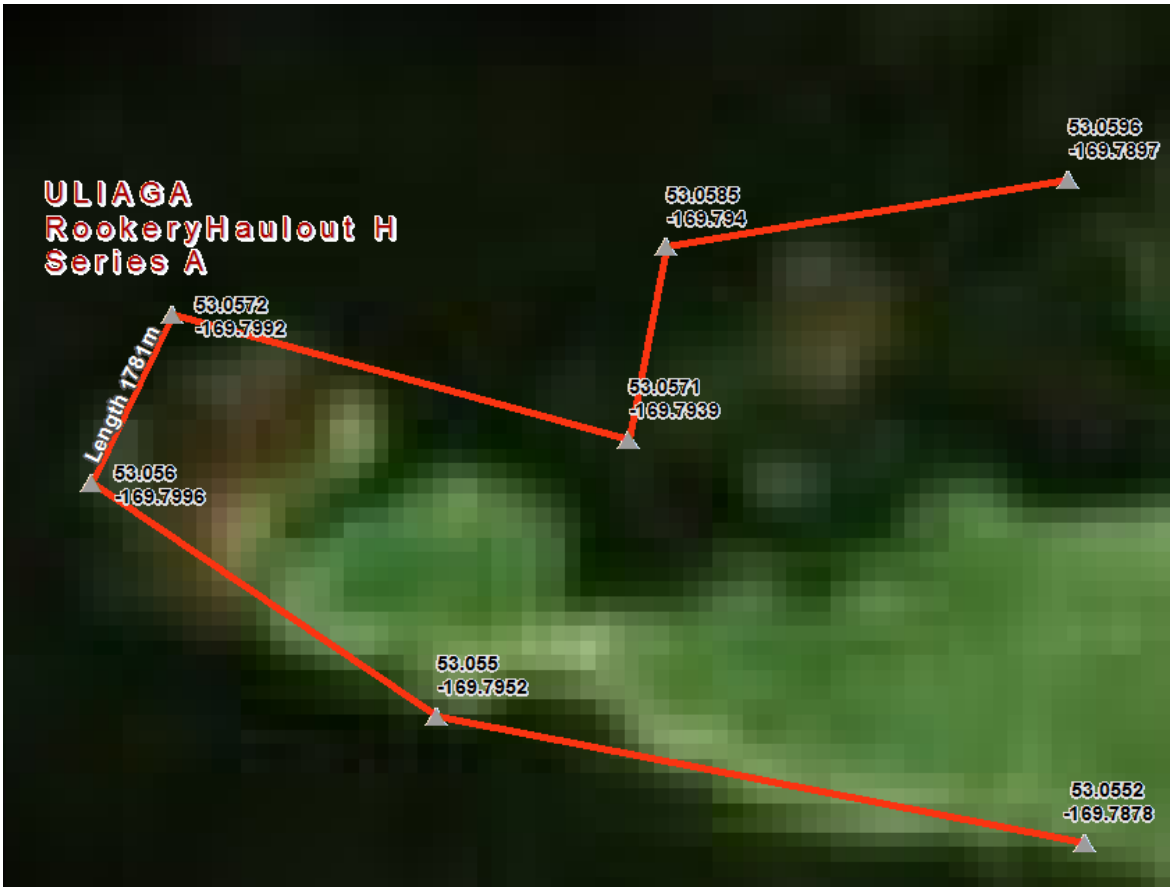
60.1106
-147.6038
THE NEEDLE
RookeryHaulout H
Series A
60.1081
-147.6008
60.108
-147.6034
Length 869m

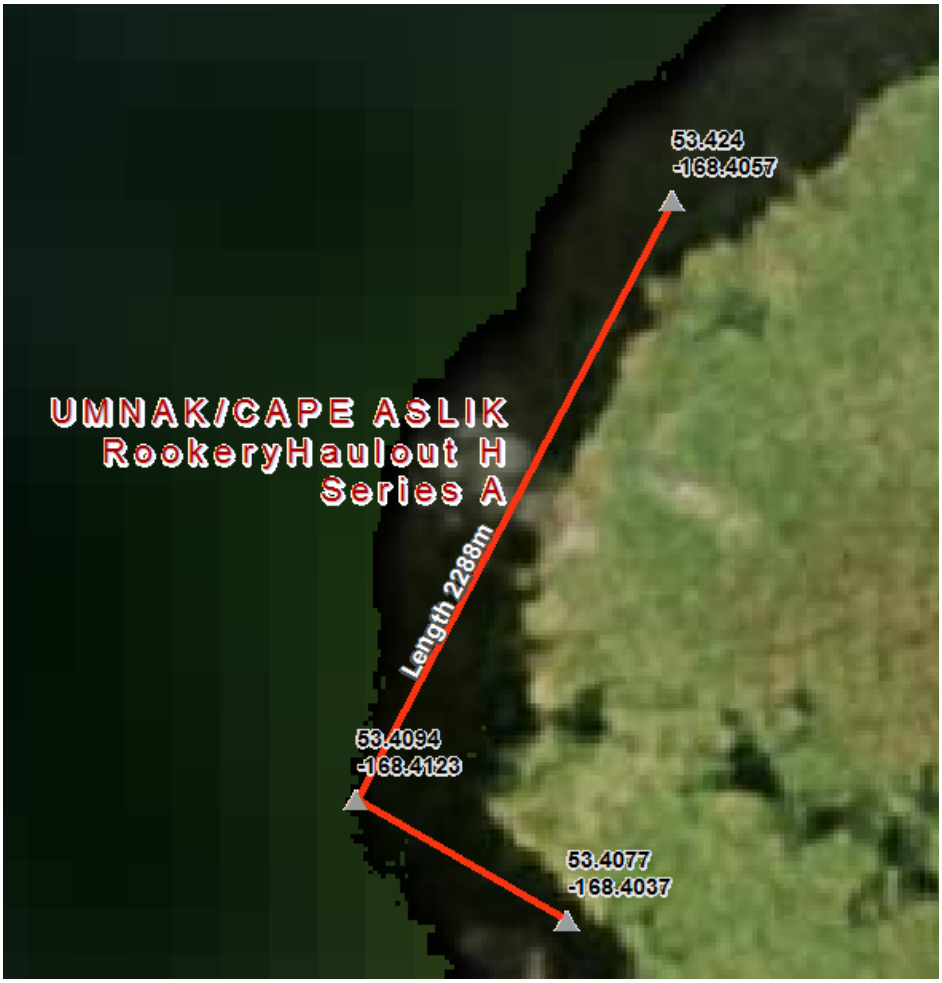

54.1639
-164.9852
54.164
-164.9815
54.158
-164.9835
TIGALDA/ROCKS NE
RookeryHaulout H
Series A
54.1527
-164.9501
Length 5680m
54.1499
-164.9516

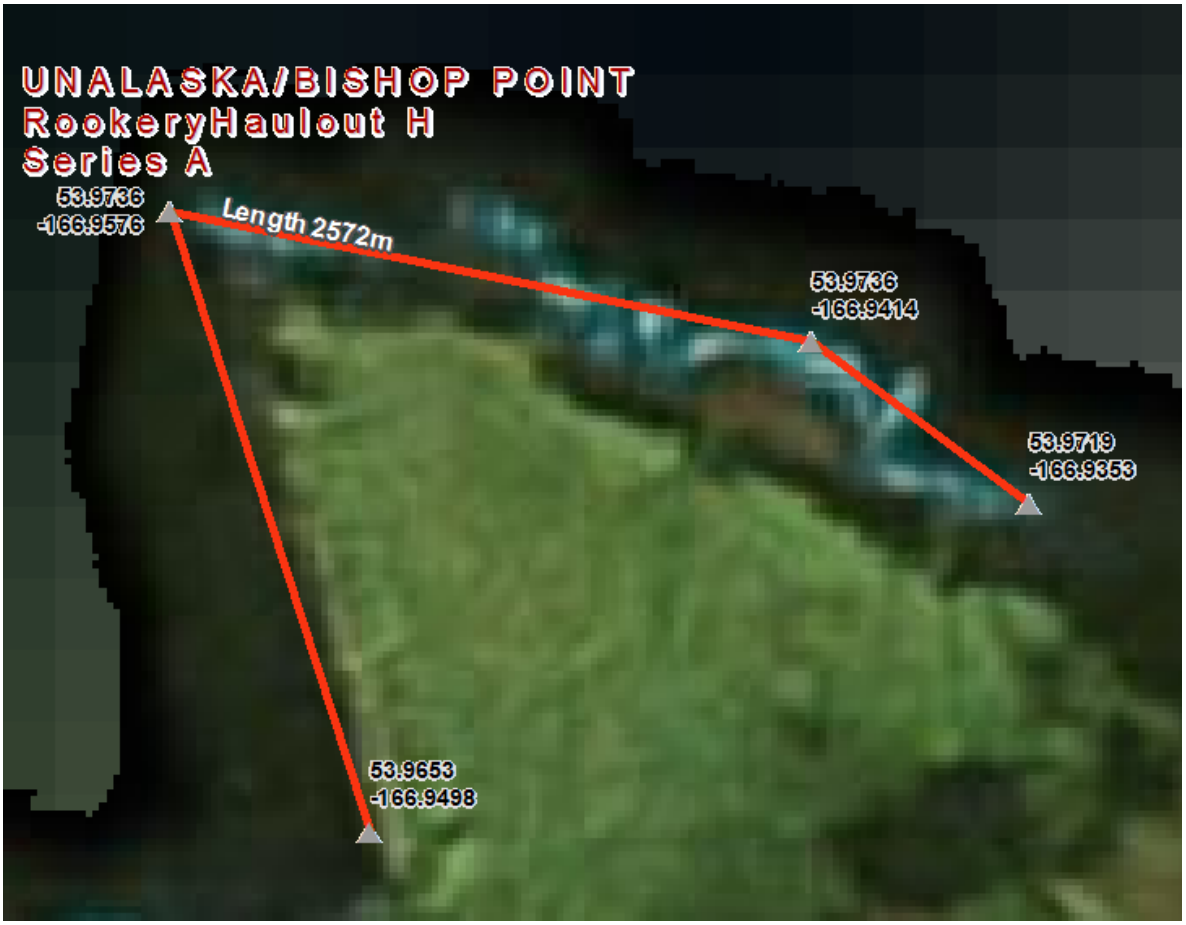

57.3942
-152.2912
UGAK
RookeryHaulout H
Series A
57.3936
-152.2924
Length 946m
57.3916
-152.2902
57.391
-152.2836


57.3687
-152.2821
UGAK
RookeryHaulout H
Series B
Length 796m
57.3657
-152.2929
57.3655
-152.2878


51.5844
-178.5077
51.5834
-178.5106
51.583
-178.5108
UGIDAK
RookeryHaulout H
Series A
51.5816
-178.5104
51.5825
-178.5053
Length 1083m
51.5812
-178.5069

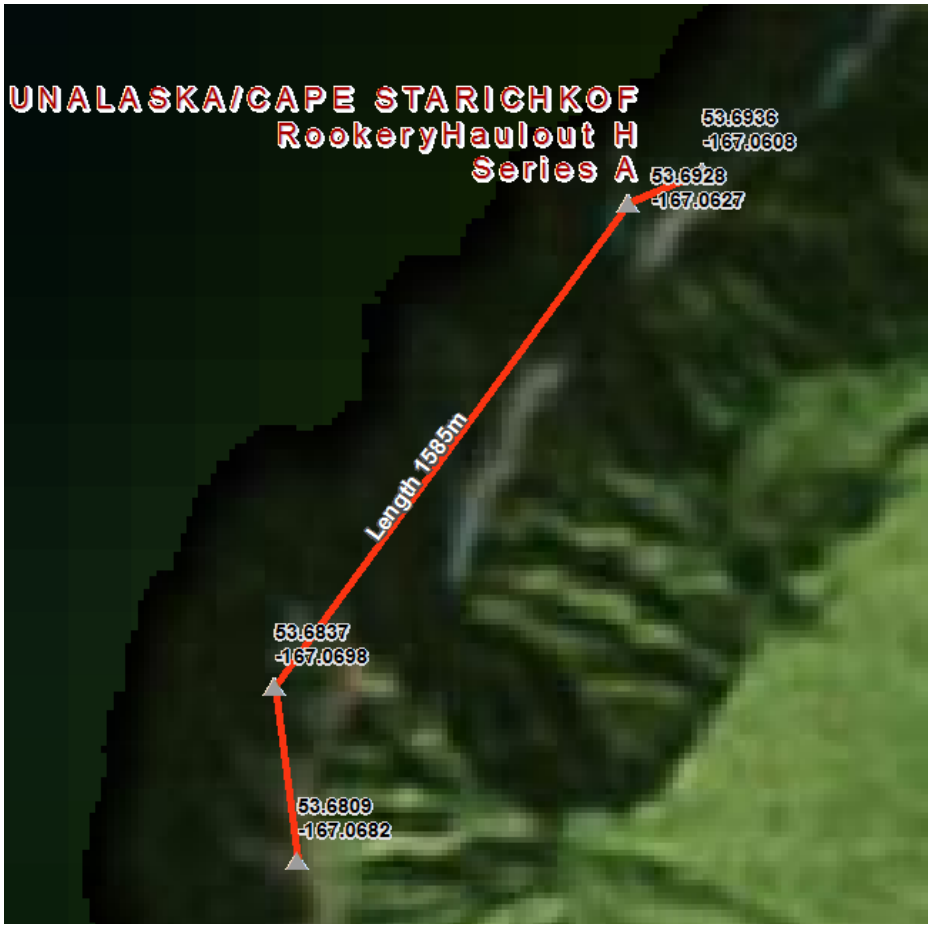

ULIAGA
RookeryHaulout H
Series A
53.0596
-169.7897
53.0585
-169.794
53.0572
-169.7992
Length 1781m
53.0571
-169.7939
53.056
-169.7996
53.055
-169.7952
53.0552
-169.7878


53.424
-168.4057
UMNAK/CAPE ASLIK
RookeryHaulout H
Series A
Length 2288m
53.4094
-168.4123
53.4077
-168.4037


UNALASKA/BISHOP POINT
RookeryHaulout H
Series A
53.9736
-166.9576
Length 2572m
53.9736
-166.9414
53.9719
-166.9353
53.9653
-166.9498


53.8428
-166.0914
53.842
-166.086
UNALASKA/CAPE SEDANKA
RookeryHaulout H
Series A
Length 1014m
53.8399
-166.0902
53.8394
-166.0864
53.8385
-166.0881


UNALASKA/SPRAY CAPE
RookeryHaulout H
Series A
53.6177
-167.1606
Length 1154m
53.6159
-167.1643
53.6168
-167.1529
53.6136
-167.1616

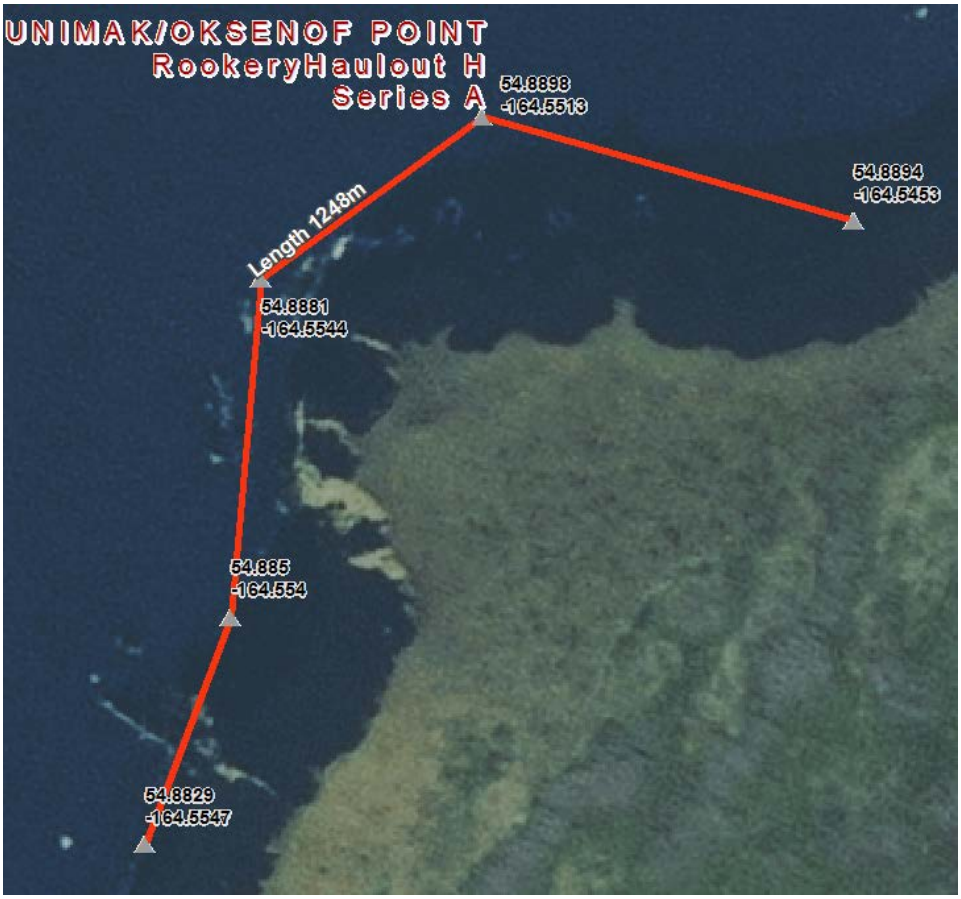

UNALASKA/CAPE STARICHKOF
RookeryHaulout H
Series A
53.6936
-167.0608
53.6928
-167.0627
Length 1585m
53.6837
-167.0698
53.6809
-167.0682

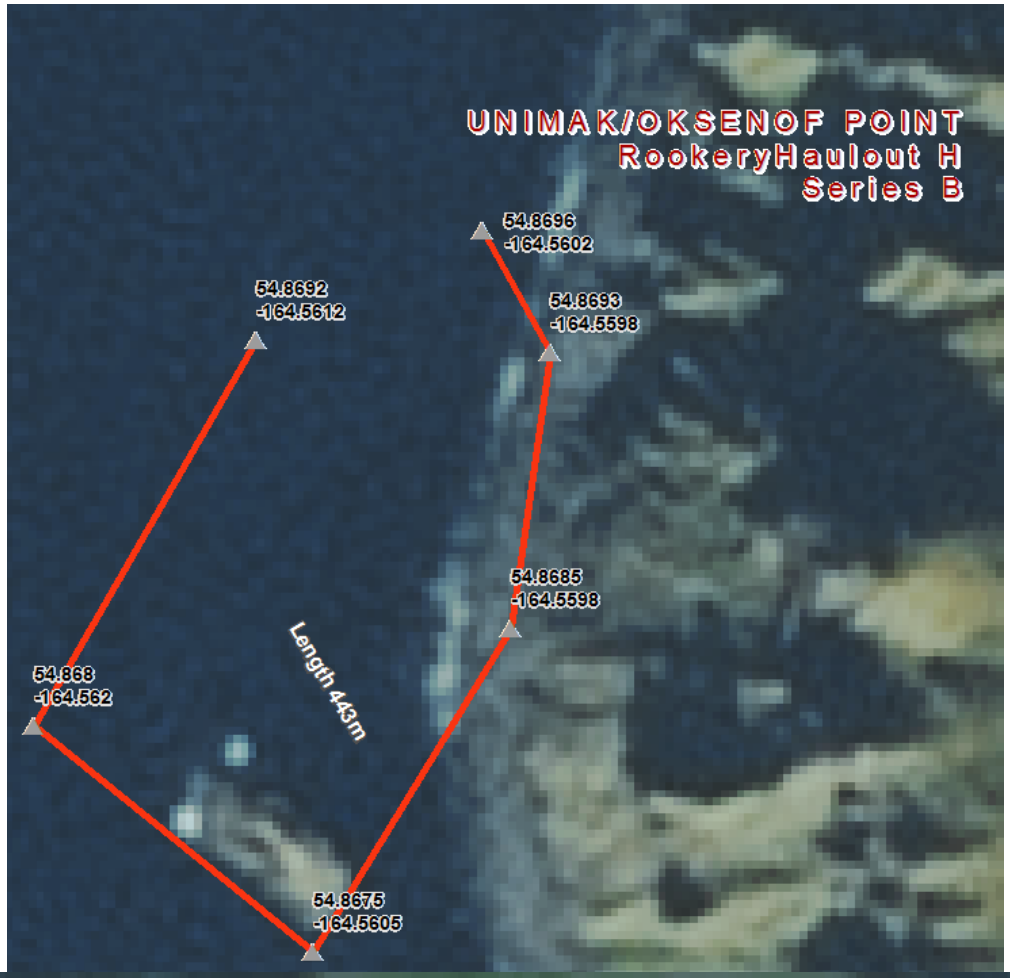

51.5622
-179.0727
51.5629
-179.0702
51.5614
-179.0734
51.562
-179.0711
51.561
-179.0731
51.5622
-179.0667
UNALGA+DINKUM ROCKS
RookeryHaulout H
Series A
Length 1190m
51.56
-179.0693

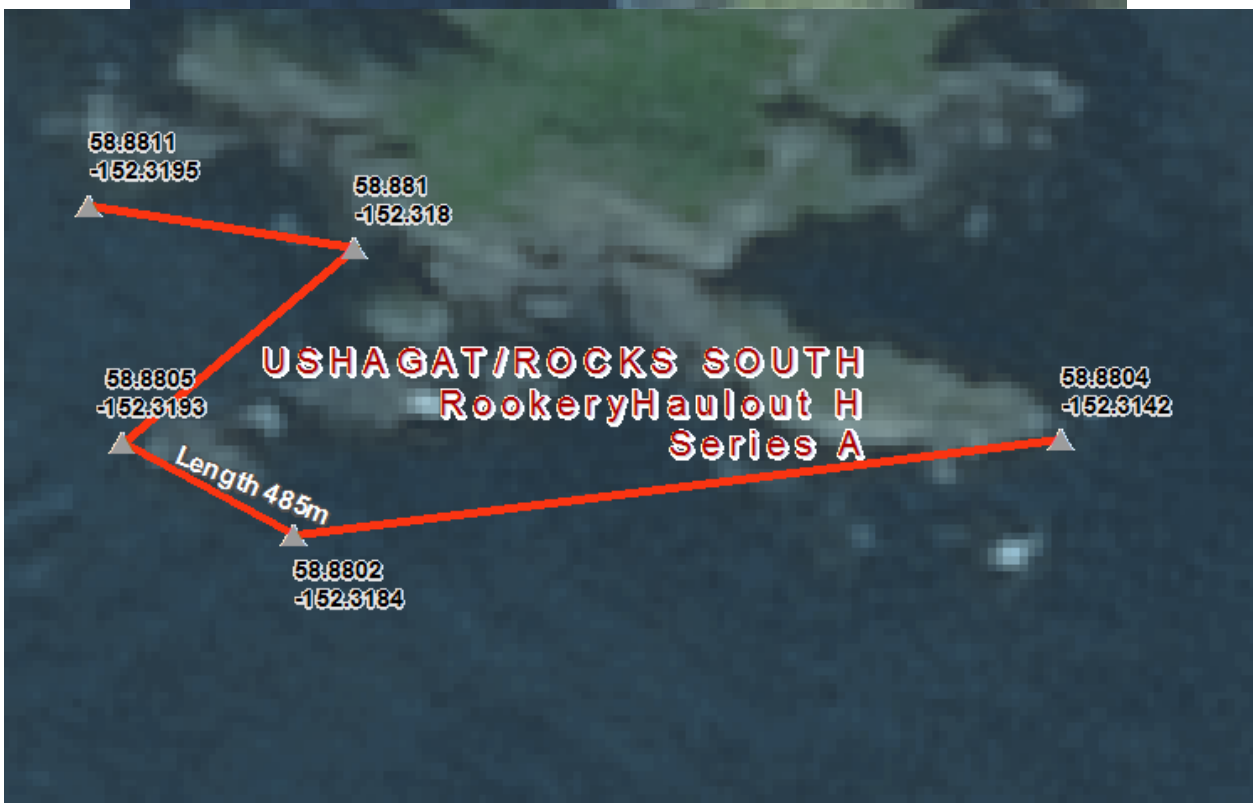

55.1224
-160.8191
55.121
-160.8247
55.1207
-160.8249
55.1204
-160.8243
55.1208
-160.8206
55.121
-160.819
55.1208
-160.8174
55.1203
-160.8181
UNGA/ACHEREDIN POINT
RookeryHaulout H
Series A
Length 1366m
55.1185
-160.8201
55.118
-160.8238

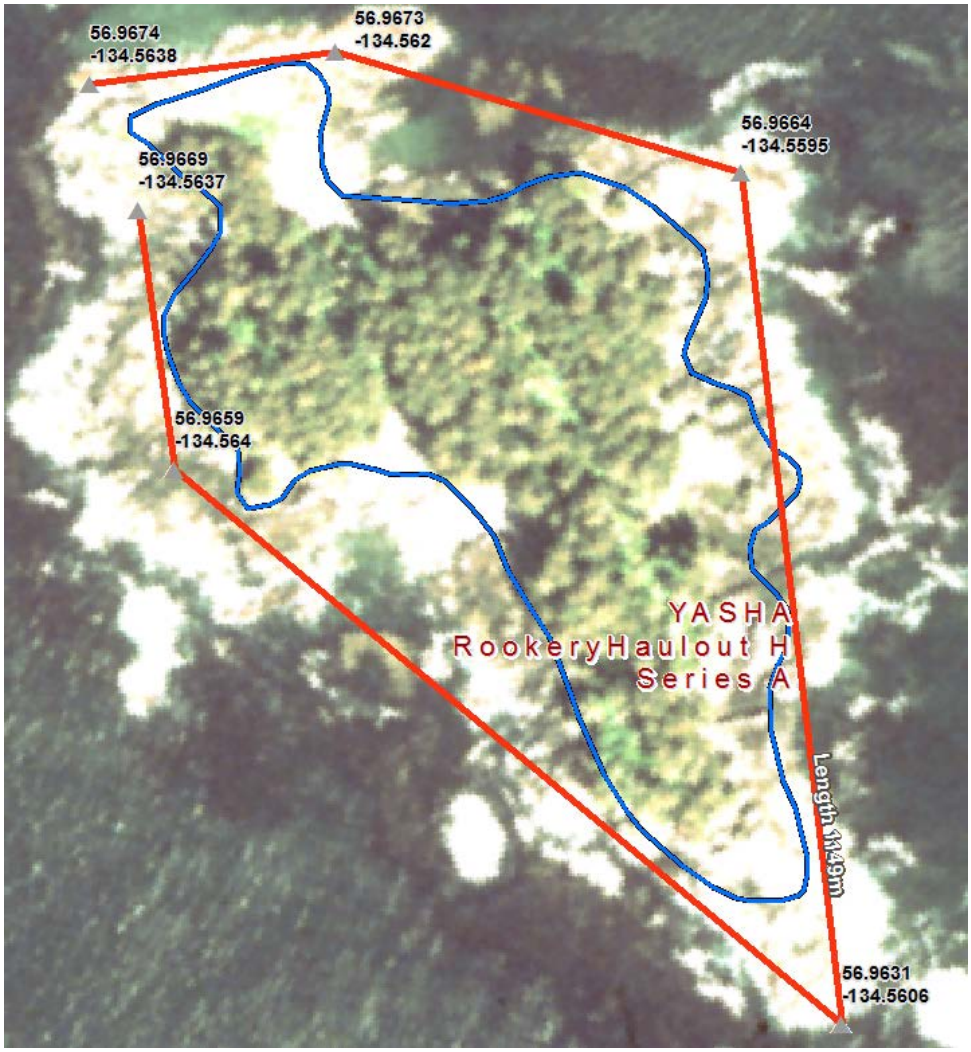

54.575
-164.9471
UNIMAK/CAPE SARICHEF
RookeryHaulout H
Series A
54.5724
-164.9424
Length 877m
54.5687
-164.9453

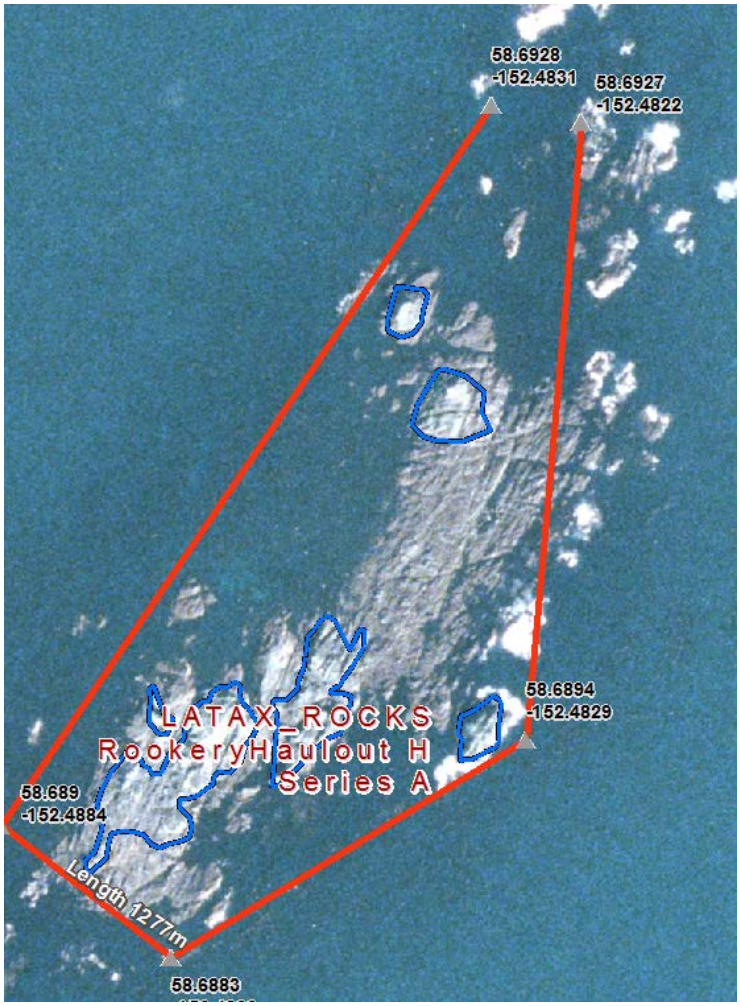

54.5984
-164.9289
UNIMAK/CAPE SARICHEF
RookeryHaulout H
Series B
Length 1135m
54.5916
-164.931
54.589
-164.9343


UNIMAK/OKSENOF POINT
RookeryHaulout H
Series A
54.8898
-164.5513
54.8894
-164.5453
Length 1248m
54.8881
-164.5544
54.885
-164.554
54.8829
-164.5547

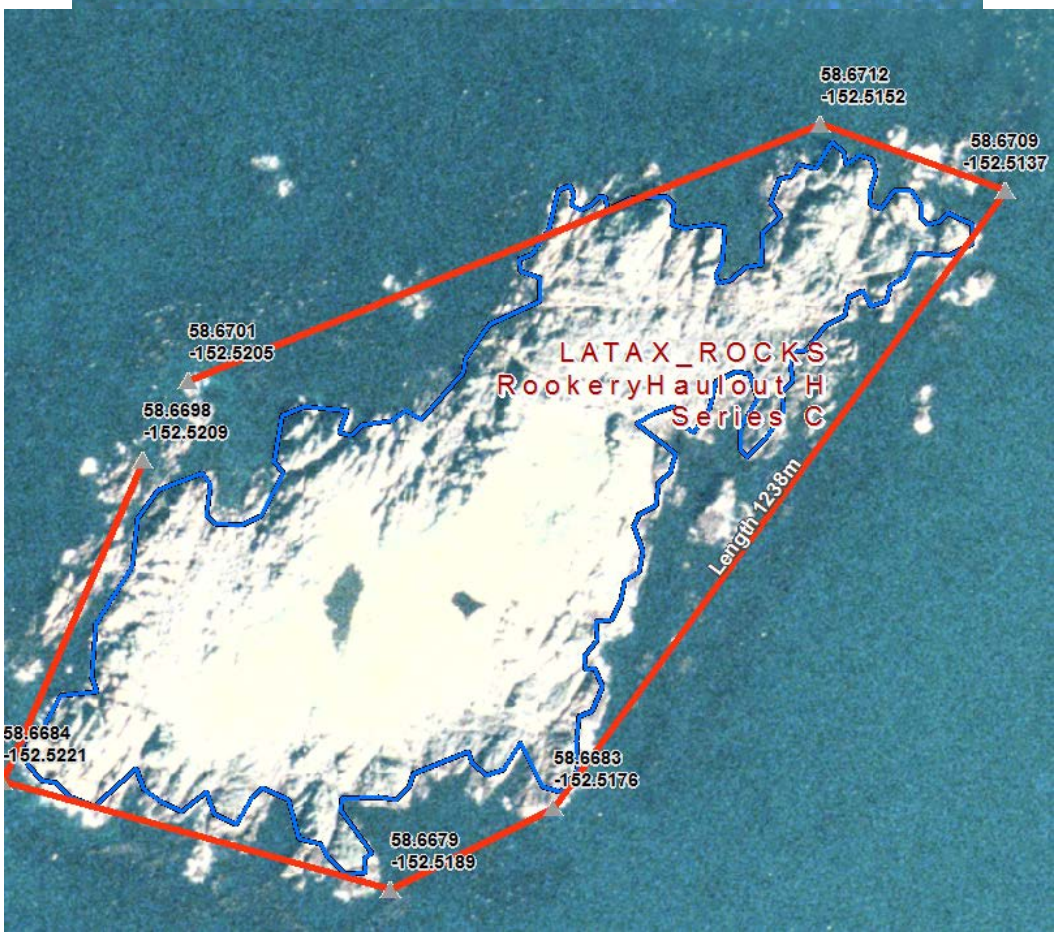

UNIMAK/OKSENOF POINT
RookeryHaulout H
Series B
54.8696
-164.5602
54.8692
-164.5612
54.8693
-164.5598
54.8685
-164.5598
Length 443m
54.868
-164.562
54.8675
-164.5605


58.8811
-152.3195
58.881
-152.318
USHAGAT/ROCKS SOUTH
RookeryHaulout H
Series A
58.8805
-152.3193
58.8804
-152.3142
Length 485m
58.8802
-152.3184


56.9674
-134.5638
56.9673
-134.562
56.9664
-134.5595
56.9669
-134.5637
56.9659
-134.564
YASHA
RookeryHaulout H
Series A
Length 1149m
56.9631
-134.5606

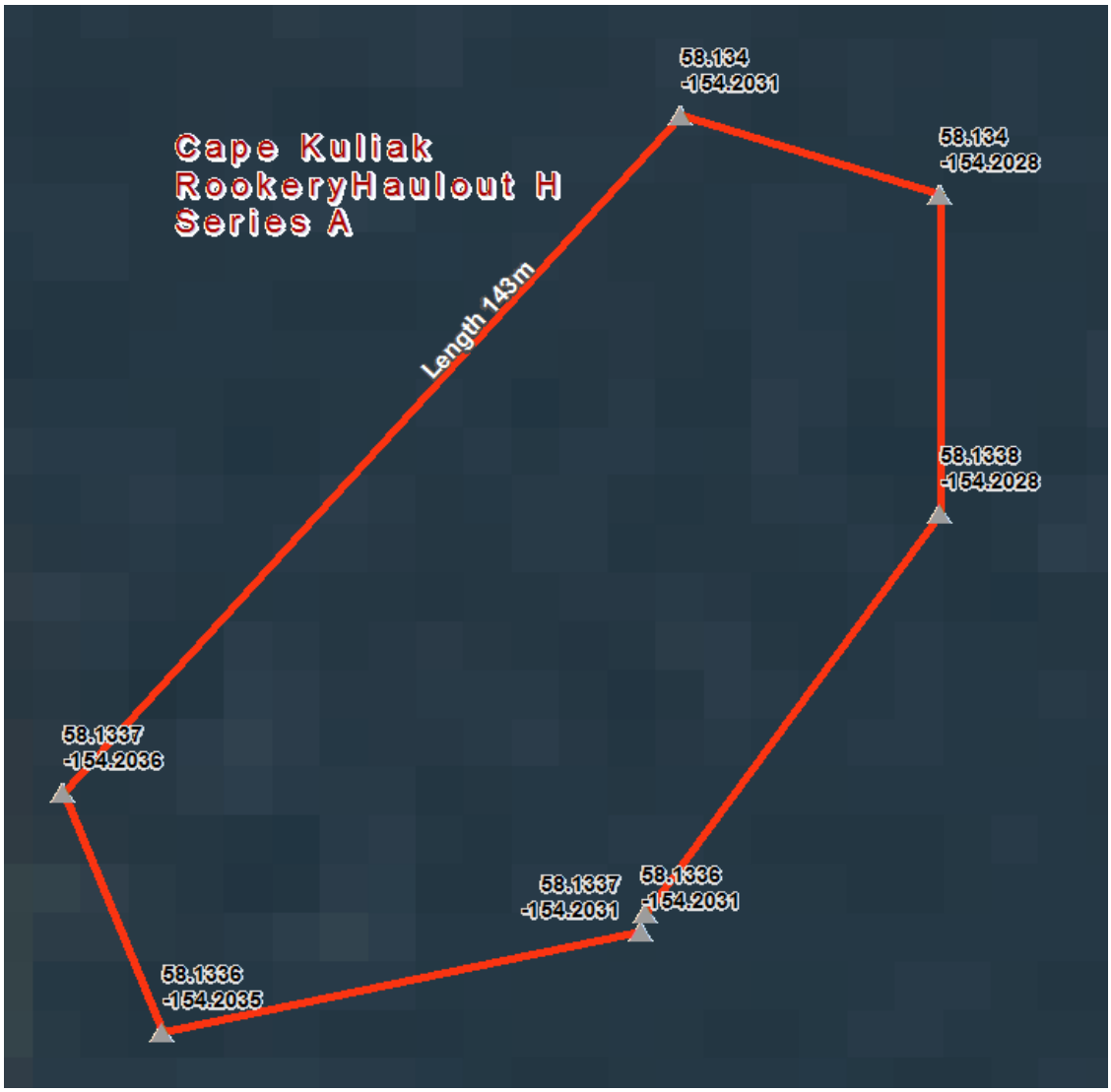

58.6928
-152.4831
58.6927
-152.4822
58.6894
-152.4829
LATAX_ROCKS
RookeryHaulout H
Series A
58.689
-152.4884
Length 1277m
58.6883


58.676
-152.4947
58.6754
-152.4966
58.6754
-152.4974
58.6755
-152.4965
58.6749
-152.4937
LATAX_ROCKS
RookeryHaulout H
Series B
Length 643m
58.6741
-152.4964


58.6712
-152.5152
58.6709
-152.5137
58.6701
-152.5205
LATAX_ROCKS
RookeryHaulout H
Series C
58.6698
-152.5209
Length 1238m
58.6684
-152.5221
58.6683
-152.5176
58.6679
-152.5189

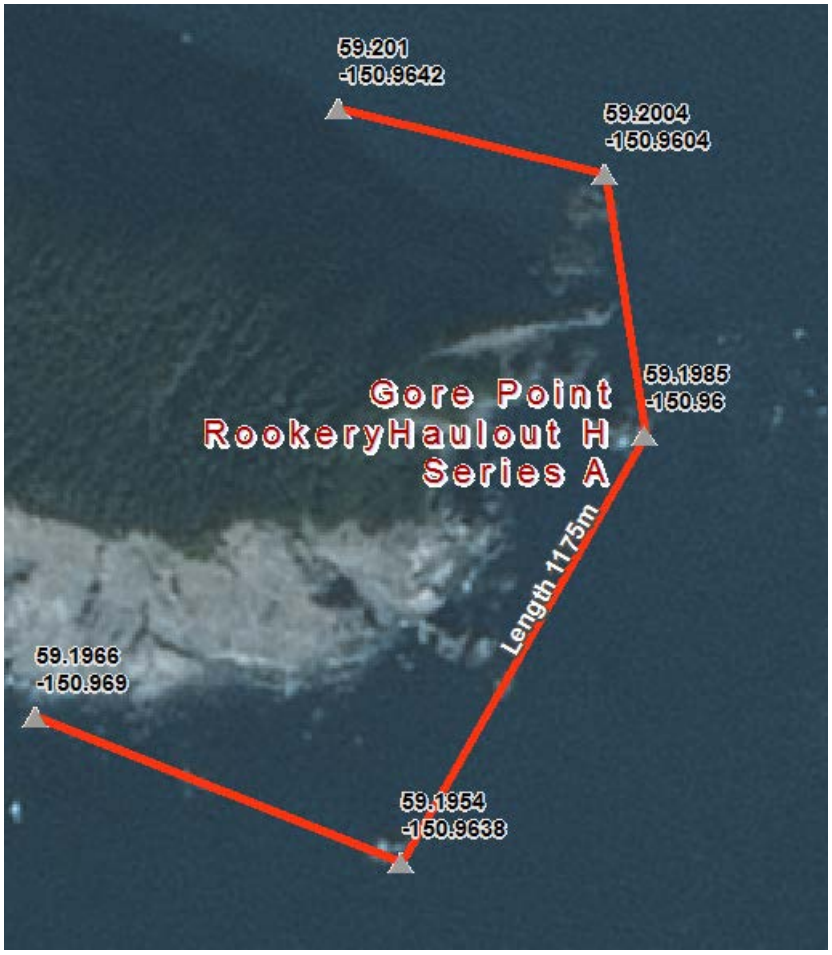

59.8367
-149.386
59.8358
-149.3817
59.8357
-149.3862
RUGGED
RookeryHaulout H
Series B
59.8354
-149.3847
59.8352
-149.3857
Length 482m
59.835
-149.3845
59.8349
-149.383


60.8549
-147.1586
60.8534
-147.137
GLACIER
RookeryHaulout H
Series A
60.8527
-147.1566
60.8519
-147.1486
Length 1359m

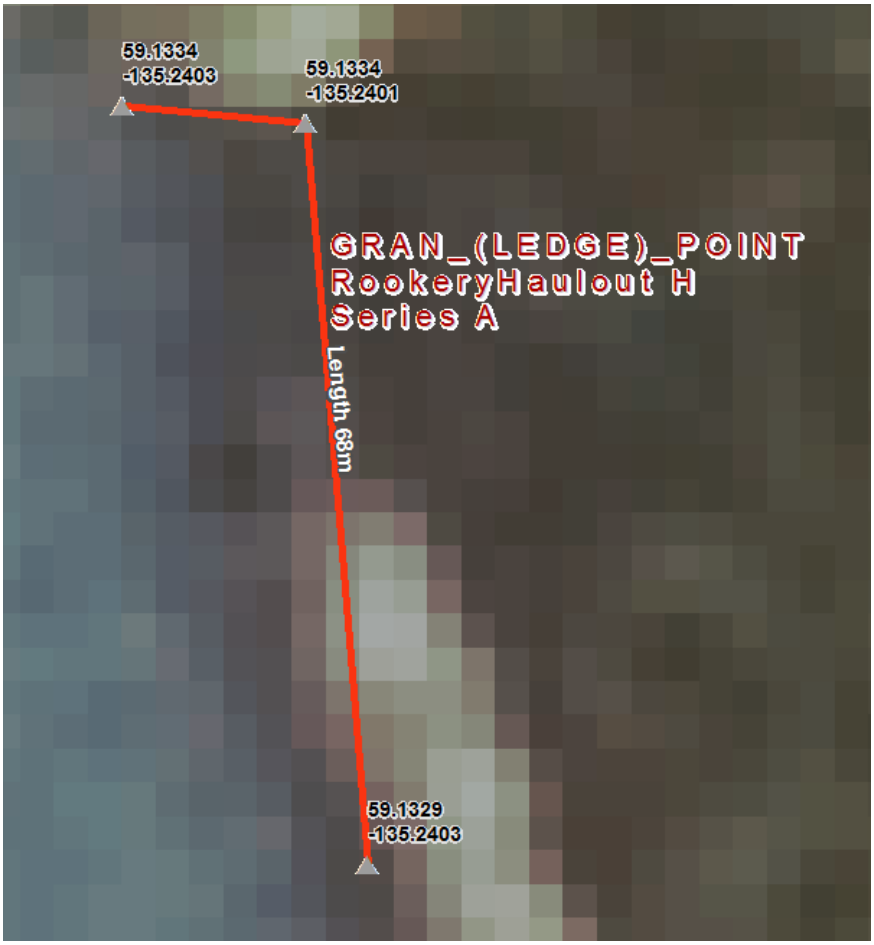

Cape Kuliak
RookeryHaulout H
Series A
Length 143m
58.134
-154.2031
58.134
-154.2028
58.1338
-154.2028
58.1337
-154.2036
58.1337
-154.2031
58.1336
-154.2031
58.1336
-154.2035

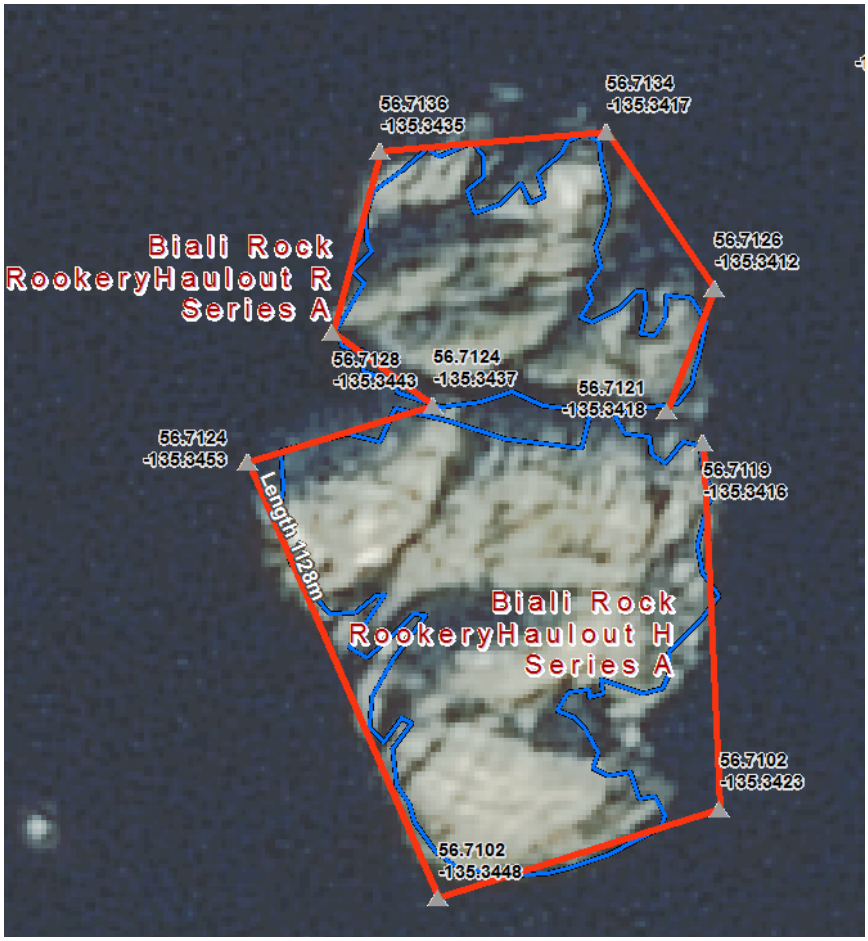

59.1564
-151.8861
59.1561
-151.886
Elizabeth/Cape Elizabeth
RookeryHaulout H
Series A
59.1559
-151.8851
Length 174m
59.1553
-151.8842

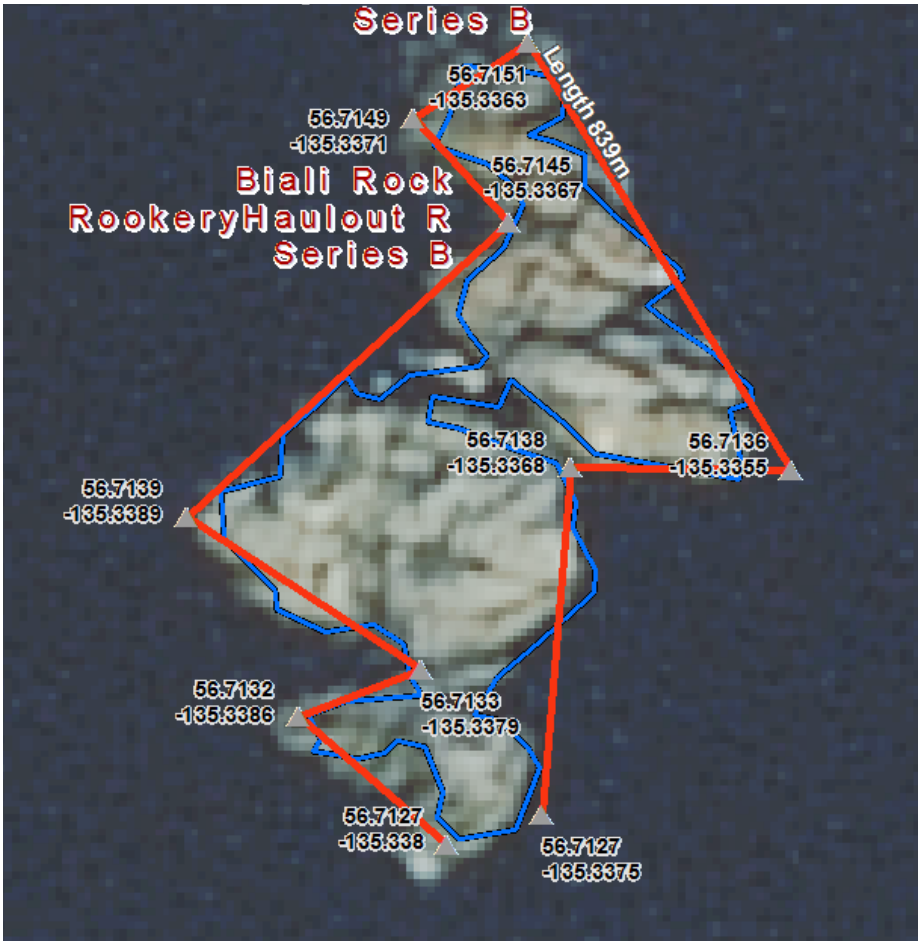

FLAT
RookeryHaulout H
Series A
59.3314
-151.9946
59.3308
-151.9963
59.3297
-151.9964
59.3293
-151.9934
59.3291
-151.9932
59.3288
-151.9941
Length 1185m
59.3273
-151.9911
59.3271
-151.9929


59.201
-150.9642
59.2004
-150.9604
59.1985
-150.96
Gore Point
RookeryHaulout H
Series A
Length 1175m
59.1966
-150.969
59.1954
-150.9638


52.7849
-169.7004
52.782
-169.699
CHUGINADAK
RookeryHaulout H
Series A
52.7778
-169.699
Length 1679 m
52.7748
-169.7076
52.7731
-169.7063


59.1334
-135.2403
59.1334
-135.2401
GRAN_(LEDGE)_POINT
RookeryHaulout H
Series A
Length 68m
59.1329
-135.2403


56.7134
-135.3417
56.7136
-135.3435
Biali Rock
RookeryHaulout R
Series A
56.7126
-135.3412
56.7128
-135.3443
56.7124
-135.3437
56.7121
-135.3418
56.7124
-135.3453
56.7119
-135.3416
Length 128m
Biali Rock
RookeryHaulout H
Series A
56.7102
-135.3423
56.7102
-135.3448


Series B
Length 839m
56.7151
-135.3363
56.7149
-135.3371
56.7145
-135.3367
Biali Rock
RookeryHaulout R
Series B
56.7138
-135.3368
56.7136
-135.3355
56.7139
-135.3389
56.7132
-135.3386
56.7133
-135.3379
56.7127
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56.7127
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