



Appendix 1

GN-01: Identification of Potential Impacts	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Environmental Management Plan – Identification of Potential Impacts
References	<ul style="list-style-type: none"> • Apex Geoscience Ltd. on behalf of Solstice Gold Corp. – “Environmental Management Plan, Kahuna Gold Property Nunavut, Canada” • Boulanger, John, et al. – “Analysis of Caribou Movements Relative to the Meadowbank Mine and Roads During Spring Migration”, 2020 • Government of Nunavut – “Spatial Screening for Solstice Gold Corp.’s ‘Kahuna Gold Property’”, April 15, 2021 • NIRB Notice of Screening for Solstice Gold Corp.’s “Kahuna Gold Property” Project Proposal • Nunavut Project and Planning Assessment Act
CONCERNS	
<p>Section 5 of the Environmental Management Plan (EMP) outlines the identification of potential impacts and the associated proposed mitigation measures that will be carried out during Project activities. The GN is concerned with the identification of impacts and the associated measures, as they lack sufficient detail and breadth for a complete assessment.</p> <p>As the Proponent is aware, the Property is located within the annual ranges of two herds of barren-ground caribou (<i>Rangifer tarandus groenlandicus</i>): the Qamanirjuaq and Lorillard herds (see GN-DOE, 2021). Although this is acknowledged in the EMP, the seasonal ranges and periods of these herds are not identified in this section or anywhere else in Project documents. Additionally, there is no mention anywhere among the provided documents and management plans what potential impacts the Winter Trail will have on wildlife and the environment. This is of concern because comprehension of the seasonal distribution of caribou is essential in determining the full scope of potential impacts. Mitigation measures must also reflect the awareness and comprehension of seasonal wildlife distribution patterns.</p> <p>It should be noted that mining activities and linear infrastructure development in the Kivalliq Region have been shown to impact caribou movement patterns and cause delays in migration (Boulanger et al., 2020). The concern regarding this Project is that the proposed exploration activities, along with activities at the adjacent Meliadine Mine (in particular the All-Weather</p>	

Access Road), are likely to result in negative cumulative impacts to barren-ground caribou movement patterns. Delays in migration and diversions from preferred migratory routes may also negatively impact Inuit harvesting rights.

Finally, Table 3: Wildlife Emergency Contacts contains names, locations, and telephone numbers for GN-DOE employees that are inaccurate or out-of-date. Please refer to Table 1 below for an updated contact list.

RECOMMENDATIONS

The GN recommends the Nunavut Impact Review Board (NIRB) exercise its authority to *“require the proponent to provide any additional information that it considers necessary to carry out its review or screening or to determine the scope of a project, as the case may be”*, pursuant to Section 144 (1) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

Additional information and details that are lacking include:

- The identification of Project overlaps with known areas of ecological significance and their associated timing windows (i.e., caribou calving, post-calving grounds and migratory routes and periods);
- The identification of potential impacts, including cumulative impacts, of the proposed exploration activities on caribou and other wildlife;
- The detailed and precise timeframes, durations, and intensities of project activities (including the use of the winter trail) with the potential to cause disturbance in the identified areas of ecological significance;
- An up-to-date Wildlife Emergency Contact list (see Additional Comments)

The GN recommends that the Proponent amend the Environmental Management Plan to reflect the addition of the above information and details, as well as the updated table of wildlife contacts for GN-DOE Wildlife.

ADDITIONAL COMMENTS

Table 1: Updated Government of Nunavut Wildlife Emergency Contacts

Title	Contact	Location	Telephone Number
Director – Wildlife Research	Drikus Gissing	Iqaluit	(867) 975-7790
Manager – Wildlife Research	Caryn Smith	Iqaluit	(867) 975-7756
Kivalliq Regional Wildlife Biologist	Mitch Campbell	Arviat	(867) 857-3171
Wildlife Biologist II – Carnivores	Malik Awan	Arviat	(867) 857-3198
Conservation Officer II	Peter Kattegatsiak	Chesterfield Inlet	(867) 898-9130
Conservation Officer III	Johanne Coutu-Autut	Rankin Inlet	(867) 645-8084
Conservation Officer II	Daniel Kaludjak	Rankin Inlet	(867) 645-8083

GN-02: Caribou Monitoring & Mitigation

Department	Environment
Organization	Government of Nunavut
Subject/Topic	Caribou Monitoring and Mitigation within the Environmental Management Plan
References	<ul style="list-style-type: none"> • Apex Geoscience Ltd. on behalf of Solstice Gold Corp. – “Environmental Management Plan, Kahuna Gold Property Nunavut, Canada” • Environmental Dynamics Inc. (EDI) – “Yukon Environment - Flying in Caribou Country - How to minimize disturbance from aircraft”, 2008 • Government of Nunavut – “Spatial Screening for Solstice Gold Corp.’s ‘Kahuna Gold Property’”, April 15, 2021 • Kivalliq Inuit Association (KIA) – “Mobile Caribou Conservation Measures”, 2017 • NIRB Notice of Screening for Solstice Gold Corp.’s “Kahuna Gold Property” Project Proposal • NIRB Screening Decision Report for Canarc Resource Corp.’s “Hard Cash” Project Proposal, 2020 • NIRB Screening Decision Report for Blue Star Gold Corp.’s “Ulu

	<p>Gold Project” Proposal, 2020</p> <ul style="list-style-type: none"> • Nunavut Project and Planning Assessment Act
<p>CONCERNS</p>	
<p>The Environmental Management Plan (EMP) lacks sufficient detail surrounding the monitoring and mitigation measures for caribou. The GN’s assessment of potential ecosystemic impacts and the evaluation of the proposed actions and mitigation measures is thus impeded. Additionally, the surveillance or monitoring methods that will be used to detect the presence of wildlife are lacking.</p> <p><u>Caribou Avoidance:</u></p> <p>In Section 5.2.2 Caribou Mitigation and Monitoring, “<i>caribou avoidance</i>” is indicated to be the “<i>priority mitigation measure</i>” along with “<i>drilling activities [to] be planned to avoid caribou</i>”. These are not appropriate mitigation measures when they lack sufficient detail regarding how activities will be planned to avoid caribou. The management plans do not demonstrate adequate awareness of the temporal and physical distribution of caribou in the Project area.</p> <p><u>Flight Restrictions:</u></p> <p>The GN is concerned with the arbitrary application of altitude restrictions in the presence of wildlife, especially caribou cows and calves, who are particularly vulnerable to disturbance. The measure involving the suspension of “<i>flights lower than 300 m above ground level in the presence of caribou cows and calves</i>”, is not appropriate and is in direct contradiction to Section 5.2.2, where “<i>absolutely no activities will be conducted that will interfere with caribou cows and calves</i>”, and 5.2.6, where “<i>... flights lower than 610 m will be suspended in the presence of wildlife.</i>”</p> <p>Low-level flights have a high potential to disturb, and thus interfere with, caribou calves and cows. Justification for the reduced flight restrictions in the presence of caribou cows and calves versus other wildlife is not provided and is, in fact, contraindicated by wildlife experts (EDI, 2008).</p> <p><u>Mobile Conservation Measures:</u></p> <p>The Proponent has indicated that exploration activities completed on Inuit Owned Land (IOL) will be carried out “<i>under strict adherence to the Kivalliq Inuit Association’s (KIA) ‘Mobile Caribou Conservation Measures’ (Measures)</i>”. The KIA’s <i>Measures</i> require a five (5) km buffer around “activities that have the potential to disturb caribou”, including drilling operations. Additionally, the <i>Measures</i> require certain concentrations of caribou to trigger a cessation of activities with the potential to disturb. These concentrations range from ten (10), to twenty-five (25), to fifty (50) caribou, depending on the season.</p>	

The GN is concerned that the Proponent intends to arbitrarily reduce the buffer zones surrounding drilling activities from five (5) km on IOL, to two (2) km elsewhere on the Property. The Proponent also intends to use a concentration of fifty (50) caribou, regardless of season, as a trigger to cease drilling operations in areas that are not on IOL. There is no reasonable justification or supporting evidence provided for these arbitrary reductions in buffers and concentrations between IOL and other areas. Drilling activities generate noise and create disturbance to caribou and wildlife regardless of where the activities are taking place.

The GN acknowledges that the Kahuna Property does not lie within a key calving area, however, as can be seen in the supplemental presentation of this submission (GN-DOE, 2021), telemetry data show that caribou make extensive use of the Property during the post-calving, summer and late-summer seasons. These periods are important periods for grazing and the building of fat reserves, contributing to the healthy body condition of caribou. Caribou are also moving through terrain more exposed to wind such as elevated areas, ridge lines, and windward shores of lakes due to insect harassment during this period. Additional disturbance may increase stress on individuals especially cows with new calves. See the supplemental presentation (GN-DOE, 2021) for precise seasonal date ranges for caribou in the Project area. As caribou are particularly vulnerable to disturbance during post-calving and summer seasons, appropriate mitigation measures and the precise timing of project activities are strongly recommended.

Finally, habitat modification through permanent works or infrastructure could be detrimental to caribou. Habitat modification and degradation is likely to impact the regional and seasonal distribution of caribou. Consistent disturbance or cumulative fragmentation of these habitats may result in serious negative impacts to herd demography and distribution

RECOMMENDATIONS

The GN recommends the Nunavut Impact Review Board (NIRB) exercise its authority to “*require the proponent to provide any additional information that it considers necessary to carry out its review or screening or to determine the scope of a project, as the case may be*”, pursuant to Section 144 (1) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

The following information is requested from the Proponent for the GN to complete its review of the Proposal:

- A description of the actions that employees and contractors will carry out when encountering wildlife;
- A description of the caribou alert system that will be established, the surveillance methods that will be used to detect caribou, and the details of the wildlife log (report on wildlife sightings);
- A description of how impacts, including cumulative impacts, will be mitigated and the precise manner in which activities will be planned to:
 - a. avoid caribou,
 - b. avoid causing interference with calving caribou, and
 - c. avoid causing diversion(s) to the migratory patterns of any caribou;
- Justification and supporting evidence for the arbitrary application of reduced flight restrictions (i.e., 300 metres above ground level) in the presence of caribou cows and calves versus elevated flight restrictions (i.e., 610 metres above ground level) in the presence of wildlife;
- Justification and supporting evidence for the arbitrary reduction in buffer zones around activities with the potential to disturb caribou from 5 km on IOL to 2 km elsewhere on the Property;
- Justification and supporting evidence for the arbitrary increase in caribou concentrations (i.e., fifty caribou at all times) to trigger activity cessation elsewhere on the Property versus a range of season-dependent concentrations on IOL.

Caribou Avoidance:

In general, the GN recommends seasonal and physical avoidance of key access corridors and calving and post-calving grounds as an appropriate mitigation measure. It is recommended that no permanent infrastructure be installed in caribou migration corridors, calving grounds, and post calving grounds including roads, trails, airstrips, permanent buildings, and/or other site modifications. Ideally, all exploration materials, equipment and project infrastructure should be completely removed, and the site remediated upon the completion of the seasonal project schedule, and annually thereafter.

Additionally, the GN recommends the Proponent avoid operating in areas where caribou are likely to take refuge from insect harassment between July 4 and September 16. These areas include ridge tops, elevated areas, and the downwind shores of lakes.

Flight Restrictions:

Unless there is a specific requirement for low-level flights (i.e., crew safety), the *minimum* recommended flight altitude when in the presence of calving or post-calving caribou (i.e., cows and calves) is 600 metres above ground level according to wildlife experts and the Mining and Petroleum Environment Research Group (EDI, 2008). However, 610 m above ground level is recommended by the GN in the presence of calving or nursing caribou. This recommendation is consistent with NIRB Terms and Conditions for similar exploration projects (NIRB SDRs for “Hard Cash” and “Ulu Gold” Projects).

Mobile Conservation Measures:

As mentioned above, the GN recommends seasonal activity restrictions and avoidance of key access corridors and grounds as mitigation measures. Mobile conservation measures are appropriate outside these areas and the GN acknowledges that the Kahuna Property does not lie within a key calving area. However, these mobile conservation measures must be appropriately and consistently applied *throughout* the Property, regardless of land ownership.

Therefore, the GN recommends the Proponent amend the Environmental Management Plan – Caribou Mitigation and Monitoring measures to reflect the following:

- Areas such as ridge tops, elevated areas, and the downwind shores of lakes will be avoided in the period of July 4 to September 16;
- Flights will be restricted to 610 metres (m) above ground level in the presence of calving or post-calving caribou (i.e., cows and calves);
- Buffer zones of 5 km surrounding activities with the potential to disturb caribou will be established throughout the Property, regardless of whether activities are taking place on IOL;
- Activities with the potential to disturb caribou will cease if concentrations of caribou
 - Ten (10) or more approach the buffer zone between the period of June 1 and July 15,
 - Twenty-five (25) or more approach the buffer zone between the period of July 16 and September 30, and
 - Fifty (50) or more approach the buffer zone between the period of October 1 and May 31.

GN-03: Spill Prevention & Response Plan	
Department	Environment
Organization	Government of Nunavut
Subject/Topic	Spill Prevention and Response Plan – Spill Kits and Hazardous Materials
References	<ul style="list-style-type: none"> Apex Geoscience Ltd. on behalf of Solstice Gold Corp. – “Spill Prevention and Response Plan, Kahuna Gold Property Nunavut, Canada” NIRB Notice of Screening for Solstice Gold Corp.’s “Kahuna Gold Property” Project Proposal
CONCERNS	
<p>The Spill Prevention and Response Plan (SPRP) lacks sufficient detail and information, which impedes the GN’s fulsome assessment of potential impacts. This Plan should be updated with additional information, such as that related to spill response capability, fuel containment and transportation, and eventual disposal. Accordingly, all staff must be trained and familiarized with the complete SPRP and associated procedures.</p> <p>It is concerning that the Spill Prevention and Response measures to be employed along the Winter Trail from Kangiqliniq (Rankin Inlet) to the Property are not available for review among the provided documents. The Proponent states that <i>“the drill company will have their own spill response procedures and the Project Supervisor will review all policies and procedures to ensure they align.”</i> The GN would like to review those procedures to ensure they are appropriate, as well.</p>	
RECOMMENDATIONS	
<p>The GN recommends the Nunavut Impact Review Board (NIRB) exercise its authority to <i>“require the proponent to provide any additional information that it considers necessary to carry out its review or screening or to determine the scope of a project, as the case may be”</i>, pursuant to Section 144 (1) of the <i>Nunavut Planning and Project Assessment Act</i> (NuPPAA). The additional information the GN requests be included is described below.</p> <p><u>Spill Kits:</u></p> <p>Additional information is required to ensure that the Proponent can adequately respond to a spill involving the failure of its largest container at any point in which the container is holding fuel or other hazardous material. Spill kits and response materials and equipment should be</p>	

sized to address a spill equivalent to 110% of the largest container.

A large spill kit (225 L) may be adequate for a single barrel (205 L), but this does not address an incident involving multiple barrels. The existing plan mentions containment procedures for accidental release but does not describe the expected quantity of fuel being transported at any given time. Local spill response capabilities should be able to address containment and cleanup of the largest volume and/or combined volume of fuel being transported (e.g., accidental load release) at any point.

As the one of the stated modes of transportation is helicopter, spill kits should include Flexible Intermediate Bulk Containers (FIBC-type bags) suitable for transporting contaminated materials, including soils, by helicopter, from the spill site to a staging site or directly to an approved facility for disposal.

Finally, the overland transport of fuels and hazardous materials along the Winter Trail is not addressed in the Plan. The overland transport of fuels and hazardous materials has a high potential for an accidental load release due to the rough and uneven terrain along the route. Review of the Spill Prevention and Response measures is necessary to fully assess the potential impacts of this portion of the Project.

Hazardous Materials:

The SPRP does not mention the use of ethylene glycol as an antifreeze, instead mentions that non-toxic beet juice or “*other non-toxic alternatives*” will be used. However, Appendix A contains a Material Safety Data Sheet (MSDS) for an antifreeze containing ethylene glycol. Calcium chloride salt (CaCl_2) is listed as an alternative, “*if required*”. Additionally, it seems to be implied that only “*drill fluids containing CaCl_2 ... will be captured in [a] properly constructed excavated sump*”. All drill fluids have the potential to contain hazardous materials and must all be treated as hazardous wastes and disposed of accordingly.

Ethylene glycol is highly toxic to wildlife, even in small amounts. This substance is a hazardous material/waste, cannot be released into the environment, and should be transported to an appropriate disposal facility. Any spills of ethylene glycol should be treated as a hazardous chemical spill. The SPRP should be updated to reflect the use, containment, and disposal of ethylene glycol or antifreezes containing ethylene glycol, as well as the proper containment and disposal of all drill fluids. Even non-toxic beet juice has the potential to attract wildlife to the drill site where they may come into contact with hazardous materials.

Therefore, the GN recommends the Proponent amend the Spill Prevention and Response Plan to include the following:

- The spill kits available at fuel caches and during overland transport will be sized to address a spill equivalent to 110% of the largest container of fuel or hazardous material stored or being transported at that time;

- The spill kits available at fuel caches and during overland transport will be sized to address the largest possible spill volume (i.e., combined spill of multiple barrels) being stored or transported at that time;
- Spill kits will include FIBC-type bags suitable for transporting contaminated materials by helicopter;
- All drill fluids will be treated as hazardous wastes and will be captured in properly constructed excavated sumps and disposed of accordingly;
- Ethylene glycol will be addressed in the Plan, treated as a hazardous material/waste, and disposed of accordingly;
- The Spill Prevention and Response measures along the Winter Trail will be added to the Plan.

ADDITIONAL COMMENTS

It is also recommended that the Proponent consult several guidelines pertaining to waste management that can be found on the Department's website, under the Environmental Protection banner. The following documents may be useful and relevant to the Project:

- Environmental Guideline for General Management of Hazardous Waste (2010)
- Environmental Guideline for Used Oil and Waste Fuel
- A Guide to Spill Contingency Planning and Reporting
- Waste Antifreeze (2011), and the
- Guideline for Burning and Incineration of Solid Waste (2012)

GN-04: Abandonment & Restoration Plan

Department	Environment
Organization	Government of Nunavut
Subject/Topic	Abandonment and Restoration Plan – Seasonal Shutdown Inspections
References	<ul style="list-style-type: none"> • Apex Geoscience Ltd. on behalf of Solstice Gold Corp. – “Abandonment and Restoration Plan, Kahuna Gold Property Nunavut, Canada” • NIRB Notice of Screening for Solstice Gold Corp.'s “Kahuna Gold Property” Project Proposal

CONCERNS

Certain details are absent from the Abandonment and Restoration Plan (ARP), which impedes

the GN's assessment of potential impacts. This Plan should be updated with additional information, such as that related to removal or winterization of equipment during off-season and details pertaining to fuel cache or other inspections. Accordingly, all staff must be trained and familiarized with the complete ARP and associated procedures.

The Proponent states, within Section 4 of the ARP, that "*Prior to a seasonal shutdown of the program, a complete inspection of all areas will be conducted.*" The Proponent provides no detail, however, as to what steps are included in an inspection or what constitutes a "complete inspection". Inspections of fuel caches should explicitly include empty and partially empty drums as they can be more prone to condensation and corrosion than full drums. Inspections of drill sites should also include an inspection of bore holes to ensure they are capped and that no contaminated soil or effluent remains.

RECOMMENDATIONS

The GN recommends the Nunavut Impact Review Board (NIRB) exercise its authority to "*require the proponent to provide any additional information that it considers necessary to carry out its review or screening or to determine the scope of a project, as the case may be*", pursuant to Section 144 (1) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

The GN requests that additional detail be provided on:

- what exactly is being inspected in each area (i.e., drill site, fuel cache or camp site);
- which criteria and standards are used in the inspection; and
- what aspects will be included in the annual report.

GN-05: Engagement

Department	Environment
Organization	Government of Nunavut
Subject/Topic	Engagement and Consultation with Impacted Communities and Organizations
References	<ul style="list-style-type: none"> • NIRB Notice of Screening for Solstice Gold Corp.'s "Kahuna Gold Property" Project Proposal • Solstice Gold Corp. "2020 Community Consultation Log"

CONCERNS

The GN is concerned with the level of engagement that has taken place regarding this Project. The Proponent has to-date only provided an account of its consultations with the communities of Igluigaarjuk (Chesterfield Inlet) and Kangiqliniq (Rankin Inlet), specifically the Community Economic Development Officer, mayor, and Senior Administration Officer. A presentation on the Solstice 2020 Summer program was provided to the Aqigiq HTO (Igluigaarjuk HTO) via the Economic Development Officer, but the HTO was not engaged directly, nor was any feedback provided. It is concerning that the Proponent has not engaged directly with the HTOs of the impacted communities.

The topics of discussion in presented in the 2020 Community Consultation Log revolved around the 2020 work program and not the 2021 work program, which is what is currently being proposed. There is no record of engagement whatsoever for the 2021 work program.

RECOMMENDATIONS

The GN recommends the Nunavut Impact Review Board (NIRB) exercise its authority to *“require the proponent to provide any additional information that it considers necessary to carry out its review or screening or to determine the scope of a project, as the case may be”*, pursuant to Section 144 (1) of the *Nunavut Planning and Project Assessment Act* (NuPPAA).

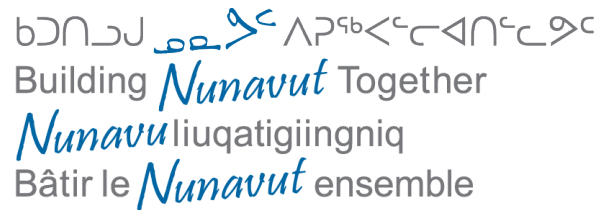
It is recommended the Proponent engage meaningfully with all impacted communities and regional Hunters’ and Trappers’ Organizations/Associations (HTO/As) on the 2021 work program and the Environmental Management Plan, specifically the Caribou Monitoring and Mitigation measures.

The GN requests the Proponent provide a record of its engagement on the 2021 work program. These updated consultation logs should include detailed information:

1. What documents were shared with the organization(s) and in what languages,
2. What topics were discussed,
3. What concern(s) were noted by the organization(s),
4. How the Proponent addressed the concern(s),
5. What changes to management plans, work plans, or project documents were made (if any) as a result of the consultation.

Appendix 2

Please refer to the pages below for the Department of Environment supplemental presentation of caribou movements around the Kahuna Gold Property, based on telemetry data ranging from 1993 to 2019.



Spatial Screening for Solstice Gold Corp.'s “Kahuna Gold Property” NIRB File no. 15EA028



Overview

The following topics are included in the spatial screening along with some key notes:

Notes:

- These slides are originally from the caribou movement analysis conducted in 2020 around Kangiqliniq (Rankin Inlet) and Agnico Eagle's Meliadine mine. The spatial data available from the NIRB public registry for the Kahuna Gold Property have been added to the maps. The telemetry data are current to 20 July 2019.

Caribou Ranges - the property is within the annual ranges of the following caribou subpopulations:

- Qamanirjuaq (QM)
- Lorillard (LR) * there is minimal overlap with the Lorillard telemetry locations

Caribou Telemetry - Caribou movements are overlapping the property claim blocks in the following seasons:

- Post-calving
- Summer
- Late Summer
- Fall Migration - post-breeding
- Winter

Caribou Seasonal Ranges - DNLUP Version Data (circa 2014) - the property overlaps the following seasonal ranges:

- Summer
- Winter

Caribou water crossings - No overlap

Polar Bear denning and summer retreat - No overlap

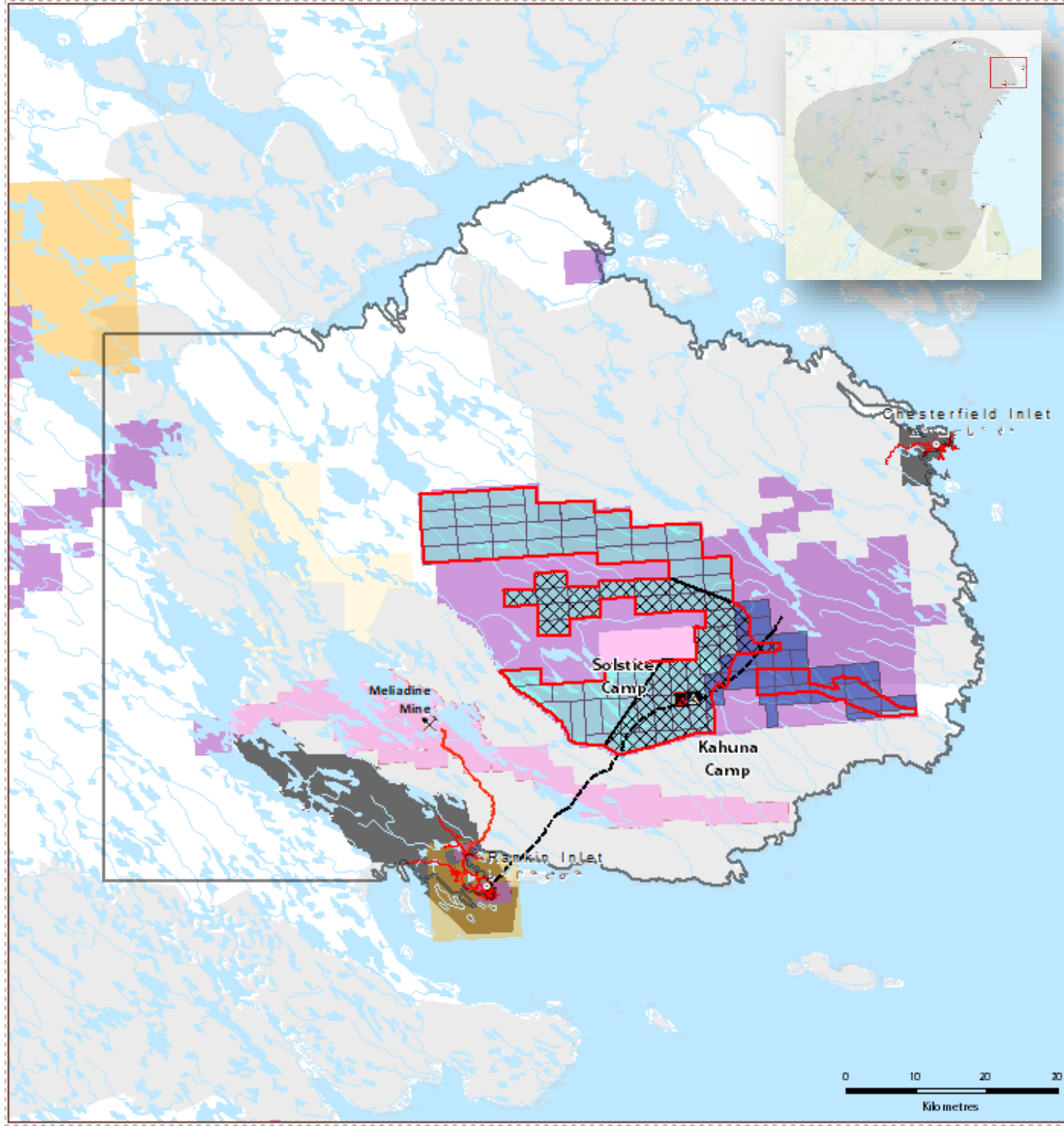
Kahuna Gold Property

-  River
-  Lake
-  Operating or Existing Road
-  Inuit Owned lands
-  Municipal Boundary
-  Regional Study Area (RSA)
-  Kahuna Camp (Kodiak Copper Corp)
-  Proposed Solstice Camp (Solstice Gold Corp)
-  Kahuna Winter Trail
-  Kahuna Gold Property Outline
-  Proposed Drilling Area
- Kahuna Gold Property Mineral Ownership**
 -  Kodiak Copper Corp. (50%), Solstice Gold Corp. (50%)
 -  Solstice Gold Corp. (100%)
- Mineral Lease**
 -  Active
- Mineral Claim**
 -  Active
- Prospecting Permit**
 -  Active
 -  Pending Suspended

Data Sources:

Natural Resources Canada, Government of Nunavut,
Nunavut Impact Review Board,
Crown-Indigenous Relations and Northern Affairs Canada

Government of Nunavut data should not be reproduced or distributed
without written permission by the Government of Nunavut.
March 2021



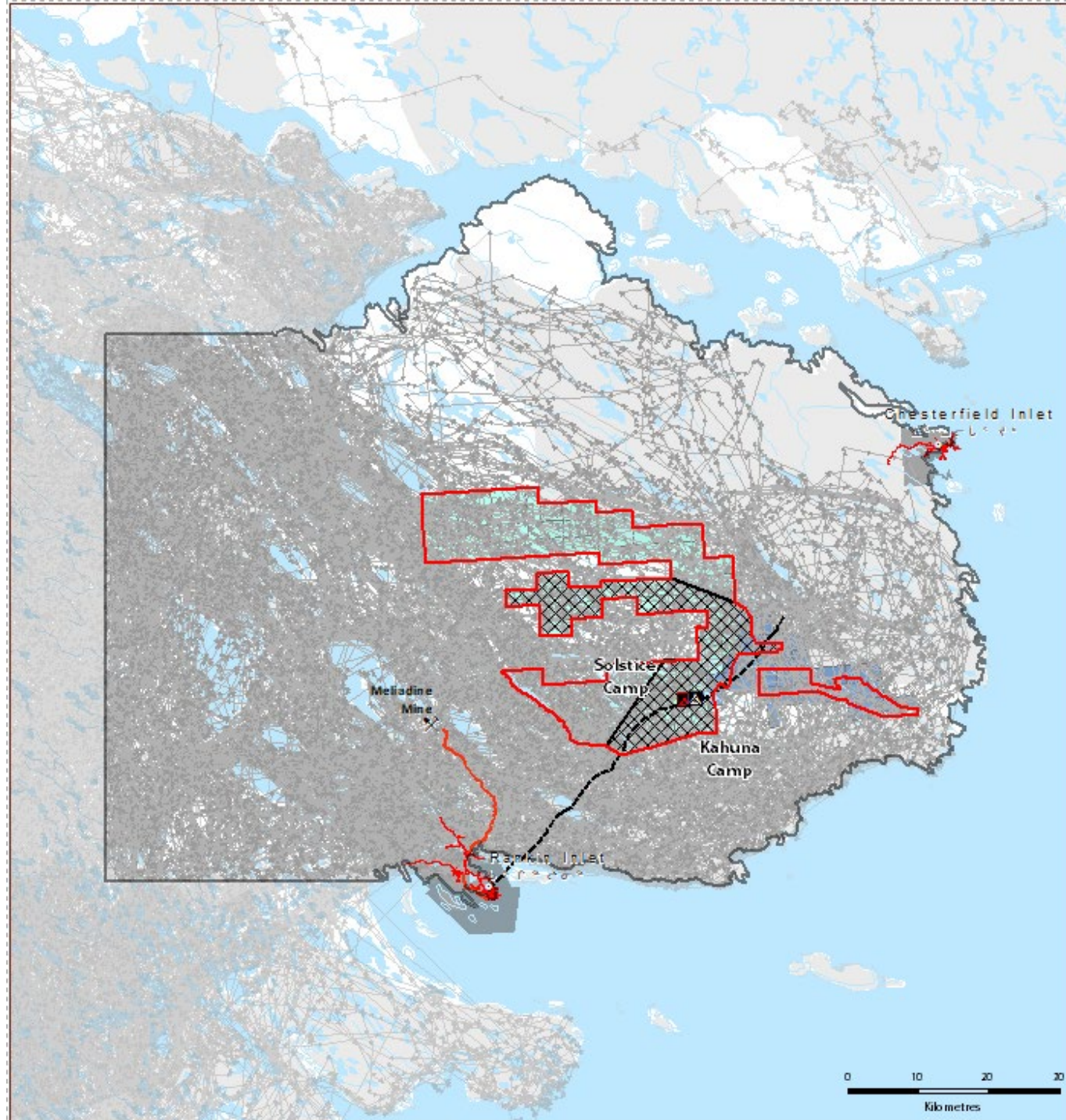
Telemetry Data (1993-2019)

-  River
-  Lake
-  Operating or Existing Road
-  Telemetry
-  Inuit Owned lands
-  Municipal Boundary
-  Regional Study Area (RSA)
-  Kahuna Camp (Kodiak Copper Corp)
-  Proposed Solstice Camp (Solstice Gold Corp)
-  Kahuna Winter Trail
-  Kahuna Gold Property Outline
-  Proposed Drilling Area
- Kahuna Gold Property Mineral Ownership**
-  Kodiak Copper Corp. (50%), Solstice Gold Corp. (50%)
-  Solstice Gold Corp. (100%)

Data Sources:

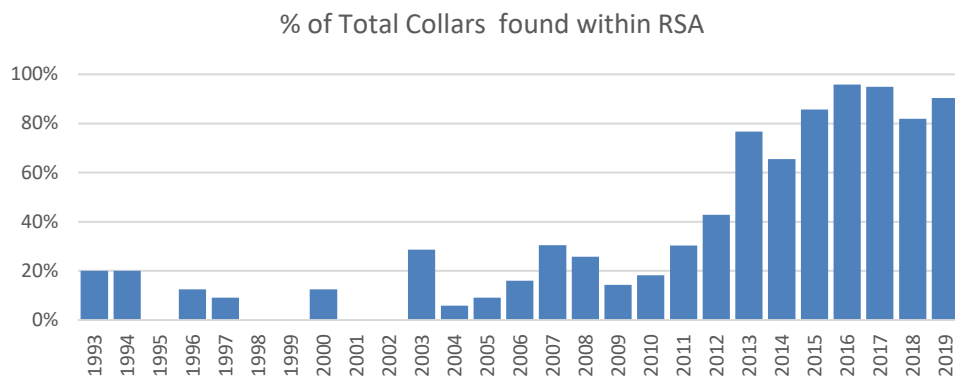
Natural Resources Canada, Government of Nunavut,
Nunavut Impact Review Board,
Crown-Indigenous Relations and Northern Affairs Canada

Government of Nunavut data should not be reproduced or distributed
without written permission by the Government of Nunavut.
March 2021



Telemetry Summary

- Since 2011-2012, the percentage of total collars per year within the Project's Regional Study Area (RSA) has been increasing

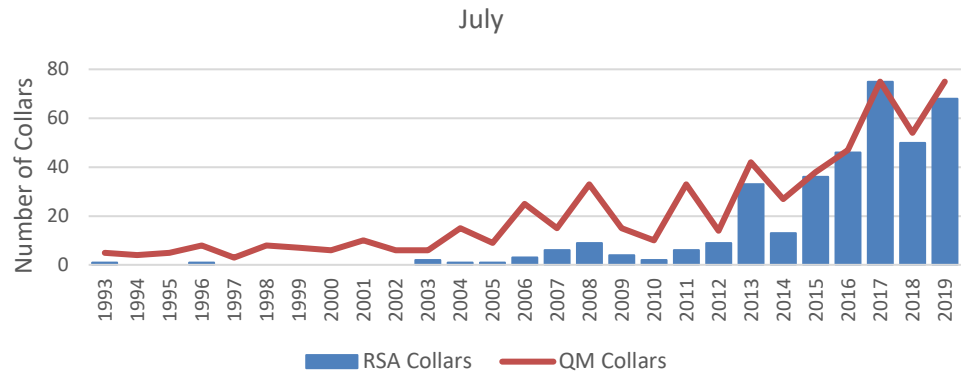
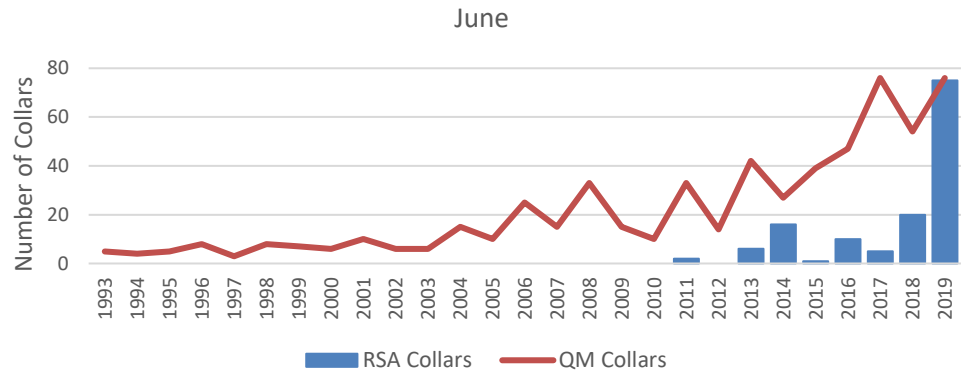
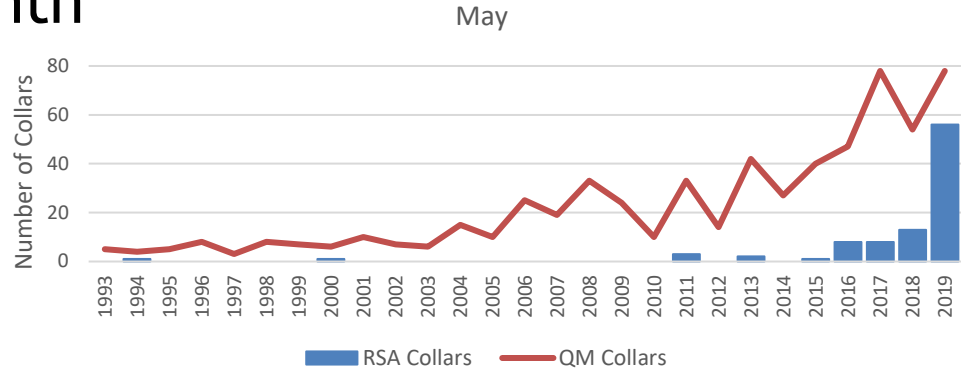
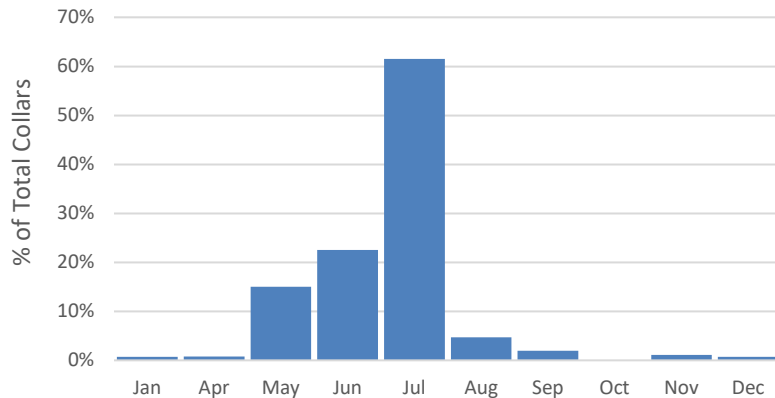


Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	1	20%
1994	5	1	20%
1995	8	0	0%
1996	8	1	13%
1997	11	1	9%
1998	9	0	0%
1999	8	0	0%
2000	8	1	13%
2001	11	0	0%
2002	8	0	0%
2003	7	2	29%
2004	17	1	6%
2005	11	1	9%
2006	25	4	16%
2007	23	7	30%
2008	35	9	26%
2009	28	4	14%
2010	11	2	18%
2011	33	10	30%
2012	21	9	43%
2013	43	33	77%
2014	29	19	66%
2015	42	36	86%
2016	48	46	96%
2017	79	75	95%
2018	61	50	82%
2019	83	75	90%

Telemetry Summary - by Month

- Collars are typically found within the RSA during June, July, and to a lesser extent May and August
- There are more collars in the RSA in June 2019 than in previous years

% of Total Collars within RSA by Month

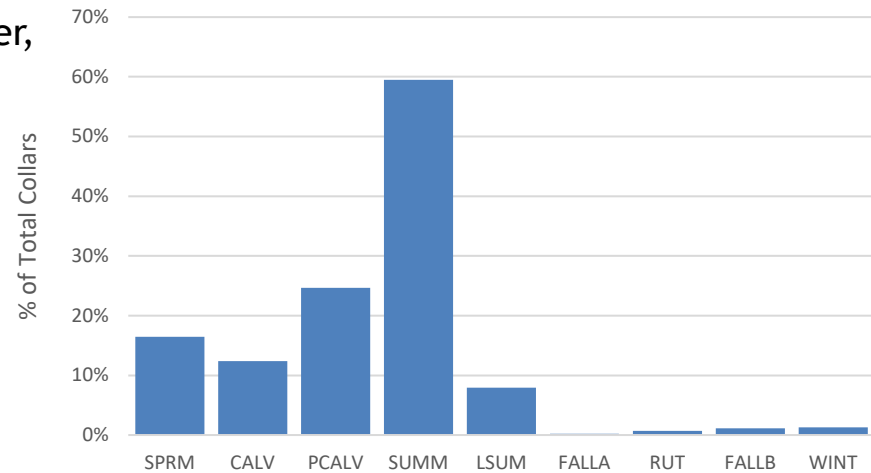


Seasonal Summary

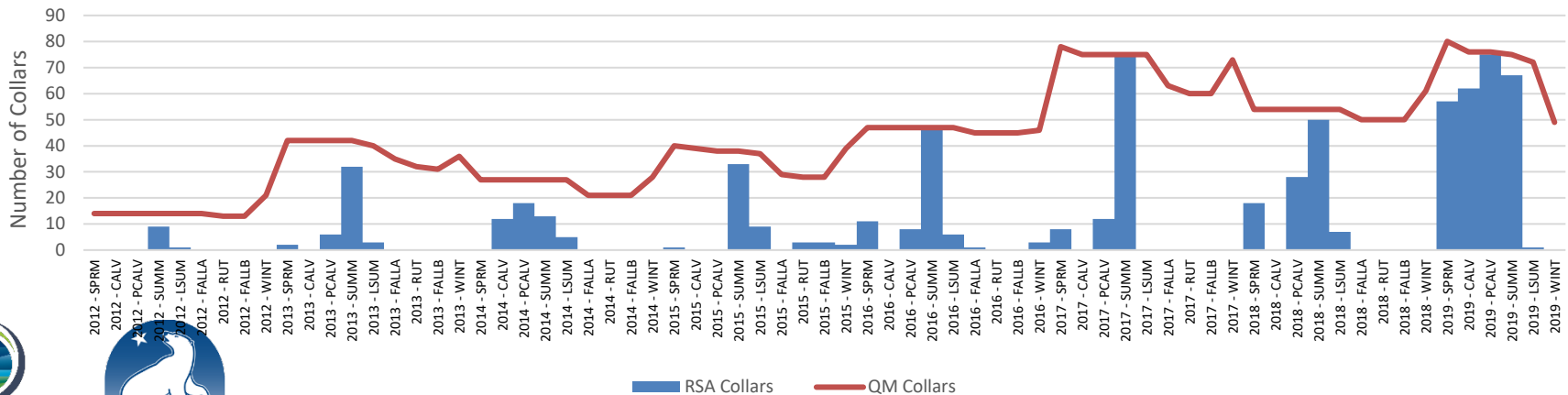
- Caribou are typically found within the RSA during spring through to late summer, with the greatest concentration during the summer

	Date Ranges
Season	Qamanirjuaq
Spring migration	Apr 15 - Jun 8
Calving	Jun 9 - 22
Post-calving	Jun 23 - Jul 3
Summer	Jul 4 - Aug 22
Late Summer	Aug 23 - Sep 16
Fall migration, pre-breeding	Sep 17 - Oct 18
Rut/Breeding	Oct 19 - Nov 6
Fall migration, post-breeding	Nov 7 - Dec 15
Winter	Dec 16 - Apr 14

% of Total Collars within RSA by Season



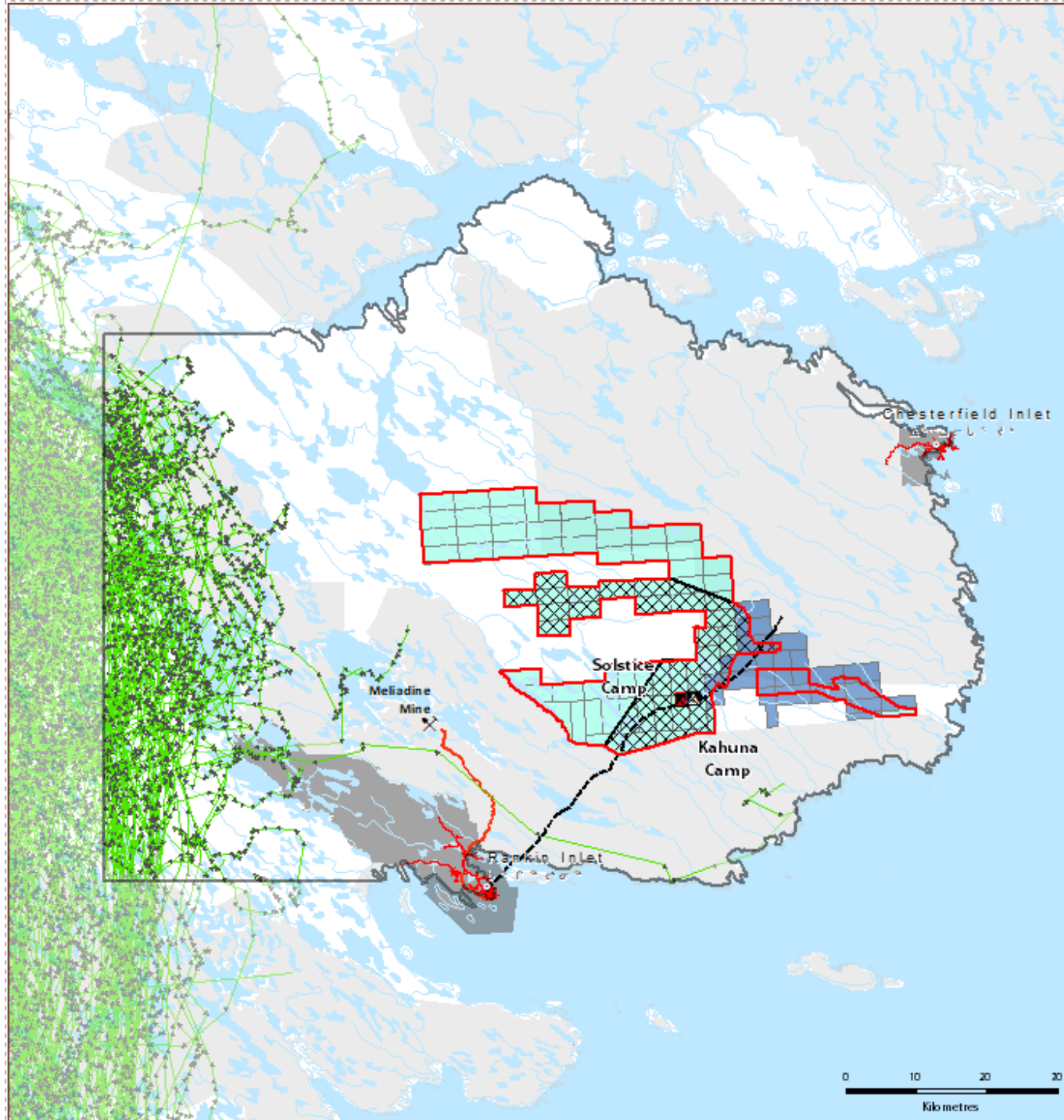
Number of Collared Caribou by Season within the Regional Study Area and the Qamanirjuaq Subpopulation



Spring Migration

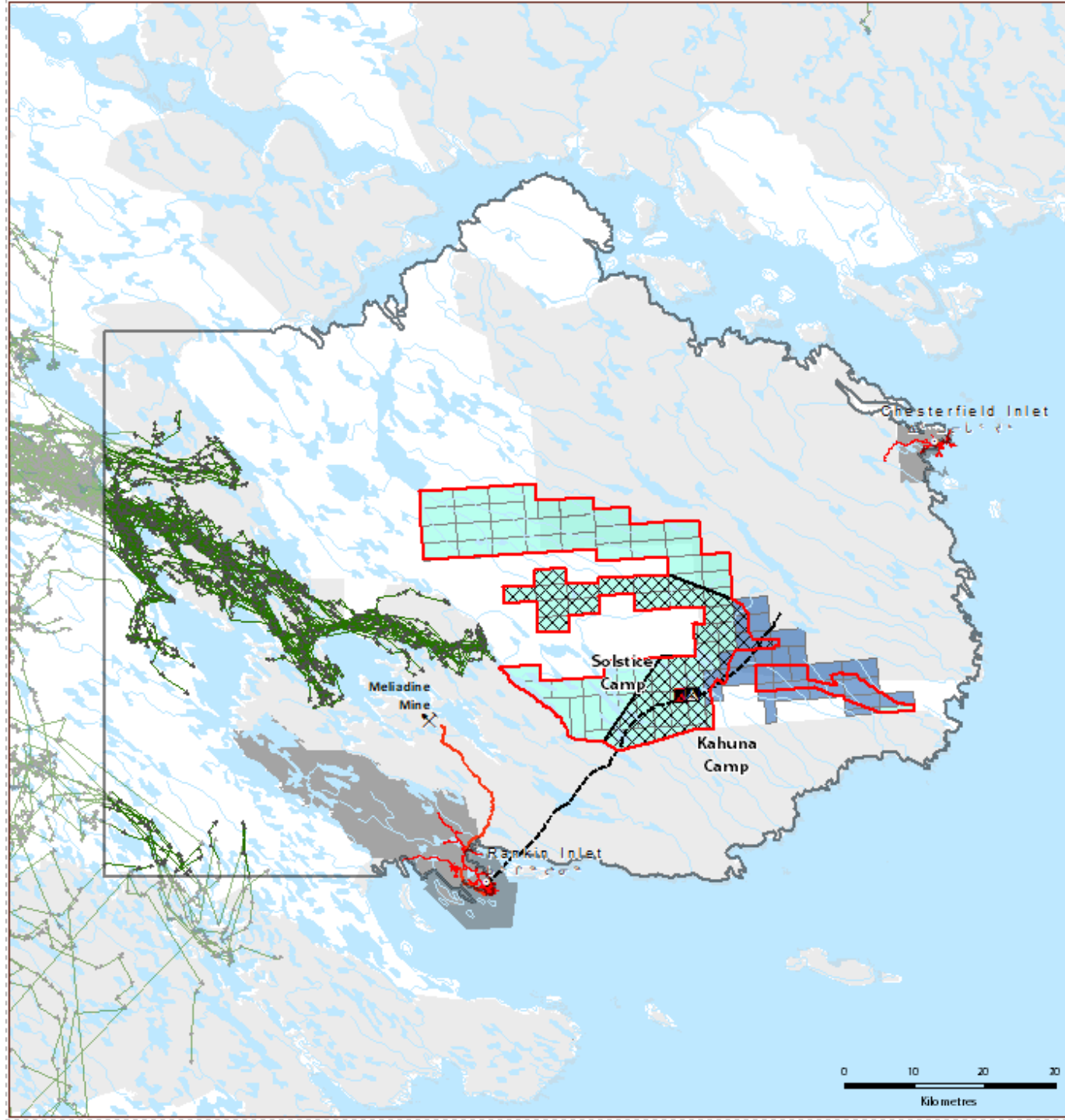
(Apr 15 - Jun 8)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	4	1	25%
1995	5	0	0%
1996	8	0	0%
1997	3	0	0%
1998	8	0	0%
1999	7	0	0%
2000	6	1	17%
2001	10	0	0%
2002	7	0	0%
2003	6	0	0%
2004	15	0	0%
2005	10	0	0%
2006	25	0	0%
2007	19	0	0%
2008	33	0	0%
2009	24	0	0%
2010	10	0	0%
2011	33	3	9%
2012	14	0	0%
2013	42	2	5%
2014	27	0	0%
2015	40	1	3%
2016	47	11	23%
2017	78	8	10%
2018	54	18	33%
2019	80	57	71%



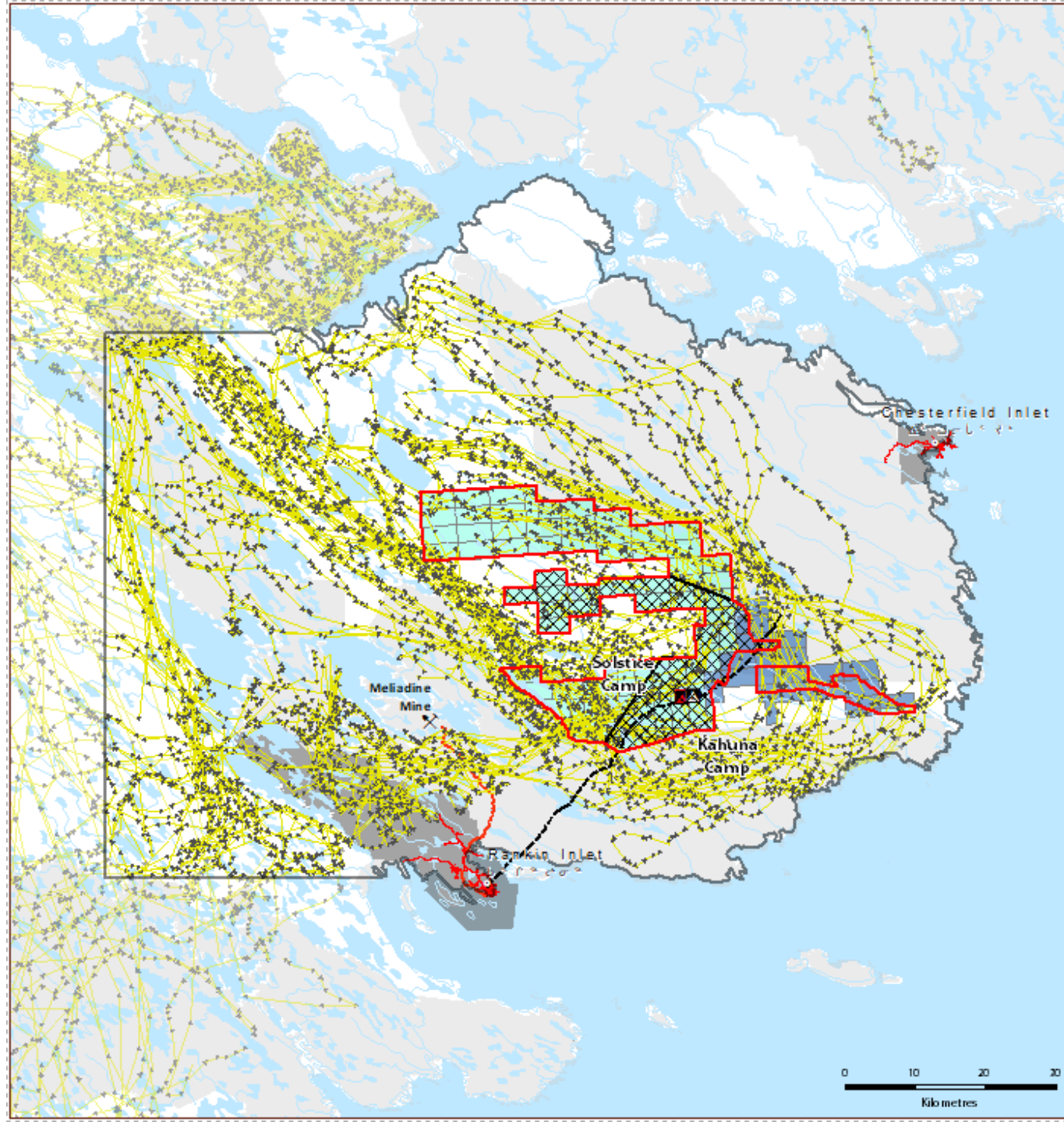
Calving (Jun 9 - 22)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	4	0	0%
1995	5	0	0%
1996	8	0	0%
1997	3	0	0%
1998	8	0	0%
1999	7	0	0%
2000	6	0	0%
2001	10	0	0%
2002	6	0	0%
2003	6	0	0%
2004	15	0	0%
2005	10	0	0%
2006	25	0	0%
2007	15	0	0%
2008	33	0	0%
2009	15	0	0%
2010	10	0	0%
2011	33	0	0%
2012	14	0	0%
2013	42	0	0%
2014	27	12	44%
2015	39	0	0%
2016	47	0	0%
2017	75	0	0%
2018	54	0	0%
2019	76	62	82%



Post-calving (Jun 23 - Jul 3)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	4	0	0%
1995	5	0	0%
1996	8	0	0%
1997	3	0	0%
1998	8	0	0%
1999	7	0	0%
2000	6	0	0%
2001	10	0	0%
2002	6	0	0%
2003	6	0	0%
2004	15	0	0%
2005	9	0	0%
2006	25	0	0%
2007	15	0	0%
2008	33	0	0%
2009	15	0	0%
2010	10	0	0%
2011	33	0	0%
2012	14	0	0%
2013	42	6	14%
2014	27	18	67%
2015	38	0	0%
2016	47	8	17%
2017	75	12	16%
2018	54	28	52%
2019	76	75	99%



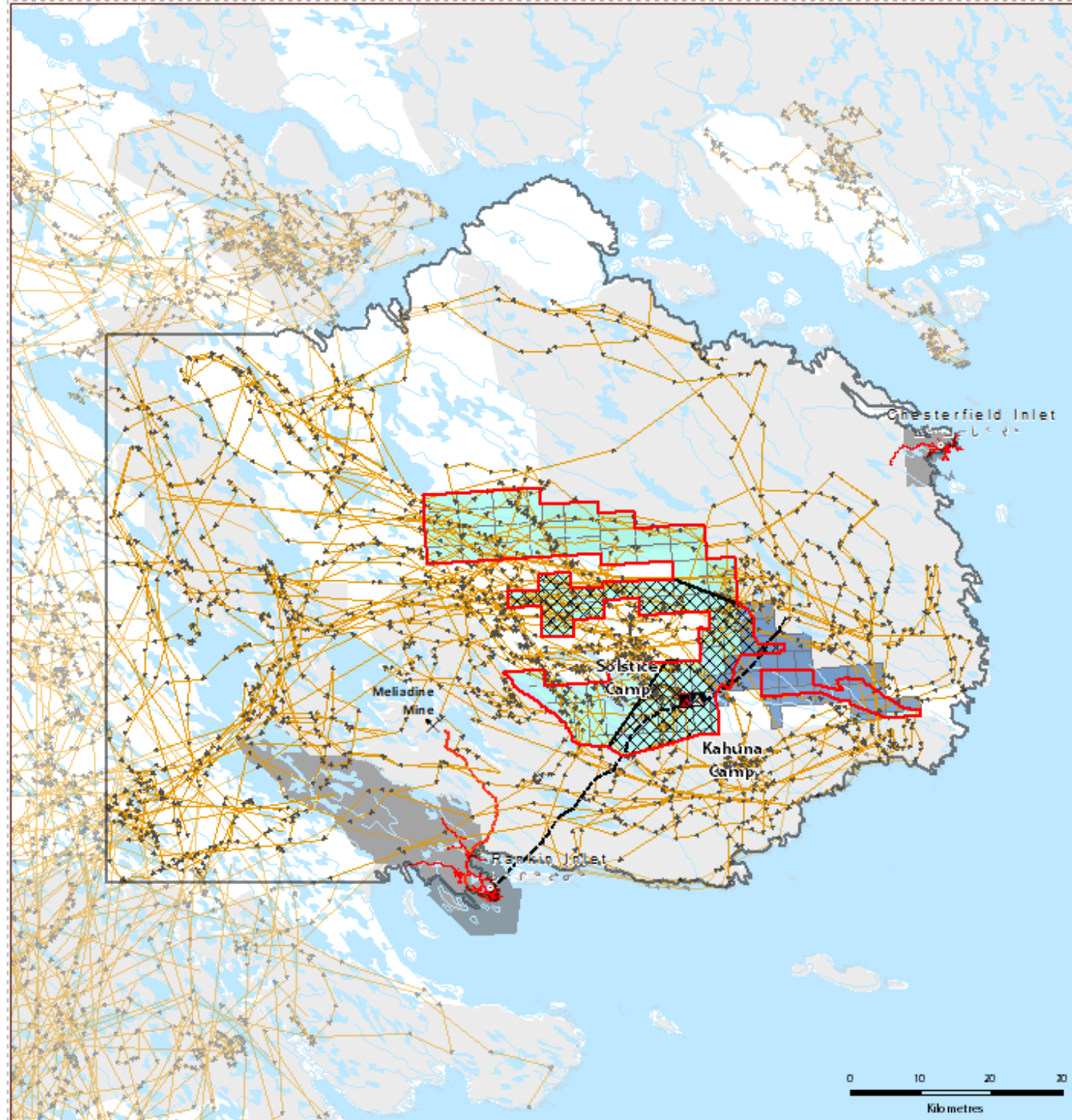
Summer (Jul 4 - Aug 22)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	1	20%
1994	4	0	0%
1995	5	0	0%
1996	8	1	13%
1997	3	0	0%
1998	8	0	0%
1999	7	0	0%
2000	6	0	0%
2001	10	0	0%
2002	6	0	0%
2003	6	2	33%
2004	15	0	0%
2005	9	1	11%
2006	25	3	12%
2007	15	6	40%
2008	33	8	24%
2009	15	1	7%
2010	10	2	20%
2011	33	4	12%
2012	14	9	64%
2013	42	32	76%
2014	27	13	48%
2015	38	33	87%
2016	47	46	98%
2017	75	75	100%
2018	54	50	93%
2019	75	67	89%



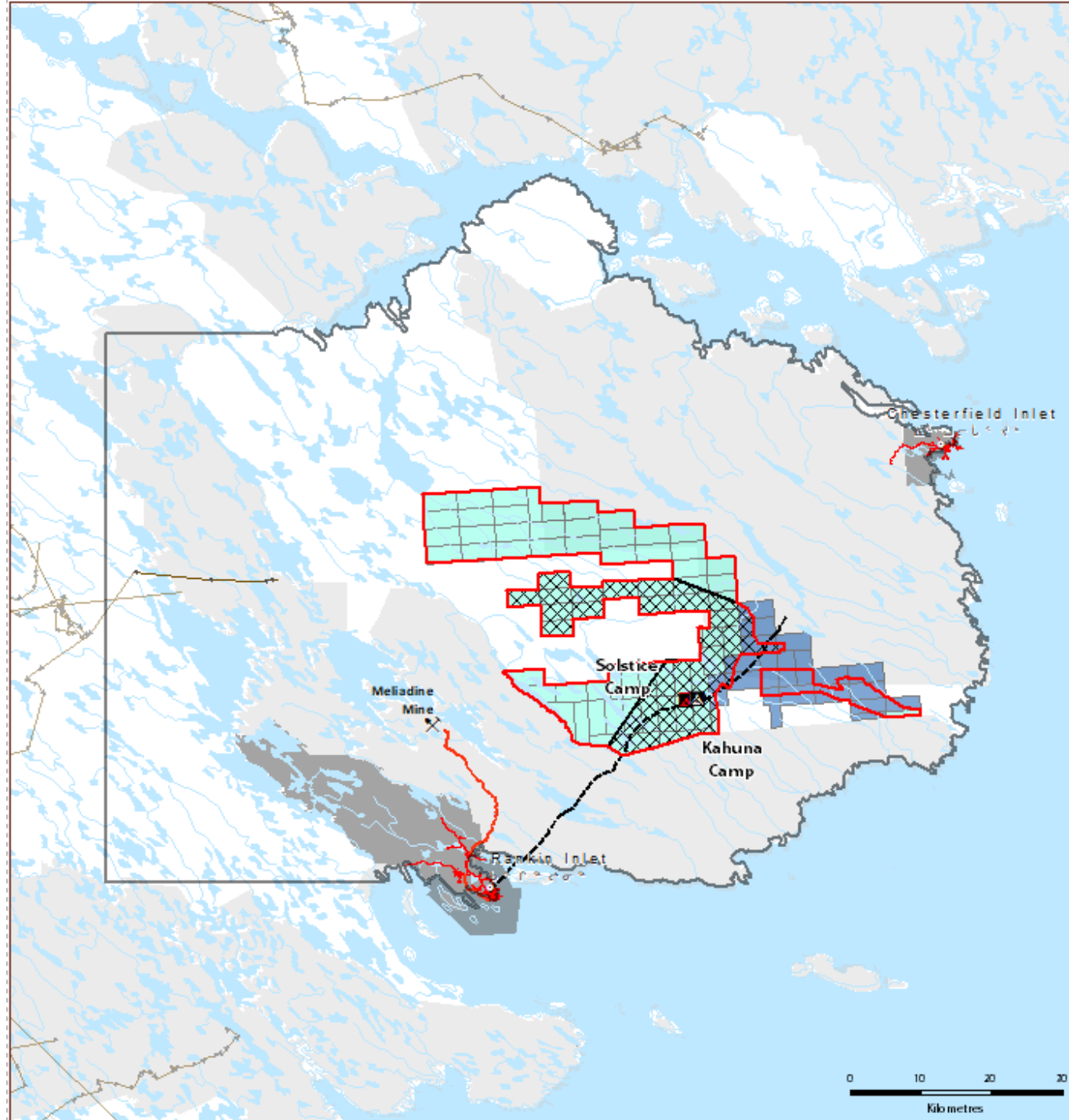
Late Summer (Aug 23 - Sep 16)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	3	0	0%
1995	5	0	0%
1996	8	0	0%
1997	1	0	0%
1998	8	0	0%
1999	7	0	0%
2000	6	0	0%
2001	8	0	0%
2002	6	0	0%
2003	6	0	0%
2004	14	1	7%
2005	9	0	0%
2006	25	0	0%
2007	15	1	7%
2008	33	1	3%
2009	15	3	20%
2010	10	1	10%
2011	31	7	23%
2012	14	1	7%
2013	40	3	8%
2014	27	5	19%
2015	37	9	24%
2016	47	6	13%
2017	75	0	0%
2018	54	7	13%
2019	72	1	1%



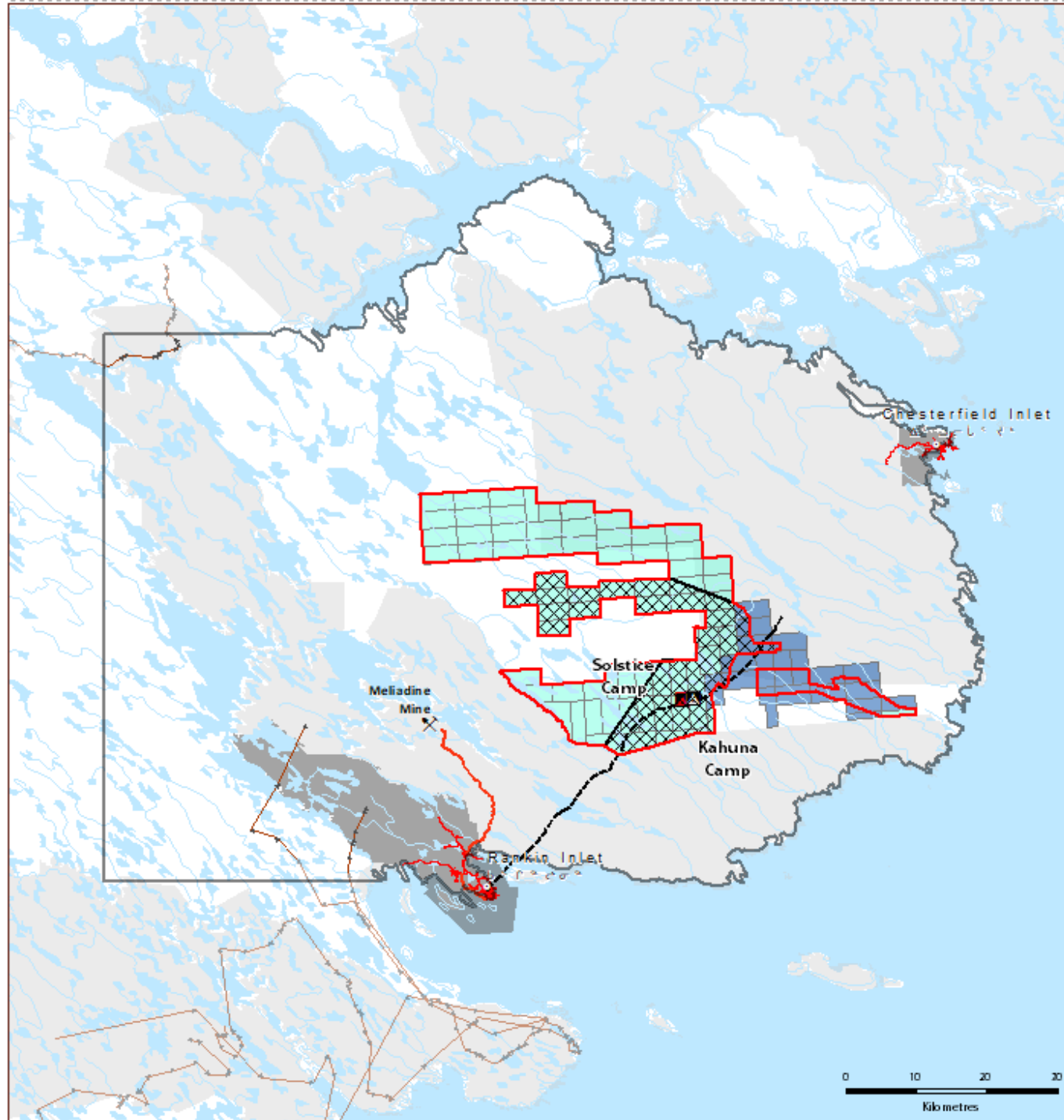
Fall Migration Pre-breeding (Sep 17 - Oct 18)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	3	0	0%
1995	5	0	0%
1996	7	0	0%
1997	1	0	0%
1998	8	0	0%
1999	7	0	0%
2000	5	0	0%
2001	7	0	0%
2002	6	0	0%
2003	6	0	0%
2004	13	0	0%
2005	8	0	0%
2006	25	0	0%
2007	16	0	0%
2008	32	0	0%
2009	13	0	0%
2010	10	0	0%
2011	24	0	0%
2012	14	0	0%
2013	35	0	0%
2014	21	0	0%
2015	29	0	0%
2016	45	1	2%
2017	63	0	0%
2018	50	0	0%
2019		0	0%



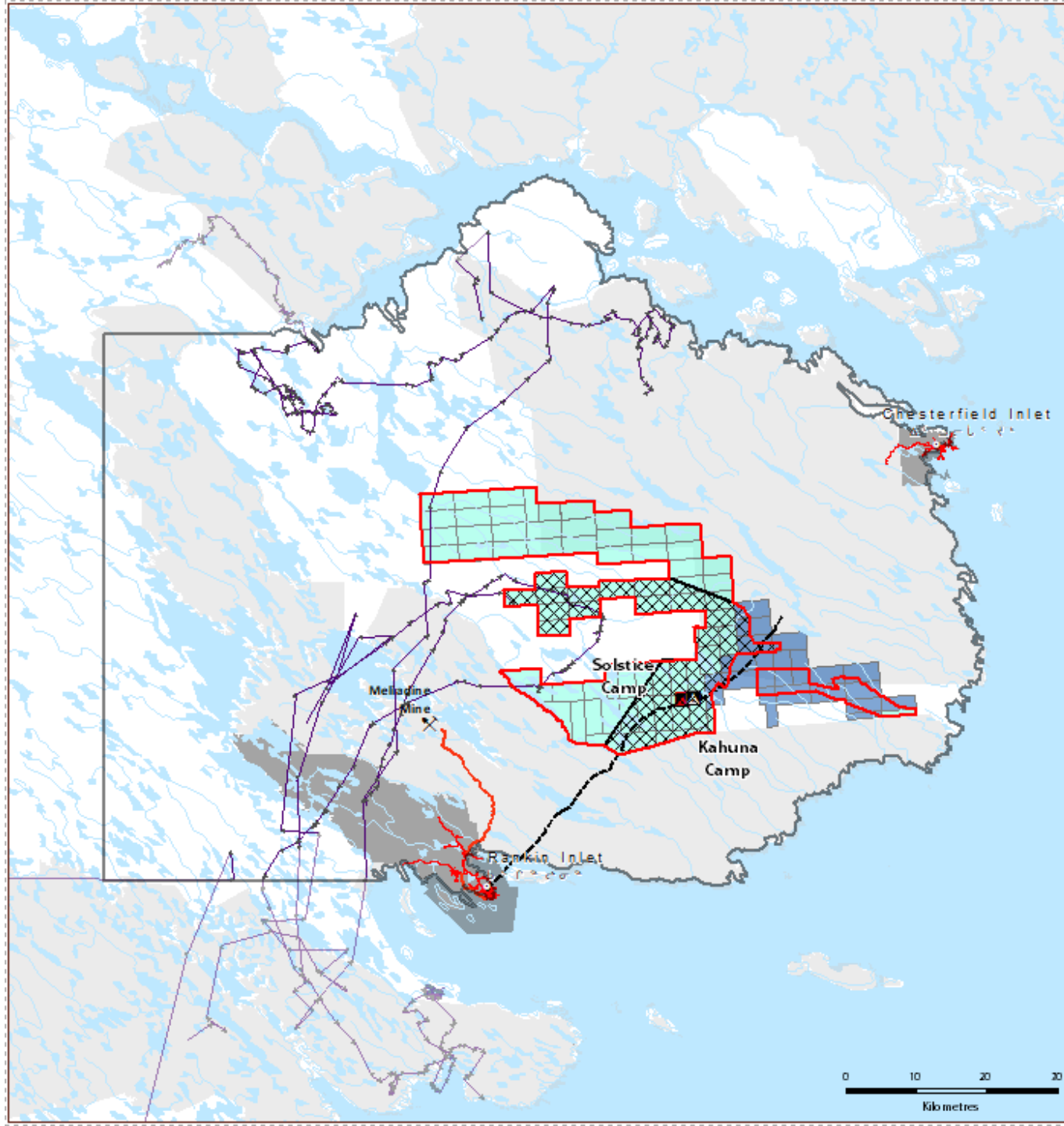
Rut/Breeding (Oct 19 - Nov 6)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	3	0	0%
1995	5	0	0%
1996	7	0	0%
1997	1	0	0%
1998	8	0	0%
1999	7	0	0%
2000	5	0	0%
2001	7	0	0%
2002	6	0	0%
2003	6	0	0%
2004	11	0	0%
2005	7	0	0%
2006	24	0	0%
2007	15	0	0%
2008	29	0	0%
2009	12	0	0%
2010	9	0	0%
2011	23	0	0%
2012	13	0	0%
2013	32	0	0%
2014	21	0	0%
2015	28	3	11%
2016	45	0	0%
2017	60	0	0%
2018	50	0	0%
2019		0	0%



Fall Migration Post-breeding (Nov 7 - Dec 15)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5		0%
1994	3		0%
1995	5		0%
1996	7		0%
1997	5	1	20%
1998	8		0%
1999	7		0%
2000	5		0%
2001	7		0%
2002	7		0%
2003	7		0%
2004	12		0%
2005	7		0%
2006	24	1	4%
2007	15		0%
2008	29		0%
2009	12		0%
2010	9		0%
2011	23		0%
2012	13		0%
2013	31		0%
2014	21		0%
2015	28	3	11%
2016	45		0%
2017	60		0%
2018	50		0%
2019			0%



Winter (Dec 16 - Apr 14)

Year	Total # of Active QM Collars	# of QM Collars within RSA	Percentage of Total QM Collars (%)
1993	5	0	0%
1994	5	0	0%
1995	8	0	0%
1996	8	0	0%
1997	11	0	0%
1998	9	0	0%
1999	8	0	0%
2000	8	1	13%
2001	8	0	0%
2002	8	0	0%
2003	7	0	0%
2004	15	0	0%
2005	11	0	0%
2006	25	1	4%
2007	22	1	5%
2008	32	0	0%
2009	28	0	0%
2010	11	0	0%
2011	25	0	0%
2012	21	0	0%
2013	36	0	0%
2014	28	0	0%
2015	39	2	5%
2016	46	3	7%
2017	73	0	0%
2018	61	0	0%
2019	49	0	0%

