ENVIRONMENTAL MANAGEMENT PLAN

KAHUNA GOLD PROPERTY
NUNAVUT, CANADA

Prepared for:

SOLSTICE GOLD

Prepared by:

APEX Geoscience Ltd.

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1 Introduction

This Environmental Management Plan ("EMP") applies to mineral exploration activities conducted by Solstice Gold Corp. ("Solstice" or "the Company") on the Kahuna Gold Property ("the Property" or "the Project"), Nunavut, Canada.

This EMP will come into effect pending approval from all relevant regulatory bodies. Copies and updates to this plan may be obtained via the Company or APEX Geoscience Ltd. ("APEX"). This EMP will be replaced, upon approval, if there are any significant changes to the activities outlined in the existing permits, which warrant changes to this EMP. Minor changes will be submitted as an addendum to this EMP and submitted to the distribution list as required.

1.1 Contact Details

Table 1. Company Contact Information

Solstice Gold Corp. Martin Tunney, President 1020, 800 West Pender Street Vancouver, BC V6C 2V6 Tel: (416) 301-3985 mtunney@solsticegold.com www.solsticegold.com	**APEX Geoscience Ltd.** 100, 11450 160 St NW Edmonton, AB T5M 3Y7 Tel: (780) 467-3532 www.apexgeoscience.com

1.2 Purpose and Scope

The purpose of the Kahuna Gold Property EMP is to outline the company's environmental policy, and to address environmental issues related to exploration at the Kahuna Gold Property. The plan includes the following:

- A summary of regulatory requirements.
- An overview of Kahuna Gold Property environmental protection measures.
- A discussion of stakeholder issues, including procedures for dealing with anthropological or archaeological sites.
- Possible disturbances to land, flora, and fauna related to exploration.
- Wildlife management practices and appropriate use of firearms.
- Environmental requirements for diamond drilling.
- Hazardous material handling and waste management practices.
- A summary of abandonment and restoration plans.

Emergency response guidelines are beyond the scope of this plan. In the event of an environmental emergency, personnel will defer to the Kahuna Gold Property *"Emergency Response Plan*" and *"Spill Prevention and Response Plan*" for guidance.

1.3 Environmental Policy

Solstice Gold Corp. is firmly committed to the protection and conservation of the natural environment, and to ensuring the health and safety of all employees, contractors,

and people in surrounding communities. The environmental policy for the Kahuna Gold Property is to:

- Develop the Project in a socially and environmentally responsible manner.
- Fully comply with all applicable environmental legislation and regulations.
- Work in cooperation with federal, territorial, and local governments, as well as other relevant regulatory bodies, and the general public, on all aspects of environmental protection and policy.
- Minimize risks to the health and safety of all employees, contractors, and the general public.
- Assess and evaluate any potential environmental impacts as a result of exploration activities, and develop procedures for minimizing or mitigating, as much as is reasonably achievable, the environmental impacts while carrying out these activities.
- Ensure contractors operate according to the Kahuna Gold Property environmental policies and procedures.
- Employ an emergency response and spill response plans to reduce impacts of unforeseen events.
- Provide ongoing instruction on Kahuna Gold Property environmental policies and spill prevention and response plans for all employees and contractors.
- Keep employees, contractors, inspectors, government, and regulatory bodies informed of any changes at the site or with Project activities.

1.4 Other Plans

The EMP should be considered as a part of the Property-wide management system. Other management plans in place at the Kahuna Gold Property include:

- Abandonment and Restoration Plan (“ARP”)
- Emergency Response Plan (“ERP”)
- Fuel Management Plan (“FMP”)
- Spill Prevention and Response Plan (“SPRP”)
- Waste Management Plan (“WMP”)

1.5 Project Description

The Kahuna Gold Property is located on Crown land and Inuit Owned Land (“IOL”) in the Kivalliq Region of Nunavut. The Property is approximately 35 km southwest of Igluligaarjuk (Chesterfield Inlet) and 30 km northeast of Kangiqliniq (Rankin Inlet).

The Property comprises 72 mineral claims 100% owned by Solstice and 19 mineral claims owned 50% by Solstice and 50% by Kodiak Copper Corp. (“Kodiak,” formerly Dunnedin Ventures Inc.). Solstice has primary rights on 9,022 ha of the jointly held claims, for a total Property area of 88,589 ha. Prior to November 14, 2017 the mineral claims comprising the Property were held wholly by Kodiak.

Past work on the Property included prospecting, geological mapping, geochemical sampling, geophysical surveys and a six-hole diamond drilling program. Solstice does not currently have a camp permitted as the previous Solstice field programs were either

supported out Kodiak's Kahuna Camp (2018), Rankin Inlet (2019) or from a small temporary fly camp (2020).

Solstice proposes annual exploration programs which include rock, soil, and till geochemical sampling, geological mapping, ground and/or airborne geophysical surveys and diamond or reverse circulation ("RC") drilling of up to 20,000 m. Field programs may commence as early as February, beginning with overland mobilization of equipment and supplies from Rankin Inlet along the Winter Trail, which passes through the Property, using Caterpillar Challengers (or equivalent) and cargo sleds. Drilling may then commence mid-March to mid-May to test targets below lakes with drilling of land targets commencing mid-June through September. Ground based prospecting and sampling activities would follow in June once the land is free from snow and the Property surface is fully accessible.

Exploration activities will be supported by ground access in the winter where conditions allow, utilizing tracked vehicles to facilitate crew changes and drill moves. A helicopter and/or fixed wing aircraft will be on site and will be utilized for mobility when ground access is not feasible.

Solstice is currently applying for amendments to the Nunavut Water Board ("NWB") Type B Water Licence 2BE-KGP1823 and Crown-Indigenous Relations and Northern Affairs Canada ("CIRNAC") Land Use Permit ("LUP") N2018C0020 for authorization to operate a 40-person camp on the Property. The water licence amendment will also include an increase in the water allowance from 200 m3/day (for drilling) to 299 m3/day (10 m3/day for camp and 289 m3/day for drilling). Solstice has already been approved by the Kivalliq Inuit Association ("KIA") to renew Inuit Land Use Licenses KVL318B01 and KVRW18F02, which authorize prospecting, exploration, drilling and use of the Winter Trail, respectively.

All exploration activities will either be based out of a new Solstice Camp, located adjacent to the existing Kodiak Kahuna Camp or at the existing Kahuna Camp. Following the submission of the 2021 application to amend CIRNAC LUP N2018C0020 and NWB Water Licence 2BE-KGP1823 to the Nunavut Planning Commission ("NPC") and Nunavut Impact Review Board ("NIRB"), Solstice management was informed by Kodiak Copper, that it is Kodiak's intention remove the Kodiak Camp from the field, reclaim the location and remove the Kodiak Camp from their CIRNAC LUP and NWB Water Licence. Solstice and Kodiak have entered into discussions, which include the potential for Solstice to either take over the Kodiak Camp or purchase some of the materials and items from Kodiak and relocate them to the new Camp location before the Kodiak Camp is removed .

2 Applicable Legislation and Guidelines

Exploration at the Kahuna Gold Property will be conducted in accordance with various Acts, Regulations, guidelines, and recommendations including, but not limited to:

2.1 Federal

- Canadian Environmental Protection Act
- Canada Wildlife Act

- Fisheries Act
- Nunavut Waters and Nunavut Surface Rights Tribunal Act
- Public Health Act
- Species at Risk Act
- Territorial Lands Act
- Nunavut Land Claims Agreement
- Department of Fisheries and Oceans Canada Operational Statements
- Guidelines for Spill Contingency Planning
- Migratory Birds Convention Act
- Transportation of Dangerous Goods Act (Transport Canada)
- Workers' Compensation Board
- Workplace Hazardous Materials Information System (WHMIS)
- Environment Canada Technical Document on Batch Waste Incineration
- Canada-Wide Standards ("CWS") for Dioxins and Furans by the Canadian Council of Ministers of the Environment
- DFO Freshwater Intake End-of-Pipe Fish Screen Guideline
- Northern Land Use Guidelines

2.2 Territorial

- Nunavut Environmental Protection Act
- Nunavut Wildlife Act
- Caribou Protection Plan / Caribou Protection Measures
- Environmental Guideline for the Burning and Incineration of Solid Waste
- Nunavut Archaeological and Paleontological Sites Regulations
- Nunavut Guideline for the General Management of Hazardous Waste
- Nunavut Waters Act and Nunavut Surface Rights Tribunal Act
- Draft Recommended Best Practices for The Storage And Handling Of Petroleum And Allied Petroleum Products on Federal Crown Lands in Nunavut
- Nunavut Planning and Project Assessment Act ("NuPPAA")
- NWB Guide for Community Consultation and Public Participation
- Contingency Planning and Spill Reporting in Nunavut - A Guide
- Regional Land Use Plans
- Mine Site Reclamation Model for Nunavut

3 Environmental Protection Measurers

Exploration activities at the Kahuna Gold Property will be assessed for environmental impact risks and every reasonable measure available will be taken to ensure the protection and preservation of the natural environment. For the duration of the program, all activities will be documented and sites photographed to comply with environmental due diligence. All on-site employees and contractors will be provided with environmental training, and will become familiar with relevant regulations. The Project Field Supervisor will be responsible for implementing environmental policies and training, and managing the environmental monitoring program.

Environmental training, monitoring, reclamation, and site clearance surveys will be built into the program budget to ensure adequate resources are being allocated to environmental management. Preference will be given to contractors with high standards of environmental stewardship, and who have a proven track record of sound environmental practice.

4 Stakeholders

Stakeholders may be individuals or groups concerned with, or affected by, exploration activities at the Kahuna Gold Property. Stakeholders will be identified and consulted with for the duration of the exploration program. Approvals will be sought from stakeholders and regulatory bodies pertaining to relevant environmental, social, and cultural issues.

The Kahuna Gold Property has been identified to lie within an area of high mineral potential, traditional land use and char abundance, as defined by the Nunavut Planning Commission in the Draft Nunavut Land Use Plan.

Solstice Gold Corp. has conducted consultations with the hamlets of Chesterfield Inlet and Rankin Inlet, in order to incorporate Inuit Qaujimajatuqangit into the Project planning and design and to address any program issues or concerns. Solstice hosted representatives from the Hamlet of Chesterfield Inlet and the Aqigiq Hunters and Trappers Organization (“HTO”) for a Property visit in 2018. In 2019, Solstice held a number of meetings with varying representatives from the KIA, CIRNAC, Rankin Inlet, Chesterfield Inlet, Baker Lake, Arviat, HTO’s, and the World Wildlife Fund.

Prior to annual exploration activities, community meetings will be held in Rankin Inlet and Chesterfield Inlet to discuss the proposed work plan and gain community feedback. Advice will be sought as to timing of activities, wildlife movements and suggested avoidance measures. Annual site visits for community representatives and leaders from the Hamlet of Chesterfield Inlet, Aqigiq HTO, the Hamlet of Rankin Inlet, the Kangiqliniq HTO and the KIA may be scheduled during field operations. In addition, Solstice commits to contract wildlife monitors from Kangiqliniq and Igluligaarjuk through to accompany annual field crews for the purpose of monitoring wildlife, providing advice on avoidance and to ensure the safety of field crews.

In addition to consulting with hamlet council and committees, HTO’s and local community members, whenever possible Solstice Gold Corp. will attempt to hire local residents to assist in aspects of the Project such: as wildlife and environmental monitors, camp management assistants, core cutting/processing technicians and geo-technical assistants, to not only utilize their skilled labor, but extensive knowledge of the land and wildlife.

4.1 Archaeological or Paleontological Sites

In April 2016, Golder Associates Ltd. (“Golder”) conducted a search of the Nunavut Archaeological Site database and found that no previously recorded sites had been documented or any archaeological assessments been carried out within the Kahuna Diamond Property.

Between August 28 and September 1, 2016, Golder conducted an archaeological inventory and reconnaissance of proposed exploration areas within Dunnedin Ventures Inc. ("DVI") Kahuna Diamond Property, portions of which cover the current Solstice Kahuna Gold Property. Approximately 1,348 ha of land were examined as well as two low level aerial passes were carried out along the 46 km long winter trail from Rankin Inlet to the claim area. A total of 10 sites were identified, 2 within proposed exploration areas and the rest were located adjacent to exploration or winter trail boundaries, or along Josephine Lake while flying between areas.

The geographic coordinates of the archaeological sites identified in the 2016 survey were provided to DVI and subsequently to Solstice so that the sites and associated features can be incorporated into Project planning and avoided during exploration activity.

In the summer of 2018, Nuqsana Golder was commissioned by DVI to complete another archaeological field investigation a number of drilling targets, including some on the current Solstice Gold Property and the Kahuna Camp location. The areas were examined for archaeological resources using a combination of aerial (low-level helicopter) and ground (pedestrian transects) surveys. The locations of any identified archaeological sites were recorded, mapped with a hand-held GPS unit, and photographed.

In 2019, Nuqsana Golder completed an archaeological site inventory and reconnaissance survey over potential field camp locations and drilling areas. The areas were examined for archaeological resources using a combination of aerial (low-level helicopter) and ground (pedestrian transects) surveys. One new archaeological site was recorded. The archaeological site is located along the northwestern margin of Quaituk Hill. The location of the site does not conflict with Solstice's proposed exploration areas. The geographic coordinates of the archaeological site will be incorporated into future project planning by Solstice so that the site and associated features can be avoided during exploration activity. The location of the proposed Solstice Camp lies within the 2019 archaeological survey area.

Areas of the Project that have not been surveyed have a potential for discovery of previously unknown archaeological or paleontological sites. Actions will be taken to ensure that any known or undocumented archaeological or palaeontological sites or artifacts are not disturbed. These include, but are not limited to:

- No company staff, contractors or Project visitors will operate any vehicle over a known or suspected archaeological or palaeontological site.
- No company staff, contractors or Project visitors will remove, disturb, or displace any archaeological artifact or site, or any fossil or palaeontological site.
- The company will immediately contact the Government of Nunavut Department of Culture and Heritage ("CH") at (867) 975-5500 (and the KIA, if on IOL) should an archaeological site or specimen, or a palaeontological site or fossil, be encountered or disturbed by any land use activity. A report will be prepared documenting the discovery and sent to CH, CIRNAC and the KIA, if on IOL. Reports will include GPS coordinates, a brief description of the site and/or artifact and photos (if possible).

- Company staff, contractors or Project visitors will immediately cease any activity that may disturb an archaeological or palaeontological site if encountered during the course of a land use operation until permitted to proceed with the authorization of CH (and KIA, if on IOL).
- Company staff, contractors or Project visitors will follow the direction of CH (and the KIA if on IOL) in restoring disturbed archaeological or palaeontological sites to an acceptable condition. If these conditions are attached to either a Class A or B Permit under the Territorial Lands Act CIRNAC's directions will also be followed.
- Company staff, contractors or Project visitors will provide all information requested by CH (and KIA, if on IOL) concerning all archaeological sites or artifacts and all palaeontological sites and fossils encountered in the course of any land use activity.
- If possible, when conducting till sampling, geological mapping, prospecting and/or ground geophysical surveys all relevant field personal will have maps with any known sites marked.
- Before commencing any work where ground disturbance may occur, the area will be surveyed for any archaeological or paleontological sites.
- Building of inuksuk is prohibited.
- Solstice Gold Corp. will ensure that all persons working under its authority are aware of these conditions concerning archaeological sites and artifacts and palaeontological sites and fossils.

Table 2. Archaeological/Palaeontological Contacts

Nunavut Department of Culture and Heritage:	**Phone: 867-975-5500** **Fax: 867-975-5504**
CIRNAC Field Operations Manager:	**Phone: 867-975-4295**
Kivalliq Inuit Association:	**Phone: 867-645-5725**

5 Identification of Potential Impacts and Proposed Mitigation Measures

5.1 Designated Environmental Areas

The Kahuna Gold Property is not located within any federal or territorial Protected Areas, as defined by Environment and Climate Change Canada. The nearest Park to the Property is the Iqalugaarjuup Nunanga Territorial Park, located 20 km southwest of the Property. The Harry Gibbons Migratory Bird Sanctuary is located 250 km to the east of the Property.

5.2 Wildlife Disturbance Mitigation

5.2.1 Wildlife and Habitat

All interaction with wildlife is discouraged; however, employees and contractors will be trained in the appropriate actions to take when encountering wildlife in the field. Intentionally approaching, disturbing, or feeding wildlife is strictly prohibited. Any incidents

will be thoroughly investigated and disciplined. All wildlife, and their dwelling sites, will be respected and efforts will be made to avoid them. All personnel will be required to record any wildlife sightings and will be instructed on the appropriate action to take when encountering wildlife in the field.

Animal sightings will be recorded in the "Wildlife Record Log" and reported to CIRNAC and the Government of Nunavut Department of Environment ("GN-DoE") as part of the Kahuna Gold Property Annual Report. If any wildlife enters any of the area of operations at the Kahuna Gold Property, protection measures will be followed and operations will be halted until the animal has moved out of the vicinity. Any bears or nuisance wildlife will be immediately reported to the Project Field Supervisor, CIRNAC and the GN-DoE. Emergency Wildlife Contacts are listed in Table 3.

Table 3. Wildlife Emergency Contacts

Organization	Title	Contact	Location	Telephone Number
Nunavut Department of Environment	Director – Wildlife Research	Drikus Gissing	Iqaluit	(867) 975-7790
Nunavut Department of Environment	Manager – Wildlife Research	Caryn Smith	Iqaluit	(867) 975-7756
Nunavut Department of Environment	Kivalliq Regional Wildlife Biologist	Mitch Campbell	Arviat	(867) 857-3171
Nunavut Department of Environment	Wildlife Biologist II-Carnivores	Malik Awan	Arviat	(867) 857-3198
Nunavut Department of Environment	Conservation Officer II	Peter Kattegatsiak	Chesterfield Inlet	(867) 898-9130
Nunavut Department of Environment	Conservation Officer III	Johanne Coutu-Autut	Rankin Inlet	(867) 645-8084
Nunavut Department of Environment	Conservation Officer II	Daniel Kaludjak	Rankin Inlet	(867) 645-8083
Kangiqliniq Hunters & Trappers Organization			Rankin Inlet	(867) 645-2350
Aqigiq Hunters & Trappers Organization			Chesterfield Inlet	(867) 898-9063

The majority of field activities planned for the Kahuna Gold Property, such as geological mapping, prospecting and geochemical sampling are very low impact and do not require the use of any sizable or noisy machinery. Diamond drilling may cause noise disturbances to passing animals, but care will be taken to position drill sites away from any wildlife nests or dwellings. Appropriate screens will be placed over all water intakes at camp and at the drill to reduce the potential for fish entrapment. There is also the potential for a fuel or oil spill at the drill sites. Policies and procedures outlined in the Kahuna Gold Property *"Fuel Management Plan*" and *"Spill Prevention and Response Plan*" will be followed at all times to mitigate the chance of a spill.

Caterpillar Challengers with steel sleds, snowmobile, helicopter, and possibly fixed wing aircraft support is required to carry out operations such as pick up/drop off field personnel, delivery supplies to camp, and drill rig and fuel moves. Possible impacts that may arise from the use of aircraft and other motorized equipment include fuel spills, and

noise disturbance. When low altitude flights are necessary, such as deploying field personnel, all efforts will be taken to avoid wildlife, dwellings, and nests. Pilots will be instructed not to land where wildlife is present unless it is an emergency situation. If a landing occurs for any reason in the presence of wildlife, it will be documented and submitted to CIRNAC, NWB and the KIA as part of the "Wildlife and Environment" section of the Kahuna Gold Property Annual Report.

5.2.2 Caribou Mitigation and Monitoring

The Kahuna Gold Property is located within the annual ranges of two herds of barren-ground caribou (Rangifer tarandus groenlandicus), the Qamanirjuaq and Lorillard herds. Seasonal range maps (current to 2013) and telemetry data maps (current to July 20, 2019) provided by the Government of Nunavut Department of Environment identify Project overlaps with known areas of ecological significance and their associated timing windows (Appendix A). These maps, which provide predictability as to where and when caribou are expected to occur, along with the current practice of Project planning consultations, incorporation of Inuit Qaujimaningit into the Project planning, frequent communication with the Kangiqliniq Hunters & Trappers Organization ("KHTO"), Aqigiq Hunters & Trappers Organization ("AHTO"), KIA, community members from Kangiqliniq and Igluligaarjuk and other companies working in the area (e.g. Agnico Eagle), as well as hiring local community members as wildlife monitors will assist the company in greater disturbance mitigation.

Surveillance and monitoring procedures used to detect and alert the presence of wildlife at the Project include:

- Use of the helicopter for surveillance while in transit (e.g., field personnel deployment, shift changes, etc.).
- Wildlife monitors deployed with field crews.
- Communication with Agnico Eagle, the KIA, KHTO, AHTO and local community members regarding wildlife sightings in the area.
- Monitoring of Social Media posts regarding sightings in the area.

Other measures will be followed to mitigate potential impacts on any Caribou that are present on the Property will include, but not be limited to, the following:

- Caribou avoidance as the priority mitigation measure.
- Implementation of the Keewatin Regional Land Use Plan.
- Implementation of the Kivalliq Inuit Association's "*Mobile Caribou Conservation Measures*" (Appendix B) on IOL, with immediate cessation of activities that may interfere with the migration or calving of caribou or muskox, until the caribou or muskox have passed.
- Implementation of the "DIAND Caribou Protection Measures" (Appendix C of this document, Appendix H of the Keewatin Regional Land Use Plan) on Crown land, again with immediate cessation of activities that may interfere with the migration or calving of caribou or muskox.

- All sightings of caribou will be reported to the Project Field Supervisor, included in the report will be the number of caribou and distance from camp or work site, their approximate numbers, direction of movement and general behaviour.
- Wildlife reports, containing information on sightings and interactions of all wildlife, denning sites, raptor nests and any work suspensions will be submitted annually to CIRNAC, NWB and the KIA (and any other interested parties, including the Government of Nunavut).
- The location of caribou will be monitored during all helicopter flights, the pilot and passengers will survey for any caribou and report any potential sightings to the Project Field Supervisor.
- Aircraft will always maintain a minimum altitude of 610 m (2,100 ft) above ground level except during landing, take-off or if there is a specific requirement for low-level flying (e.g. airborne surveys).
- Solstice Gold Corp. will suspend all flights lower than 610 m above ground level (e.g. airborne surveys), when safe to do so, in the presence of caribou cows and calves.
- Absolutely no activities will be conducted that will interfere with caribou cows and calves.
- Solstice Gold Corp. will ensure that absolutely no exploration activities will cause a diversion to the migration patterns of any caribou.
- Solstice Gold Corp. will communicate with the KIA, KHTO, AHTO and any other interested parties, regarding caribou sightings and appraised movements in the area.

5.2.3 Migratory Birds and Waterfowl

Solstice Gold Corp. has implemented the following mitigation measures to prevent potential impacts on migratory birds and waterfowl. All Solstice employees, contractors and visitors will be instructed and must strictly adhere to the following:

- All staff, consultants and Project visitors will be educated in, and comply, with all applicable legislation and regulations.
- All wildlife, including birds and their dens and nests will be respected.
- Approaching any wildlife, including birds or nests will be strictly prohibited.
- Never destroy nests or eggs of any birds.
- Avoid disturbing nests and known concentrations of birds by maintaining a 1.5 km buffer when in transit by aircraft.
- Avoid approaching known nest while on foot.
- Attempt to prevent birds from nesting on man-made structures.
- Minimize flights during migration, nesting and moulting.
- Avoid areas used by flocks of migrating waterfowl by 3 km.
- Avoid excessive hovering or circling over areas likely to have birds.
- Solstice Gold Corp. prohibits depositing substances harmful to migratory birds and waterfowl into waters.
- Migratory bird observations will be included in the Wildlife Observation logs and submitted with the annual report.

- Any inadvertent disruption of migratory birds, nests or eggs will be immediately reported.
- Special care and concern, including monitoring will take place during migratory bird nesting periods in the area (mid-May – mid-August).
- Any nest found will be recorded, photographed and reported to the Gov-NU Ecosystems Biologist. The government biologist with be asked to advise on the establishment of an appropriate buffer zone, determined by the species and the surrounding habitat, to protect it until the young have naturally left the nest.
- Solstice Gold Corp. understands that there is risk that migratory birds, their nests or eggs can be inadvertently harmed or disturbed as a result of activities, including mineral exploration, and will take every effort to reduce the chances of incidental take. Appropriate mitigation measures will be utilized, and compliance enforced with strict penalties for those who do not adhere to the proper operating procedures including, but not limited, to termination of employment.

5.2.4 Aquatic Life

The following practices will be undertaken to protect aquatic life, waterbodies, and their tributaries. All Solstice Gold Corp. employees, contractors and visitors will be instructed and must strictly adhere to the following:

- No waste or discharge of any kind may enter a body of water.
- All sumps, fuel caches and camps must be located at least 31 m from the high-water mark of any water body.
- Work conducted near waterbodies must not disturb aquatic life and habitat.
- Waterlines must be properly placed and screened in accordance with the "*Freshwater Intake End of-Pipe Screen Guideline*."

5.2.5 Species at Risk

Solstice Gold Corp. recognizes that with any Project, there is a potential for activities to negatively affect wildlife, and of greatest concern, affect species at risk. Although all wildlife will be protected and treated with respect during all activities at the Kahuna Gold Property, special consideration will be given to the species identified below. All observations of wildlife will be recorded and submitted to all interested parties, including the Department of Environment and Natural Resources, annually and any human-wildlife interaction will be reported immediately.

Peregrine Falcon, anatum/tundrius complex, Red-necked Phalarope and Short-eared owl, other Raptors– Special Concern as per the Species at Risk Act ("SARA")

- Raptor, Red-necked Phalarope and Owl nests, as well as all birds, their nests and eggs will always be avoided during exploration activities.
- Any observed nests will be recorded and included in the wildlife record submitted annually.
- All Project staff and contractors will be trained to never approach or disturb nests.
- All Project staff and contractors will be trained on how to identify Red-necked Phalarope nests via descriptions provided by Environment Canada and photos.

- Excessive hovering or circling over areas likely to have birds will be avoided.
- Any nest found will be recorded, photographed and reported to the Gov-NU Ecosystems Biologist. In the case of the Red-necked Phalarope, Environment Canada will be notified as well.
- The Gov-NU Ecosystems Biologist with be asked to advise on the establishment of an appropriate buffer zone, determined by the species and the surrounding habitat, to protect it until the young have naturally left the nest.

Grizzly Bear, Polar Bear, Wolverine – Special concern as per the Committee on the Status of Endangered Wildlife in Canada ("COSEWIC")

- All Solstice Gold Corp staff, contractors and visitors to the Project will be properly trained in wildlife disturbance mitigation, including deterrent and interaction measures.
- Proper measures will be taken in camp, at drill sites and in the field to reduce the attraction of wildlife including proper storage and handling of food and waste.
- All bears, wolverines, and other wildlife, as well as their dens, will be avoided at all times by field crews.
- Any observations of bears and wolverines will be recorded and submitted with the annual report and any human-wildlife interaction will be reported immediately.
- As per the recommendations in the "*AANDC Northern Land Use Guides*" drilling and exploration buffers will be as follows:
  - 1 km around active bear dens between September 30 to March 30.
  - 300 around all bear species between May 16 to July 15.
  - 300 m around berry habitat between July 15 to September 15.
  - 2 km around active wolverine dens between October 15 to July 15.

5.2.6 Other Species of Concern

As the Project area is located within muskox, arctic fox and wolf habitat, specific monitoring and mitigating measures for this species will be implemented. These measures may include, but not be limited to:

- Avoidance of all wildlife, including muskox, arctic fox and wolf will always be the priority mitigation measure.
- All exploration and drilling activities will be planned to avoid wildlife, including muskox, arctic fox (and their dens) and wolf (and their dens).
- The Government of Nunavut, local HTO's, community members and any other interested parties will be consulted in order to incorporate Inuit Qaujimajatuqangit into the Project planning.
- The Company will communicate with all interested stakeholders regarding any muskox, arctic hare and wolf sightings and appraised movements in the area
- Knowledgeable local community members will be employed as wildlife and environmental monitors.
- All sightings of wildlife, including muskox, arctic fox and wolf will be reported to the Project Field Supervisor, included in the report will be the number of animals and

distance from camp or work site, their approximate numbers, direction of movement and general behaviour.

- Wildlife reports, containing information on sightings and interactions of all wildlife, denning sites, raptor nests and any work suspensions will be submitted annually to regulators, including the CIRNAC, NWB, KIA (and, if requested, the Nunavut Impact Review Board "NIRB" and GN Ecosystem Biologist).
- In the event muskox cows calve in proximity to the camps or work areas, operations will be suspended (e.g. drilling, mapping, prospecting, sampling, helicopter flights, snowmobile and ATV) in all work areas within 10 km of any area occupied by cows and calves until the animals have moved out of the 10 km radius.
- When safe to do so, flights lower than 610 m (e.g. airborne surveys and shorter transportation flights) will be suspended in the presence of wildlife and all effort will be made to avoid nesting and denning areas.
- As per the recommendations in the CIRNAC "*Northern Land Use Guides*" drilling and exploration buffers will be as follows:
  - 500 m around Muskox between April1 to June 15.
  - 500 around active wolf dens between May 1 to September 15.
  - 150 m around active fox dens between May 1 to July 15.
- Outside of April 1 to June 15, if muskox come within 1 km of any work site, work activities will immediately cease until the animals have moved safely beyond the buffer zone.

5.2.7 Firearms

Registered firearms will be located in camp and at drill sites to ensure the safety of all personnel on the Property. All firearms in camp will be stored unloaded in a locked cabinet or gun case and regulated by the Project Supervisor. Firearms at drill sites will be stored unloaded in gun cases. 12-gauge shotguns are the preferred firearm to be used for the purposes of bear deterrence as they are capable of firing non-lethal deterrents and lethal rounds.

All persons carrying or handling a firearm must have a valid Firearms License and be approved by the Project Field Supervisor. Hunting is strictly prohibited for all employees and contractors, and will result in immediate termination and potential charges for any territorial hunting violations. Firearms discharge of any kind must be reported immediately to the Project Field Supervisor. Use of firearms against nuisance or aggressive wildlife is considered only as a last resort. Non-lethal deterrents will always be used whenever possible to deter problem wildlife with lethal rounds only being used in defense of life or property.

5.3 Vegetation, Soil and Permafrost Disturbance Mitigation

Vegetation at the Kahuna Gold Property consists mainly of moss, lichens, stunted plants and arctic grasses. The grasses are typically observed growing at lower elevations in areas associated with river drainage basins.

Vegetation and permafrost can potentially be impacted by drilling activities. Mitigation measures to reduce the impact include limiting the amount of vegetation disruption to ensure proper shade coverage and reduction in the potential for ground thaw and

subsidence. Footpaths can be marked using stakes and flagging tape to ensure that impacts to vegetation are confined to a small area. Areas that have patterned ground, clay-rich soil and or wetlands will be avoided. Heat radiating from camp buildings may thaw permafrost, so all heated camp structures will be slightly elevated above the ground to allow air circulation. Earth may be required to be moved in order to construct sumps at camp and drill sites; however natural depressions and areas free of vegetation will be used whenever possible. Any topsoil moved will be collected to use in re-vegetation efforts. If a sump is excavated, it will be barricaded until it can be back-filled.

Soil quality can be impacted from spills of fuel and other materials and waste discharge. Preventative measures include appropriate and approved storage locations and containers with secondary containment. All fuel, hazardous materials and drilling will be a minimum 31 m away from any watercourse. Refueling will be done with precision and appropriate due-diligence will be taken. Drums and hoses will be inspected regularly for leaks and pans or absorbent pads will be placed below fuel transfer areas and stationary machinery. See the Kahuna Gold Property *"Spill and Response Plan*" for more information.

5.4 Air and Noise Quality

Impacts on air quality can result from discharge of exhaust from airplanes, helicopters, drilling operations, generators, and emissions from incineration. Given the remote location with lack of air quality issues which currently exists within the Property location, the short duration and small scope of activities are not expected to result in any measurable air quality impacts. An Environment Canada approved batch feed controlled-air dual chamber incinerator will be selected to burn combustible waste, therefore reducing harmful emissions.

Noise can result from the use of planes, helicopters, and drills and to a lesser degree from activities within the camp, which can disturb wildlife. Mitigation measures include but are not limited to: helicopter avoidance of any raptor nests; bear, wolf or fox dens; waterfowl and shorebird staging areas during critical seasons; and near large mammals. In addition, drill activities and associated work will cease if caribou or muskox cows and/or calves appear nearby.

5.5 Drilling Operations

Drilling contracts will be awarded to companies that exhibit high standards of environmental practice and who are willing to adhere to the environmental policies of the Kahuna Gold Property. The following conditions are imposed for drilling activities:

- Sites will be as small as possible while still allowing adequate area for fire protection.
- All stored fuel and drill additives will be stored in secondary containment.
- Biodegradable drill additives will be used whenever possible. See Appendix A of Solstice's "*Spill Prevention and Response Plan*" for the SDS/MSDS of possible drill additives used.

- Recirculation and filtration equipment will be used to minimize the amount of water used and additives released into the environment. Secondary containment for additives will be placed around the hole.
- Any residual drill water will be contained in sumps or an equivalent natural depression. Sumps will be positioned down slope from the drill collar in such a manner that runoff flows into the sump. Sumps will be positioned a minimum of 31 m from the normal high-water mark of any water body.
- If any artesian water flow is detected, the hole will be plugged and cemented in bedrock to prevent continued flow. Any artesian water flow will be reported to CIRNAC, the NWB and KIA (if on IOL).

6 Hazardous Materials

All hazardous materials will be handled and stored in accordance with the Kahuna Gold Property *"Fuel Management Plan*", *"Waste Management Plan"* and *"Spill Prevention and Response Plan.*" Fuels and other hazardous materials will be stored within "Arctic Insta-Berms", or similar products, for secondary containment. Hazardous material storage sites will be located a minimum of 31 m from the normal high-water mark of any waterbody. Electric or hand wobble pumps equipped with filtration devices will be used for the transfer of diesel, jet fuel, and gasoline from their storage containers directly to their end-use fuel tanks. Portable drip trays or mini-berms will be used to mitigate the risk of any spillage, and fully stocked spill kits will be available at all refueling stations, drill sites, and at various locations throughout camp.

All hazardous materials will be clearly labeled in accordance with the Workplace Hazardous Materials Information System ("WHMIS") and other applicable legislation. Labels will include, but not limited to, the type of fuel, safe handling procedures, reference to Material Safety Data Sheets ("MSDS"), company name, and the date of delivery to site. Signs with the same information, along with MSDS for each fuel type will be posted at each hazardous material storage or transfer site. "No Smoking" signs will be posted at each fuel cache, drill site, and fuel transfer area.

All personnel required to handle hazardous materials will be trained in WHMIS, the Transportation of Dangerous Goods Act, and the Kahuna Gold Property *"Spill Prevention and Response Plan*" and *"Emergency Response Plan*".

Monitoring of the condition of stored fuel drums, berms, and other vessels containing hazardous materials will be ongoing throughout the project. Daily inspections will be conducted to identify any damaged or leaking containers, and the findings reported in the "Daily Fuel Inspection Record". The Project Supervisor is responsible for maintaining a detailed fuel and hazardous material inventory and oversees the maintenance and monitoring of all fuel and hazardous material caches. Contacts for Hazardous Waste Issues are listed in Table 4.

Table 4. Hazardous Waste Contacts

Environmental Protection Division Nunavut Department of Environment Inuksugait Plaza, P.O. Box 1000, Stn. 1300 Iqaluit, NU X0A 0H0 Tel: 867-975-7700 Fax: 867-975-7742 Email: environment@gov.nu.ca	Dr. Michael Patterson Office of Chief Medical Officer of Health Nunavut Department of Health P.O. Box 1000, Stn. 1000 Iqaluit, NU X0A 0H0 Tel: 867-975-5760 Email: MPatterson@gov.nu.ca
Workers Safety and Compensation Commission Qamutiq Building, 2nd Floor 611 Queen Elizabeth Way, Box 669 Iqaluit, NU x0A 0H0 Tel: 867-979-8500 Fax: 867-979-8501	NU-NT 24 Hour Spill Report Line Tel: 867-920-8130 Fax: 867-873-6924 Email: spills@gov.nt.ca Nunavut Emergency Management Emergency 24 Hour Headquarters: 867-979-6262 / 1-800-693-1666 Qikiqtaaluk: 1-888-624-4043
Nunavut Department of Community and Government Services W.G. Brown Building, 4th Floor P.O. Box 1000, Stn. 700 Iqaluit, NU X0A 0H0 Tel: 867-975-5400/5413 Fax: 867-975-5305	Fire Marshall Safety Services Nunavut Department of Community and Government Services Tel: 867-975-5310
Emergency Measures 24 Hour TOLL Free 1-800-693-1666 Emergency Services Response 24 Hours 867-979-6262 Nunavut Emergency Management FAX 867- 979-4221	

7 Waste Management

All wastes will be handled and disposed of in accordance with the Kahuna Gold Property *"Waste Management Plan*" and will comply with federal and territorial legislation. Waste management operations at the Kahuna Gold Property comprise a number of activities with the common goal of reducing the amount of waste generated on site and to ensure that any wastes created are reused, recycled, or disposed of in a responsible manner. Wastes will be separated at the source into appropriate categories.

Inert combustible waste will be burned in a batch feed dual-chamber controlled air incinerator, in accordance with the *Environmental Guideline for the Burning and Incineration of Solid Waste* by the Nunavut Department of Environment and the *Canada-Wide Standards (CWS) for Dioxins and Furans* by the Canadian Council of Ministers of the Environment. All attempts will be made to reduce the moisture content of waste to be incinerated, which will decrease the amount of smoke produced and increase the

completeness of combustion. All waste will be covered and stored inside sheds or other secure buildings to keep rain and snow out of the waste and reduce the attraction for wildlife. If wet waste must be burned, such as organic (food) waste, the wet waste will be mixed with dry waste to reduce the overall moisture content of the batch.

All inert materials that cannot be incinerated will be placed in appropriate sealed containers, labeled, and removed from site for reuse, recycling, or proper disposal at an accredited facility.

All hazardous wastes will be sealed in appropriate containers, labeled, documented, and removed from site for proper disposal at a licensed disposal facility. A waste manifest will accompany hazardous waste in transit and all parties involved will be properly qualified.

Camp greywater will be stored and treated in an excavated sump, which will allow for slow infiltration into the soil and will be located at least 31 m away from a water body. Cobbles will be placed in the bottom of the sump to provide filtration and supports will be built on the sides to prevent slumping. Filters will be installed on kitchen drains to ensure solid food wastes do not enter the sumps and have the potential to attract wildlife.

Pacto toilets will be used at Solstice Camp. All Pacto bags will be incinerated on site in a batch feed dual-chamber controlled air incinerator. When sewage is incinerated, Solstice will ensure that the incinerator is a model that is specifically designed to be capable of incinerating this type of waste. The incinerator model will be provided in the Annual Reports.

8 Abandonment and Restoration

Prior to land use permit, water licence, claim or lease termination, all structures, equipment, supplies, fuel, and wastes will be removed from the Property with the exception of drill core stacks, which will be permanently secured on site. Materials of value will be salvaged and local businesses and residents will have the opportunity to retrieve any remaining materials that will otherwise be disposed of. Any contaminated areas around camp, drill sites or fuel caches that have gone unnoticed will be treated as per the Kahuna Gold Property *"Spill Prevention and Response Plan*."

A thorough inspection of all areas of activity, including camp, general exploration, drilling, aircraft landing sites, and fuel caches, will be conducted at the end of use, and relevant photographs (i.e. drill pads) will be taken to include in the final reports submitted to CIRNAC, NWB and the KIA. All relevant regulatory agencies will be notified once the final clean-up has concluded.

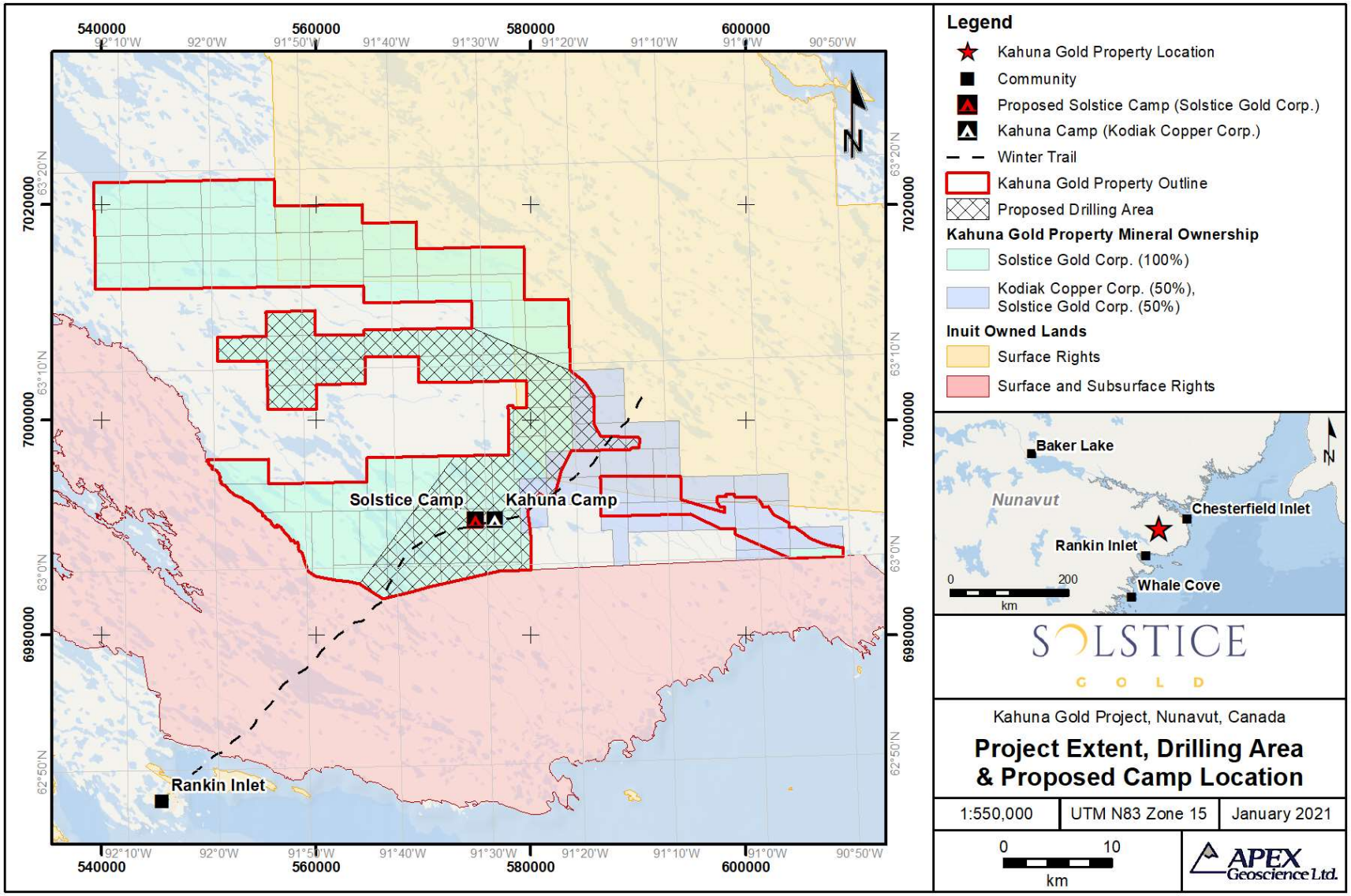
If required, areas disturbed by activities related to exploration and drilling at the Kahuna Gold Property will be fertilized, as per recommendation by the CIRNAC (or KIA, if on IOL) Inspector, to encourage re-vegetation. Any eroded or washed out areas will be filled and re-contoured to natural levels.

After reclamation is complete, on the advice of the CIRNAC and KIA inspectors, annual monitoring may take place. If required, the monitoring may consist of soil and

water testing, measuring and documenting plan re-growth, examining potential run-off and erosion problems, and checking the stability and condition of the core boxes. Reports, including photographs, will be submitted to the appropriate regulatory bodies. The monitoring will continue as long as the regulating bodies deem it necessary.

Further details on abandonment and restoration can be found in the Kahuna Gold Property *"Abandonment and Restoration Plan*".

Figure 1. Kahuna Gold Property Location



Appendix A

GN-DoE Telemetry Data Maps

Appendix 2, 20210419-21EN008-GN Comments-IA2E

And

Caribou Movement Maps

Campbell, M.W., A. Kelly, B. Croft, J.G. Shaw, and C.A. Blyth. 2014. Barren-ground Caribou in Nunavut and Northwest Territories – Digital Map Atlas. Government of Nunavut, Department of Environment and the Government of the Northwest Territories, Department of Environment and Natural Resources. Digital Map series.

Telemetry Data
(1993-2019)

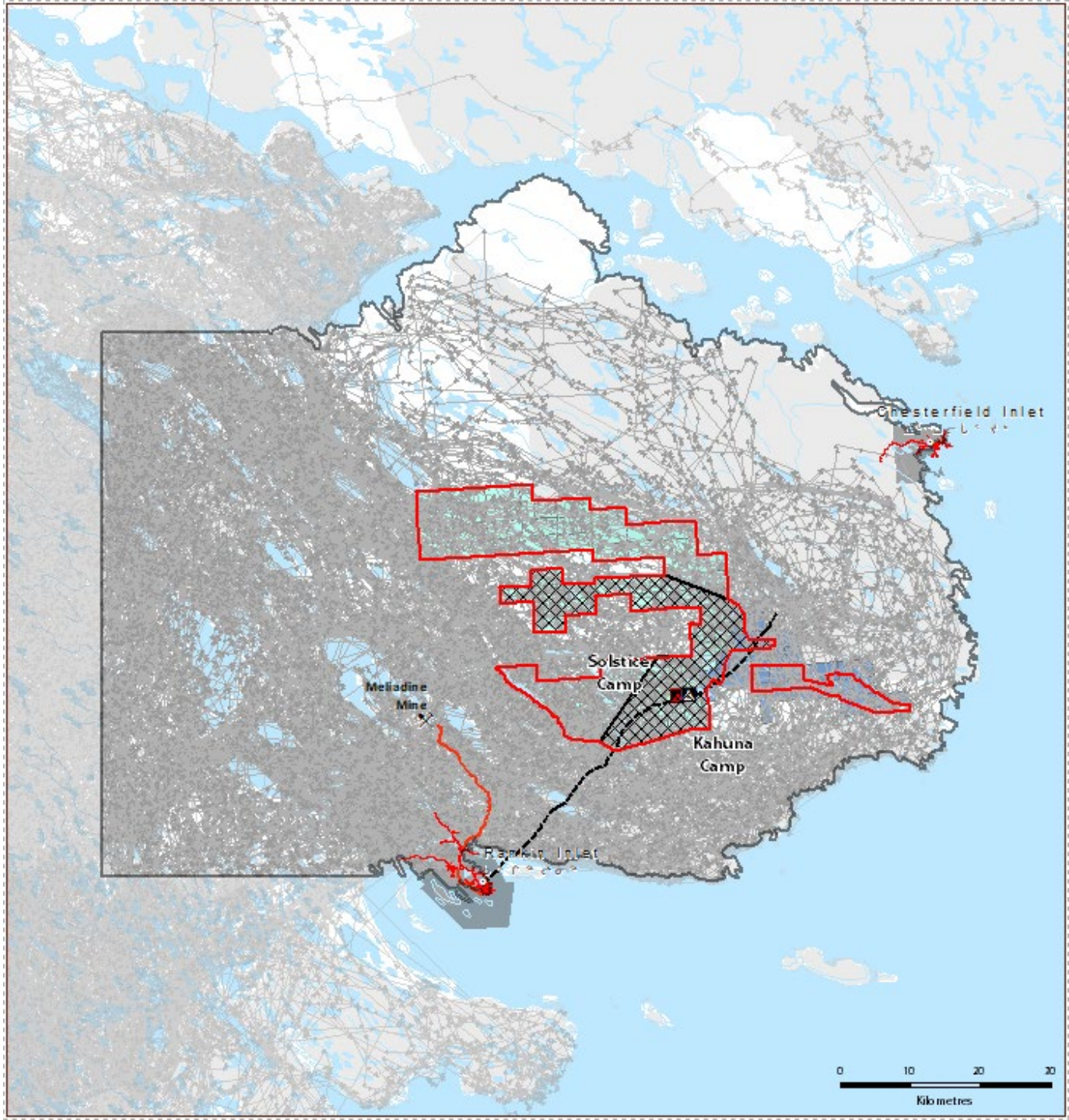
- River
- Lake
- Operating or Existing Road
- Telemetry
- Inuit Owned lands
- Municipal Boundary
- Regional Study Area (RSA)
- Kahuna Camp (Kodiak Copper Corp)
- Proposed Solstice Camp (Solstice Gold Corp)
- Kahuna Winter Trail
- Kahuna Gold Property Outline
- Proposed Drilling Area

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

March 2021



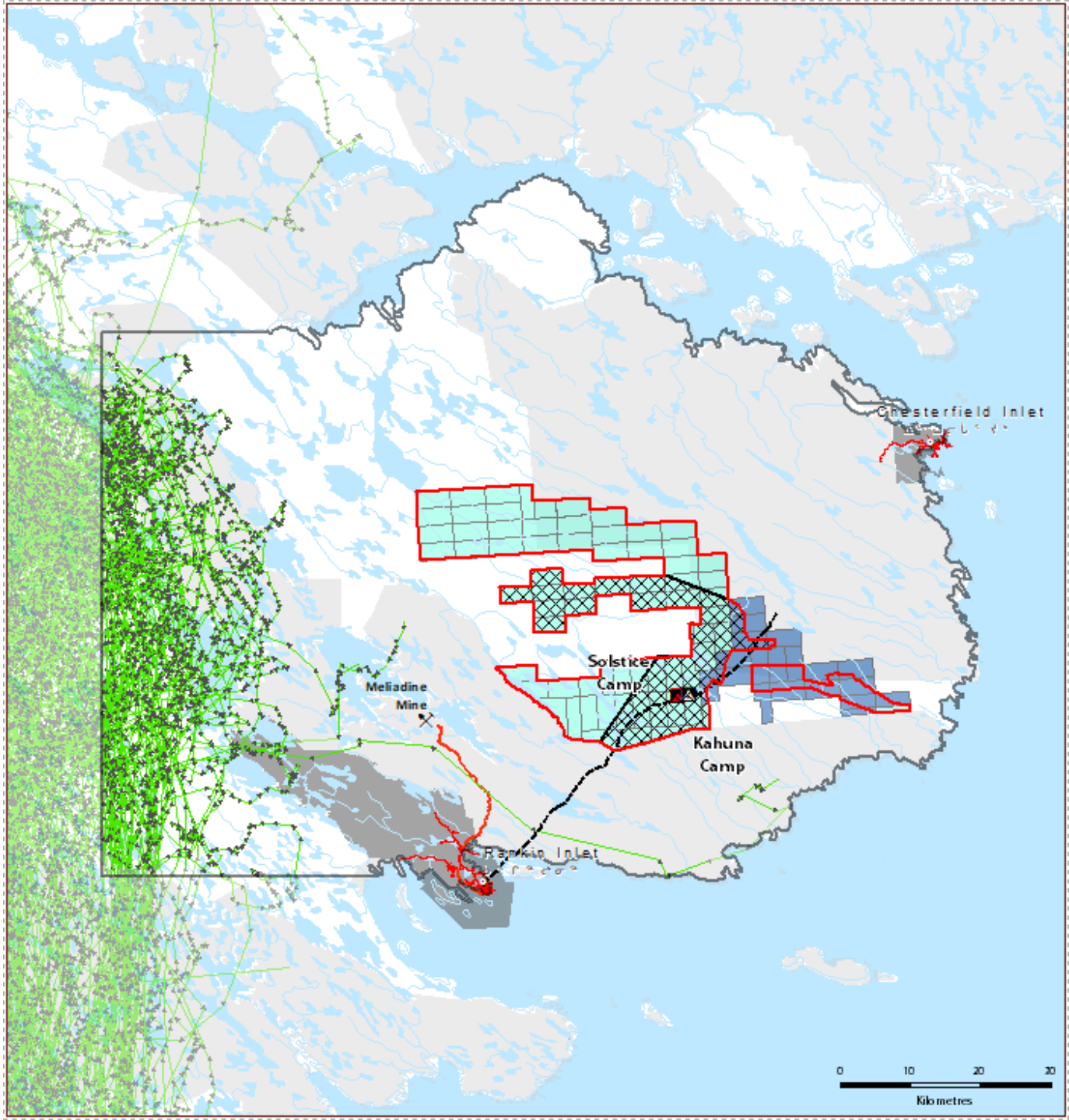
CASLYS CONSULTING

Nunavut

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%

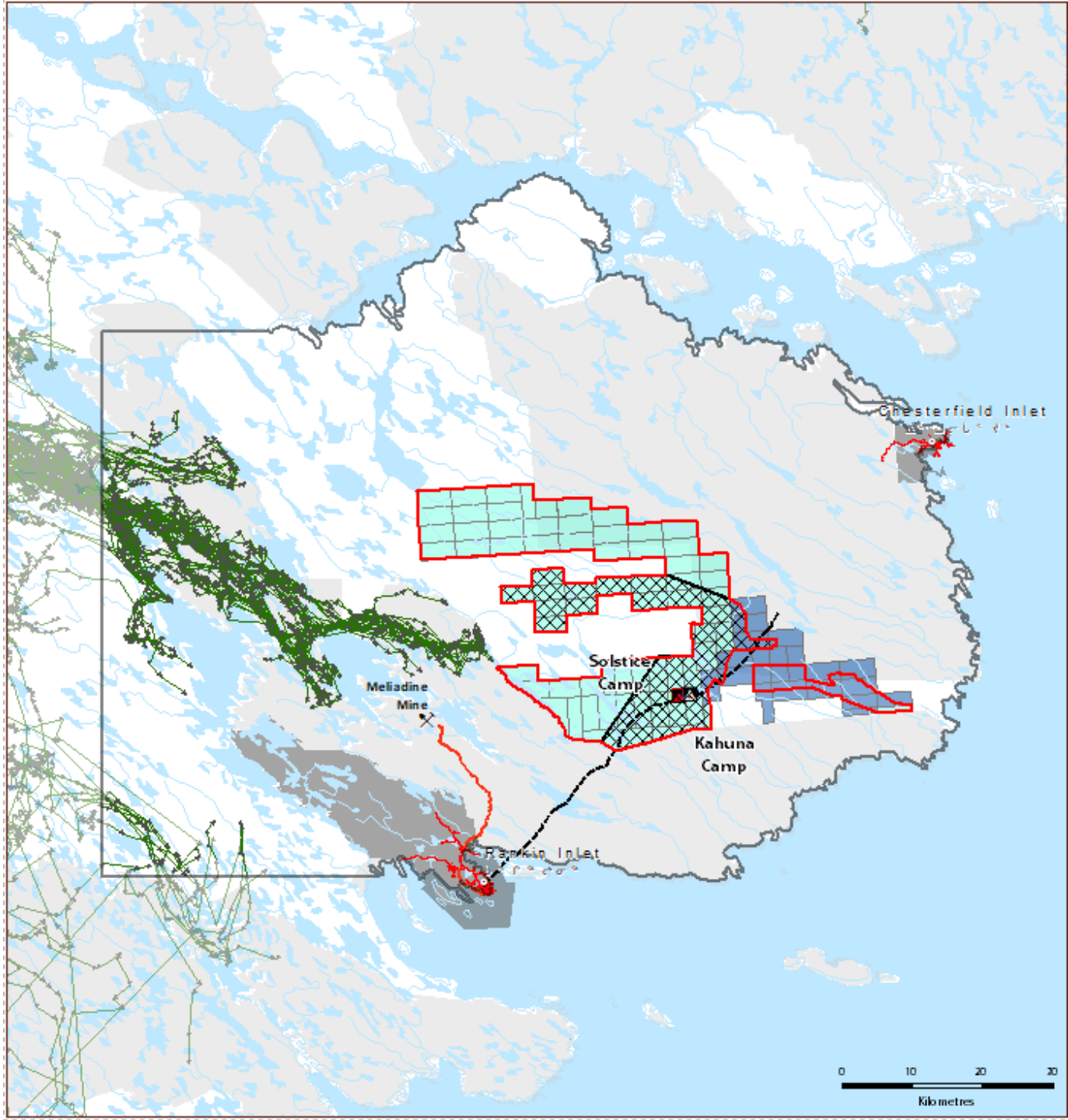


CASLYS CONSULTING

Nunavut

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%

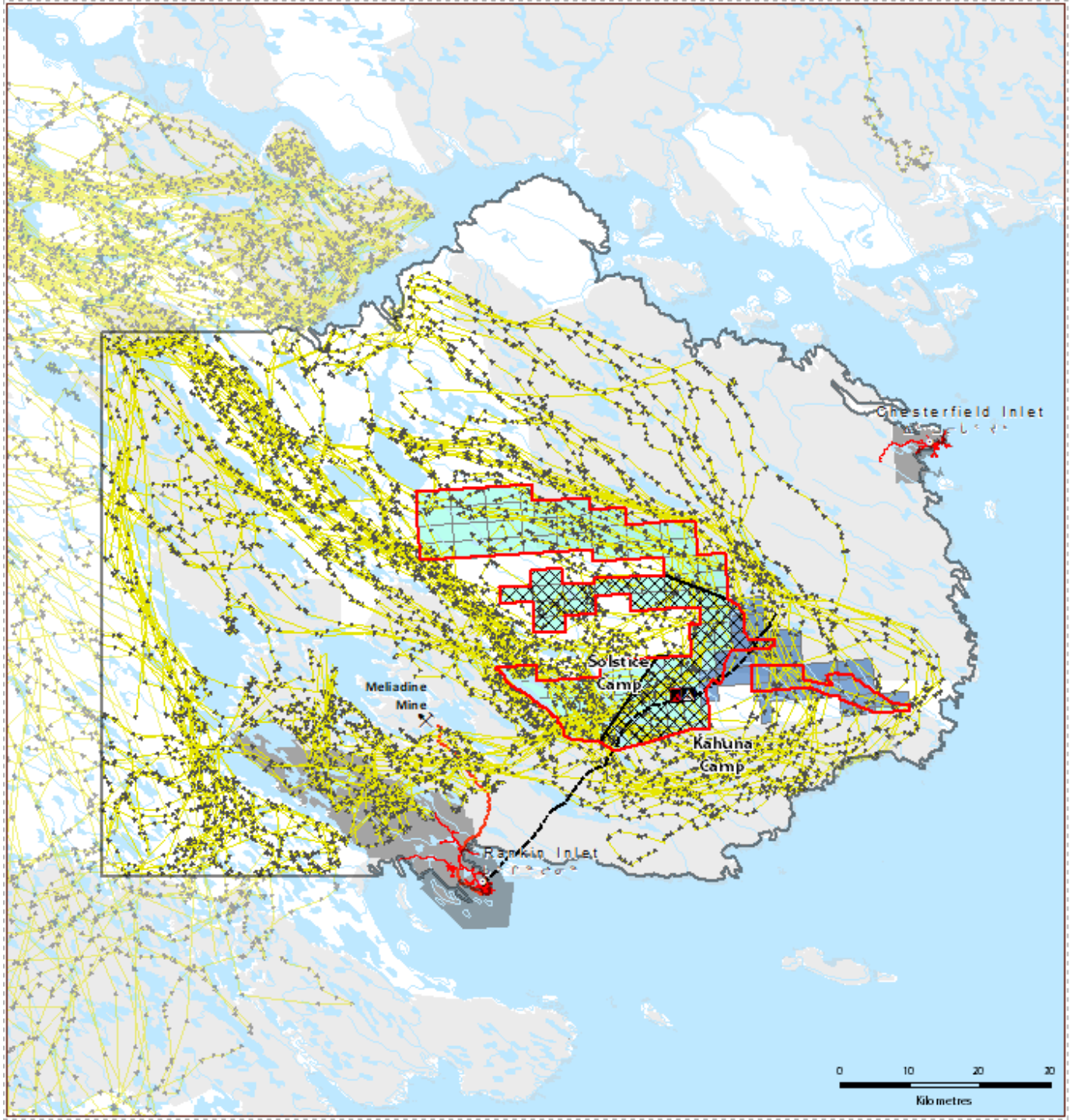


CASLYS CONSULTING

Nunavut

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%

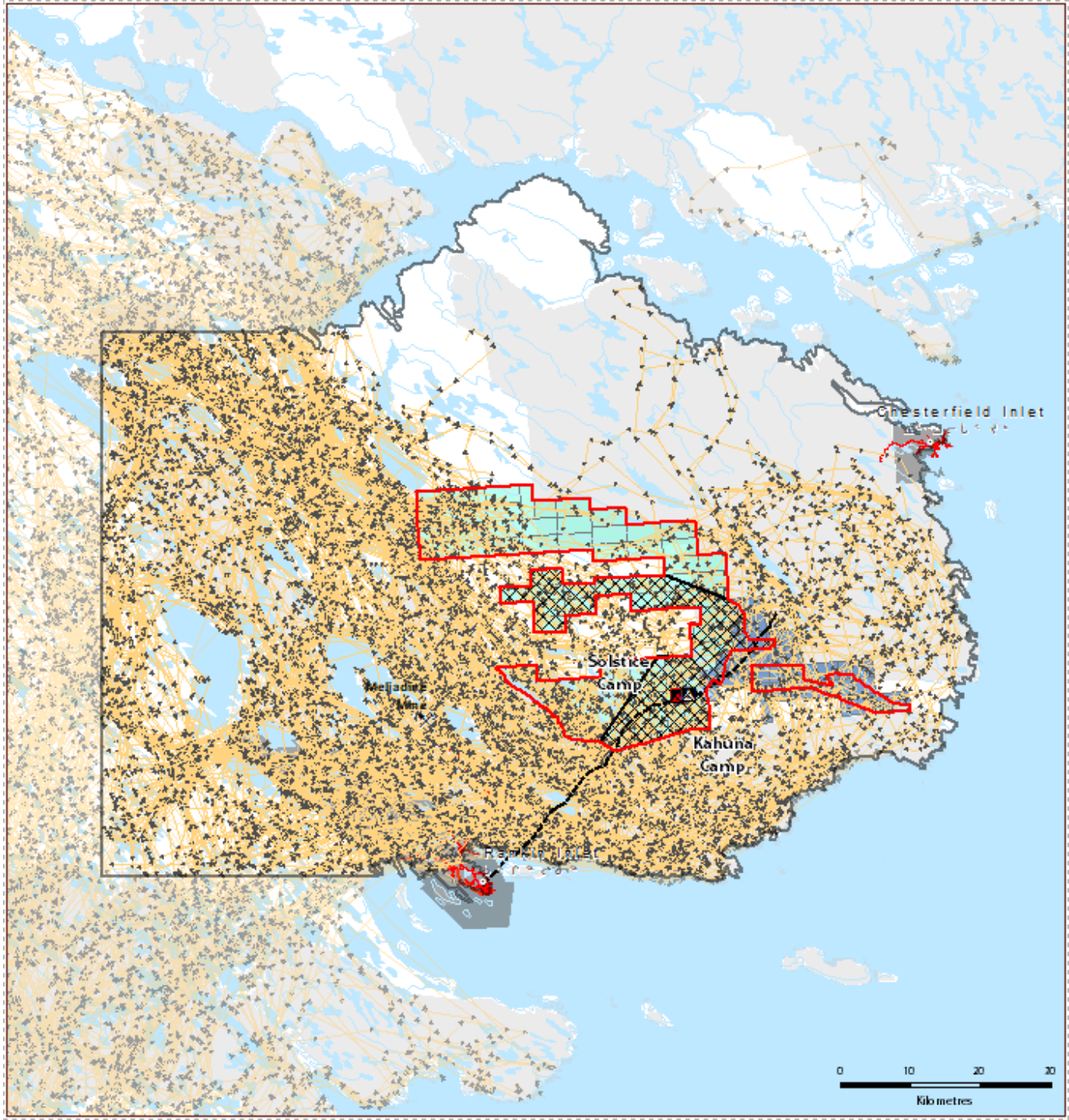


CASLYS CONSULTING

Nunavut

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%

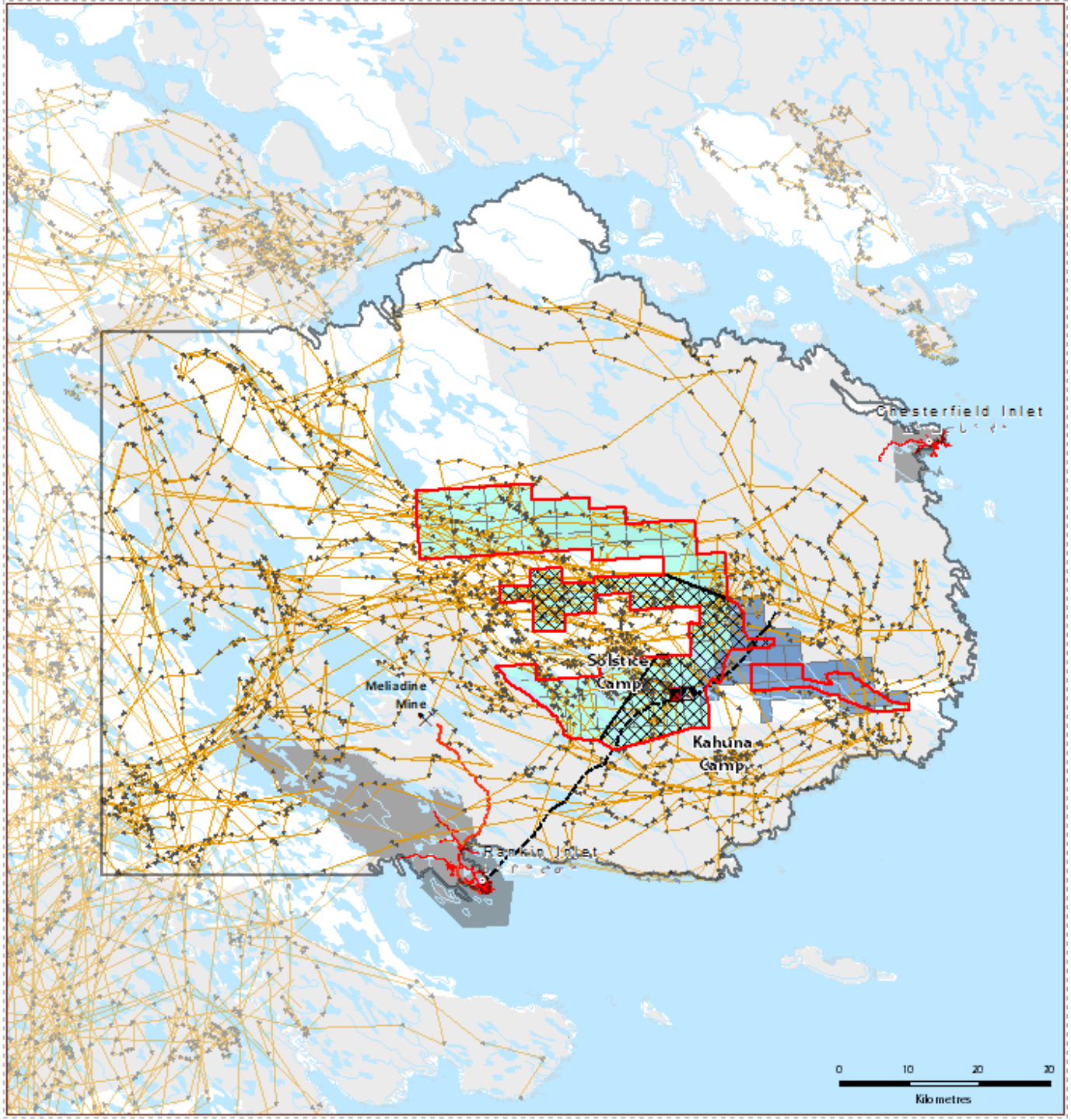


CASLYS CONSULTING

Nunavut

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%

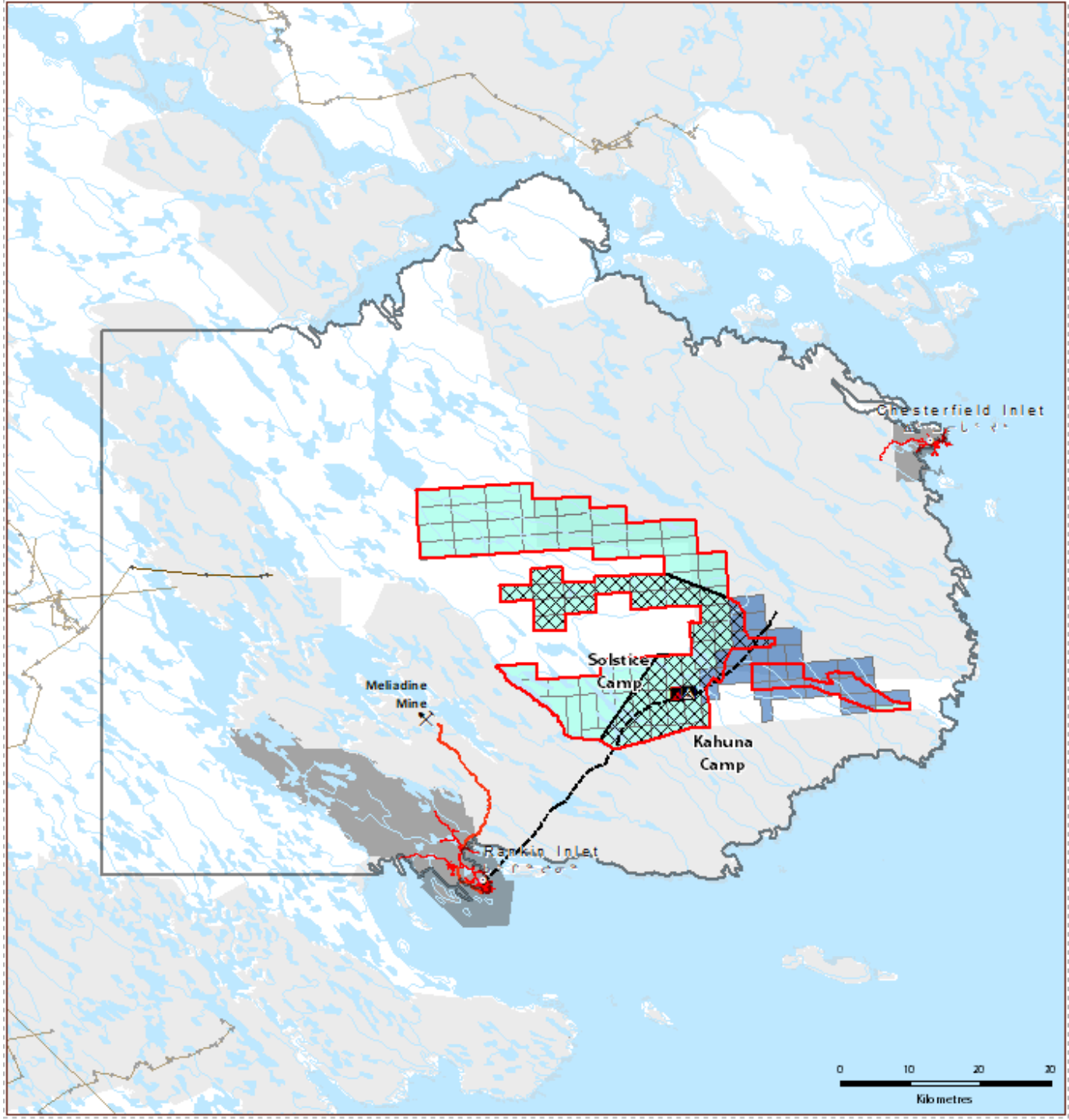


CASLYS CONSULTING

Nunavut

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%

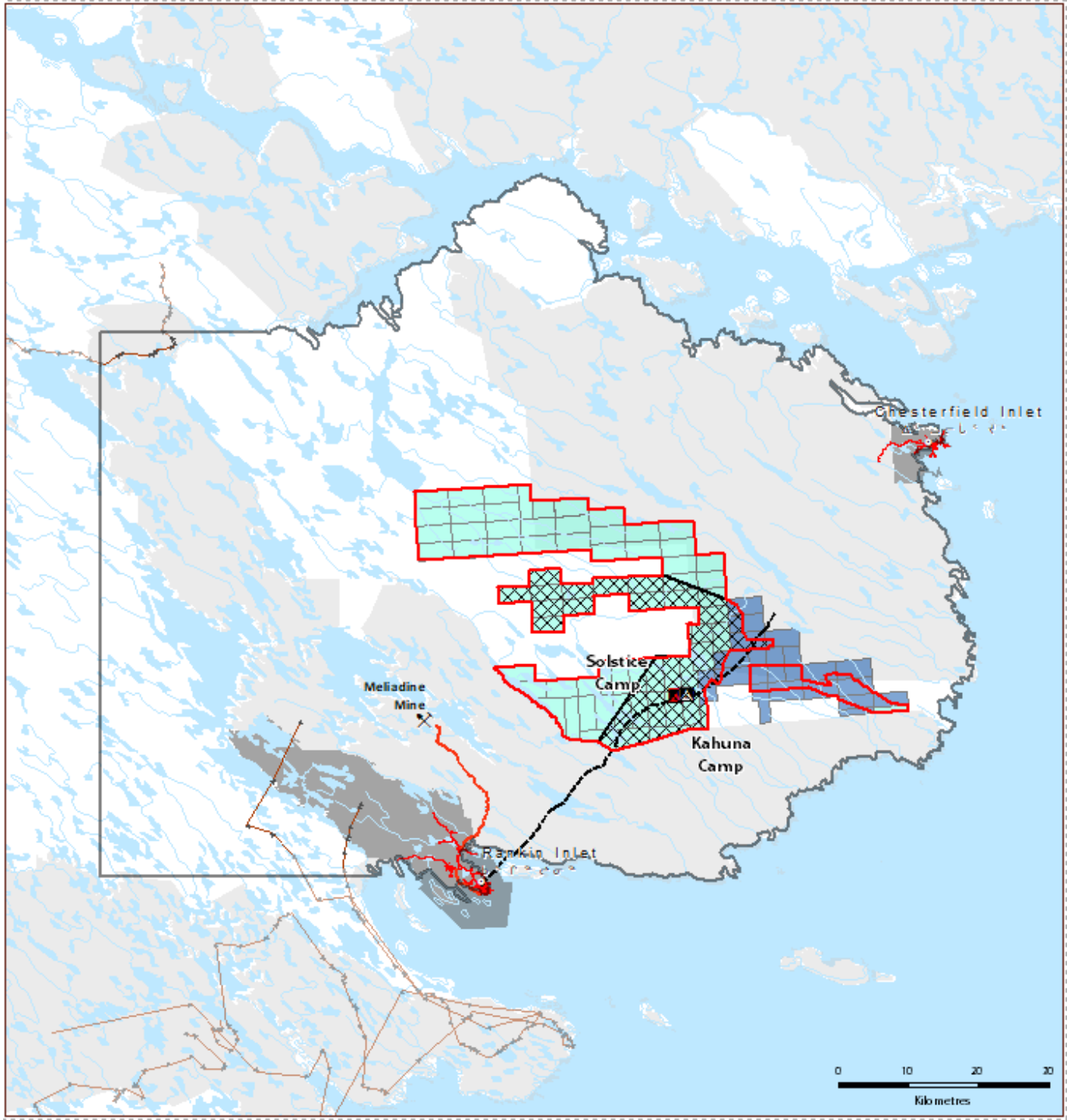


CASLYS CONSULTING

Nunavut

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%



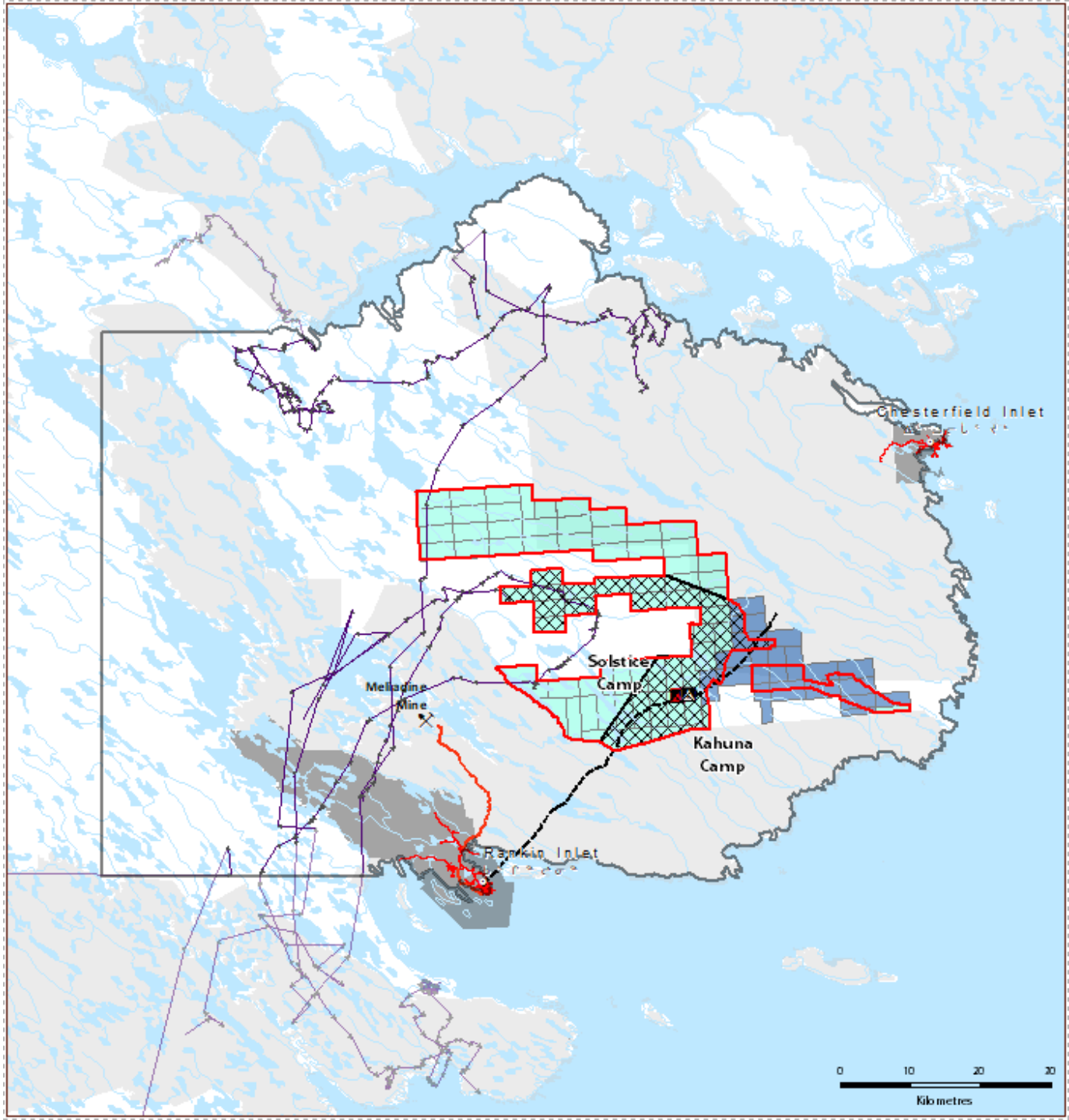
CASLYS CONSULTING

Nunavut

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%

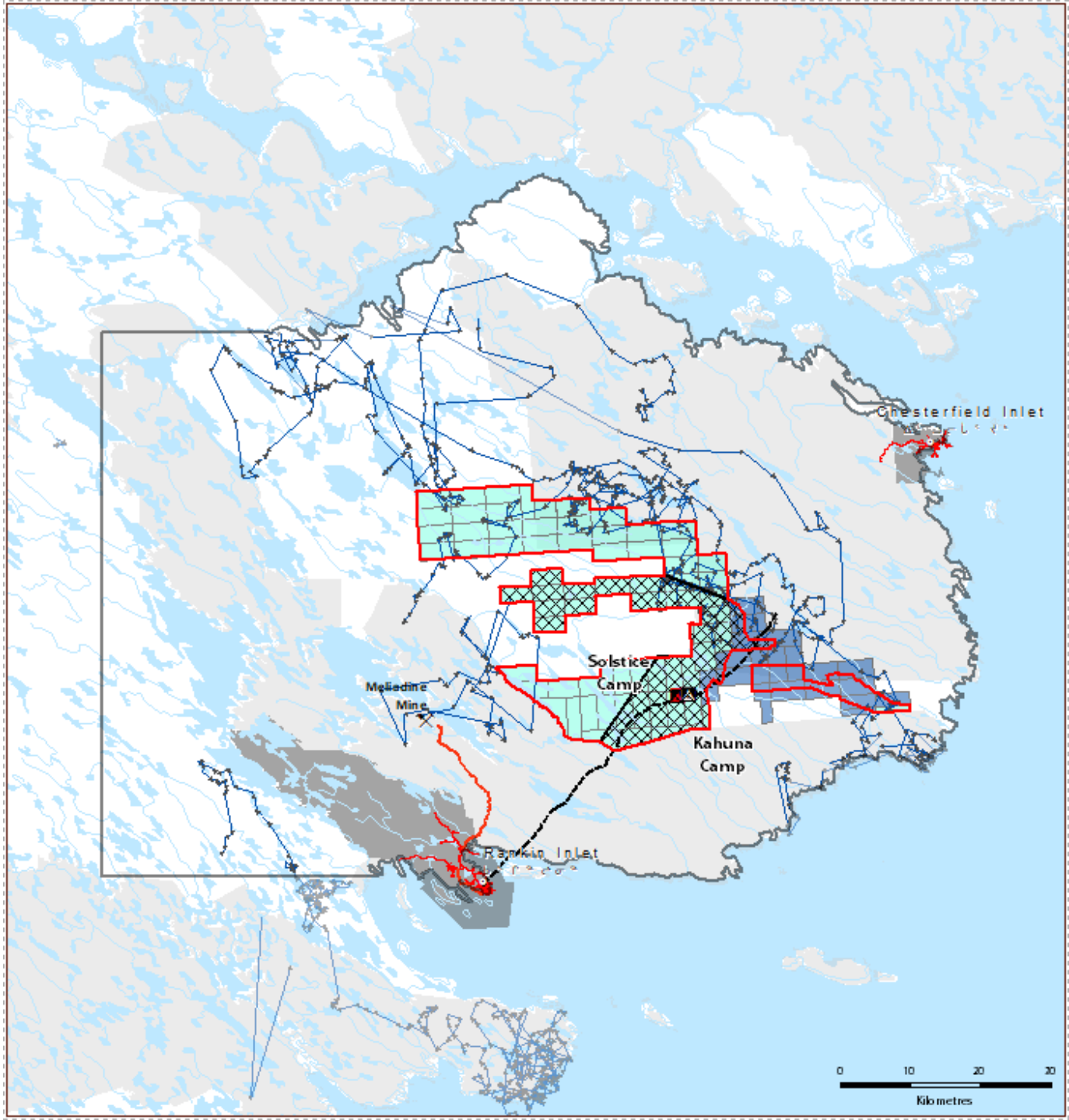


CASLYS CONSULTING

Nunavut

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%



CASLYS CONSULTING

Nunavut

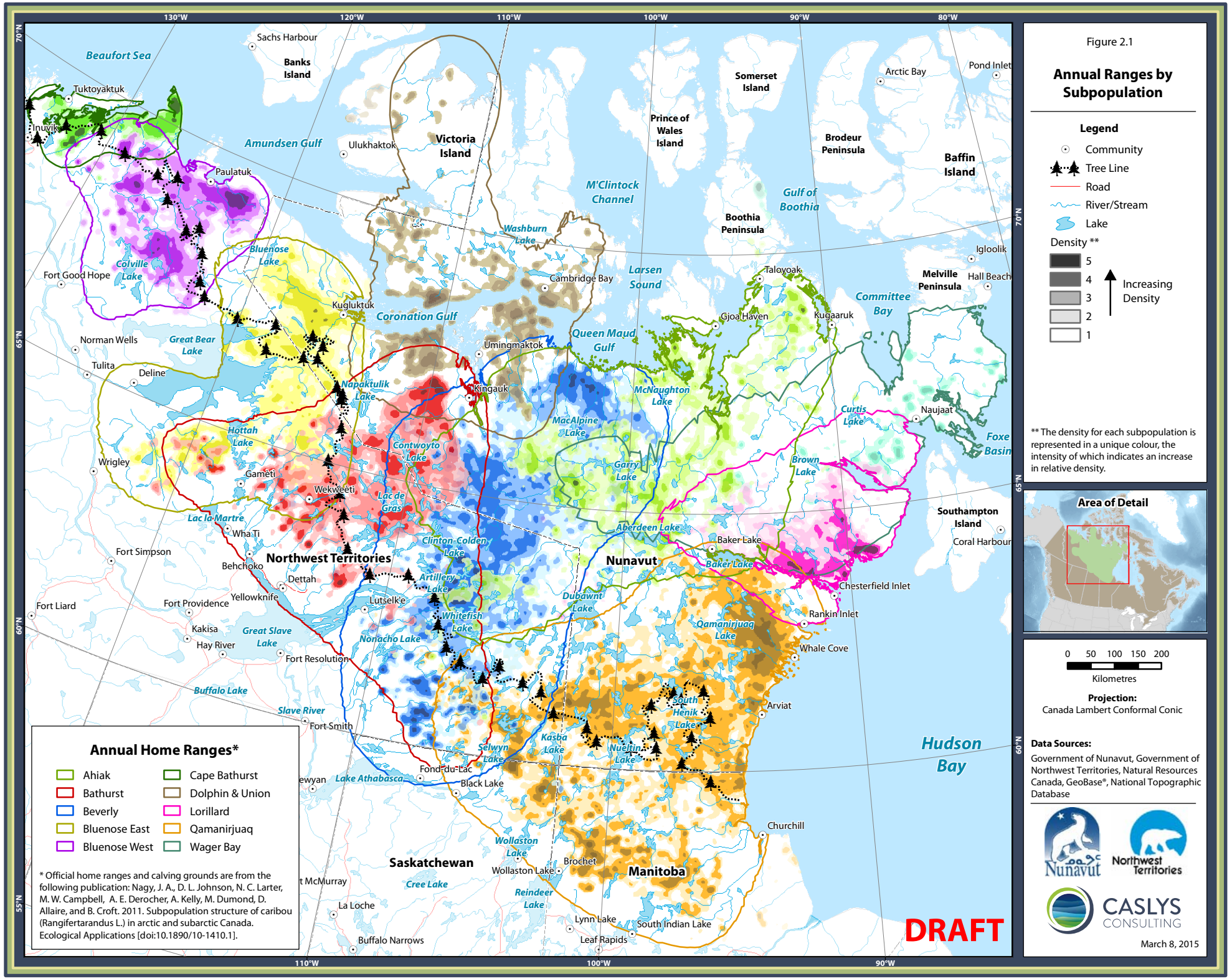


Figure 2.1
Annual Ranges by Subpopulation
Legend
Community
Tree Line
Road
River/Stream
Lake
Density **
5
4
3
2
1
Increasing Density
** The density for each subpopulation is represented in a unique colour, the intensity of which indicates an increase in relative density.
Area of Detail
Annual Home Ranges*
Ahiak
Bathurst
Beverly
Bluenose East
Bluenose West
Cape Bathurst
Dolphin & Union
Lorillard
Qamanirjuaq
Wager Bay
* Official home ranges and calving grounds are from the following publication: Nagy, J. A., D. L. Johnson, N. C. Larter, M. W. Campbell, A. E. Derocher, A. Kelly, M. Dumond, D. Allaire, and B. Croft. 2011. Subpopulation structure of caribou (Rangifertarandus L.) in arctic and subarctic Canada. Ecological Applications [doi:10.1890/10-1410.1].
0 50 100 150 200
Kilometres
Projection:
Canada Lambert Conformal Conic
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Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
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Amundsen Gulf
Coronation Gulf
Queen Maud Gulf
Larsen Sound
M'Clintock Channel
Gulf of Boothia
Committee Bay
Foxe Basin
Hudson Bay
Banks Island
Victoria Island
Somerset Island
Prince of Wales Island
Brodeur Peninsula
Baffin Island
Boothia Peninsula
Melville Peninsula
Southampton Island
Sachs Harbour
Tuktoyaktuk
Inuvik
Ulukhaktok
Paulatuk
Arctic Bay
Pond Inlet
Igloolik
Hall Beach
Taloyoak
Gjoa Haven
Kugaaruk
Naujaat
Coral Harbour
Cambridge Bay
Kugluktuk
Umingmaktok
Kingauk
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Fort Good Hope
Norman Wells
Tulita
Deline
Wrigley
Gameti
Wekweeti
Wha Ti
Fort Simpson
Behchoko
Dettah
Yellowknife
Fort Providence
Fort Liard
Kakisa
Hay River
Fort Resolution
Fort Smith
Lutselk'e
Fond-du-Lac
Black Lake
Lake Athabasca
Wollaston Lake
Brochet
La Loche
Buffalo Narrows
Lynn Lake
South Indian Lake
Leaf Rapids
Reindeer Lake
Cree Lake
Northwest Territories
Nunavut
Saskatchewan
Manitoba
Alberta
Bluenose Lake
Colville Lake
Great Bear Lake
Napaktulik Lake
Hottah Lake
Contwoyto Lake
Lac de Gras
Lac la Martre
Great Slave Lake
Buffalo Lake
Slave River
Nonacho Lake
Artillery Lake
Whitefish Lake
Clinton-Colden Lake
Aberdeen Lake
MacAlpine Lake
McNaughton Lake
Garry Lake
Curtis Lake
Brown Lake
Dubawnt Lake
Qamanirjuaq Lake
South Henik Lake
Nueltin Lake
Kasba Lake
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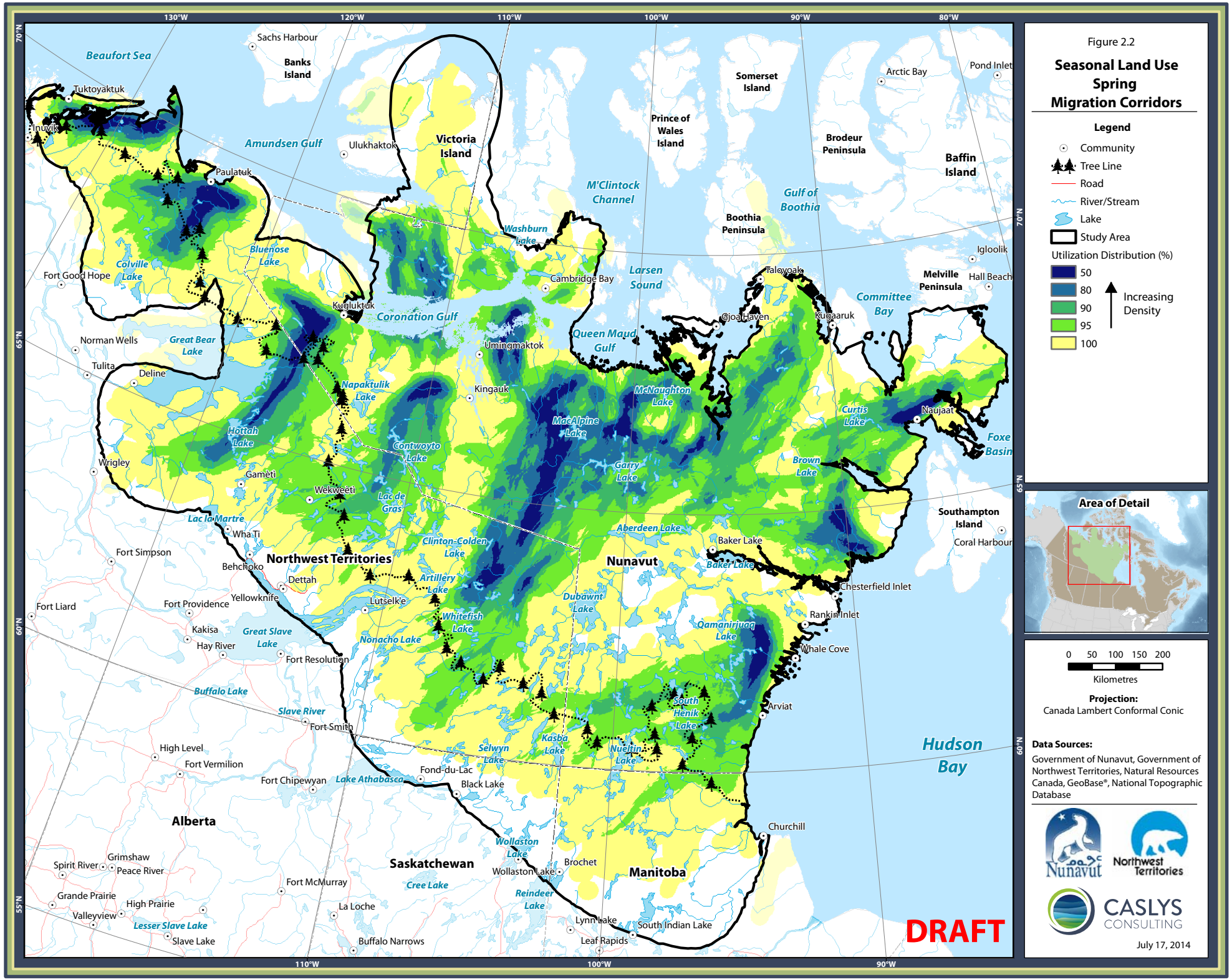
Figure 2.2
Seasonal Land Use
Spring
Migration Corridors
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150 200
Kilometres
Projection:
Canada Lambert Conformal Conic
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Northwest Territories
CASLYS CONSULTING
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Beaufort Sea
Amundsen Gulf
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Prince of Wales Island
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Baffin Island
Boothia Peninsula
Gulf of Boothia
M'Clintock Channel
Larsen Sound
Queen Maud Gulf
Coronation Gulf
Committee Bay
Melville Peninsula
Foxe Basin
Hudson Bay
Southampton Island
Northwest Territories
Nunavut
Alberta
Saskatchewan
Manitoba
Sachs Harbour
Tuktoyaktuk
Inuvik
Ulukhaktok
Paulatuk
Arctic Bay
Pond Inlet
Igloolik
Hall Beach
Taloyoak
Gjoa Haven
Kugaaruk
Naujaat
Cambridge Bay
Kugluktuk
Umingmaktok
Kingauk
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Coral Harbour
Churchill
Fort Good Hope
Norman Wells
Tulita
Deline
Wrigley
Gamètì
Wekweètì
Wha Ti
Behchokò
Dettah
Yellowknife
Fort Simpson
Fort Liard
Fort Providence
Kakisa
Hay River
Fort Resolution
Fort Smith
High Level
Fort Vermilion
Fort Chipewyan
Lake Athabasca
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
Buffalo Narrows
La Loche
Fort McMurray
Grimshaw
Spirit River
Peace River
Grande Prairie
High Prairie
Valleyview
Slave Lake
Lesser Slave Lake
Cree Lake
Reindeer Lake
Wollaston Lake
Bluenose Lake
Colville Lake
Great Bear Lake
Napaktulik Lake
Hottah Lake
Contwoyto Lake
Lac de Gras
Lac la Martre
Great Slave Lake
Nonacho Lake
Buffalo Lake
Slave River
Clinton-Colden Lake
Artillery Lake
Lutselk'e
Whitefish Lake
Aberdeen Lake
Dubawnt Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Qamanirjuaq Lake
South Henik Lake
Baker Lake
Gary Lake
MacAlpine Lake
McNaughton Lake
Curtis Lake
Brown Lake
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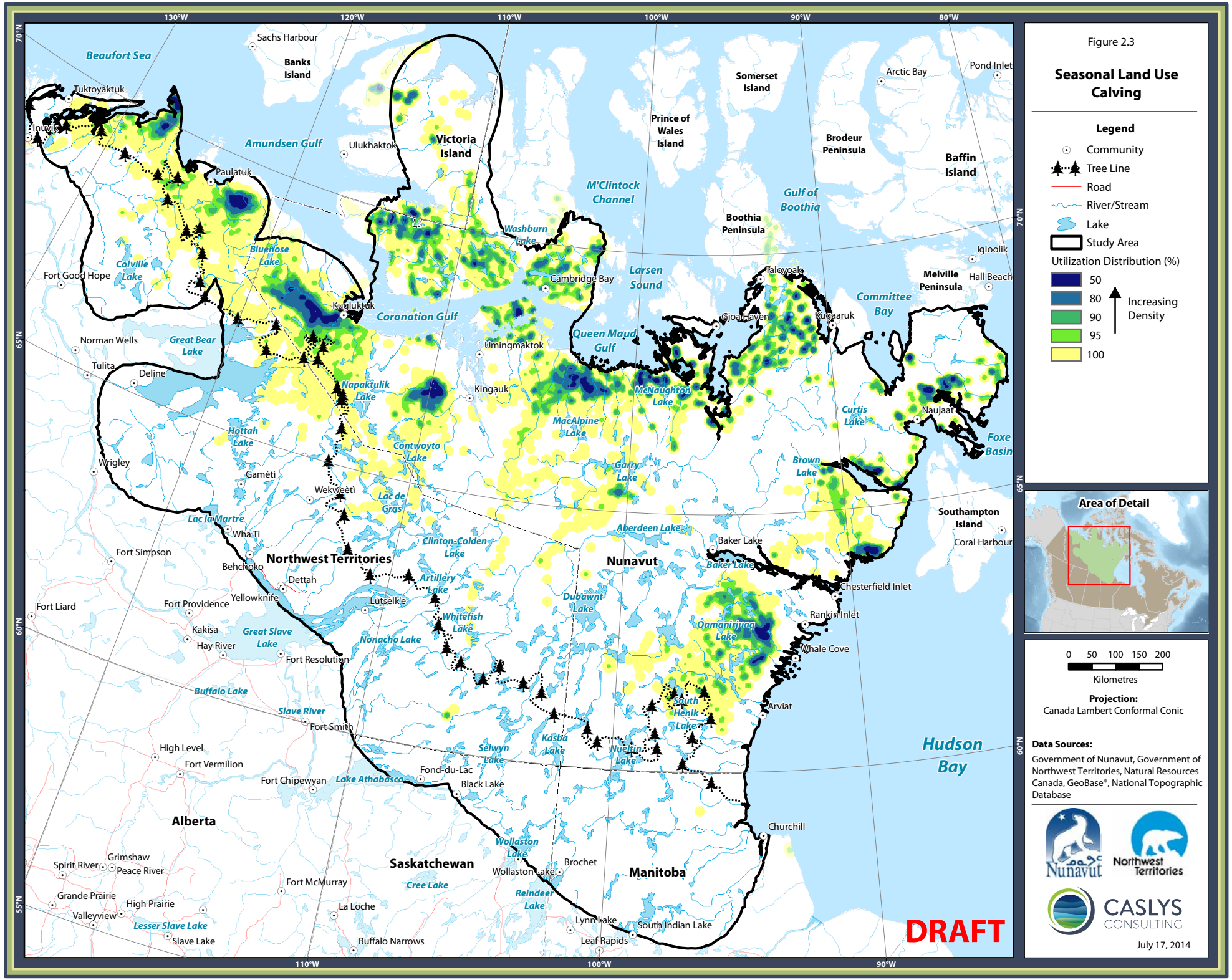
Figure 2.3
Seasonal Land Use
Calving
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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80
90
95
100
Increasing Density
Area of Detail
0 50 100 150 200
Kilometres
Projection:
Canada Lambert Conformal Conic
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Northwest Territories
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Amundsen Gulf
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Washburn Lake
Gulf of Boothia
Committee Bay
Foxe Basin
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Aberdeen Lake
Baker Lake
Dubawnt Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Nueltin Lake
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Wollaston Lake
Reindeer Lake
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Buffalo Lake
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Whitefish Lake
Artillery Lake
Clinton-Colden Lake
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Napaktulik Lake
Hottah Lake
Lac de Gras
Lac la Martre
Garry Lake
MacAlpine Lake
McNaughton Lake
Curtis Lake
Brown Lake
Bluenose Lake
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Banks Island
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Somerset Island
Prince of Wales Island
Boothia Peninsula
Brodeur Peninsula
Baffin Island
Melville Peninsula
Southampton Island
Sachs Harbour
Tuktoyaktuk
Inuvik
Paulatuk
Ulukhaktok
Cambridge Bay
Umingmaktok
Kingauk
Kugluktuk
Gjoa Haven
Taloyoak
Kugaaruk
Naujaat
Arctic Bay
Pond Inlet
Igloolik
Hall Beach
Coral Harbour
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Baker Lake
Fort Good Hope
Norman Wells
Tulita
Deline
Wrigley
Gamètì
Wekweètì
Wha Ti
Behchokò
Dettah
Yellowknife
Fort Simpson
Fort Liard
Fort Providence
Kakisa
Hay River
Fort Resolution
Lutselk'e
Fort Smith
Fort Chipewyan
Fond-du-Lac
Black Lake
Brochet
Wollaston Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Buffalo Narrows
La Loche
Fort McMurray
Slave Lake
Peace River
Spirit River
Grimshaw
Grande Prairie
High Prairie
Valleyview
High Level
Fort Vermilion
Northwest Territories
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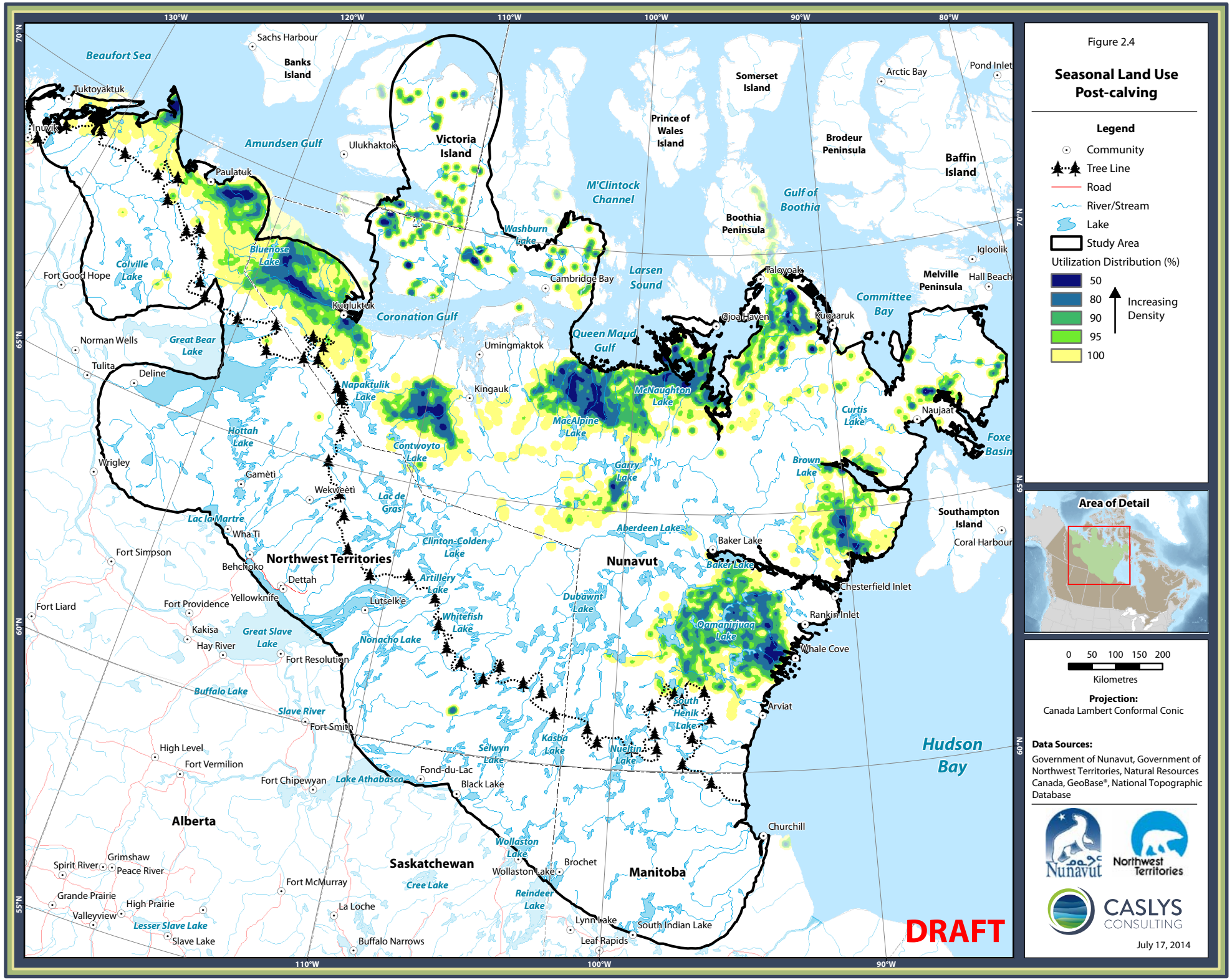
Figure 2.4
Seasonal Land Use
Post-calving
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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80
90
95
100
Increasing Density
Area of Detail
0 50 100 150 200
Kilometres
Projection:
Canada Lambert Conformal Conic
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Northwest Territories
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Brodeur Peninsula
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Boothia Peninsula
Gulf of Boothia
M'Clintock Channel
Larsen Sound
Coronation Gulf
Queen Maud Gulf
Committee Bay
Melville Peninsula
Foxe Basin
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Southampton Island
Northwest Territories
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Tuktoyaktuk
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Arctic Bay
Pond Inlet
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Hall Beach
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Gjoa Haven
Kugaaruk
Cambridge Bay
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Umingmaktok
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Coral Harbour
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
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Churchill
Brochet
Wollaston Lake
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Fond-du-Lac
Lake Athabasca
Fort Chipewyan
Fort Smith
Fort Resolution
Hay River
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Fort Providence
Yellowknife
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Bluenose Lake
Great Bear Lake
Great Slave Lake
Napaktulik Lake
Hottah Lake
Contwoyto Lake
Lac de Gras
Lac la Martre
Clinton-Colden Lake
Artillery Lake
Lutselk'e
Whitefish Lake
Nonacho Lake
Buffalo Lake
Slave River
Lesser Slave Lake
Slave Lake
High Level
Fort Vermilion
Grimshaw
Spirit River
Peace River
Grande Prairie
High Prairie
Valleyview
Fort McMurray
La Loche
Buffalo Narrows
Cree Lake
Reindeer Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Wollaston Lake
Selwyn Lake
Kasba Lake
Nueltin Lake
South Henik Lake
Dubawnt Lake
Qamanirjuaq Lake
Aberdeen Lake
Baker Lake
Garry Lake
MacAlpine Lake
McNaughton Lake
Curtis Lake
Brown Lake
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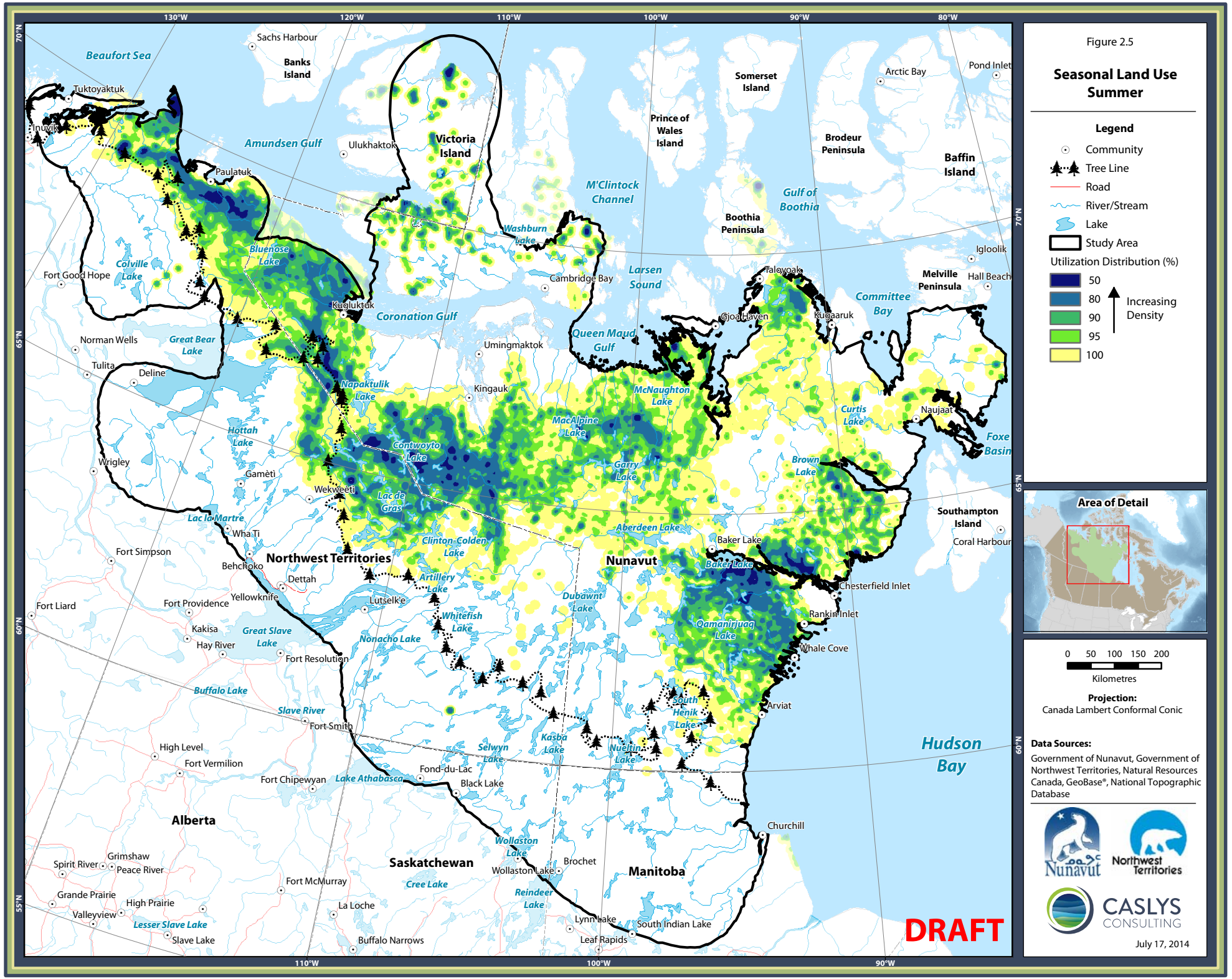
Figure 2.5
Seasonal Land Use
Summer
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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80
90
95
100
Increasing Density
Area of Detail
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Kilometres
Projection:
Canada Lambert Conformal Conic
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Nunavut
Northwest Territories
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Prince of Wales Island
Brodeur Peninsula
Baffin Island
Boothia Peninsula
Gulf of Boothia
M'Clintock Channel
Larsen Sound
Coronation Gulf
Queen Maud Gulf
Committee Bay
Melville Peninsula
Foxe Basin
Hudson Bay
Southampton Island
Northwest Territories
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Manitoba
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Tuktoyaktuk
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Ulukhaktok
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Arctic Bay
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Hall Beach
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Gjoa Haven
Kugaaruk
Naujaat
Coral Harbour
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Cambridge Bay
Kugluktuk
Umingmaktok
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Fort Good Hope
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Lesser Slave Lake
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Nonacho Lake
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Clinton-Colden Lake
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Whitefish Lake
Aberdeen Lake
MacAlpine Lake
McNaughton Lake
Curtis Lake
Brown Lake
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Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Nueltin Lake
Selwyn Lake
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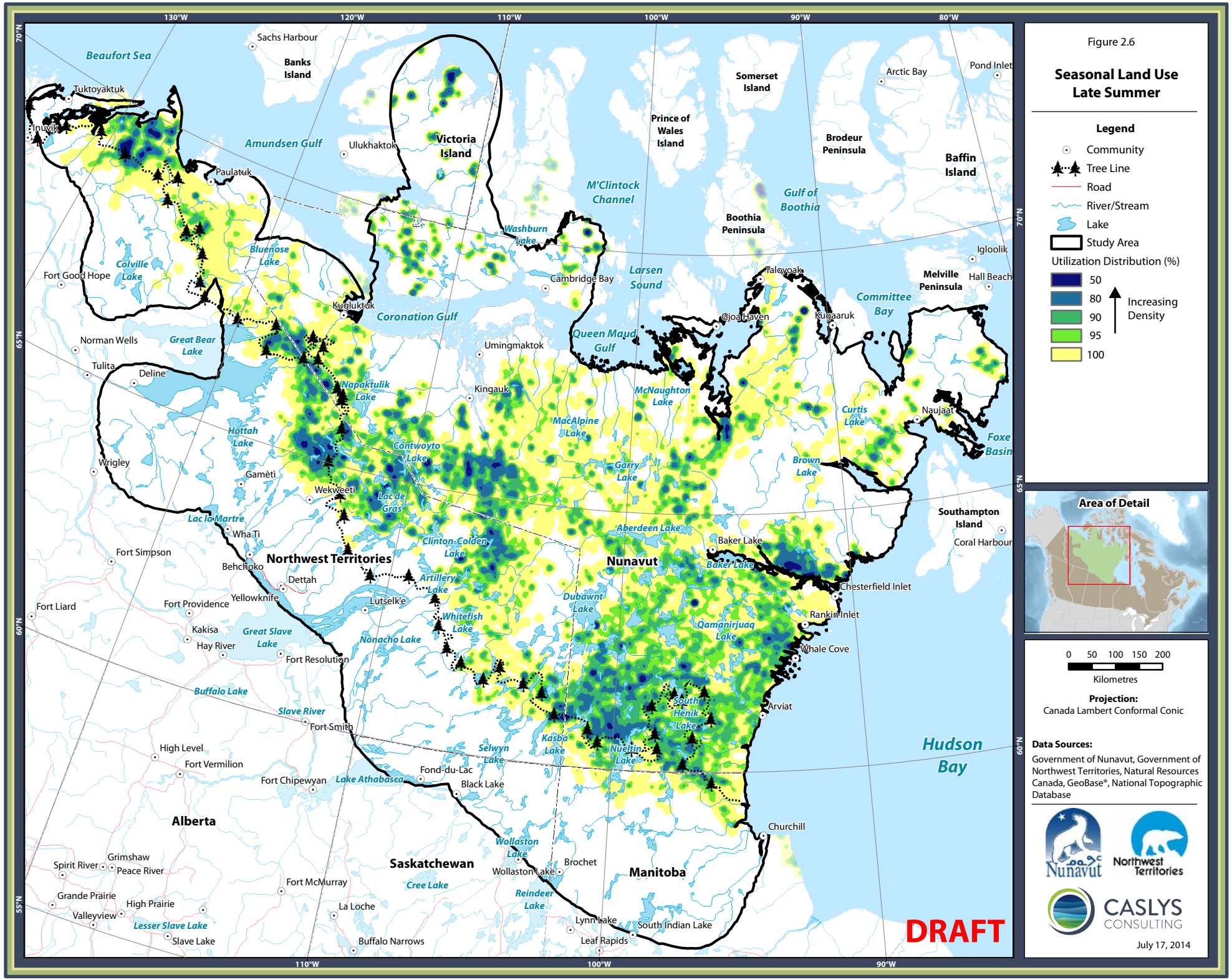
Figure 2.6
Seasonal Land Use
Late Summer
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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80
90
95
100
Increasing Density
Area of Detail
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Kilometres
Projection:
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Hall Beach
Igloolik
Foxe Basin
Southampton Island
Coral Harbour
Hudson Bay
Tuktoyaktuk
Inuvik
Sachs Harbour
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Lesser Slave Lake
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Cree Lake
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South Indian Lake
Leaf Rapids
Buffalo Narrows
La Loche
Fort McMurray
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Grimshaw
Spirit River
Peace River
Grande Prairie
High Prairie
Valleyview
Slave Lake
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Fort Vermilion
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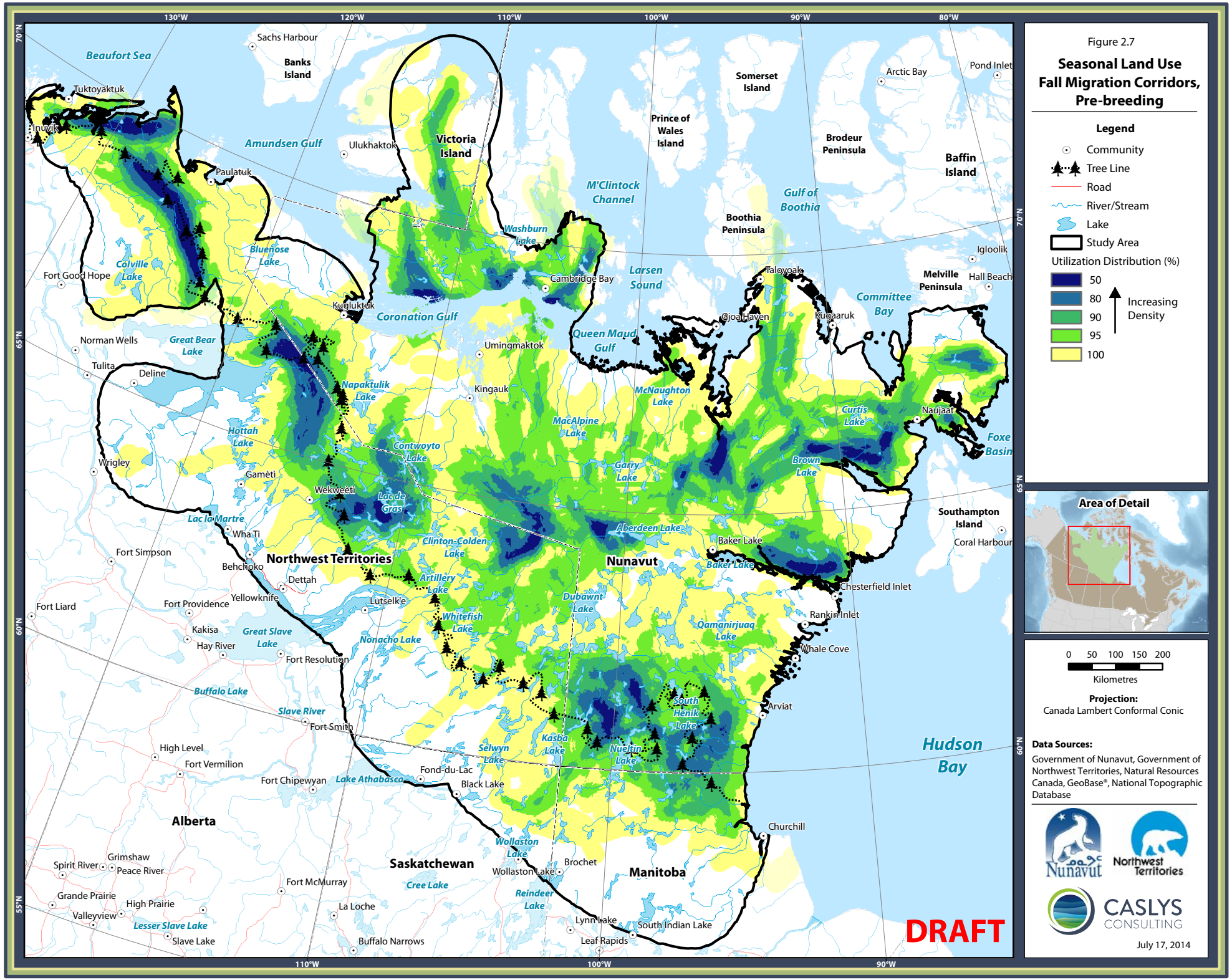
Figure 2.7
Seasonal Land Use
Fall Migration Corridors,
Pre-breeding
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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80
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100
Increasing Density
Area of Detail
0 50 100 150 200
Kilometres
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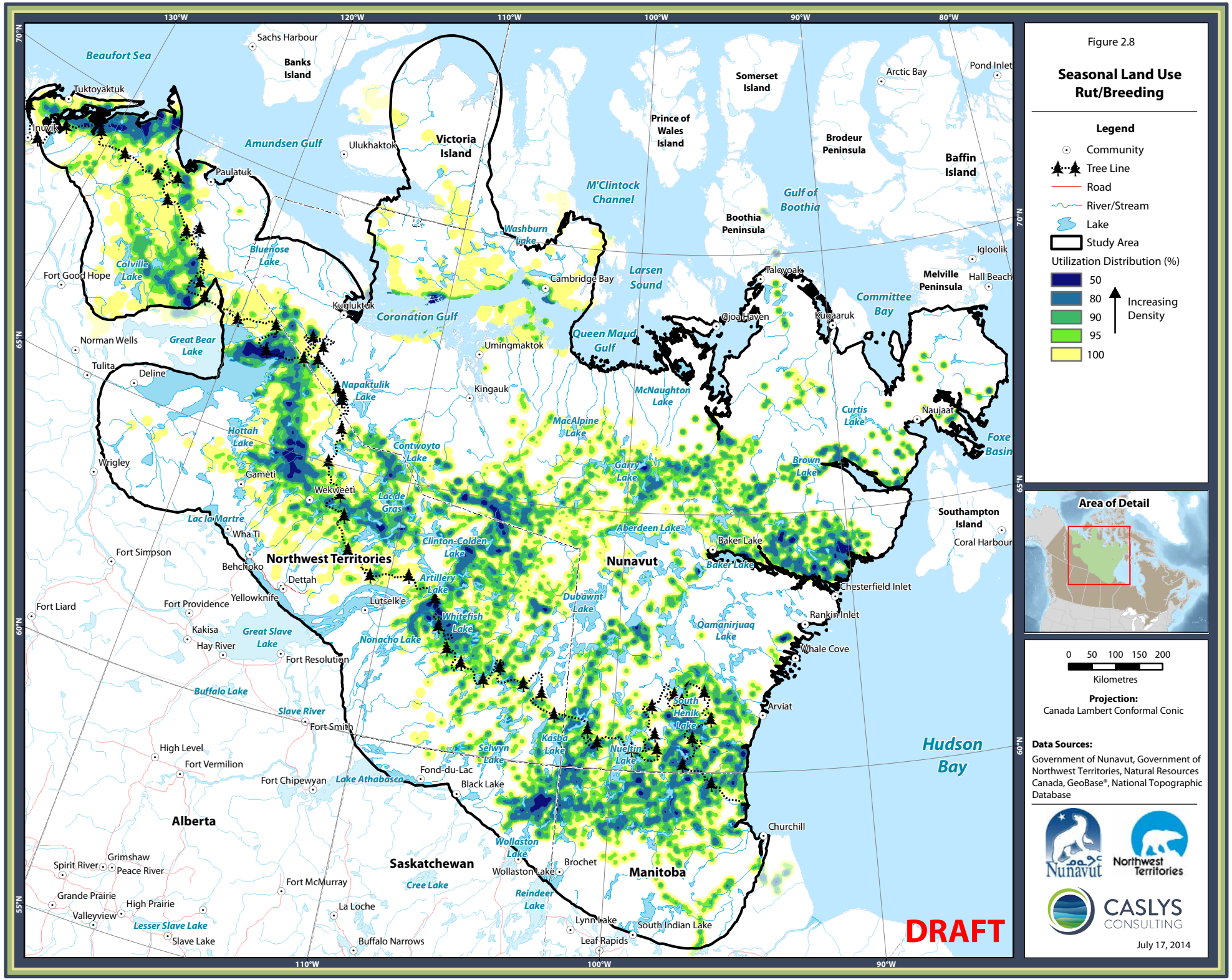
Figure 2.8
Seasonal Land Use
Rut/Breeding
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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95
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Increasing Density
Area of Detail
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Kilometres
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Hall Beach
Taloyoak
Gjoa Haven
Kugaaruk
Cambridge Bay
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Naujaat
Baker Lake
Chesterfield Inlet
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Coral Harbour
Churchill
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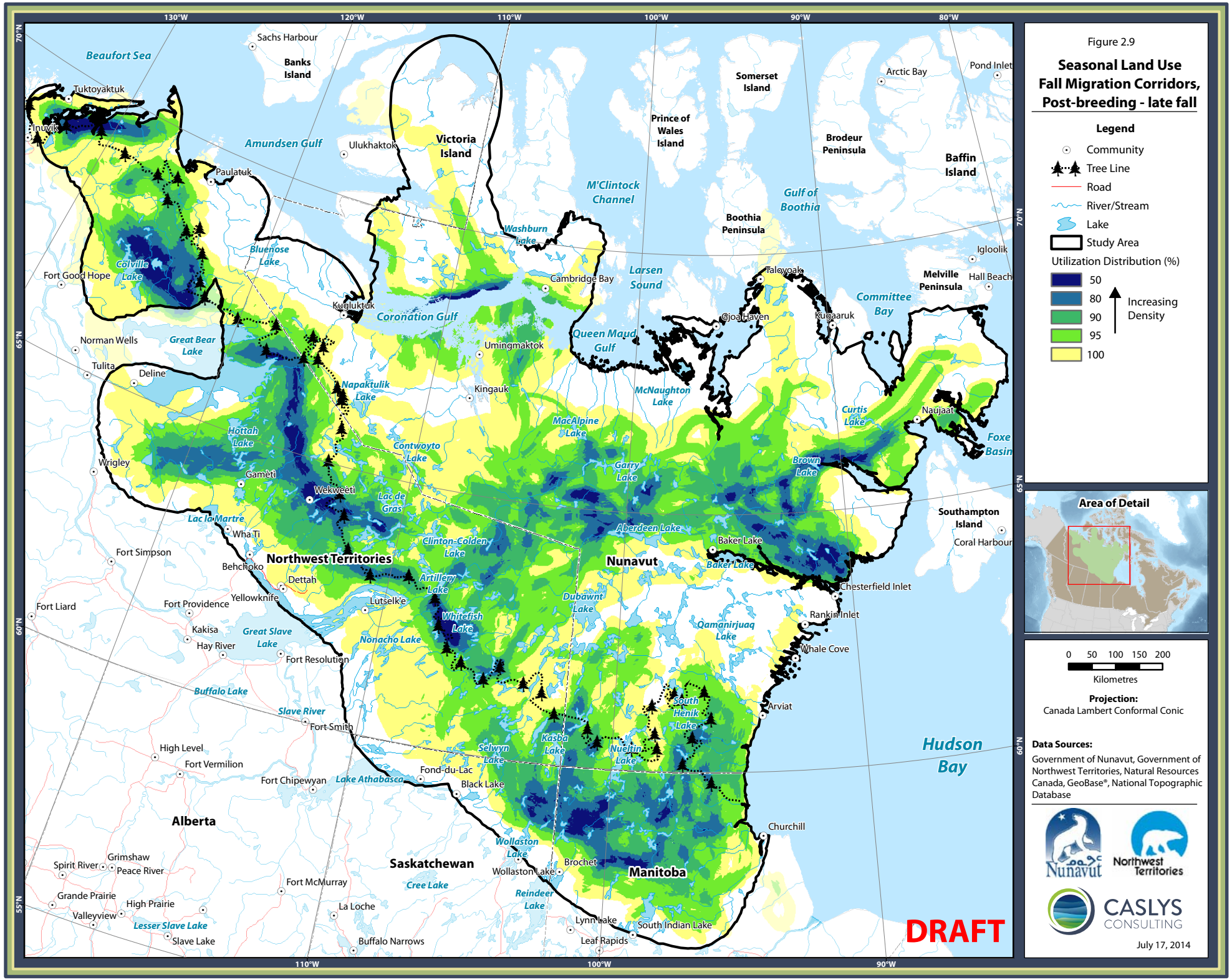
Figure 2.9
Seasonal Land Use
Fall Migration Corridors,
Post-breeding - late fall
Legend
Community
Tree Line
Road
River/Stream
Lake
Study Area
Utilization Distribution (%)
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95
100
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Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
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CASLYS CONSULTING
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DRAFT
Beaufort Sea
Amundsen Gulf
Victoria Island
Banks Island
Somerset Island
Prince of Wales Island
Brodeur Peninsula
Baffin Island
Boothia Peninsula
Gulf of Boothia
M'Clintock Channel
Larsen Sound
Coronation Gulf
Queen Maud Gulf
Committee Bay
Melville Peninsula
Foxe Basin
Hudson Bay
Southampton Island
Northwest Territories
Nunavut
Alberta
Saskatchewan
Manitoba
Sachs Harbour
Tuktoyaktuk
Inuvik
Ulukhaktok
Paulatuk
Arctic Bay
Pond Inlet
Igloolik
Hall Beach
Taloyoak
Gjoa Haven
Kugaaruk
Naujaat
Cambridge Bay
Kugluktuk
Umingmaktok
Kingauk
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Coral Harbour
Arviat
Churchill
Fort Good Hope
Norman Wells
Tulita
Deline
Wrigley
Gamètì
Wekweètì
Wha Ti
Behchokǫ̀
Dettah
Yellowknife
Fort Simpson
Fort Liard
Fort Providence
Kakisa
Hay River
Fort Resolution
High Level
Fort Vermilion
Fort Chipewyan
Fort Smith
Grimshaw
Spirit River
Peace River
Grande Prairie
High Prairie
Valleyview
Slave Lake
Fort McMurray
La Loche
Buffalo Narrows
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
Colville Lake
Bluenose Lake
Great Bear Lake
Napaktulik Lake
Hottah Lake
Contwoyto Lake
Lac de Gras
Lac la Martre
Great Slave Lake
Nonacho Lake
Artillery Lake
Clinton-Colden Lake
Aberdeen Lake
MacAlpine Lake
McNaughton Lake
Garry Lake
Curtis Lake
Brown Lake
Dubawnt Lake
Whitefish Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Nueltin Lake
Selwyn Lake
Washburn Lake
Buffalo Lake
Slave River
Lesser Slave Lake
Lake Athabasca
Cree Lake
Reindeer Lake
Wollaston Lake
130°W
120°W
110°W
100°W
90°W
80°W
70°N
65°N
60°N
55°N

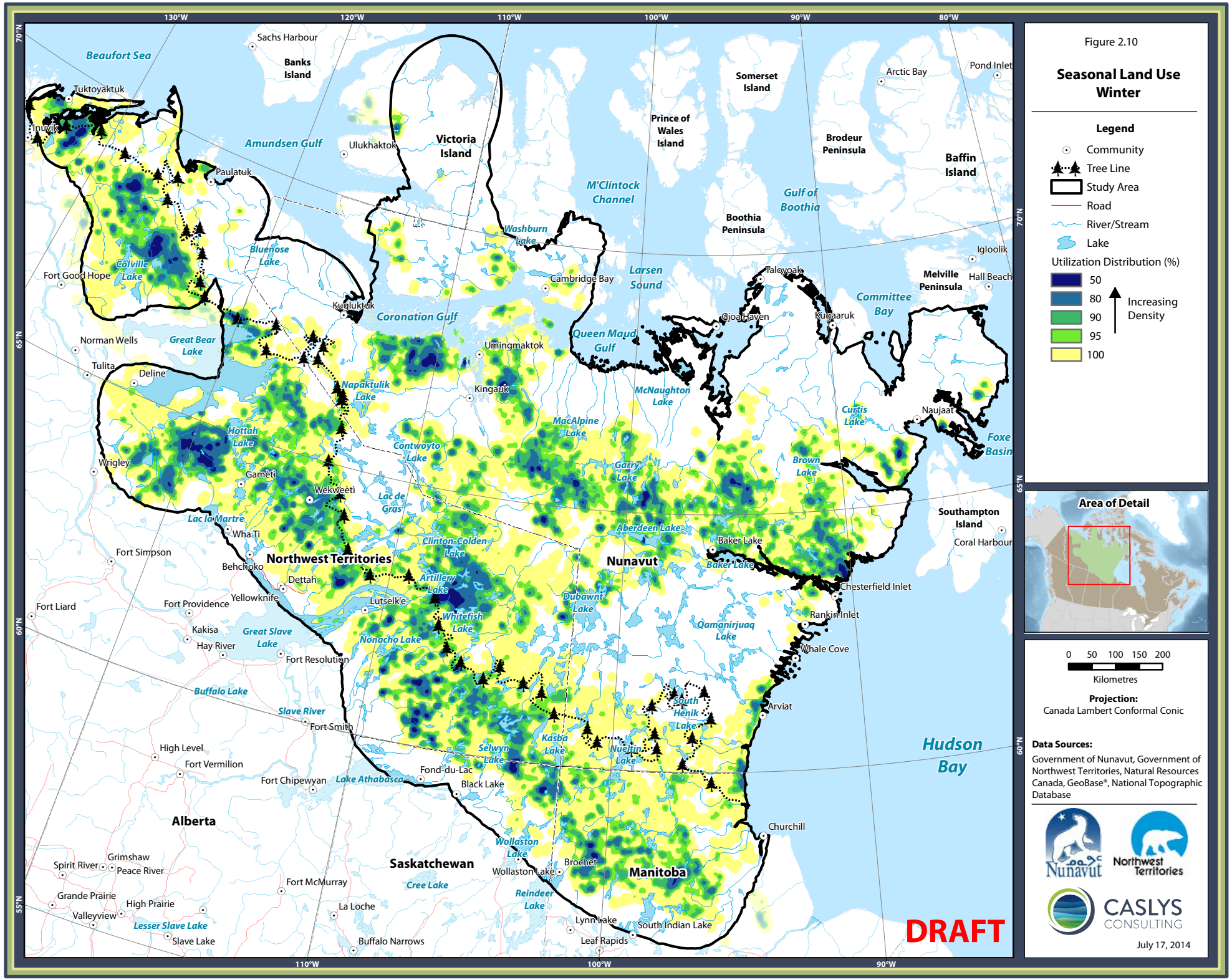
Figure 2.10
Seasonal Land Use
Winter
Legend
Community
Tree Line
Study Area
Road
River/Stream
Lake
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150 200
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
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Beaufort Sea
Amundsen Gulf
Victoria Island
Banks Island
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Prince of Wales Island
Baffin Island
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Boothia Peninsula
Gulf of Boothia
M'Clintock Channel
Larsen Sound
Coronation Gulf
Queen Maud Gulf
Committee Bay
Melville Peninsula
Foxe Basin
Hudson Bay
Southampton Island
Northwest Territories
Nunavut
Alberta
Saskatchewan
Manitoba
Sachs Harbour
Tuktoyaktuk
Inuvik
Ulukhaktok
Paulatuk
Arctic Bay
Pond Inlet
Igloolik
Hall Beach
Taloyoak
Gjoa Haven
Kugaaruk
Cambridge Bay
Kugluktuk
Fort Good Hope
Norman Wells
Tulita
Deline
Wrigley
Gamètì
Wekweètì
Whatì
Behchokò
Dettah
Yellowknife
Fort Simpson
Fort Liard
Fort Providence
Kakisa
Hay River
Fort Resolution
Lutselk'e
Umingmaktok
Kingauk
Naujaat
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Coral Harbour
Churchill
Fort Smith
High Level
Fort Vermilion
Fort Chipewyan
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
Buffalo Narrows
La Loche
Fort McMurray
Grimshaw
Spirit River
Peace River
Grande Prairie
High Prairie
Valleyview
Slave Lake
Bluenose Lake
Colville Lake
Great Bear Lake
Napaktulik Lake
Hottah Lake
Contwoyto Lake
Lac de Gras
Lac la Martre
Great Slave Lake
Nonacho Lake
Clinton-Colden Lake
Artillery Lake
Whitefish Lake
Buffalo Lake
Slave River
Lesser Slave Lake
Lake Athabasca
Cree Lake
Reindeer Lake
Selwyn Lake
Kasba Lake
Nueltin Lake
Dubawnt Lake
Qamanirjuaq Lake
South Henik Lake
Aberdeen Lake
Garry Lake
MacAlpine Lake
McNaughton Lake
Curtis Lake
Brown Lake
Washburn Lake
Wollaston Lake
130°W
120°W
110°W
100°W
90°W
80°W
70°N
65°N
60°N
55°N

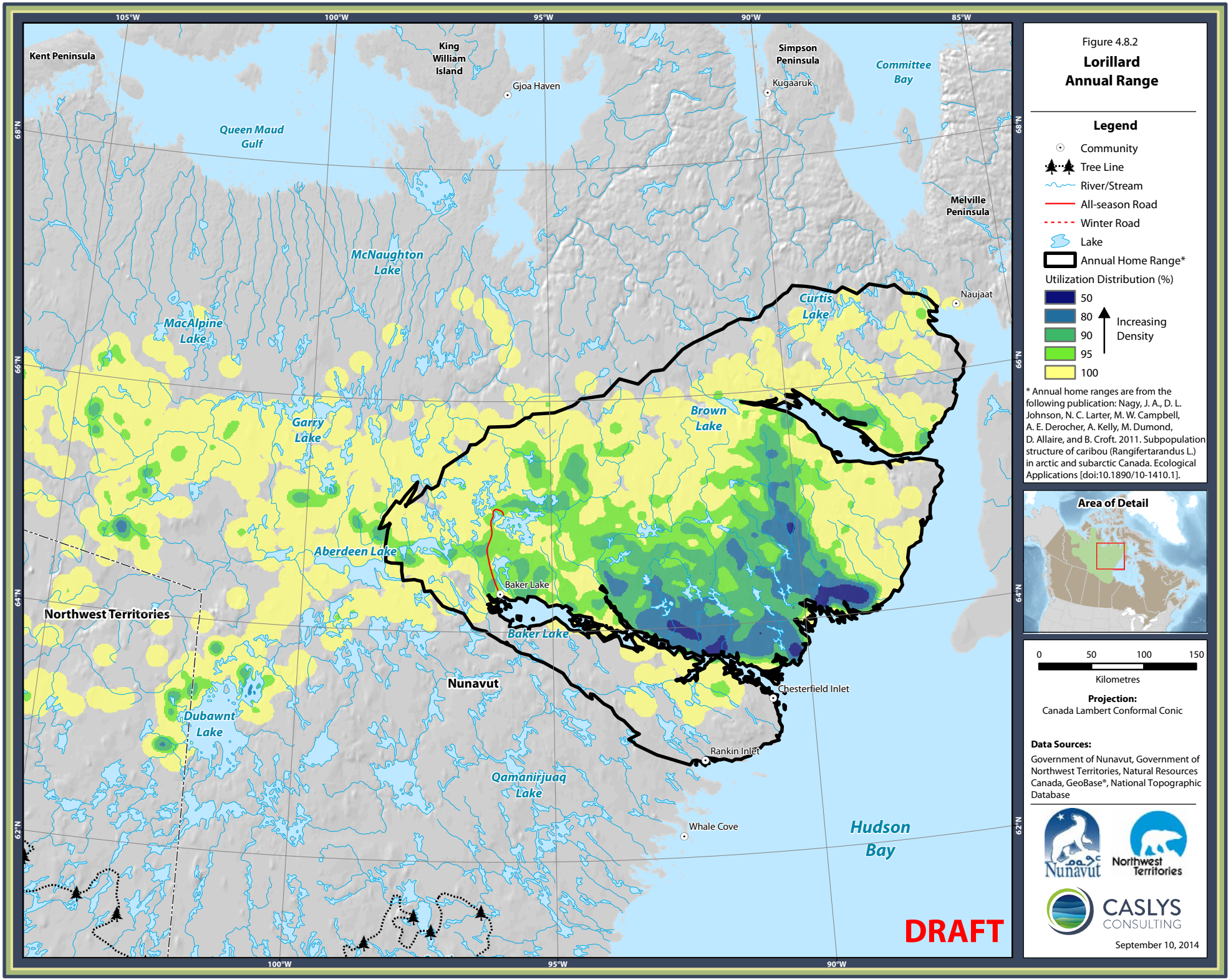

Figure 4.8.2

Lorillard Annual Range

Legend

- Community
- Tree Line
- River/Stream
- All-season Road
- Winter Road
- Lake
- Annual Home Range*

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing Density

* Annual home ranges are from the following publication: Nagy, J. A., D. L. Johnson, N. C. Larter, M. W. Campbell, A. E. Derocher, A. Kelly, M. Dumond, D. Allaire, and B. Croft. 2011. Subpopulation structure of caribou (Rangifertarandus L.) in arctic and subarctic Canada. Ecological Applications [doi:10.1890/10-1410.1].

0 50 100 150

Kilometres

Projection:
Canada Lambert Conformal Conic

Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database

Nunavut

Northwest Territories

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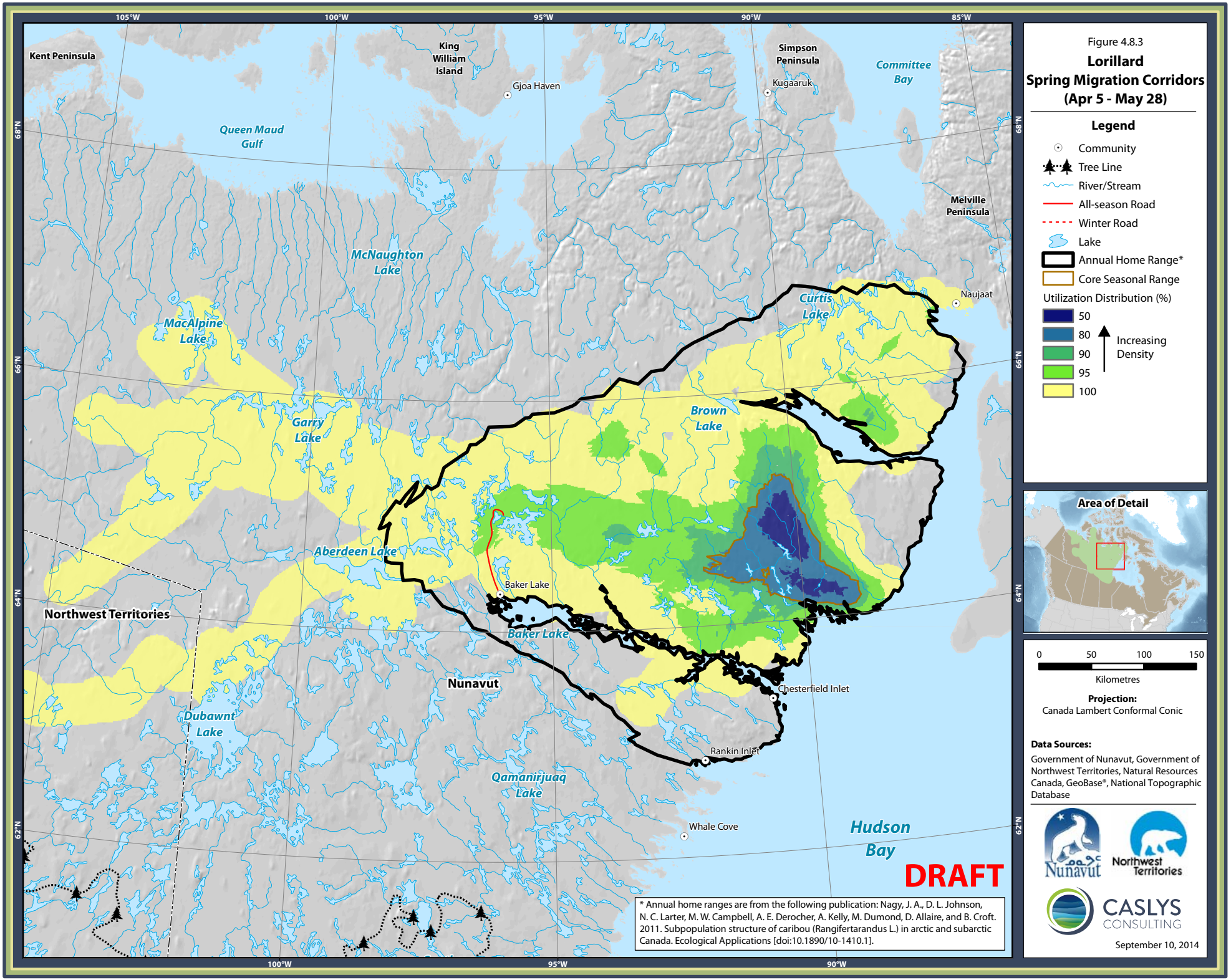
105°W
100°W
95°W
90°W
85°W
69°N
68°N
66°N
64°N
62°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.3
Lorillard
Spring Migration Corridors
(Apr 5 - May 28)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
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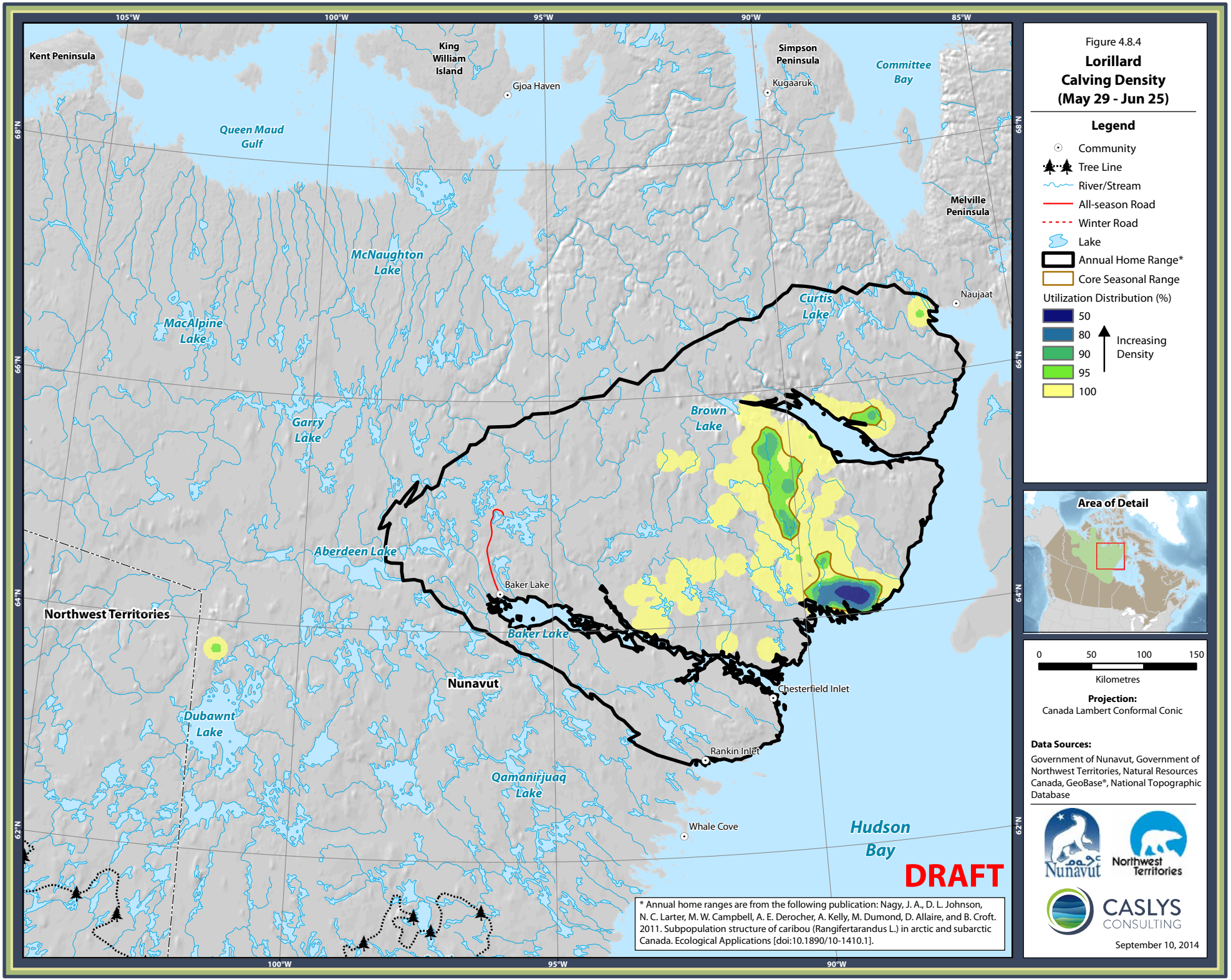
105°W
100°W
95°W
90°W
85°W
69°N
68°N
64°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.4
Lorillard
Calving Density
(May 29 - Jun 25)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
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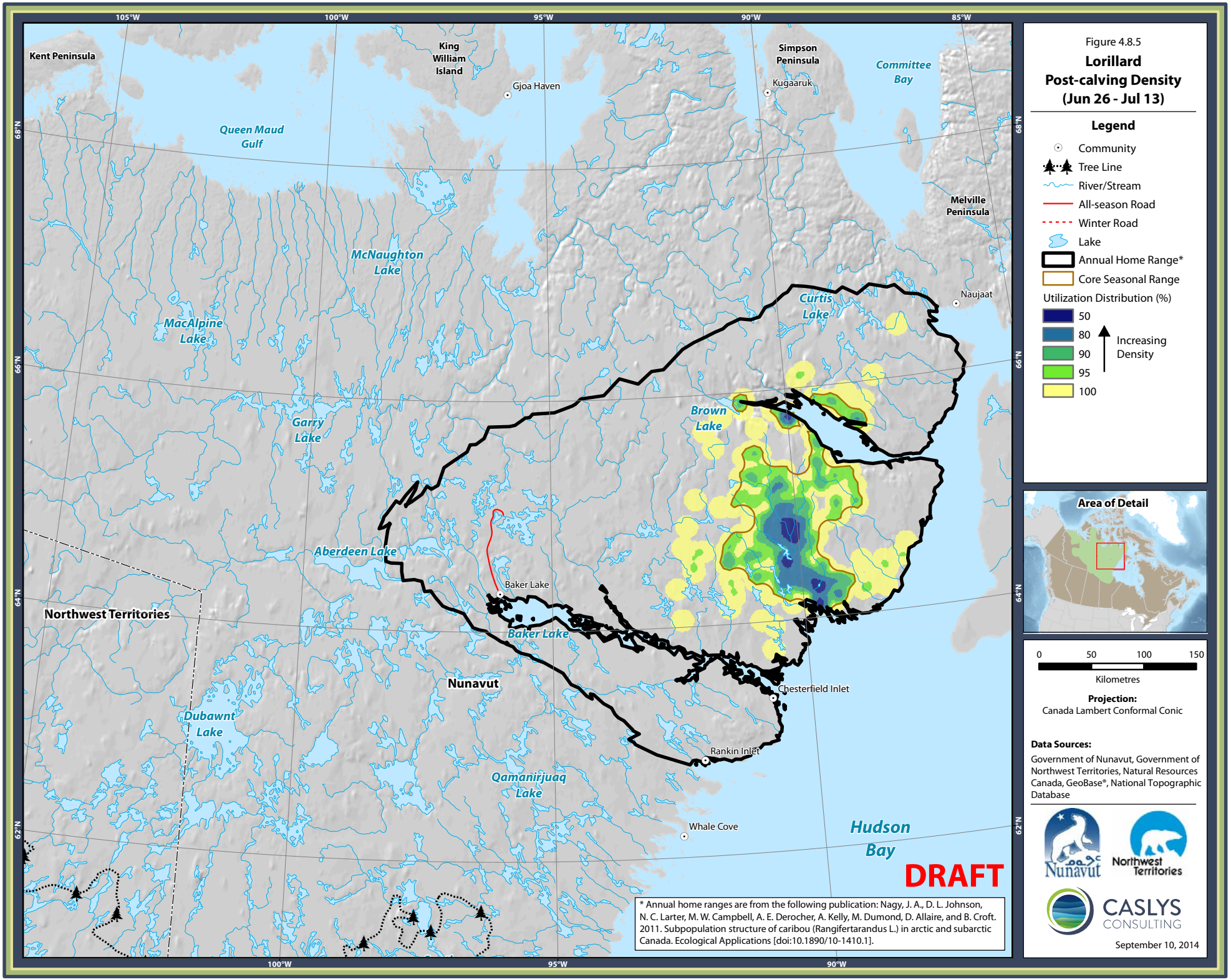
105°W
100°W
95°W
90°W
85°W
69°N
68°N
66°N
64°N
62°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.5
Lorillard
Post-calving Density
(Jun 26 - Jul 13)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
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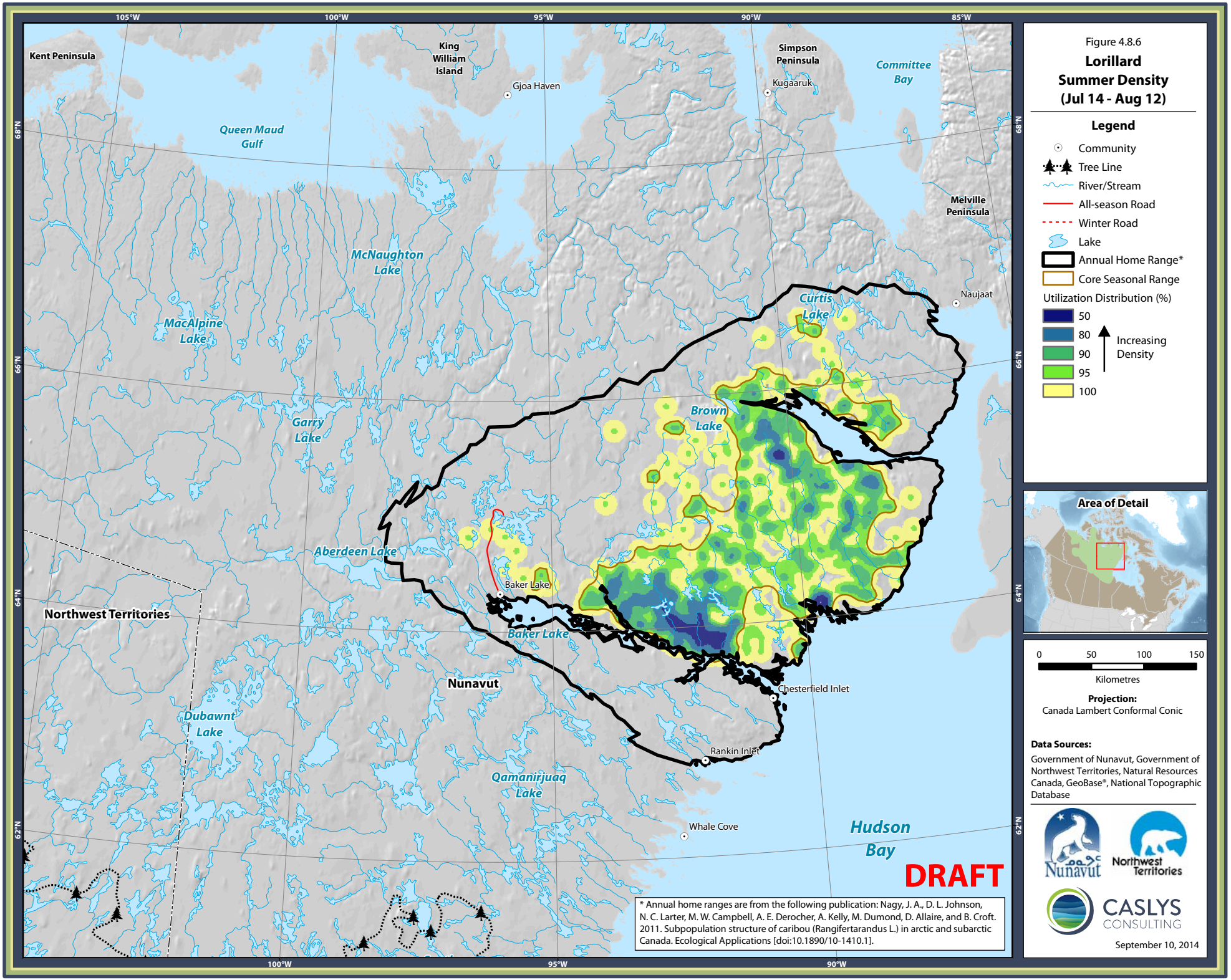
105°W
100°W
95°W
90°W
85°W
69°N
68°N
66°N
64°N
62°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.6
Lorillard
Summer Density
(Jul 14 - Aug 12)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
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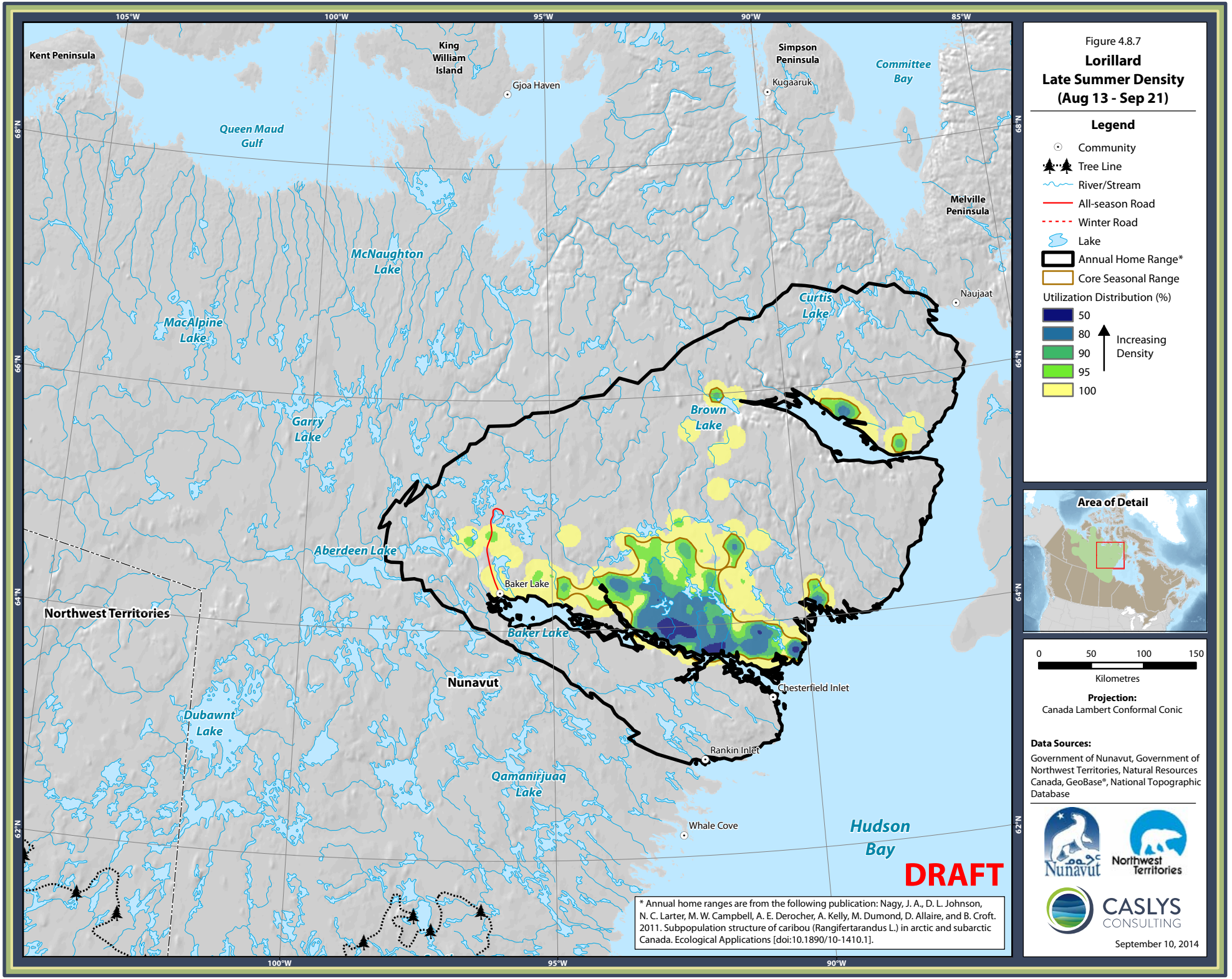

Figure 4.8.7

Lorillard Late Summer Density (Aug 13 - Sep 21)

Legend

- Community
- Tree Line
- River/Stream
- All-season Road
- Winter Road
- Lake
- Annual Home Range*
- Core Seasonal Range

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing Density

0 50 100 150

Kilometres

Projection:
Canada Lambert Conformal Conic

Data Sources:
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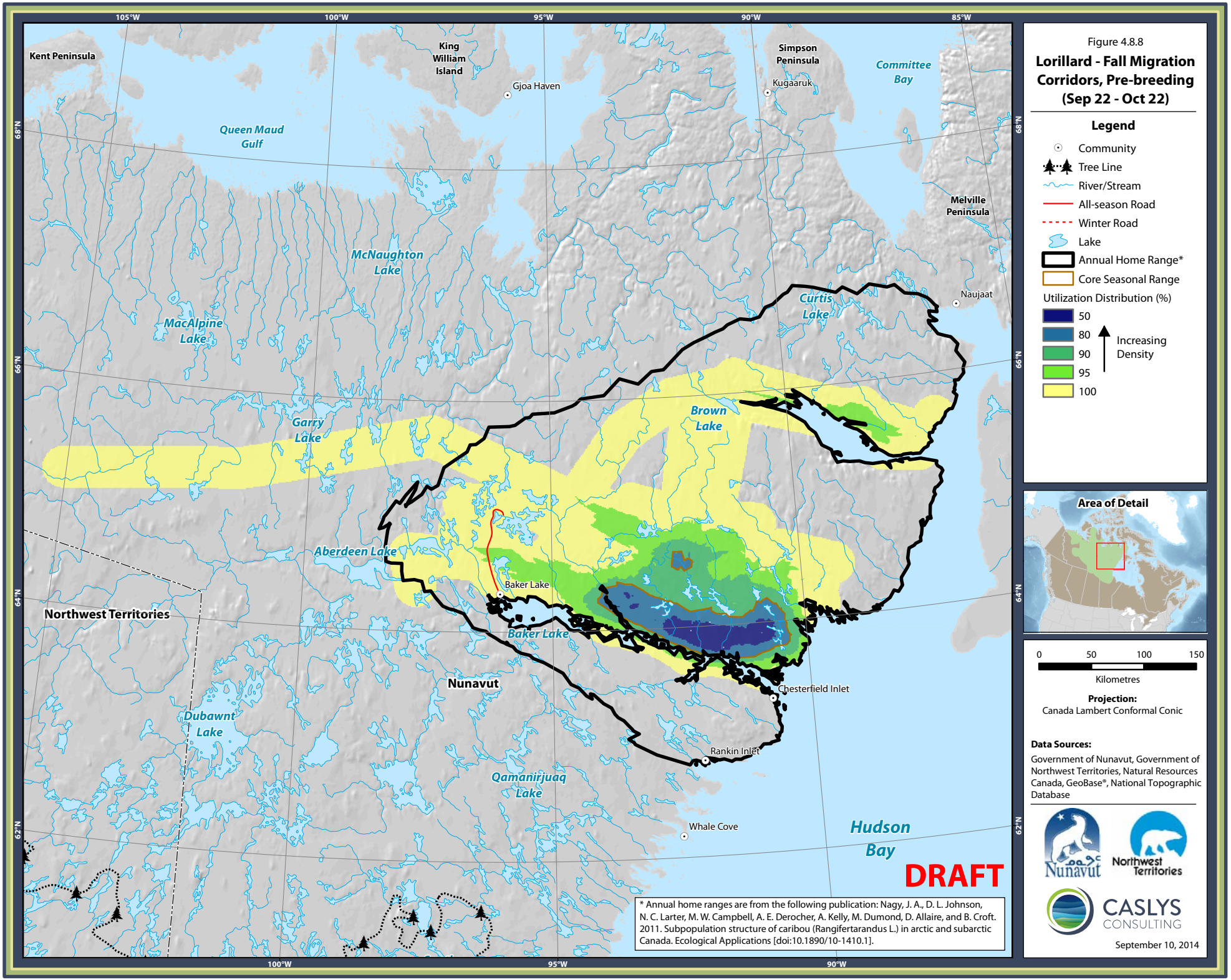

Figure 4.8.8

Lorillard - Fall Migration Corridors, Pre-breeding (Sep 22 - Oct 22)

Legend

- Community
- Tree Line
- River/Stream
- All-season Road
- Winter Road
- Lake
- Annual Home Range*
- Core Seasonal Range

Utilization Distribution (%)

- 50
- 80
- 90
- 95
- 100

Increasing Density

0 50 100 150

Kilometres

Projection:
Canada Lambert Conformal Conic

Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database

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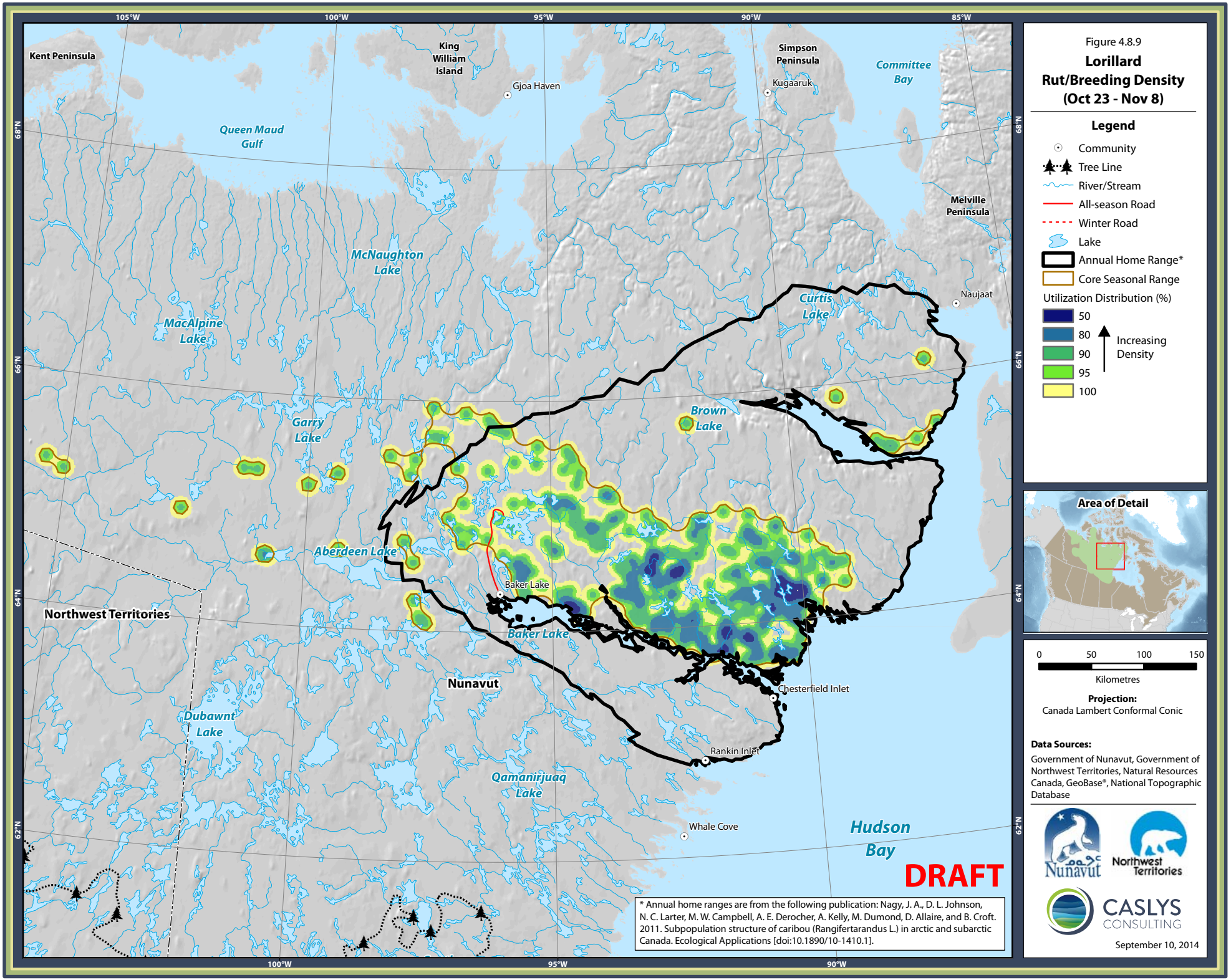
105°W
100°W
95°W
90°W
85°W
69°N
68°N
66°N
64°N
62°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.9
Lorillard
Rut/Breeding Density
(Oct 23 - Nov 8)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
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September 10, 2014

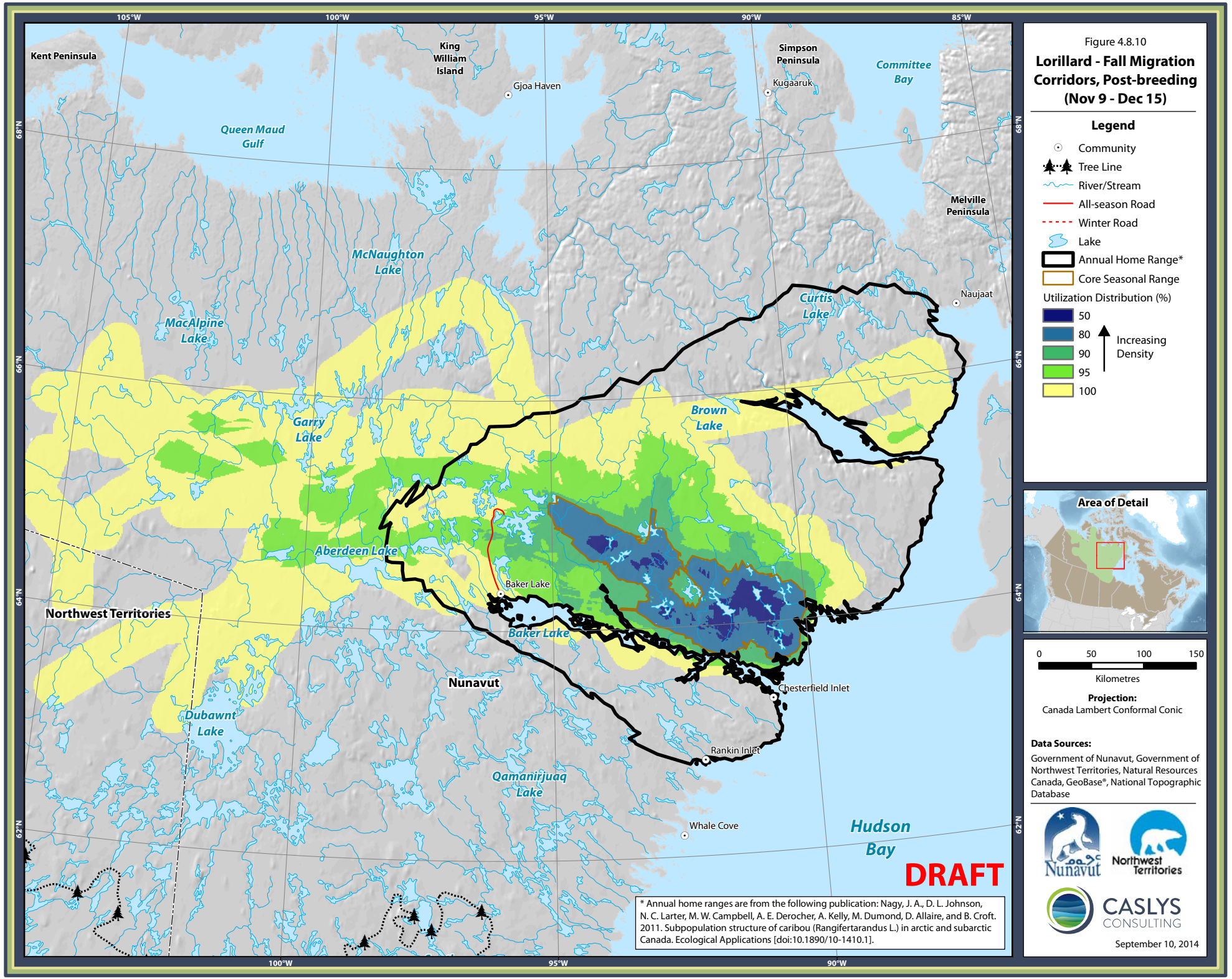
105°W
100°W
95°W
90°W
85°W
69°N
68°N
99°N
64°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Baker Lake
Northwest Territories
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
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Figure 4.8.10
Lorillard - Fall Migration Corridors, Post-breeding (Nov 9 - Dec 15)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
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Northwest Territories
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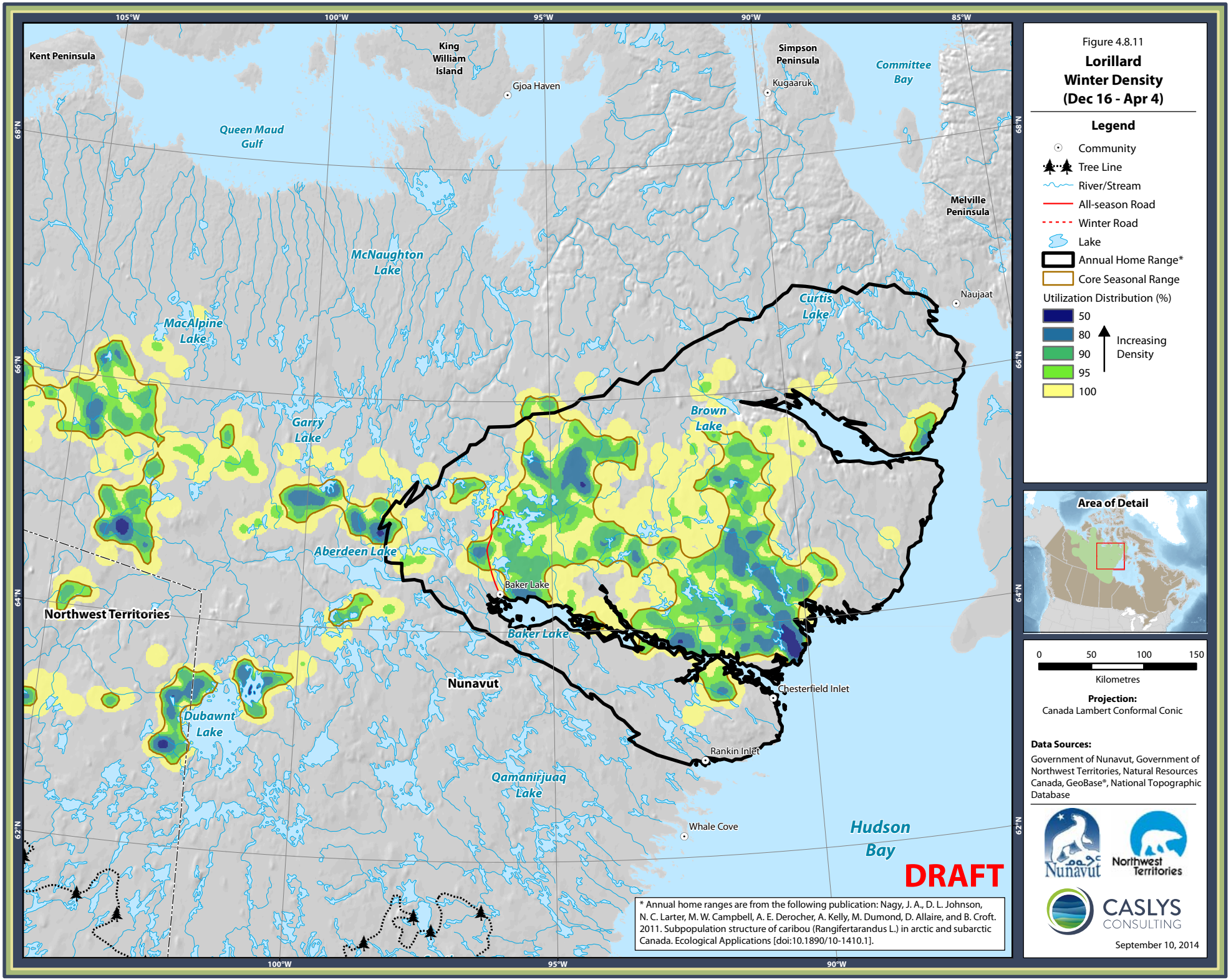
105°W
100°W
95°W
90°W
85°W
69°N
68°N
64°N
Kent Peninsula
King William Island
Gjoa Haven
Simpson Peninsula
Kugaaruk
Committee Bay
Queen Maud Gulf
Melville Peninsula
McNaughton Lake
Naujaat
Curtis Lake
MacAlpine Lake
Garry Lake
Brown Lake
Aberdeen Lake
Baker Lake
Northwest Territories
Baker Lake
Nunavut
Chesterfield Inlet
Dubawnt Lake
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Hudson Bay
DRAFT
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Figure 4.8.11
Lorillard
Winter Density
(Dec 16 - Apr 4)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0
50
100
150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
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September 10, 2014

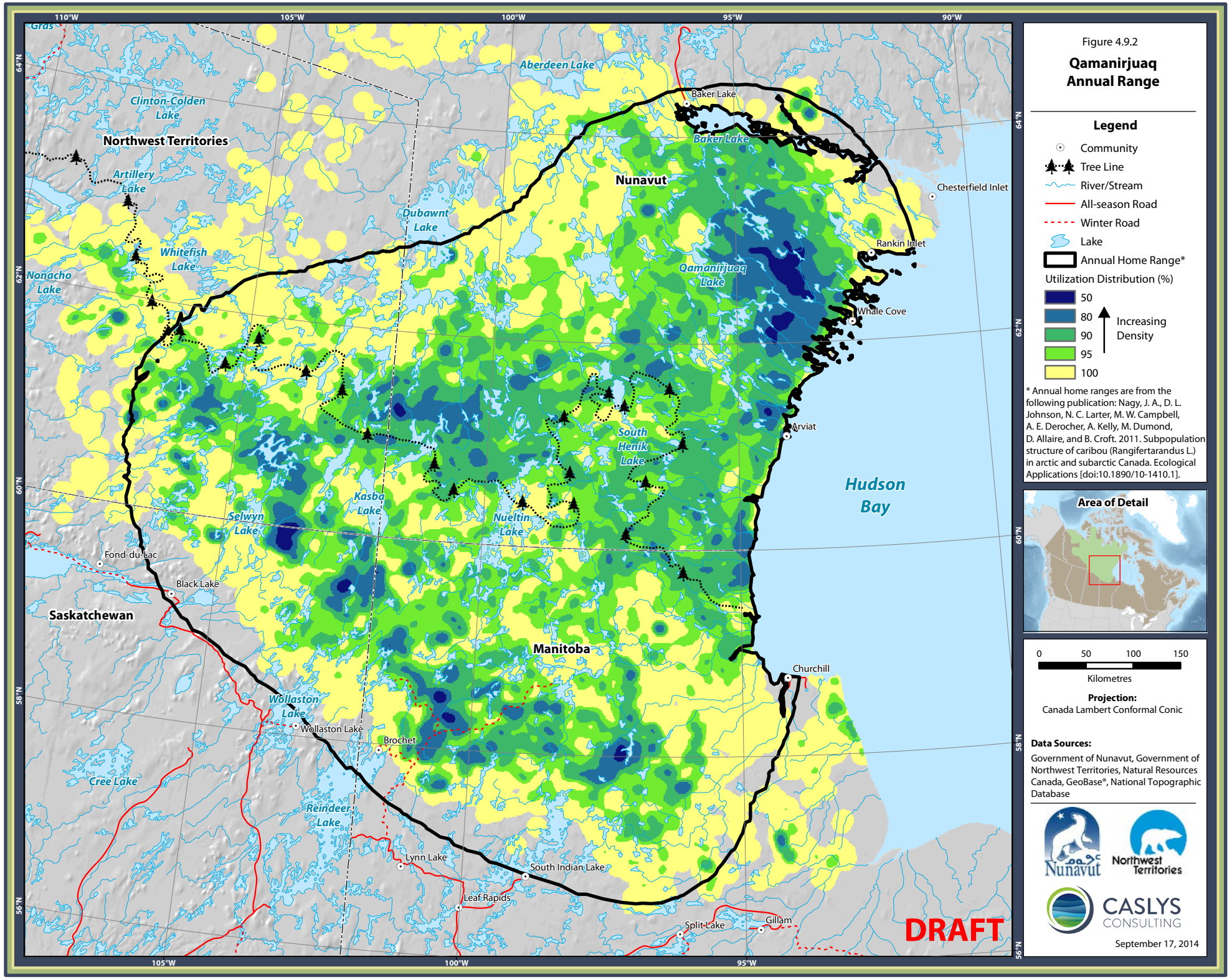
Figure 4.9.2
Qamanirjuaq Annual Range
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
* Annual home ranges are from the following publication: Nagy, J. A., D. L. Johnson, N. C. Larter, M. W. Campbell, A. E. Derocher, A. Kelly, M. Dumond, D. Allaire, and B. Croft. 2011. Subpopulation structure of caribou (Rangifertarandus L.) in arctic and subarctic Canada. Ecological Applications [doi:10.1890/10-1410.1].
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
September 17, 2014
DRAFT
Aberdeen Lake
Clinton-Colden Lake
Northwest Territories
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Baker Lake
Nunavut
Chesterfield Inlet
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Arviat
South Henik Lake
Hudson Bay
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
Black Lake
Saskatchewan
Manitoba
Churchill
Wollaston Lake
Wollaston Lake
Brochet
Cree Lake
Reindeer Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
110°W
105°W
100°W
95°W
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60°N
58°N
56°N

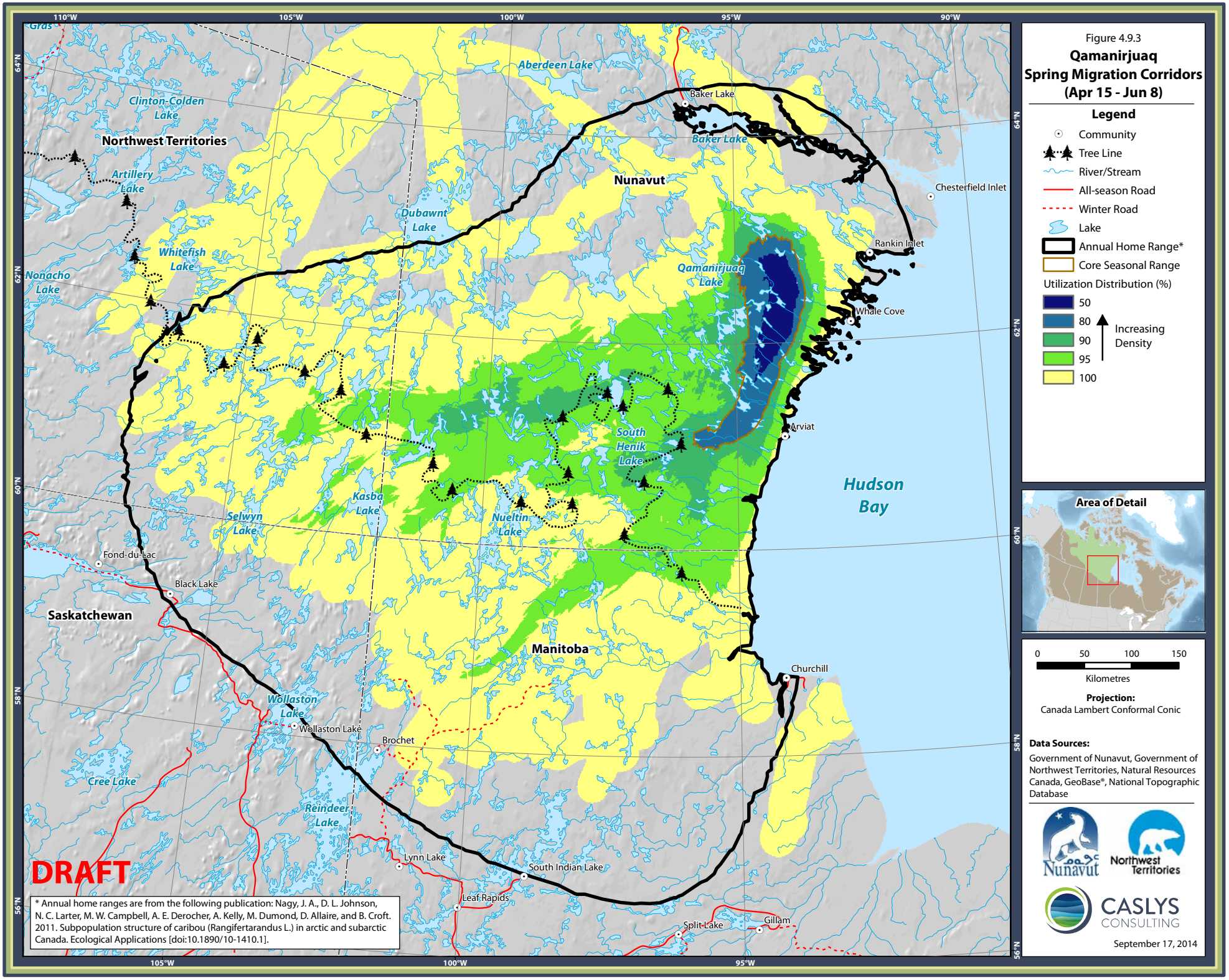
Figure 4.9.3
Qamanirjuaq
Spring Migration Corridors
(Apr 15 - Jun 8)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
CASLYS CONSULTING
September 17, 2014
Northwest Territories
Nunavut
Saskatchewan
Manitoba
Hudson Bay
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Wollaston Lake
Cree Lake
Reindeer Lake
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
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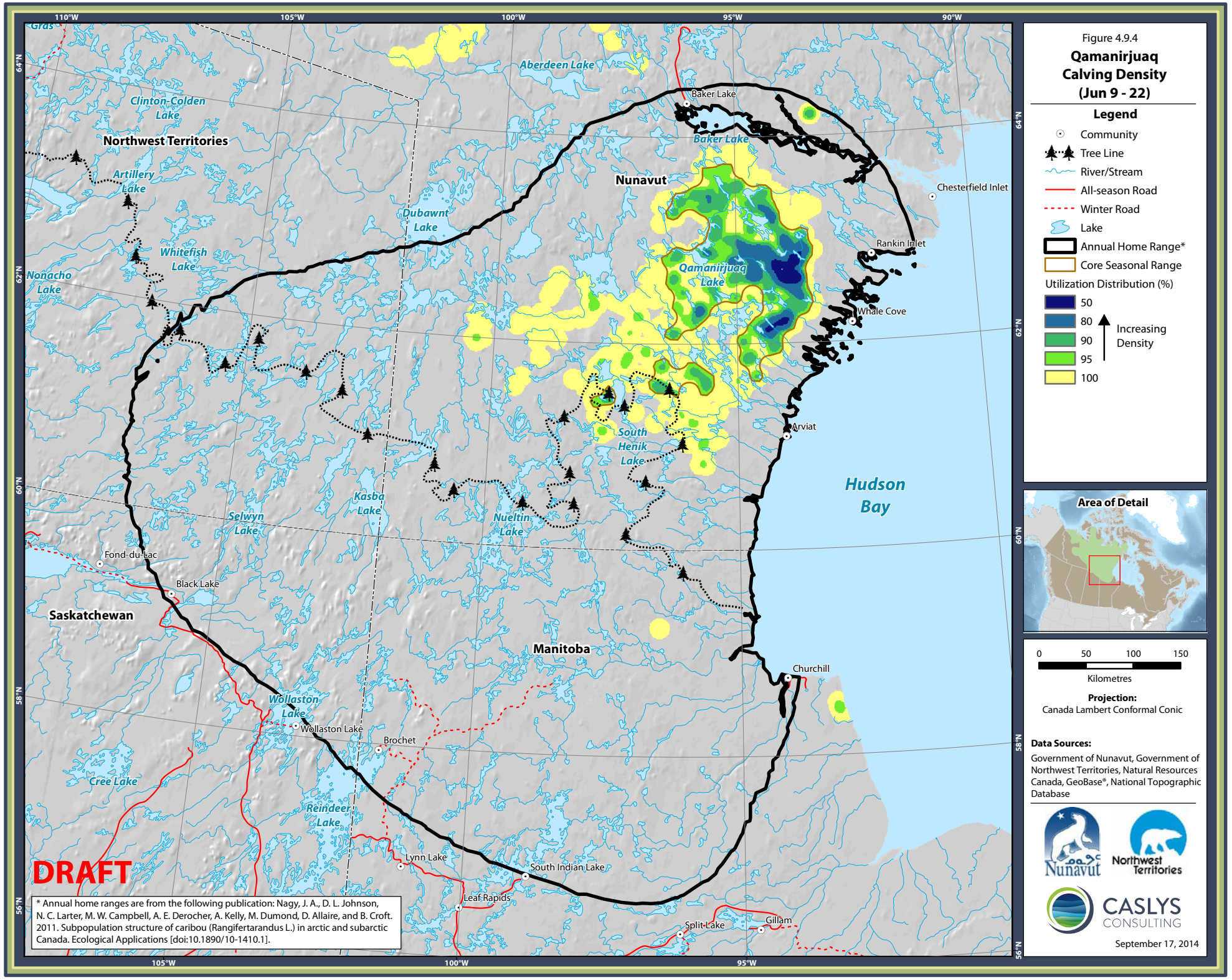
Figure 4.9.4
Qamanirjuaq Calving Density (Jun 9 - 22)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
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Hudson Bay
Northwest Territories
Nunavut
Saskatchewan
Manitoba
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Baker Lake
Chesterfield Inlet
Rankin Inlet
Qamanirjuaq Lake
Whale Cove
Arviat
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
Black Lake
Churchill
Wollaston Lake
Brochet
Cree Lake
Reindeer Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
110°W
105°W
100°W
95°W
90°W
64°N
62°N
60°N
58°N
56°N

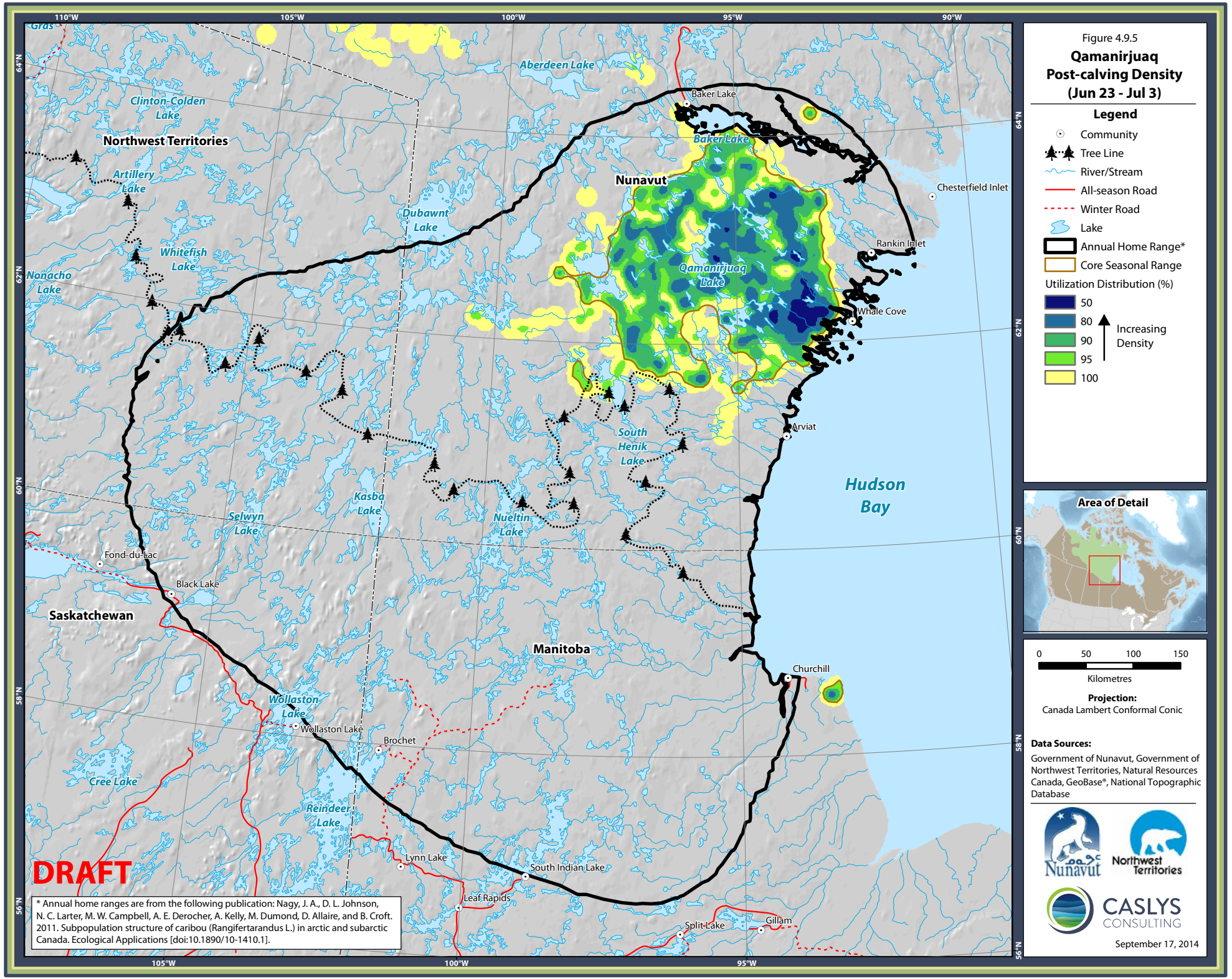
Figure 4.9.5
Qamanirjuaq
Post-calving Density
(Jun 23 - Jul 3)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
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Hudson Bay
Northwest Territories
Nunavut
Saskatchewan
Manitoba
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Wollaston Lake
Cree Lake
Reindeer Lake
110°W
105°W
100°W
95°W
90°W
64°N
62°N
60°N
58°N
56°N

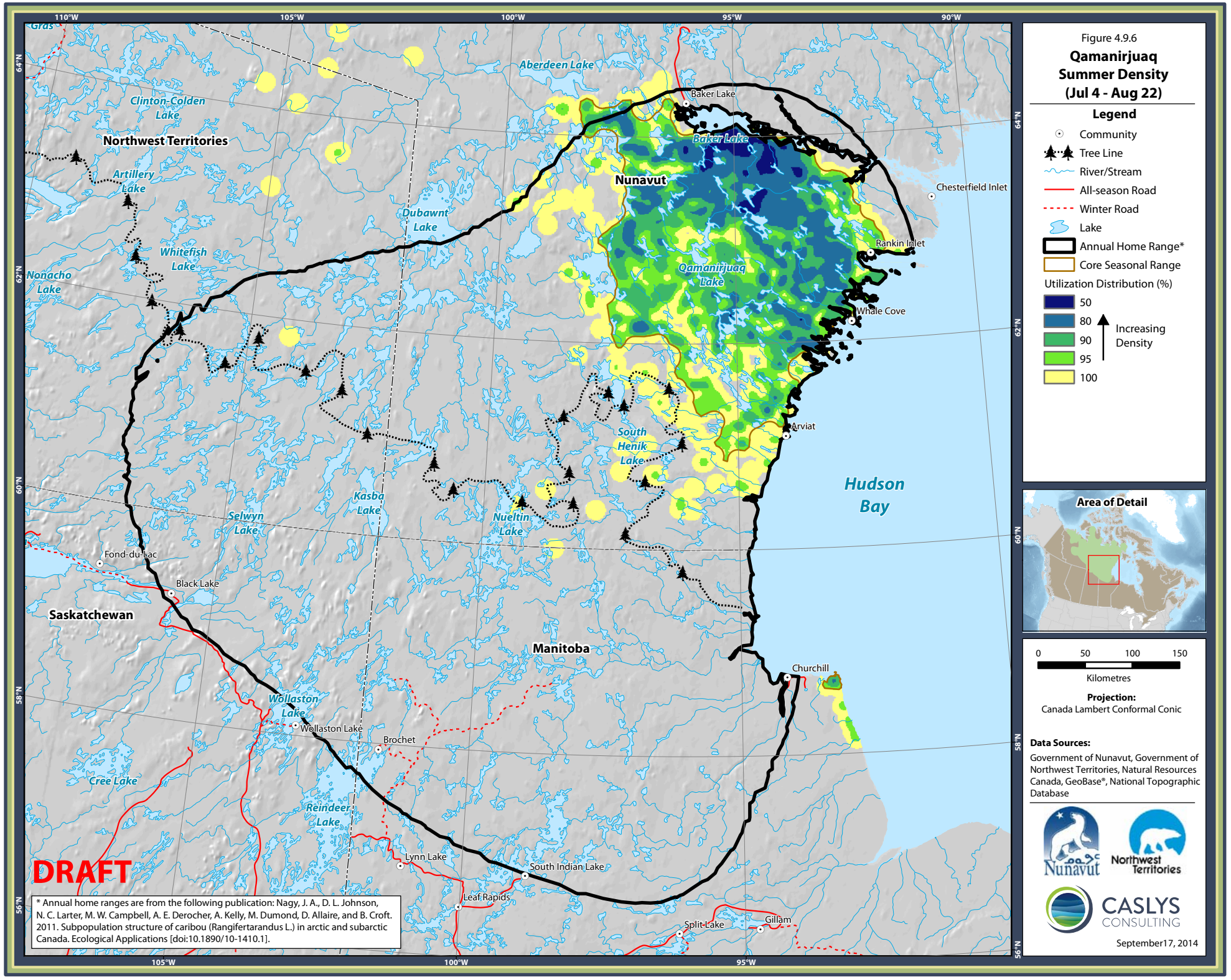
Figure 4.9.6
Qamanirjuaq Summer Density (Jul 4 - Aug 22)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
September17, 2014
Baker Lake
Nunavut
Northwest Territories
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
South Henik Lake
Hudson Bay
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
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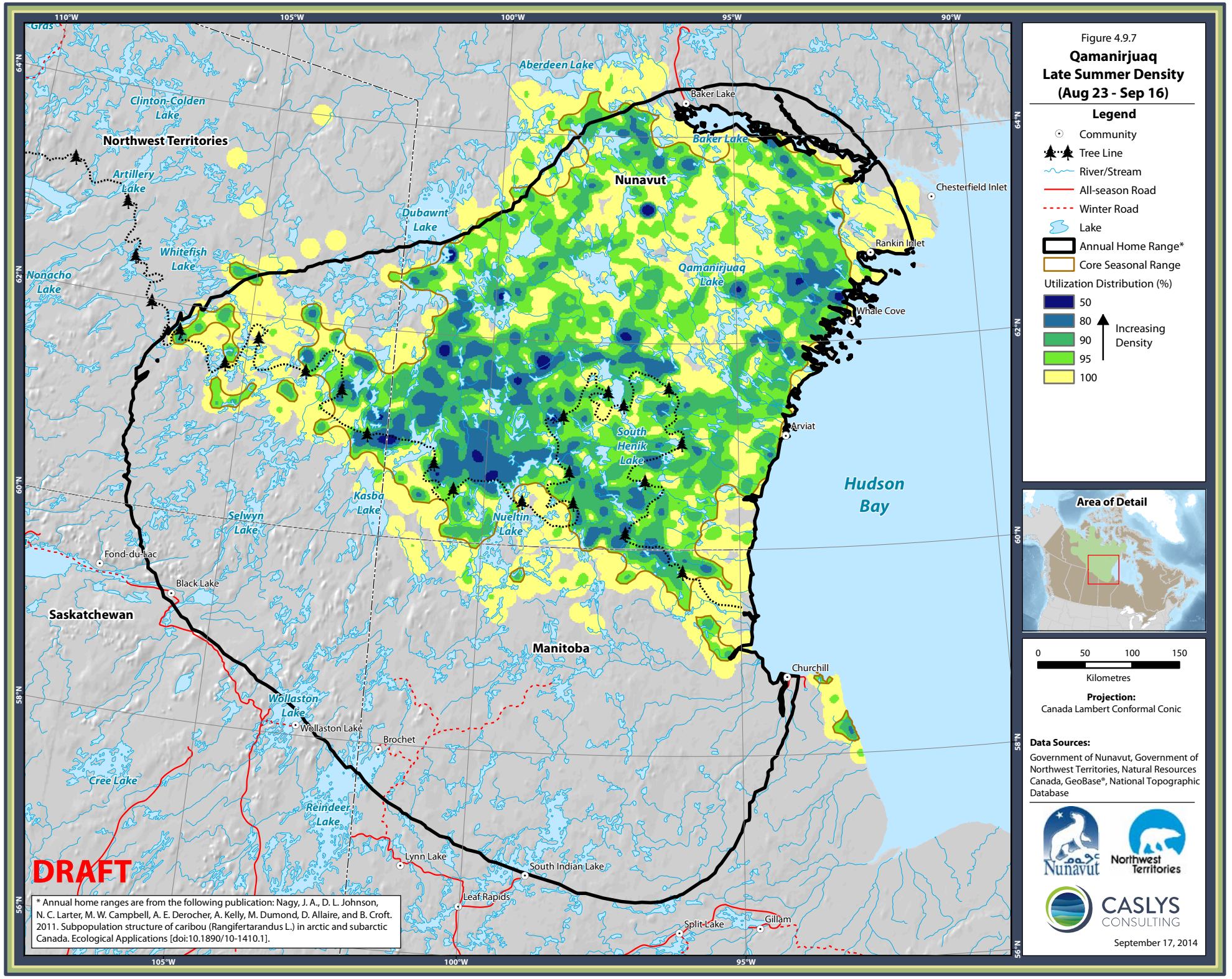
Figure 4.9.7
Qamanirjuaq
Late Summer Density
(Aug 23 - Sep 16)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
September 17, 2014
Baker Lake
Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Hudson Bay
Manitoba
Saskatchewan
Northwest Territories
Nunavut
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
Black Lake
Wollaston Lake
Wollaston Lake
Brochet
Cree Lake
Reindeer Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
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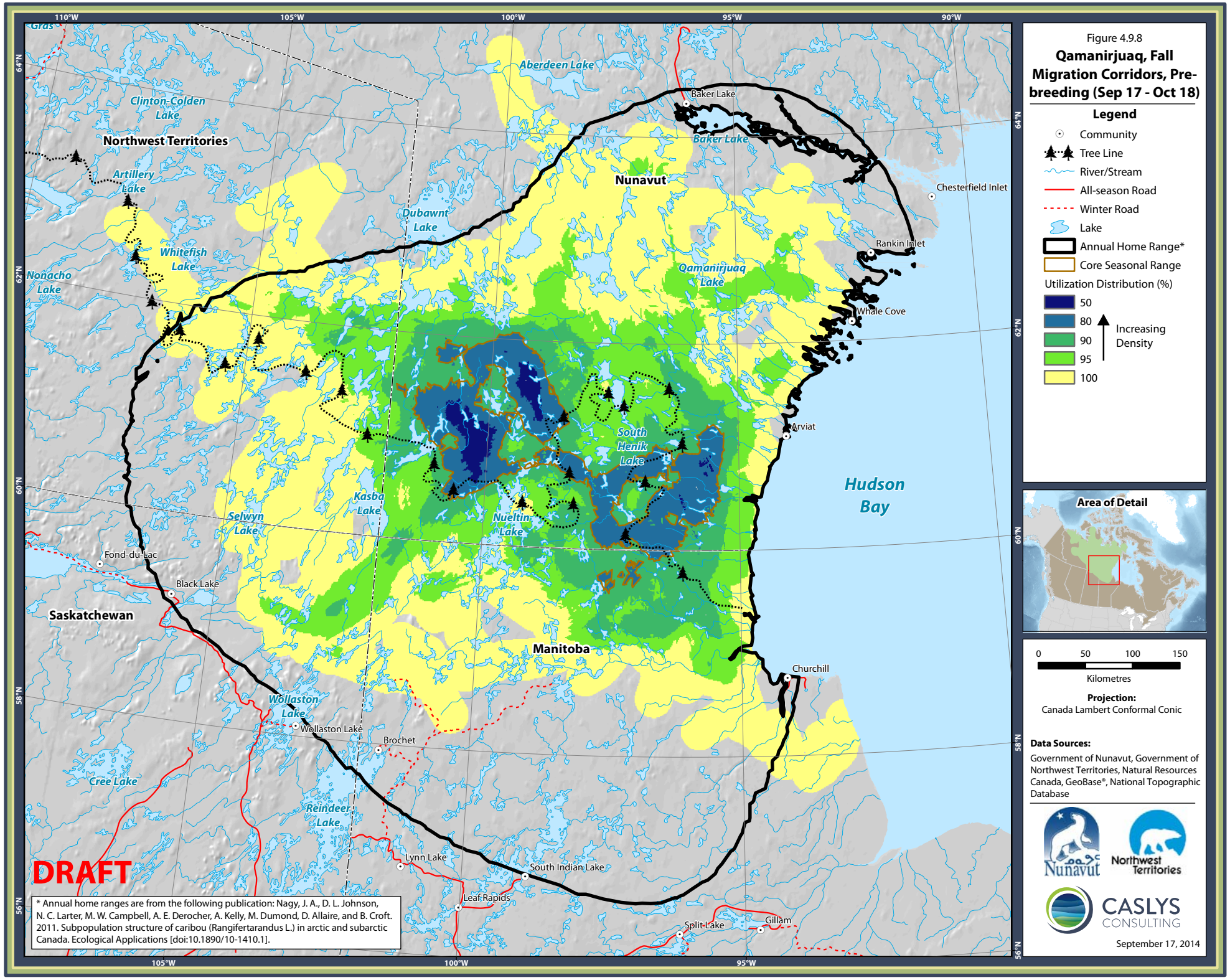
Figure 4.9.8
Qamanirjuaq, Fall Migration Corridors, Pre-breeding (Sep 17 - Oct 18)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
Northwest Territories
CASLYS CONSULTING
September 17, 2014
Aberdeen Lake
Baker Lake
Clinton-Colden Lake
Northwest Territories
Artillery Lake
Nunavut
Chesterfield Inlet
Dubawnt Lake
Whitefish Lake
Rankin Inlet
Nonacho Lake
Qamanirjuaq Lake
Whale Cove
Arviat
South Henik Lake
Hudson Bay
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
Black Lake
Saskatchewan
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Wollaston Lake
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110°W
105°W
100°W
95°W
90°W
64°N
62°N
60°N
58°N
56°N

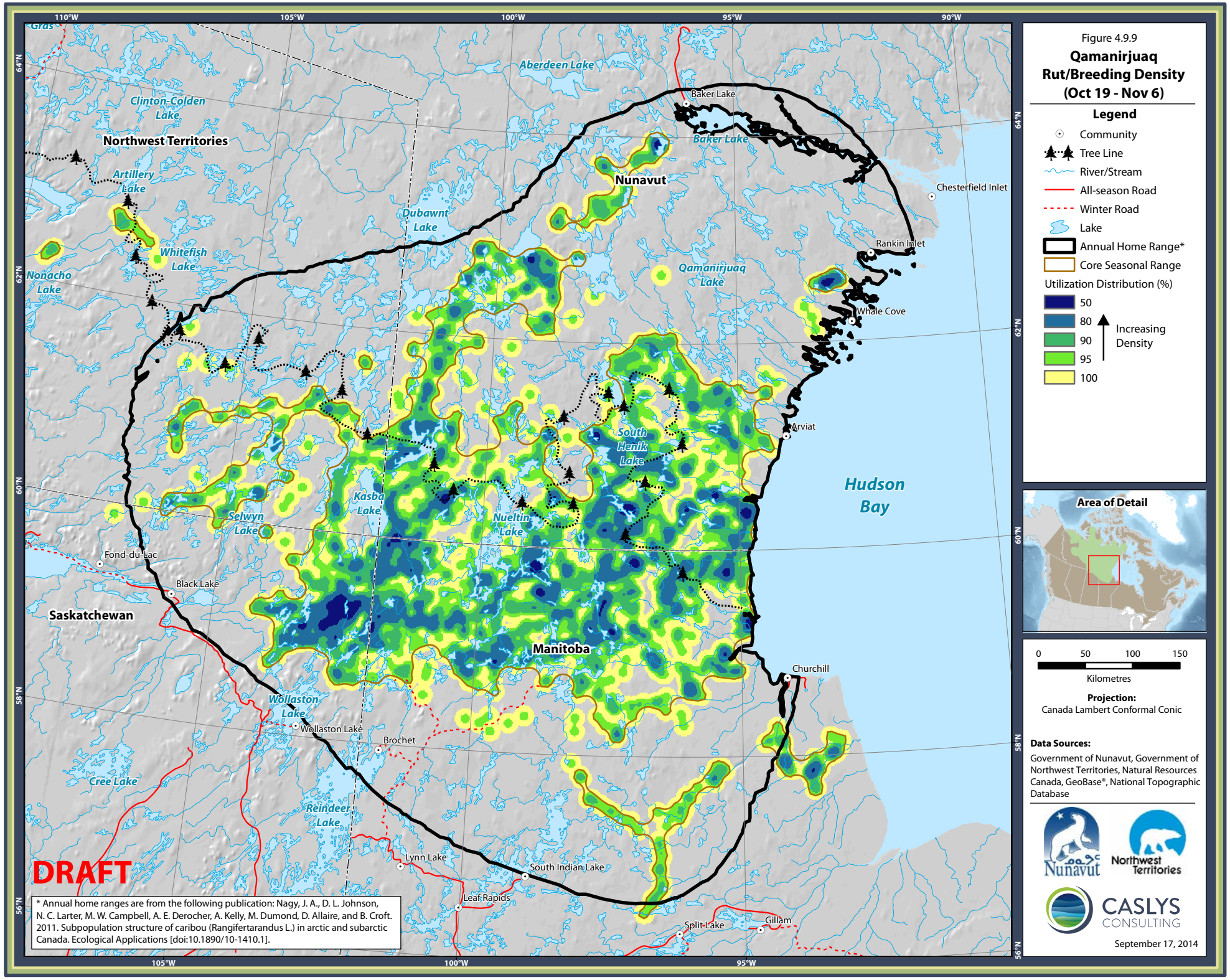
Figure 4.9.9
Qamanirjuaq Rut/Breeding Density (Oct 19 - Nov 6)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
Nunavut
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Hudson Bay
Northwest Territories
Nunavut
Saskatchewan
Manitoba
Aberdeen Lake
Baker Lake
Chesterfield Inlet
Rankin Inlet
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Arviat
Churchill
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Fond-du-Lac
Black Lake
Wollaston Lake
Wollaston Lake
Brochet
Cree Lake
Reindeer Lake
Lynn Lake
South Indian Lake
Leaf Rapids
Split Lake
Gillam
110°W
105°W
100°W
95°W
90°W
64°N
62°N
60°N
58°N
56°N

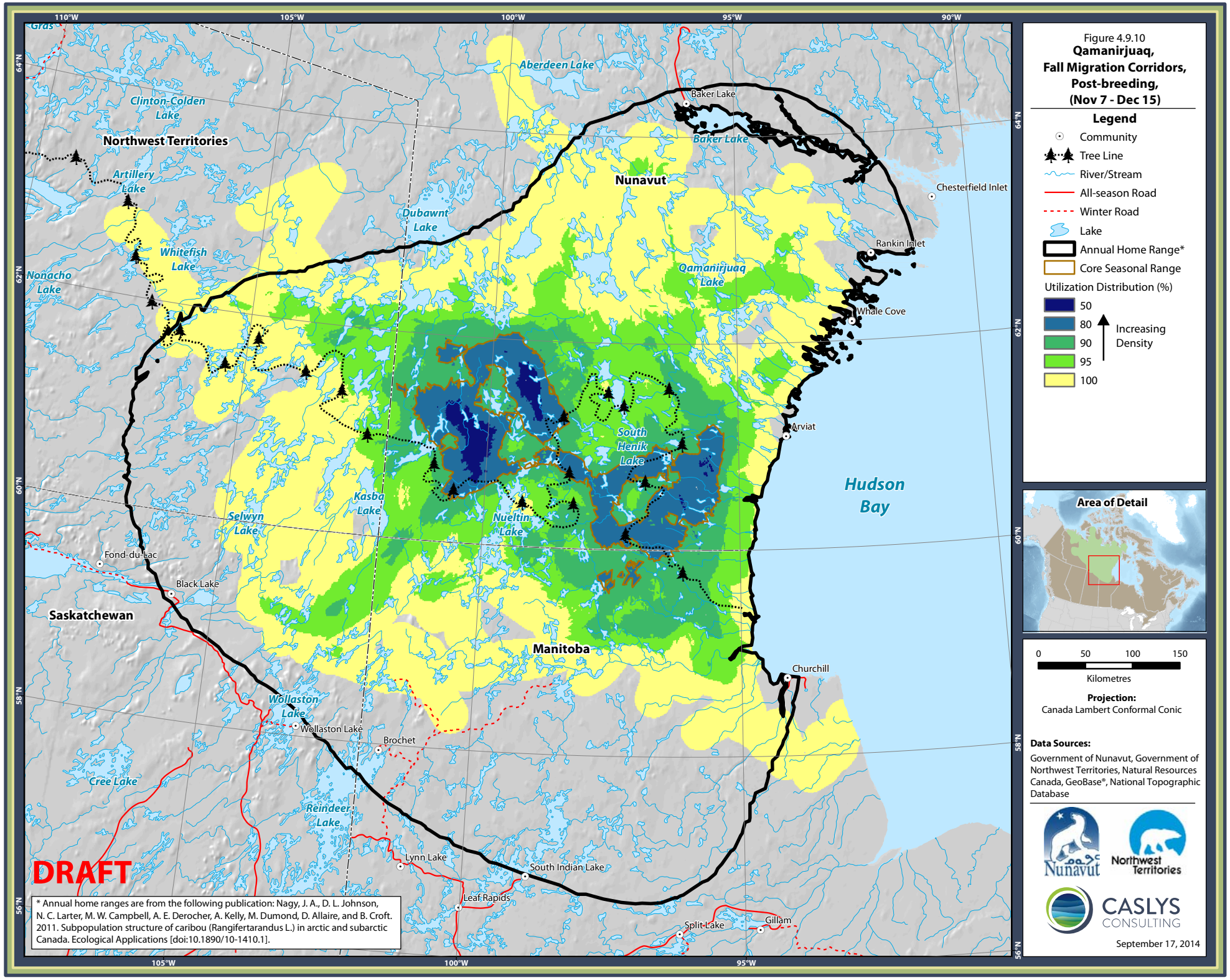
Figure 4.9.10
Qamanirjuaq,
Fall Migration Corridors,
Post-breeding,
(Nov 7 - Dec 15)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
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Nunavut
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Manitoba
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Aberdeen Lake
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Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Wollaston Lake
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Chesterfield Inlet
Rankin Inlet
Whale Cove
Arviat
Churchill
Fond-du-Lac
Black Lake
Wollaston Lake
Brochet
Lynn Lake
South Indian Lake
Leaf Rapids
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64°N
62°N
60°N
58°N
56°N

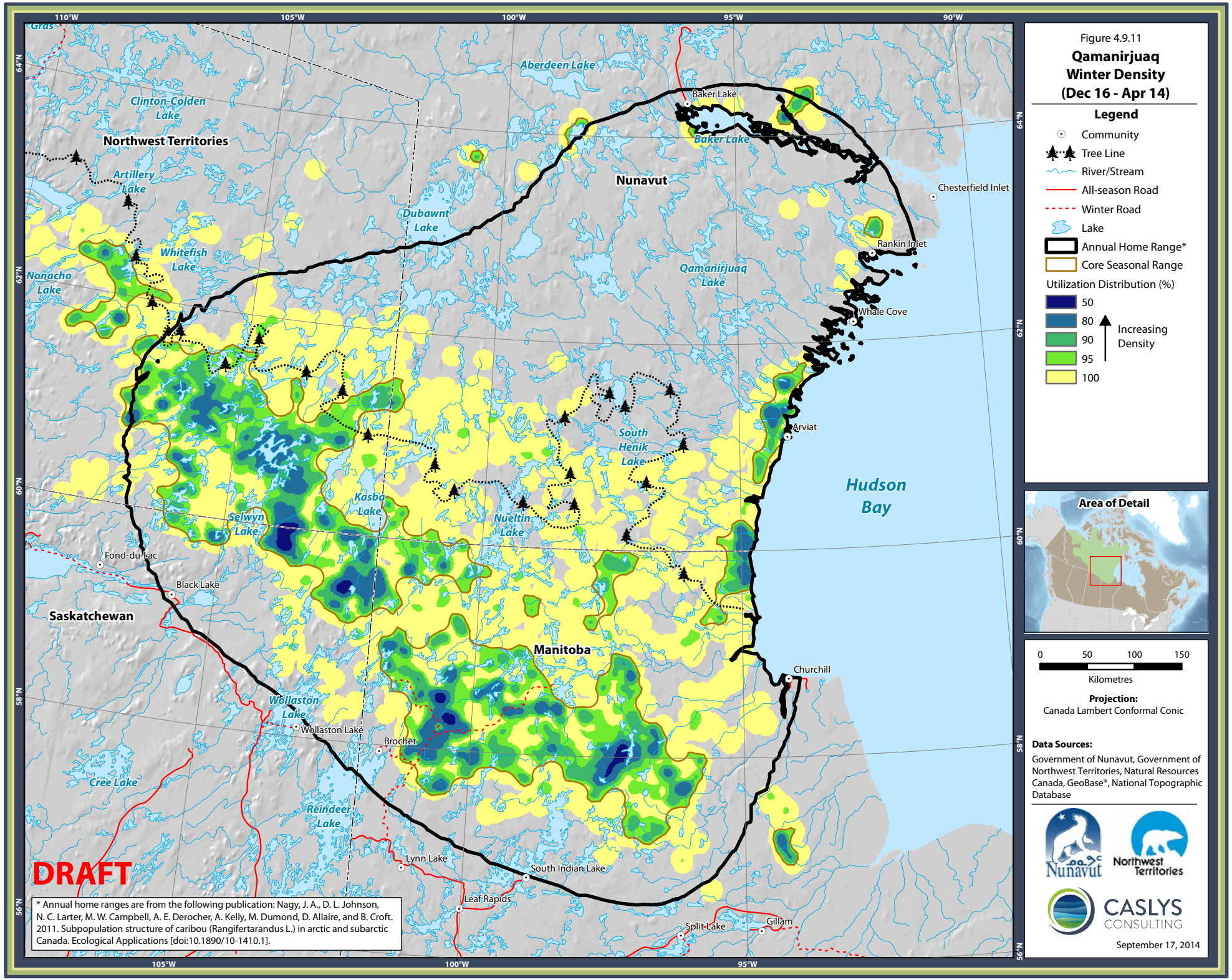
Figure 4.9.11
Qamanirjuaq
Winter Density
(Dec 16 - Apr 14)
Legend
Community
Tree Line
River/Stream
All-season Road
Winter Road
Lake
Annual Home Range*
Core Seasonal Range
Utilization Distribution (%)
50
80
90
95
100
Increasing Density
Area of Detail
0 50 100 150
Kilometres
Projection:
Canada Lambert Conformal Conic
Data Sources:
Government of Nunavut, Government of Northwest Territories, Natural Resources Canada, GeoBase®, National Topographic Database
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Gillam
Aberdeen Lake
Clinton-Colden Lake
Artillery Lake
Dubawnt Lake
Whitefish Lake
Nonacho Lake
Qamanirjuaq Lake
South Henik Lake
Kasba Lake
Selwyn Lake
Nueltin Lake
Wollaston Lake
Cree Lake
Reindeer Lake
110°W
105°W
100°W
95°W
90°W
64°N
62°N
60°N
58°N
56°N

Appendix B

KIA Mobile Caribou Conservation Measures

MOBILE CARIBOU CONSERVATION MEASURES

Introduction

The Lessee shall comply with the measures set out herein. The Lessee shall immediately report to the Landlord any deviation from these measures, including the reason for the deviation.

The Landlord reserves the right, based on the presence of caribou within the area of the Property in any year, to vary the dates set out herein and shall provide notice to the Lessee of any such variation.

Wildlife Monitoring Personnel

The Lessee shall have wildlife monitoring personnel present at the Property during any season when caribou are reasonably expected to be present. The names of such personnel shall be sent to the Landlord and they shall maintain communication at all reasonable times. The Lessee shall monitor and immediately report the presence of caribou to the Landlord in accordance with the following directives. The report shall specify the location and estimated numbers.

A. IOL within designated calving grounds

Section 1. On IOL within designated calving grounds (as designated by the Government of Nunavut) between May 1st and July 31st (the closure period):

1) No activities shall occur except as authorized by the Landlord.

Section 2. On IOL within designated calving grounds between August 1st and September 30th, the Lessee shall conduct monitoring and mitigation as follows:

2i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within the thirty (30) km early warning zone from the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

2ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the Property boundary, then the Lessee shall monitor within a five (5) km buffer zone around the Property on a daily basis, and shall immediately suspend work that has the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

Section 3. On IOL within designated calving grounds between October 1st and April 15th, the Lessee shall conduct monitoring and mitigation as follows:

(3i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

(3ii) If monitoring indicates that there are fifty (50) or more caribou within two and a half (2.5) km of the Property, then the Lessee shall immediately reduce above-ground activities that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), until caribou numbers are below the threshold within the buffer zone.

Section 4. On IOL within designated calving grounds between April 16th and April 30th, the Lessee shall conduct monitoring and mitigation as follows:

(4i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(4ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, and camp closure, until caribou numbers are below the threshold within the buffer zone.

B. IOL within other seasonal caribou ranges

Section 5. On IOL between June 1st and July 15th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(5i) If collar data or observations indicate that there are one (1) or more collared caribou or ten (10) or more caribou observed within the fifty (50) km early warning zone for the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land, road surveys, snow track counts (if appropriate), remote camera surveys).

(5ii) If monitoring indicates that there are an estimated ten (10) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m

above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure until caribou numbers are below the threshold within the buffer zone.

Section 6. On IOL between July 16th and September 30th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(6i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within thirty (30) km of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(6ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the boundary of the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities, non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and camp closure until caribou numbers are below the threshold within the buffer zone.

Section 7. On IOL between October 1st and April 15th outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

(7i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).

(7ii) If monitoring indicates that there are fifty (50) or more caribou within 2.5 km of the boundary of the Property, then the Lessee shall immediately reduce above-ground operations that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and suspension of above ground operations, until caribou numbers are below the threshold within the buffer zone.

Section 8. On IOL between April 16th and May 31st, the Lessee shall conduct monitoring and mitigation as follows:

(8i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).

(8ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then then the Lessee shall conduct

monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

C. Freshwater crossings

Section 9. On IOL between May 15th and September 30th, the Lessee will not construct camps or other permanent structures or conduct blasting within ten (10) km of designated caribou freshwater water crossings. Exploration activities will not be permitted within 5 km of water-crossings between May 15th and September 30th. Between May 15th and September 30th, the Lessee shall conduct monitoring and mitigation as follows:

(9i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within twenty-five (25) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone around the water crossing shall be conducted every second day (e.g., height of land surveys, remote camera surveys).

(9ii) If monitoring indicates that there are fifty (50) or more caribou within five (5) km of the boundary of the Property that appear to be moving in the direction of the water crossing, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, camp closure, and removal of all non-essential personnel, until caribou numbers are below the threshold within the buffer zone.

D. Aircraft

Section 10. The Lessee shall ensure that aircraft (fixed-wing and helicopter) flights over occupied calving and post-calving areas shall be at least 610 m above ground level and avoid areas of known caribou concentrations (subject to pilot discretion regarding aircraft and human safety). In other seasons aircraft shall be at least 300 m above ground level.

Appendix C

DIAND Caribou Protection Measures

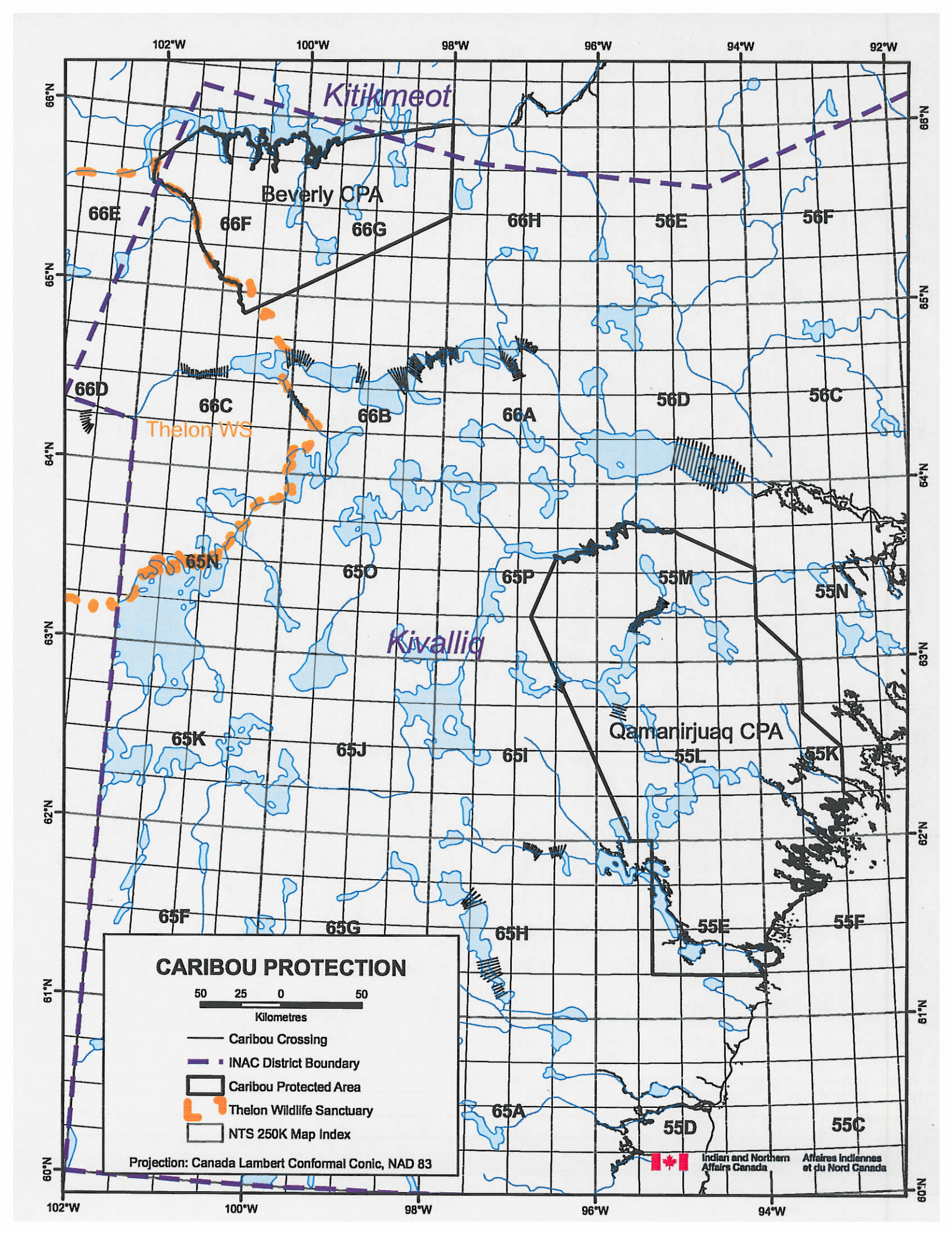
Keewatin Regional Land Use Plan
Appendix H
DIAND Caribou Protection Measures

1. (a) The Permittee shall not, without approval, conduct any activity between May 15 and July 15 within the Caribou Protection Areas depicted on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.
   (b) A Permittee may, upon approval by the Land Use Inspector, operate within the said Caribou Protection Areas beyond the May 15 deadline set out in 1 (a), provided that, when monitoring information indicates that caribou cows are approaching the area of operation, the Permittee will implement 1 (c).
   (c) On cessation of activities pursuant to 1 (a) or 1 (b), the Permittee will remove from the zone all personnel who are not required for the maintenance and protection of the camp facilities and equipment, unless otherwise directed by the Land Use Inspector.
   (d) The Permittee may commence or resume activities prior to July 15 within those parts of the Caribou Protection Areas released by the Land Use Inspector for the reason that caribou cows are not expected to use those parts for calving or post-calving (note 1).

2. (a) In the event that caribou cows calve outside of the Caribou Protection Areas, the Permittee shall suspend operations within the area(s) occupied by cows and/or calves between May 15 and July 15.
   (b) In the event that caribou cows and calves are present, the permittee shall suspend:
      (i) blasting;
      (ii) overflights by aircraft at any altitude of less that 300 meters above ground level; and
      (iii) the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp.

3. (a) During migration of caribou, the Permittee shall not locate any operation so as to block or cause substantial diversion to migration.
   (b) The Permittee shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.

4. (a) The Permittee shall not, between May 15 and September 1, construct any camp, cache any fuel, or conduct any blasting within 10 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.
   (b) The Permittee shall not, between May 15 and September 1, conduct any diamond drilling operation within 5 kilometres of any "Designated Crossing" as outlined on the map certified by the Engineer as the "Caribou Protection Map" and annexed to this Land Use Permit.


102°W
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CARIBOU PROTECTION
50 25 0 50
Kilometres
Caribou Crossing
INAC District Boundary
Caribou Protected Area
Thelon Wildlife Sanctuary
NTS 250K Map Index
Projection: Canada Lambert Conformal Conic, NAD 83
Indian and Northern Affairs Canada
Affaires indiennes et du Nord Canada

Appendix D

GN-DoE Staff Directory

Last Name	First Name	Title	Phone number	Community	Department
Adjun	Larry	Park Operations and	867-982-7449	Kugluktuk	Environment
Aguilar	Estela	Environmental Education Specialist	867-975-7732	Iqaluit	Environment
Akavak	Tommy	Manager of KatannilikTerritorial Park	939-2416	Kimmirut	Environment
Akeeagok	Russell	Conservation Officer	867-982-3058	Kugluktuk	Environment
Akikulu	Mathew	Conservation Officer	439-9945	Arctic Bay	Environment
Aliqatuqtuq	Jason	Senior Manager (Operations) Wildlife Management	975-7781	Iqaluit	Environment
Aliqatuqtuq	Jaypootie	Wildlife Guardian (Casual)	927-8966	Qikiqtarjuaq	Environment
Anavilok	David	Conservation Officer II	867-561-6231	Taloyoak	Environment
Angohiatok	Monica	Conservation Officer II	867-983-4164	Cambridge Bay	Environment
Angoyuak	Sileema	Conservation Officer II	939-2004	Kimmirut	Environment
Arsenault	Robert	Conservation Officer II	867-793-2944	Baker Lake	Environment
Atatahak	Gerry	Kitikmeot Regional Coordinator, Parks Planning and Operations	867-982-7443	Kugluktuk	Environment
Attagutaluk	David	Laboratory Assistant		Igloolik	Environment
Awan	Malik	Wildlife Biologist - Carnivores	(867) 934 - 2179	Igloolik	Environment
Babstock	Leanne	Director, Policy, Planning and Legislation	867-975-7749	Iqaluit	Environment
Baikie	Denise	Environmental Assessment Specialist	867-934-2191	Igloolik	Environment
Baranowski	Benjamin	Conservation Officer	867-980-4164	Grise Fiord	Environment
Besenski	Jordan	Conservation Officer II	928-8507	Hall Beach	Environment
Blair	Eric	Policy Analyst	975-7721	Iqaluit	Environment
Blake	Jordan	Energy Policy Advisor	975-7734	Iqaluit	Environment
Brisco	Marc Alexandre	A/Environmental Compliance Manager	975-7726	Iqaluit	Environment
Campbell	Mitch	Biologist	867-857-3171	Arviat	Environment
Carter	Kayla	Summer Student	867-360-7605	Gjoa Haven	Environment
Chaikine	Alexandre	Environmental Assessment Specialist	934-2186	Igloolik	Environment
Chouinard	Alain	Environmental Protection Officer - Arviat	867-857-3174	Arviat	Environment
Chowdhury	Rashadul Islam	Manager Parks: Facility Planning and Operations	975-7725	Iqaluit	Environment
Clayden	Meredith	Program Manager, Water	975-7731	Iqaluit	Environment
Cooper	Elaina	Financial andTravel Analyst	975-7710	Iqaluit	Environment
COTest	FTS	Conservation Officer	975-6407	Cape Dorset	Environment
Coutu-Autut	Johanne	Conservation Officer III	867-645-8084	Rankin Inlet	Environment
Demavivas	Nenette	Senior Finance Officer	975-7713	Iqaluit	Environment
Desorcy	Patrick	Conservation Officer II	867-896-9189	Whale Cove	Environment
Dumond	Mathieu	Manager Wildlife - Kitikmeot	867-982-7441	Kugluktuk	Environment
Dunford	Andrew	Director, Climate Change Secretariat	867-975-7735	Iqaluit	Environment
Dyck	Markus	Polar Bear Biologist II	867-934-2181	Igloolik	Environment
Elliott	James	Project Manager, Land Use Planning	975-7722	Iqaluit	Environment
England	Kate	Manager - Research	867-934-2183	Igloolik	Environment
Fitzpatrick	Dion	Coordinator Park Operations	975-235	Iqaluit	Environment
Flaherty	Karen	Manager of Communications, Education and Outreach	867-975-7761	Iqaluit	Environment
Flaherty	William	Conservation Officer II	867-975-7783	Iqaluit	Environment
Fletcher	William	Conservation Officer II	867-980-4250	Kimmirut	Environment
Fredlund	Emilia	Regional Coordinator Parks, Heritage Appreciation Kitikmeot/ Kiv		Rankin Inlet	Environment
Fredlund	Matthew	Wildlife Technician II	867-934-2176	Igloolik	Environment
Garbarczyk	Jakub	Manager Parks Program Development	975-7724	Iqaluit	Environment
Ghazal	Maha	Advisor - Marine Mammals/ Acting Manager	867-473-2669	Pangnirtung	Environment

Gissing	Drikus	Wildlife Director	975-779	Iqaluit	Environment
Guay	Joseph	Conservation Officer II	867-857-2975	Arviat	Environment
Hainnu	Bruce Jerry	Conservation Officer Assistant	924-6235	Iqaluit	Environment
Haney	Daniel	Project Manager, Impact Assessment	867-975-7720	Iqaluit	Environment
Harmer	Rob	Regional Manager - Kivalliq	867-857-3172	Arviat	Environment
Hinanik	Randy	Environmental Protection Off	867-982-7483	Kugluktuk	Environment
Holzman	Sara	Acting Manager, Climate Change Adaptation	975-7733	Iqaluit	Environment
Hopkins	Will	Climate Change Communications Specialist	867-975-7762	Iqaluit	Environment
Huggins	Patrick	Junior Policy Analyst	867-975-7721	Iqaluit	Environment
Idlout	Kathy	Manager, Budgeting and Financial Programs	975-7714	Iqaluit	Environment
Ihakkaq	Jamie	Conservation Officer II	867-769-7011	Taloyoak	Environment
Immaroitok	Samuel	Wildlife Deterrent Clerk	N/A	Igloolik	Environment
Inuarak	Daniel	Environmental Protection Officer	867-899-8035	Pond Inlet	Environment
Ipeelie-Qiatsuk	Caroline	Regional Coordinator: Heritage Appreciation	867-975-7784	Iqaluit	Environment
Ipirq	Jennifer	Climate Change Outreach Specialist	867-975-7764	Iqaluit	Environment
Johnson	Scott	Regional Manager - North Baffin	899-7360	Pond Inlet	Environment
Kaludjak	Daniel	Conservation Officer II	867-645-8083	Rankin Inlet	Environment
Kattegatsiak	Peter	Conservation Officer II	867-898-9130	Chesterfield Inle	Environment
Kendall	Manasie	Parks Geospatial and IT Specialist	975-7736	Iqaluit	Environment
Kennedy	Janelle	A/Director, Fisheries and Sealing	975-7706	Iqaluit	Environment
Kilabuk	Mark	Fisheries Research Assistant	867-473-2642	Pangnirtung	Environment
Kipanek	Julia	Human Resources Assistant	975-7774	Iqaluit	Environment
Koonoo	George	Wildlife Officer II	899-8819	Pond Inlet	Environment
Kownirk	Angela	Finance Clerk	867-975-7715	Iqaluit	Environment
Leclerc	Lisa-Marie	Regional Wildlife Biologist	867-982-7444	Kugluktuk	Environment
Lindell	Keenan	Kivalliq Regional Wildlife Technician	867-857-3175	Arviat	Environment
Long	Joshua	Manager of Communications, Education and Outreach	867-975-7761	Iqaluit	Environment
Lowe	Kristi	DirectorA/Deputy Chief Environmental Protection Officer	975-7748	Iqaluit	Environment
Lussier	Andreane	Climate Change Mitigation Manager	975-7775	Iqaluit	Environment
Mallory	Conor	High Arctic Biologist	867-934-2175	Igloolik	Environment
Manning	Annie	Administrative Officer	975-77	Iqaluit	Environment
Martos	Zoë	Manager of Communications and Knowledge Mobilization	975-7755	Iqaluit	Environment
Masuku	Mkhabela	Manager Parks: Planning and Establishment	975-7723	Iqaluit	Environment
Mercer	Daniel	Conservation Officer II	867-896-9189	Whale Cove	Environment
Methuen	Kevin	Kitikmeot Regional Wildlife Manager	867-982-7441	Kugluktuk	Environment
Metuituk	Darlene	Financen and Administration Officer	867-982-7452	Kugluktuk	Environment
Mikeeuneak	Florence	Wildlife Clerk	867-857-3170	Arviat	Environment
Milton	Terry	Wildlife ResearchTechnician	867-982-7465	Kugluktuk	Environment
Mitsima	Mary	Finance Officer	867-975-7714	Iqaluit	Environment
Monteith	David	Director	975-7723	Iqaluit	Environment
Mullin	Tabitha	Conservation Officer II	252-3879	Resolute Bay	Environment
Mutch	Christopher	Wildlife Technician II	934-2188	Igloolik	Environment
Nahle	Ayman	Manager, Budgeting and Financial Programs	975-7730	Iqaluit	Environment
Natsiq	Tooma	Climate Change Mitigation Specialist	867-975-7704	Iqaluit	Environment
Naulalik	Lisa	Geospatial Information Assistant	975-7725	Iqaluit	Environment
Neely	Jon	Coordinator, Operations and Regulations	867-975-7782	Iqaluit	Environment
Netser	Troy	Conservation Officer II	867-925-8823	Chesterfield Inle	Environment

Niakrok	Harry	Kivalliq Regional Parks	867-645-8013	Rankin Inlet	Environment
Niptanatiak	Allen	Conservation Officer III	867-982-7451	Kugluktuk	Environment
Niptanatiak	Catherine	Wildlife Clerk	867-982-7440	Kugluktuk	Environment
Noble	Geneva	Parks JPMCs Secretariat	975-7753	Iqaluit	Environment
Noble	Sean	Environmental Protection Officer	975-7769	Iqaluit	Environment
Noble Jr-	Jimmy	Deputy Minister, Environment	867-975-7705	Iqaluit	Environment
Nowdluk	Levi	Seal, Fur and Fisheries Program Delivery Speclialist	867-975-7702	Iqaluit	Environment
Nungaq	Karen	Conservation Officer II	867-939-2004	Kimmirut	Environment
Nweze	Nikki	Director of Corporate Services	975-7708	Iqaluit	Environment
Owen	Jade	Social Science Advisor	975-7760	Iqaluit	Environment
Page	Samantha	Climate Change Adaptation Specialist	867-975-7755	Iqaluit	Environment
Pameolik	Chris	Wildlife Guardian	867-925-8823	Coral Harbour	Environment
Papatsie	Leesee	Manager Parks: Heritage Appreciation	975-7727	Iqaluit	Environment
Papatsie	Peterloosie	Conservation officer II	462-4002	Naujaat	Environment
Pearson	Rebecca	Kivalliq Special Projects Coordinator	867-645-8005	Rankin Inlet	Environment
Perrin	Lauren	Project Manager, Impact Assessment	975-7737	Iqaluit	Environment
Phelan	MJ	A/Manager Human Resources and Organizational Development	975-7717	Iqaluit	Environment
Pigalak	Gailene	Casual Front Desk Clerk	867-982-7440	Kugluktuk	Environment
Pinksen	Steve	Assistant Deputy Minister	975-7718	Iqaluit	Environment
Pirie	Bradley	Project Manager, Research and Monitoring	975-7757	Iqaluit	Environment
Pitseolak	Hellin	Finance and Administration	867-899-7546	Pond Inlet	Environment
Piugattuk	Francis	Wildlife Technician I	934-2178	Igloolik	Environment
Polanowski	Peter	Environmental Education Specialist	867-975-7732	Iqaluit	Environment
Pretty	Michelle	Manager Human Resources and Organizational	975-7716	Iqaluit	Environment
Pynn	Jonathan	Regional Manager-South Baffin	867-975-7793	Iqaluit	Environment
Qaunaq	Jeffrey	Assistant Wildlife Officer	980-4164	Grise Fiord	Environment
Qaunaq	Sally	Polar Bear Harvest Lab Assistant	867-934-2188	Igloolik	Environment
Qavvik	Daniel	Conservation Officer	266-8098	Sanikiluaq	Environment
Qiyuk	Paul	Wildlife Guardian	867-896-9189	Whale Cove	Environment
Ringrose	John	Baffin Biologist	867-899-7576	Pond Inlet	Environment
Robinson	Amy	A/Manager, Land Use and Env-Assessment	975-7765	Iqaluit	Environment
Savikataaq	Lillian	Finance Officer	867-857-3168	Arviat	Environment
Savikataaq Jr-	Joe	Conservation Officer III	867-857-2976	Arviat	Environment
Simonee	James	Wildlife Guardian	867-899-8819	Pond Inlet	Environment
Skillings	Jack	Consrvation Officer II	867-360-7605	Gjoa Haven	Environment
Smith	Caryn	Senior Wildlife Advisor Legislation and Management	867-975-7756	Iqaluit	Environment
Takoonagak	Lena	Executive Secretary	975-7705	Iqaluit	Environment
Taukie	Josie	Fur Program Coordinator	867-975-7711	Iqaluit	Environment
Tongak	Lily	Environment, Wildlife Reseach	867-934-2177	Igloolik	Environment
Toolooktook	Russell	Conservation Officer III	867-793-2944	Baker Lake	Environment
Vaillancourt	Linda	Director Parks and Special Places	975-7703	Iqaluit	Environment
Ware	Jasmine	Polar Bear Biologist I	867-934-2184	Igloolik	Environment
Williams	Alden	Wildlife Officer III	975-7788	Iqaluit	Environment
Wood	Tracy	Parks Management Planner	867-9757729	Iqaluit	Environment
Wyma	Fe	Marketing and Public Education Officer	975-7728	Iqaluit	Environment
Young	Angela	Senior Fisheries Science Advisor	975-7728	Iqaluit	Environment
Young	Jeffery	Conservation Officer II	867-934-8999	Igloolik	Environment
Zeng	Wei	Manager, Financial Services	975-7709	Iqaluit	Environment