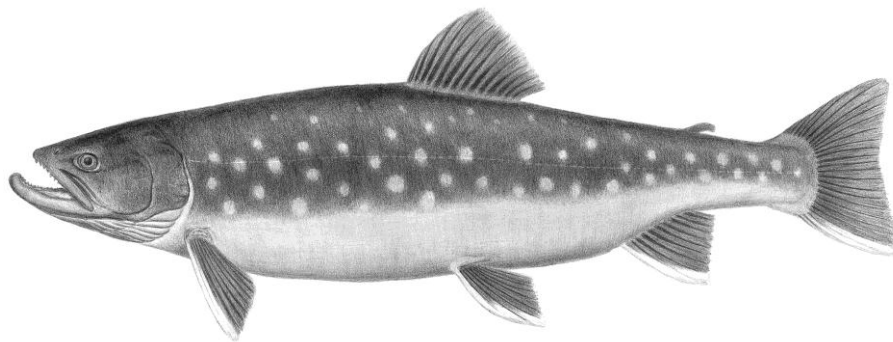


Final Draft Integrated Fishery Management Plan

Summary

Cambridge Bay Arctic Char Commercial Fishery

Effective 2014



Arctic Char
(*Salvelinus alpinus*)

The purpose of this Integrated Fisheries Management Plan (IFMP) is to identify the main objectives and requirements for the Cambridge Bay Arctic Char commercial fishery, as well as the management measures that will be used to achieve these objectives. This document also serves to communicate basic information on the fishery and its management to Fisheries and Oceans Canada (DFO) staff, the Nunavut Wildlife Management Board (NWMB), Hunters and Trappers Organizations (HTOs), Regional Wildlife Organizations (RWOs), commercial fishers, communities and other stakeholders. The IFMP provides for more informed stakeholder input into management decisions, and promotes a common understanding of the “basic rules” for the sustainable management of the fisheries resource.

This IFMP is not a legally binding instrument which can form the basis of a legal challenge. The IFMP can be modified at any time and does not fetter the Minister's discretionary powers set out in the *Fisheries Act*. The Minister can, for reasons of conservation, or for any other valid reasons, modify any provision of the IFMP in accordance with the powers granted pursuant to the *Fisheries Act*.

Where DFO is responsible for implementing obligations under land claim agreements, the IFMP will be implemented in a manner consistent with these obligations. In the event that an IFMP is inconsistent with obligations under land claim agreements, the provisions of the land claim agreements will prevail to the extent of the inconsistency.

IFMP SUMMARY

Figures, tables and appendices that are referenced below are included in the draft IFMP.

1. OVERVIEW OF THE FISHERY

This section provides a brief overview of the fishery, including the history, type and location of the fishery, fishery characteristics, and governance and approval process.

The Arctic Char commercial fishery addressed by this Integrated Fisheries Management Plan (IFMP) occurs on Victoria Island, near the Community of Ekaluktutiak, also known as Cambridge Bay. Cambridge Bay is located in the Kitikmeot Region of the Nunavut Settlement Area (see map, Figure 1). The Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan), Ekalluktok (Ekalluk) and Jayko (Jayco) rivers are commercially fished for anadromous (searun) Arctic Char, (see map, Figure 2). The historical development of the Cambridge Bay Arctic Char commercial fishery is outlined in the IFMP. Recent commercial landings are reported in Appendix II of the IFMP.

The commercial fishery is conducted by local Inuit fishers in conjunction with the operational support of Kitikmeot Foods Ltd., the local commercial processing plant. Kitikmeot Foods Ltd. currently employs local residents and beneficiaries, including management, seasonal processors and commercial fishers. Arctic Char are typically harvested at or near the mouths of the rivers when fish are migrating downstream to marine waters in July, locally known as a spring fishery, or while returning to freshwater in the fall in mid-August through mid-September, locally known as the fall fishery. Commercial harvests are conducted by either gillnet or weir, depending on geographic conditions. Where conditions are favourable, a weir is the preferred method. Arctic Char are dressed in the field (i.e. viscera and gills are removed) and washed before being packed on ice in tubs. Float planes are contracted by Kitikmeot Foods Ltd. to transport fish from each location to Cambridge Bay, where they are offloaded at the dock and transported directly to the plant for immediate processing. As fish arrive at the plant, each tub is weighed separately and details related to fish quality and quantity are recorded.

Governance and Approval Process

The Cambridge Bay Arctic Char commercial fishery is co-managed by the NWMB, EHTO, and DFO, in accordance with the Nunavut Land Claims Agreement, the *Fisheries Act* and its regulations. The Cambridge Bay Arctic Char commercial fishery is regulated by the *Fisheries Act* and regulations made pursuant to it, including the *Fishery (General) Regulations* and the *Northwest Territories Fishery Regulations*. Where an inconsistency exists between these statutes and the Nunavut Land Claims Agreement, the Agreement shall prevail to the extent of the inconsistency.

DFO has adopted a Sustainable Fisheries Framework for all Canadian fisheries to ensure that objectives for long-term sustainability, economic prosperity, and improved governance for Canadian fisheries are met. This policy framework applies to the Cambridge Bay Arctic Char commercial fishery.

This IFMP has been developed as an evergreen document, meaning that it is written in such a way as to be relevant over a long period of time, with no fixed end date. Through regular reviews by the IFMP Working Group and stakeholders, updates and amendments will be provided to the NWMB and Minister of Fisheries and Oceans for approval, as required.

2. SCIENCE, TRADITIONAL ECOLOGICAL KNOWLEDGE, AND STOCK ASSESSMENT

This section provides a brief overview of stock science, traditional ecological knowledge, and stock status.

STOCK SCIENCE

Arctic Char, *Salvelinus alpinus* (L.) are distributed throughout the Canadian Arctic and occur as both non-anadromous (lake-resident or land-locked) and anadromous (searun) forms. Feeding takes place in shallow areas near the shore during the brief summer lasting four to eight weeks before the return migration to freshwater commences. The Cambridge Bay commercial fishery targets downstream (spring) migrations associated with feeding and upstream (fall) migrations associated with over-wintering.

Spawning takes place in fresh water in the fall, usually September or October, over gravel beds. In the Cambridge Bay area in particular spawning takes place in lakes, because most rivers freeze completely in winter. The almost complete absence of spawners in the fall upstream migrations suggests that they do not, for the most part, go to sea the summer prior to spawning. Spawning areas that have been identified through traditional knowledge, in particular with the assistance of community elders and fishers, are not in the immediate vicinity of commercial fishing locations.

Evidence suggests that Arctic Char stocks mix, and that several stocks are potentially harvested at any given fishing location. For management purposes, all Arctic Char present within a given waterbody are treated as a single management unit, separate from Arctic Char stocks in the other waterbodies. It is believed that such an approach offers the greatest degree of protection to the populations of the whole area. This has been the historical management approach for the Cambridge Bay Arctic Char commercial fishery, and to date has proved to be sustainable.

There is minimal bycatch in the Cambridge Bay Arctic Char commercial fishery because of the targeted fishing period and gear selection. Some of the bycatch that is retained in the commercial gillnet fishery is used for personal consumption by fishers in the camps. In the weir fishery, all bycatch are released unharmed. Bycatch is considered to have a negligible impact to the ecosystem.

TRADITIONAL ECOLOGICAL KNOWLEDGE

The Inuit of Cambridge Bay have accumulated a great deal of historical ecological and environmental expertise that provided a basis for their survival as it related to food sources and signs of decline in a given area. In particular, the Ekalluktok (Ekalluk) River has a well-documented history of the traditional ecological knowledge (TEK) of the Iqaluktuurmiut, the group of Inuit families who have occupied the area for four thousand years.

Inuit knowledge continues to be an important means of managing the fishery, and TEK is used with scientific knowledge for effective fisheries decision-making and in the development of scientific research and fishery management plans. TEK has contributed to the information needed to support an updated stock status of the Cambridge Bay Arctic Char commercial fishery. This IFMP, including management measures and best practices related to the use of fishing gear and release of spawning Arctic Char, has been developed in consultation with the community by the Cambridge Bay Arctic Char Working Group.

STOCK ASSESSMENT

A complete stock status assessment of Cambridge Bay Arctic Char was completed by Day and Harris (2013) and commercial quotas are considered to be sustainable for all rivers. A multi-year stock assessment plan has been developed by Fisheries and Oceans Canada (DFO), in consultation with resource users and co-management organizations, to determine estimates of abundance and biomass, to assess stock health and to establish sustainable harvest levels for each of the current commercial waterbodies. Both fishery dependent (those data collected directly from the commercial fishery) and independent data (those collected independent of the commercial fishery) is required as part of the plan.

3. SOCIAL, CULTURAL AND ECONOMIC IMPORTANCE

This section provides an overview of social, cultural and economic importance and conditions.

Arctic Char is very important to the social connection, cultural definition and food requirements of Inuit. Cambridge Bay is also known as Ikaluktutiak, which in Inuinnaqtun translates to “Good Fishing Place” and reflects the strong historical and cultural connection the people share with Arctic Char. Arctic Char play an important role in the nutrition and social culture of the community – fostering the continuation of traditional culture and lifestyles, provision of traditional foods, and local self-sufficiency.

The commercial harvest of Arctic Char supports important social and cultural values of family, sharing and community that have been passed down through generations of fishers. In 2012 Kitikmeot Foods Ltd. employed 28 local residents and beneficiaries in support of the Arctic Char commercial fishery. The commercial fishery maximizes local employment opportunities, thus allowing fishers to live and work in Cambridge Bay and contribute to the local economy while continuing to carry forward skills from a more traditional way of life.

The economic contribution of the Cambridge Bay Arctic Char commercial fishery is significant for both the local economy and the Territory. In 2012, the Cambridge Bay commercial harvest exceeded 95% of the available quotas for the area, totalling 48,134 kgs. The current average market value for all forms of Cambridge Bay Arctic Char produced by Kitikmeot Foods Ltd. is estimated at \$24.09 per kilogram, or \$1,159,636.

It is important to note that the economic contribution of Arctic Char is highly variable from one year to the next due to several factors. While the quotas continue to remain stable, annual operational costs, market demand and value, and opportunities to harvest the full potential of the quotas is not consistent and may vary by year.

4. MANAGEMENT ISSUES

This section provides an overview of current priority issues in the fishery.

The priority management issues for the Cambridge Bay Arctic Char commercial fishery include the need for updated stock abundance estimates to support management decisions, timely harvest reporting and consistent reporting of catch and effort information in support of sustainable harvest levels, and ensuring the long-term viability of the commercial fishery.

Stock Abundance Estimates

With comprehensive up-to-date abundance estimates (or biomass) and stock assessments for each of the commercially harvested stocks of Arctic Char, updated exploitation rates can be provided. To support standard stock assessment, both fishery-dependent (those data collected directly from the commercial fishery) and fishery-independent data (those collected independent of the commercial fishery) are required. Long-term monitoring designed to estimate annual CPUE of harvests and report bycatch and discards in the fishery, will improve understanding and is necessary for the sustainable management of Arctic Char in Cambridge Bay.

Harvest Reporting

Timely, accurate reporting of all catches and the effort exerted to harvest these catches from each of the commercial waterbodies is essential. Commercial harvesting needs to remain within regulated harvest levels, and the timeliness of reporting allows managers to assess the harvest as limits are approached. Recent initiatives have resulted in daily reporting of commercial landings through the processing plant and a shared stewardship monitoring program involving the EHTO, Kitikmeot Foods Ltd. and DFO has been funded through the Nunavut General Monitoring Plan since 2011. All commercial fisheries are currently monitored for total removals, including commercial landings, bycatch and discards, and personal consumption.

Economic Viability

Rising transportation costs are impacting the economic feasibility of commercially fishing at some of the more distant river systems, and further limit consideration of establishing new commercial fisheries at other fishery locations. Regional and territorial co-management organizations continue to assess strategies and promote economic viability while ensuring stocks remain healthy and abundant.

5. OBJECTIVES

This section outlines the long-term and short-term objectives for the fishery.

Objectives for the Cambridge Bay Arctic Char commercial fishery are a key component of the IFMP. Long term objectives guide the management of the fishery and are categorized as stock conservation, ecosystem, shared stewardship, and social, cultural and economic objectives. Each long term objective is supported by one or more short term objectives and address existing management issues in the fishery. The objectives listed in Table 1 were developed by the IFMP Working Group and other stakeholders.

Table 1. Long-term and short-term term objectives for the Cambridge Bay Arctic Char commercial fishery.

Long-term Objectives	Short-term Objectives
<i>Stock Conservation</i>	
<p>Conserve Arctic Char stocks through sustainable use and effective fishery management</p>	<ul style="list-style-type: none"> • Update stock assessment information and advice on sustainable harvest levels for each commercial waterbody • Improve knowledge of Arctic Char biology and stock discrimination • Improve the timeliness and accuracy of harvest and CPUE reporting in commercial, recreational and food fisheries to monitor total removals of arctic Char. • Encourage conservation and responsible fishing practices for Arctic Char. • Given uncertainties related to the abundance of Arctic Char stocks in the Cambridge Bay area, continue to harvest at conservative levels.
<i>Ecosystem</i>	
<p>Conserve bycatch species through effective fishery management.</p>	<ul style="list-style-type: none"> • Improve the accuracy and completeness of reporting bycatch to improve understanding of species interactions and management. • Promote fishing practices that avoid or mitigate impact on bycatch species.
<i>Shared Stewardship</i>	
<p>Promote collaboration, participatory decision making, and shared responsibility with resource users, co-management organizations and other stakeholders.</p>	<ul style="list-style-type: none"> • Conduct IFMP Working Group meetings on a regular basis. • Continue to engage local participation in co-management activities at every opportunity • Secure funding for monitoring programs for commercial, recreational and food fisheries. • Transition commercial monitoring program to fisher-based monitoring and reporting of total removals.
<i>Social, Cultural and Economic</i>	
<p>Promote an economically viable and self-sufficient fishery based on high quality that maximizes social and economic benefits, while ensuring stocks remain healthy and</p>	<ul style="list-style-type: none"> • Support initiatives to optimize community-based processing and employment capacity. • Support strategies to increase feasibility of commercial operations at more distant

Long-term Objectives	Short-term Objectives
abundant for future generations.	river systems and other fishery locations. <ul style="list-style-type: none"> • Maintain and conserve local and traditional fishing activities and areas.
Compliance	
Promote compliance with legislation, regulations and management measures to achieve conservation and sustainable use.	<ul style="list-style-type: none"> • Promote compliance through education and shared stewardship. Work closely with local and territorial wildlife officers. • Promote compliance through increased presence, monitoring, and surveillance activities.

6. ACCESS AND ALLOCATION

This section outlines access and allocation for the fishery.

Commercial quotas are established for each water body, as set out in Schedule V of the *NWT Fishery Regulations*. All waterbodies have a competitive quota; in other words, all fishers licensed to commercially fish a given waterbody collectively fish against the total quota for that waterbody. There are no individual quota allocations associated with the commercial fishery. The commercial fishery is opened annually through Variation Order, and closed by Notice of Closure when the quota is met. Commercial fishing licences are issued to fishers under Section 7 of the *Fisheries Act*.

Table 2 displays current quotas for the commercial fishery in both round weight kilograms (the appropriate product form and unit of measure of quota allocation, as set out in Schedule V) and dressed weight pounds (form and unit of measure used in the fishery to record landings).

Table 2: Quotas for the Cambridge Bay Arctic Char commercial fishery.

Location	Quota (Kg, Round Weight)	Converted Quota (Lbs, Dressed Weight)
Ekalluktok (Ekalluk) River	20,000	36,744
Halokvik (Thirty-Mile) River	5,000	9,186
Jayko (Jayco) River	17,000	31,232
Paliryuak (Surrey) River	9,100	16,718
Palik (Lauchlan) River	2,400	4,409
Grand Total	53,500 Kgs.	98,289 Lbs.

7. MANAGEMENT MEASURES

This section outlines the management measures for the duration of the plan.

Management measures outline the controls or rules adopted for the fishery, including stock conservation and sustainable management measures. Management measures for the Cambridge Bay Arctic Char commercial fishery include controls related to quota, openings and notice for

the closure of fisheries; licensing; and reporting requirements, including bycatch and discards and the use of logbooks (see Table 3). These measures are supported by shared stewardship arrangements and best practices (Section 8), all of which are currently in place in the fishery.

Commercial fishing licences are issued annually to fishers under Section 7 of the *Fisheries Act*. Commercial fishers are responsible for reporting landings, in accordance with the *Fishery (General) Regulations* and *NWT Fishery Regulations* and as outlined in the management measures of this plan. Logbooks are available from the EHTO or Kitikmeot Foods Ltd. and are used to record all commercial landings, fishing effort, any Arctic Char discarded or kept for personal consumption, and all bycatch encountered in the commercial fishery. Logbooks are submitted to Kitikmeot Foods Ltd. or the EHTO and returned to DFO at the end of the season. To support real time harvest reporting and quota monitoring, daily records of landings for each commercial waterbody are kept by Kitikmeot Foods Ltd. and are reported daily to DFO.

Table 3. Current Management Measures, Cambridge Bay Arctic Char Commercial Fishery

Management Measure	Description
Locations	<ul style="list-style-type: none"> • Commercial waterbodies are set out in Regulations. • Waterbodies opened annually by Variation Order
Quota	<ul style="list-style-type: none"> • Set out in Regulations for each commercial waterbody. • All waterbodies have a competitive quota. There are no individual allocations associated with the commercial fishery.
Licences	<ul style="list-style-type: none"> • Required when commercially fishing.
Species, area and catch limitations	<ul style="list-style-type: none"> • Species and waterbody permitted to fish are specified. • Quota is specified in Kilograms, Round Weight. • Conversion factors are specified, where applicable. • Quantity specified is the total competitive commercial quota available.
Fishing Season	<ul style="list-style-type: none"> • April 1 – March 31, annually.
Notification of closure	<ul style="list-style-type: none"> • Once the competitive quota is reached, the waterbody is closed to commercial fishing • Via public notice, issued by Fishery Officer.
Fishing gear	<ul style="list-style-type: none"> • Minimum gillnet mesh size is 139mm (5-½ inch). • When using a weir, 1/3 of the width of any river or stream shall always be left open.
Disposal	<ul style="list-style-type: none"> • Fish are to be disposed in gurry grounds, where they have been designated.
Discards and Bycatch	<ul style="list-style-type: none"> • All discards of Arctic Char, including those for personal consumption, are to be reported in logbooks. • Any bycatch is to be reported in logbooks, identifying those kept for personal consumption and those that are not retained.
Reporting requirements	<ul style="list-style-type: none"> • Reporting of landings is required by commercial fishers. • Reporting of all bycatch and discards in logbook. • Commercial fishers to accurately and completely record fishing activities, including catch and effort of each gillnet set or weir

Management Measure	Description
	<p>landing, as per directions in logbooks. Logbook is to be provided to DFO immediately at the end of each fishery. Logbooks are available from the EHTO or Kitikmeot Foods Ltd.</p> <ul style="list-style-type: none"> • Kitikmeot Foods Ltd. to provide report from each trip, which includes date, time, location, lot and tub numbers, and landing amounts. Raw Product Inspection Report is an acceptable format. Each trip report is faxed or emailed to DFO on the day of trip receipt.

8. SHARED STEWARDSHIP

This section outlines shared stewardship arrangements and best management practices.

The IFMP for the Cambridge Bay Arctic Char commercial fishery was initiated and developed by the Cambridge Bay Arctic Char Working Group in 2010. A letter of support from the Nunavut Wildlife Management Board (NWMB) was received in 2011 expressing support for the initiative of the Working Group and development of a management plan. Working Group members include the Ekaluktutiak Hunters and Trappers Organization (EHTO), Kitikmeot Foods Ltd., commercial fishers, community elders, Department of Environment – Fisheries and Sealing Division, and DFO. Youth from the local high school are encouraged to actively participate as a sitting member of the Working Group. The Working Group reports its progress to its member organizations as well as the NWMB, Kitikmeot Regional Wildlife Board, and Nunavut Tunngavik Incorporated. Each Working Group meeting is accompanied by a community consultation to obtain community views regarding Arctic Char management issues, objectives, management measures and scientific research.

Best management practices, initiated by co-management organizations through the IFMP Working Group, are included in the IFMP. In support of the long-term health of Arctic Char stocks and sustainability of the fishery, it is important to reduce any potential impact to the spawning population. When spawners are captured in the gillnet fishery, and where they are alive, all spawning Arctic Char should be released where they were taken, in a manner that causes them the least harm. When encountered in a weir fishery, all spawning Arctic Char should be released unharmed. These best management practices are currently in place in the commercial fishery.

9. COMPLIANCE PLAN

This section outlines the compliance plan supported by education and shared stewardship.

The DFO Conservation & Protection program promotes compliance with legislation, regulations and management measures implemented to achieve the conservation and sustainable use of Canada’s aquatic resources. DFO Fishery Officers conduct surveillance activities, and are supported by Regional DFO staff that provide assistance with monitoring, reporting, education and shared stewardship.

DFO Fishery Officers discuss fisheries conservation and shared stewardship during visits to Cambridge Bay and interact with community resource users, fishers and processors; and participate in fishery review meetings where compliance issues are presented and recommendations requested for resolution.

10. PERFORMANCE REVIEW

This section outlines the review process for assessing and managing the fishery.

This IFMP was developed through a consultative process including resource users, co-management organizations, and stakeholders. Commercially fished Arctic Char stocks in the Cambridge Bay area will continue to be assessed through shared stewardship with resource users, and multi-year stock assessments and scientific advice. Monitoring of the fishery will be accomplished using several tools including daily reporting of landings, quota monitoring, logbooks, and surveillance.

Post season reviews will be conducted on a regular basis with stakeholders and the IFMP Working Group. Progress on achieving the short term objectives and effective implementation of management measures identified in this Management Plan will be reviewed. Recommendations to improve management of the Cambridge Bay Arctic Char commercial fishery will be developed to meet the long term objectives of maintaining a sustainable fishery.

Figure 1: Map of the Nunavut Settlement Area detailing the Kitikmeot Region and the community of Cambridge Bay.

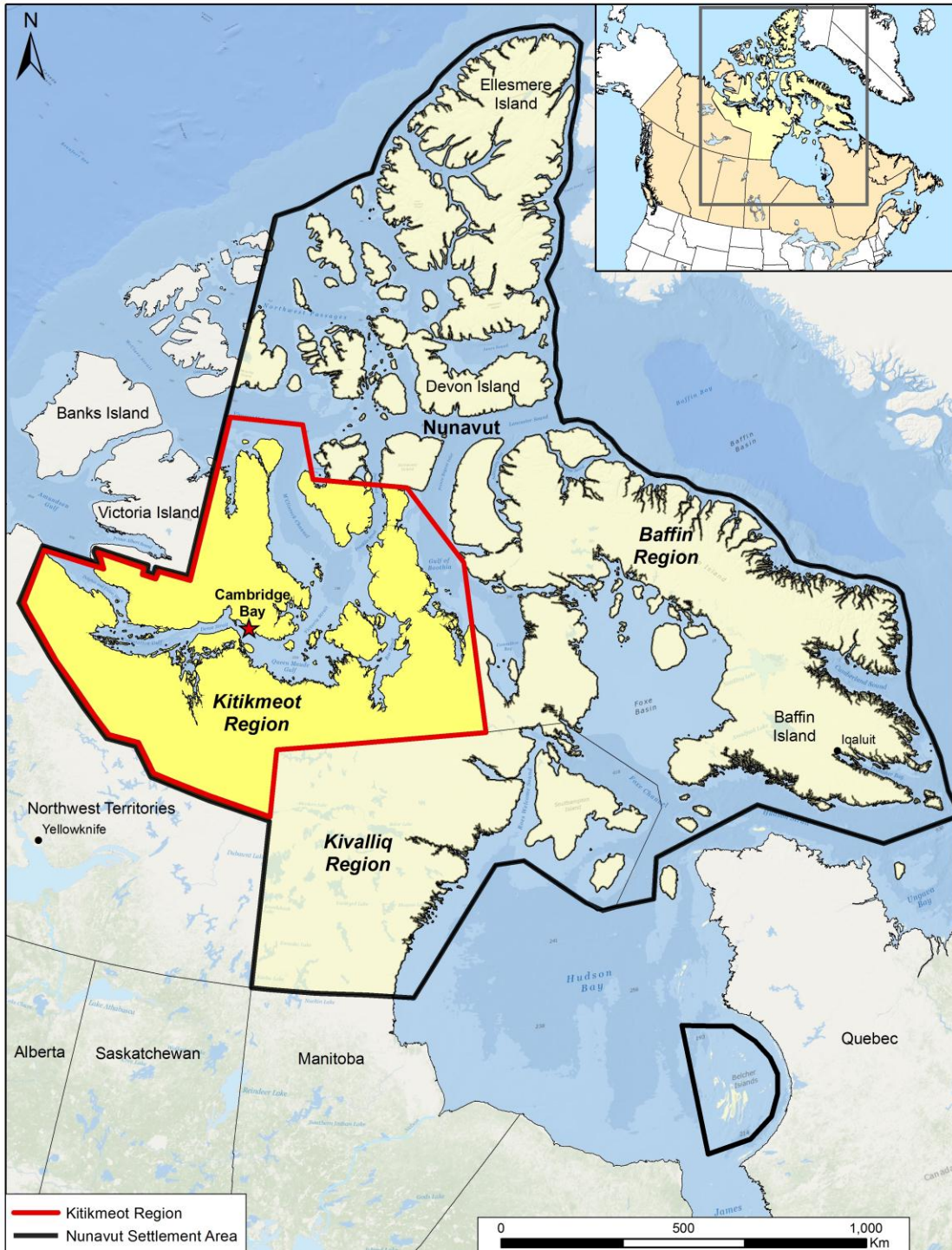


Figure 2: Map of Cambridge Bay area showing current commercial fishing locations.

