SUBMISSION TO THE
NUNAVUT WILDLIFE MANAGEMENT BOARD

FOR

Information: **Decision: X**

Issue: Approval of the Integrated Fishery Management Plan for the Cambridge Bay Arctic Char Commercial Fishery (effective 2014)

Background:

This Integrated Fisheries Management Plan (IFMP) addresses the Cambridge Bay Arctic Char commercial fishery. Commercial fishing near the Community of Ekaluktutiak, also known as Cambridge Bay, first began in 1960 with a gillnet operation on nearby Freshwater Creek. To avoid over-exploitation of this system from the competing pressure of the local food fishery, the commercial fishery was relocated in 1962 further from the community to the mouth of the Ekalluktok (Ekalluk) River, where the river empties into Wellington Bay. At different times over the past fifty years, approximately twelve waterbodies have been commercially harvested. Today the commercial fishery targets searun Arctic Char at five locations: Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan), Ekalluktok (Ekalluk) and Jayko (Jayco) rivers. Commercial quotas for these waterbodies total 53,500 Kgs, and represent the largest commercial Arctic Char fishery in Nunavut.

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 economic contribution of the Cambridge Bay Arctic Char commercial fishery is significant for both the local economy and the Territory, providing stable employment opportunities for local beneficiaries and a current market value estimated at $1,159,636.

The Cambridge Bay Arctic Char commercial fishery is managed under the *Fisheries Act*, the *Fishery (General) Regulations* and the *Northwest Territories Fishery Regulations*. The fishery is managed consistent with the *Nunavut Land Claims Agreement (NLCA)* and in a collaborative manner with co-management organizations, resource users and stakeholders. The Ekaluktutiak Hunters and Trappers Organization (EHTO) recognized the importance of developing a management plan to highlight the long history of successfully co-managing the Cambridge Bay Arctic Char commercial fishery in a sustainable manner, using effective management measures and best practices. The Integrated Fisheries Management Plan (IFMP) was initiated in 2010 and developed by the Cambridge Bay Arctic Char Working Group (Working Group).

IFMPs are an important reporting tool and valuable source of information on how a fishery is managed. They provide a clear and concise summary of the characteristics of the fishery, stock status, management objectives, management measures used to achieve those objectives, and

criteria by which objectives are to be measured. Management objectives have been developed by the Working Group and other stakeholders, and all management measures including shared stewardship arrangements and best practices outlined in the IFMP are currently in place for the fishery.

The draft Cambridge Bay Arctic Char commercial fishery IFMP has been developed in support of a longer term planning approach to fisheries management. Key to this is the adoption of "evergreen" IFMPs (i.e. no set end date). Information requiring regular updates is to be contained in appendices and the main body of the IFMP is to be revised only if there are major changes to the fishery or a significant number of changes accumulate over time.

Members of the Working Group include the EHTO, Kitikmeot Foods Ltd., commercial fishers, community elders, Nunavut Department of Environment – Fisheries and Sealing Division, and Fisheries and Oceans Canada (DFO). Youth from the local high school are encouraged to participate as a sitting member of the Working Group. Co-chaired by the EHTO and DFO, the Working Group developed a Terms of Reference to guide the development of the IFMP for the Cambridge Bay Arctic Char commercial fishery (provided in both Inuktitut (Attachment 1) and English (Attachment 2)).A letter of support from the Nunavut Wildlife Management Board (NWMB) was received by the Working Group in 2011 expressing support for the initiative of the Working Group and development of a management plan (Attachment 3, Inuktitut and English). The Working Group reports its progress to its member organizations as well as the NWMB, Kitikmeot Regional Wildlife Board, and Nunavut Tunngavik Incorporated.

The draft Cambridge Bay Arctic Char commercial fishery IFMP has been developed through the collaboration of co-management organizations, resource users and stakeholders. This initiative has been led by the EHTO through a series of Working Group meetings since March 15, 2010. Working Group meetings have occurred regularly and each meeting has been accompanied by public consultations with resource users and stakeholders. Discussions focused on stock conservation of Arctic Char populations, monitoring of fishing activities, licence conditions, compliance and harvest reporting. These discussions highlighted the key management issues, formulated the long-term and short-term objectives of the fishery, and demonstrated the importance of the management measures and best practices currently in place in the fishery. Various sections of the IFMP were presented as they were drafted, and revised according to discussions and feedback at Working Group meetings and public consultations.

The complete draft IFMP was provided to Working Group members in advance of the most recent Working Group meeting (October 30, 2013). Each section of the draft IFMP was reviewed in details and approved by the Working Group. It was agreed that the IFMP would be co-submitted by the EHTO and DFO on behalf of the Working Group, reflecting the successful collaboration, engagement, and contribution of the community and the various resource users and stakeholders that make up the Working Group. Along with meeting minutes, on November 13, 2013 the draft IFMP was distributed to the NWMB, NTI and other stakeholders for their information and further consideration.

Written comments on the draft IFMP were requested by all recipients by November 27, 2013. The final draft reflects the goals, issues and objectives identified by the EHTO, commercial fishers, and

the local community of resource users and stakeholders. The final draft IFMP was distributed to the Working Group, NWMB, NTI and other stakeholders on December 19, 2013 for final consideration in advance of this co-submission by the EHTO and DFO.

A timeline of meetings and engagements, participants and outcomes are outlined in Attachments 4 (Inuktitut) and 5 (English). An executive summary of the draft Cambridge Bay Arctic Char commercial fishery IFMP is provided in both Inuktitut (Attachment 6) and English (Attachment 7); the complete draft IFMP is provided in Attachment 8 (English).

Decisions requested from NWMB

The EHTO and DFO request the Board approve the Cambridge Bay Arctic Char commercial fishery Integrated Fishery Management Plan pursuant to its discretionary authorities under NLCA s. 5.2.34(d) (i).

DFO urges the NWMB to consider approval of the Cambridge Bay Arctic Char commercial fishery Integrated Fishery Management Plan at its upcoming March 2013 meeting, instead of at a subsequent meeting**.** As the Board is aware, it is becoming increasingly important for Canadian fisheries, including Cambridge Bay Arctic Char commercial fishery, to be able to demonstrate sustainability. The EHTO, with the full support of commercial fishers and the other members of the Working Group, recognizes the importance of having an up-to-date IFMP to help maintain a healthy Arctic char population, ensure the sustainable harvest of Arctic char consistent with the principles of conservation set out in the Nunavut Land Claims Agreement, and supports economically prosperous Arctic Char commercial fisheries in Cambridge Bay. As such, it is important to have an approved IFMP in place for the 2014 fishing season, which typically begins in July.

Submitted by:

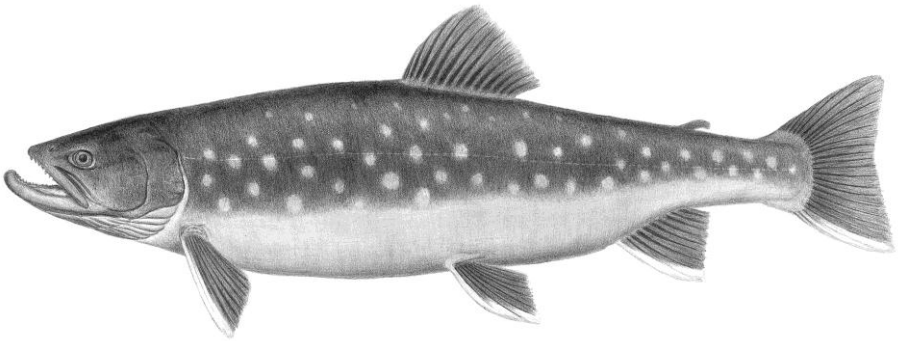
Ekaluktutiak Hunters and Trappers Organization; and
Resource Management, Central and Arctic Region, Fisheries and Oceans Canada

Date: January 27, 2014

Attachments:
1) Cambridge Bay Arctic Char Working Group Terms of Reference (Inuktitut)
2) Cambridge Bay Arctic Char Working Group Terms of Reference (English)
3) NWMB Letter of Support (Inuktitut and English)
4) Engagement Timeline (Inuktitut)
5) Engagement Timeline (English)
6) Summary – Cambridge Bay Arctic Char commercial fishery IFMP, Effective 2014 (Inuktitut)
7) Summary – Cambridge Bay Arctic Char commercial fishery IFMP, Effective 2014 (English)
8) Cambridge Bay Arctic Char commercial fishery IFMP, Effective 2014 (English)

Cambridge Bay Arctic Char Working Group

Terms of Reference



Final
March 23, 2013

Revision History

Version	Date	Action
1.0	09/08/2010	Initial draft.
2.0	04/15/2011	Revisions.
3.0	06/12/2011	Revisions.
4.0	12/09/2011	Final.
5.0	03/23/2013	Approved.

Cambridge Bay Arctic Char Working Group

Terms of Reference

These Terms of Reference were adopted by the members of the Cambridge Bay Arctic Char Working Group in regard to the development of an Integrated Fishery Management Plan (IFMP) for Arctic char (Salvelinus alpinus) commercial fisheries in the Cambridge Bay Area, Nunavut.

Purpose: The purpose of this Working Group is to develop an IFMP for commercially harvested Arctic char in the Cambridge Bay Area that will ensure the maintenance of healthy Arctic char populations, ensure the sustainable harvest of Arctic char consistent with the principles of conservation set out in the Nunavut Land Claim Agreement, and represent the best interests of all co-management partners.

Working Group Reports To:

- Chair, Nunavut Wildlife Management Board (NWMB)
- Chair, Kitikmeot Regional Wildlife Board (KRWB)
- Chair, Ekaluktutiak Hunters and Trappers Organization (EHTO)
- Manager, Fisheries and Sealing Division, Department of Environment (DOE)
- Director of Wildlife, Nunavut Tunngavik Incorporated (NTI)
- Regional Director of Ecosystems and Fisheries Management (EFM), DFO Central and Arctic Region
- Director, Northern Operations DFO Central and Arctic Region

Working Group Membership:

- EHTO Representatives: EHTO Chairperson, Directors
- Kitikmeot Foods Ltd. (KFL) Representatives: Stephane Lacasse, Denise LeBleu
- Commercial fish harvesters, as available
- Community Elders: Jimmy Maniyogina, Paul Omilqoetok
- Kiilinik High School Representatives (Leadership Program), as available
- DOE, Fisheries and Sealing Division Representative: Laurie Lee
- DFO Representatives: Tyler Jivan (EFM), Les Harris (Science)
- *Ex officio*: individual(s) to act as recording secretary
- Others: representatives from other DFO sectors (e.g. DFO Policy & Economics), government agencies or stakeholders (e.g. outfitters) may be invited to participate or contribute as appropriate

If the designated representative cannot make a scheduled meeting of the Working Group, it will be their responsibility to ensure that an alternate representative will attend in their place.

Chair:

- EHTO board member; designated alternate

Co-Chair:

- Tyler Jivan (DFO EFM); designated alternate

Communications:

- The Working Group members are each responsible to report on progress to their respective agencies.
- An interpreter will be present at each in-person WG meeting.
- To ensure that the Cambridge Bay community understand and contribute to the development of the IFMP, public meetings will accompany each WG meeting and meeting minutes will be made publically available.

Meetings and Timetable:

- The development of the IFMP will take at least 12 months to complete, during which the Working Group will:
    i) develop mutually agreeable Terms of Reference,
    ii) confirm that all of the necessary background material has been identified,
    iii) review current Inuit and scientific information about Arctic Char stocks in the Cambridge Bay Area,
    iv) achieve consensus on long and short term management goals for this fishery, and
    v) develop a work plan for the completion of the Management Plan.

- Quorum (number, composition of meetings) – The minimum number of WG members that must be present to conduct a meeting is six (6), and must include at least two (2) EHTO representatives (including the Chair or designated alternate), two (2) community elders and one (1) DFO representative.
- Members will meet as a group at least once during the development of the IFMP.
- Members will meet as a group at least once annually during the subsequent development of the Management Plan, preferably post-season (post-September).
- Meetings will be held at the call of the chair or co-chair, and normally will be held in Cambridge Bay, NU.
- The balance of communication will be done through e-mail or teleconference, as needed.

Funding:

- DFO will fund the costs of meeting arrangements, including translation services and participation costs (travel, accommodations, honorarium, and per diem) of two (2) HTO representatives and two (2) community elders when travel is required. When meetings are held in Cambridge Bay, travel will not be expected for HTO representatives or community elders; costs of honorarium will be covered for all HTO representatives in attendance.
- Interpreter/translator services will be funded by DFO
- All other member agencies will fund the travel costs of their respective representatives.
- Funding for specific planning initiatives will be considered separately by the agencies.

Guidelines for the Development of the Management Plan

Principles:

- The Management Plan will be written in plain language, and will be available in both Inuinnaqtun and English.
- Working Group members must be involved in the development of the Management Plan and must support the final document if it is to be approved and successful.
- Consensus will be the method used to reach decisions. In the unlikely event that Working Group members cannot reach consensus, the decision will be referred to NWMB with a full briefing note describing the issue and Working Group concerns about it. The Working Group will keep the community informed about of its progress, and will discuss community concerns as they arise.
- Working Group members should be open to all ideas and suggestions, emphasize a common-sense approach, should be transparent with respect to information gathering and decision making, and should commit to full disclosure of all information.
- The Management Plan and its development must be flexible and subject to modification as new ideas and information become available and conditions change.
- The Management Plan and its development should serve as a model for other communities and fisheries in the future.

Biological Scope:
• The plan will be restricted to Arctic Char populations in the Cambridge Bay Area.

Geographic Scope:
• The plan will encompass the known distribution of Arctic Char in the general area of Cambridge Bay, Nunavut.

Fisheries Use:

• The plan is specific to the management of commercial fishing activities. Because Arctic Char stocks are shared by all resource users, it is important that the plan consider past, present and potential commercial, food and recreational use by NLCA beneficiaries, other residents of Nunavut and others from outside the region and territory.

Background Information:

• The Working Group will review relevant information about commercial, food and recreational harvesting, including traditional and scientific knowledge of Arctic Char species and Arctic Char stocks.
• Working Group members will also identify other background information as it becomes available.

Components of the Plan:

• The final plan will follow the Integrated Fishery Management Plan (IFMP) model, and may include the following components: overview of the fishery, social, cultural and economic significance, objectives and management concerns, a harvesting plan, management measures, compliance plan, and performance review.
• The Plan will be developed for multi-year duration, in an effort to provide operational stability of the fishery.

www.nwmb.com

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Nunavut Wildlife Management Board

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Tammaqtailinahuarniriit anngutighat atuqhugit Inuit qaujimajatuqangillu ilihimaniillu ilitquhiannin
Conserving wildlife through the application of Inuit Qaujimajatuqangit and scientific knowledge

April 20th, 2011

Chairperson of the
Cambridge Bay Arctic Char Working Group
Ekaluktutiak HTO
P.O. Box 78
Cambridge Bay, Nunavut
X0B 0C0

Re: Nunavut Wildlife Management Board support for the initiative of the Cambridge Bay Arctic Char Working Group

Dear Sir/Madam,

Wildlife staff with the Nunavut Wildlife Management Board (NWMB or Board) would like to express support for the initiative of the Cambridge Bay Arctic Char Working Group, to develop a management plan for the commercial Arctic char fishery in the Cambridge Bay area. We are providing this letter as an expression of support for both the Working Group and the development of the management plan, and the efforts and involvement of the Ekaluktutiak Hunters and Trappers Organization (HTO) and the community of Cambridge Bay. NWMB staff are confident that your Working Group will be successful in meeting your objective of developing a management plan for Arctic char in the Cambridge Bay area that will ensure the maintenance of a healthy Arctic char population, ensure the sustainable harvest of Arctic char consistent with the principles of conservation set out in the Nunavut Land Claim Agreement (NLCA), and represent the best interests of all the Co-management partners.

Recognizing that Government retains ultimate responsibility for wildlife management, the NWMB is the main instrument of wildlife management in the Nunavut Settlement Area (NSA) and the main regulator of access to wildlife (NLCA S 5.2.33). One function of the NWMB's role in wildlife management is the approval of plans for the management and protection of wildlife species in the NSA. To avoid any potential conflict of interest that might arise by having NWMB staff involvement in the development of management plans that ultimately have to go to the Board for final approval, the Board has instructed staff to remain at arm's length from the actual drafting of such plans. As the upcoming meeting of the Cambridge Bay Arctic Char Working Group on May 4th, 2011 will involve the drafting of various components of the management plan, NWMB staff will not be able to participate. However staff remain supportive of this important initiative and believe it will contribute greatly to the continued development of a sustainable commercial Arctic char fishery in Cambridge Bay.

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ᐅᖅᓯᐅᑎᖅ: (867) 975-7300
ᓴᖅᑭᑐᖅ: (867) 975-7320

Titiqqap Turaarvia 1379
Iqaluit, NU X0A 0H0
Hivajaut: (867) 975-7300
Kajumiktukkut: (867) 975-7320

Box 1379
Iqaluit, NU X0A 0H0
Telephone: (867) 975-7300
Fax: (867) 975-7320

The NWMB requests to be kept informed on the progress of the Working Group, and we look forward to reviewing the management plan following its completion. If you have any questions or concerns with regards to the contents of this letter, please do not hesitate to contact NWMB staff. Thank you in advance for your hard work and dedication to this initiative.

Sincerely,

Adam Schneidmiller
Director of Wildlife Management
Nunavut Wildlife Management Board

Cc: Tyler Jivan, Senior Fisheries Management Officer, Fisheries and Oceans Canada Winnipeg

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Nunavut Wildlife Management Board

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Tammaqtailinahuarniriit anngutighat atuqhugit Inuit qaujimajatuqangillu ilihimaniillu ilitquhiannin
Conserving wildlife through the application of Inuit Qaujimajatuqangit and scientific knowledge

ᐄᑉᓇᓕ 20, 2011

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ᐊᖑᑦ/ᐊᕐᓇᕐᓘᓐᓃᑦ,

ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐃᖅᑲᓇᐃᔮᕐᑏᑦ ᐅᕙᓂ ᓄᓇᕗᑦᒥ ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᑲᑎᒪᔨᖏᑦ (ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᐅᑉᐸᓘᓐᓃᑦ ᑲᑎᒪᔩᑦ) ᐅᖃᕈᒪᔫᑦ ᐃᑲᔪᕐᑐᓂᕐᒥᓂᒃ ᐱᒋᐊᓐᖓᐅᑎᖓᓂᒃ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒥ ᐃᖃᓗᒃᐱᓐᓂᒃ ᐱᔭᕆᐊᑭᓪᓕᑎᑦᓯᔩᑦ, ᐋᕿᑦᓱᐃᓂᕐᒥᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᓪᒥᒃ ᑮᓇᐅᔾᔭᑦᓴᕈᑎᒋᓗᒋᑦ ᐃᖃᓗᒃᐱᓐᓂᐊᕐᕕᖕᓂᒃ ᐃᖃᓗᒃᑑᑦᑎᐊᑉ ᖃᓂᒋᔮᖓᓂ. ᐱᑕᖃᒃᑲᐃᕗᒍᑦ ᐅᑯᓂᖓ ᑎᑎᖅᑲᓂᒃ ᓇᓗᓇᐃᕐᓯᒍᑎᒋᓪᓗᒋᑦ ᐃᑲᔪᕐᑐᓂᑎᓐᓂᒃ ᑕᒪᒃᑭᓐᓂ ᐱᔭᕆᐊᑭᓪᓕᑎᑦᓯᔩᑦ ᐊᒻᒪᓗ ᐱᕚᓪᓕᐊᔭᐅᓂᖏᓐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᑏᑦ, ᐊᒻᒪᓗ ᐊᒃᓱᕈᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᑲᒪᒃᑕᐅᓂᖏᓐᓂᒃ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒥ ᐊᖑᓂᐊᕐᑏᑦ ᐊᒻᒪᓗ ᒥᑭᒋᐊᕐᓂᐊᕐᑏᑦ ᑎᒥᖏᑕ (ᐊᖑᓂᐊᕐᑎᓕᕆᔩᑦ) ᐊᒻᒪᓗ ᓄᓇᖅᑲᑦ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒥ. ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᐃᖅᑲᓇᐃᔮᕐᑎᖏᑦ ᓇᓗᓐᖏᓚᑦ ᐃᓕᓯ ᐱᔭᕆᐊᑭᓪᓕᑎᑦᓯᔩᑦ ᑲᔪᓯᓂᖅᓯᐊᕐᓂᐊᓇᐊᖏᑦ ᐱᔭᓅᕐᓂᕐᒥᒃ ᑐᕌᒐᕆᔭᒥᓐᓂᒃ ᐱᕙᓪᓕᐊᑎᑦᓯᓂᕐᒧᑦ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᑎᓂᒃ ᐃᖃᓗᒃᐱᓐᓂᒃ ᐃᖃᓗᒃᑑᑦᑎᐊᑉ ᖃᓂᒋᔮᖓᓂ ᐃᑉᐱᒍᓱᒍᑕᐅᓂᐊᕐᑐᓂᒃ ᑲᒪᒋᔭᐅᓂᖏᓐᓂᒃ ᖃᓄᐃᓐᖏᑦᑐᑦ ᐃᖃᓗᒃᐲᑦ, ᐃᑉᐱᒍᓱᒍᑕᐅᓂᐊᕐᑐᓂᒃ ᓄᖑᑉᐸᓪᓕᐊᖏᓪᓗᑎᑦ ᐊᖑᓇᓱᒃᑕᐅᓂᖏᓐᓂᒃ ᐃᖃᓗᒃᐲᑦ ᐊᔾᔨᖓᓂᒃ ᑐᓐᖓᕕᐅᔪᑦ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒥᒃ ᑕᐃᒪᒃ ᑎᑎᕋᕐᑕᐅᒻᒪᑕ ᐅᕙᓂ ᓄᓇᕗᑦᒥ ᓄᓇᖁᑎᖃᕐᓂᕐᒧᑦ ᐊᖏᖅᑎᒋᔪᑏᑦ (ᓄᓇᖁᑎᖃᕈᑏᑦ), ᐊᒻᒪᓗ ᐱᑕᖃᕐᑐᑎᒃ ᓈᒻᒪᓂᕐᐸᓂᒃ ᐱᑕᖃᖅᑯᔭᓂᒃ ᐃᓘᓐᓇᖏᓐᓄᑦ ᐊᐅᓚᑦᓯᖅᑎᒌᓂᕐᒧᑦ ᑲᒪᒃᑕᐅᔭᓄᑦ.

ᐃᓕᓴᓇᓗᒋᑦ ᐃᒫᒃ ᓚᕙᒪᓐᑯᑦ ᑎᑐᒥᐊᕐᑎᐅᒻᒪᑕ ᑭᖑᓪᓕᕐᕚᖑᓪᓗᑎᒃ ᐃᑉᐱᒋᔭᖅᑲᕐᓂᒥᒃ ᐆᒪᔭᐃᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓂᒃ, ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᑲᒪᔩᐅᓗᐊᕐᑐᑦ ᐆᒪᔪᕐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᓄᓇᕗᑦᒥ ᐱᖁᑎᑖᖑᓯᒪᔪᑉ ᓇᓃᓂ (ᓄᓇᖁᑎᑖᖑᓯᒪᔪᖅ) ᐊᒻᒪᓗ ᐊᐅᓚᑦᓯᔨᐅᓗᐊᕐᑐᑦ ᐊᑐᐃᓐᓇᖅᑲᕐᓂᕐᒥᒃ ᐆᒪᔪᕐᓂᒃ (ᓄᓇᖁᑎᑖᕈᑏᑦ ᐃᓚᖓ 5.2.33). ᐃᓚᐅᔪᑦ ᑲᒪᒋᔭᖓᑦ ᐆᒪᔪᓕᕆᔩᑦᔪᐊᒃᑯᑦ ᐱᓕᕆᓪᓗᑎᒃ ᐆᒪᔪᕐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒥᒃ ᐊᖏᕈᑎᖃᕆᐊᖃᕐᓂᖅ ᐸᕐᓇᒍᑎᓂᒃ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᐊᒻᒪᓗ ᓴᐳᒻᒥᔭᐅᓂᖏᓐᓂᒃ ᐆᒪᔪᑦ ᓄᓇᖁᑎᑖᖑᓯᒪᔪᒥ. ᐱᑕᖃᑦᑕᐃᓕᑎᓪᓗᒍ ᖃᓄᐃᓐᓇᖅ ᓈᒻᒪᖏᔾᔪᑏᑦ ᖃᐅᔨᒪᒍᒪᓂᕐᒧᑦ ᐊᓚᒃᑲᐅᑎᓐᓇᓇᐊᖅᒪᑕ ᐅᑯᐊ ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᐃᖅᑲᓇᐃᔮᕐᑎᖏᑦ ᑲᒪᒃᑕᐅᑉᐸᑕ ᐱᕚᓪᓕᐊᔭᐅᓂᖏᓐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᑏᑦ ᑭᖑᕐᖓᒍᑦ ᑕᑯᓐᖓᓇᖅᑲᕐᓂᐊᕐᑐᑦ ᑲᑎᒪᔪᓄᑦ ᐊᖏᕐᑕᐅᒐᓱᐊᕐᓗᑎᒃ, ᑲᑎᒪᔩᑦ ᑎᓕᓯᓯᒪᔪᑦ ᐃᖅᑲᓇᐃᔮᕐᑎᓂᒃ ᑎᑭᐅᒪᑐᐃᓐᓇᖁᓪᓗᒋᑦ ᑎᑎᕐᑕᐅᓕᓐᓂᖏᓐᓂᒃ ᑕᐃᒪᐃᑦᑐᑦ ᐸᕐᓇᒍᑏᑦ. ᑕᐃᒪᓕ ᐊᒥᕐᑐᒥ ᑲᑎᒪᓃᕐᓂᖓᑦ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒥ ᐃᖃᓗᒃᐱᓐᓂᒃ ᐱᔭᕆᐊᑭᓪᓕᑎᑦᓯᔩᑦ ᐅᕙᓂ ᒪᐃ 4, 2011 ᐱᑕᖅᓂᐊᕐᒪᑦ ᑎᑎᕐᑕᐅᓂᖏᓐᓂᒃ ᐊᔾᔨᒌᖕᖏᑦᑐᑦ ᐃᓗᓕᖏᑦ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᑏᑦ, ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᐃᖅᑲᓇᐃᔮᕐᑎᖏᑦ ᐱᖅᑕᐅᒍᓐᓇᔾᔮᖏᑦᑐᑦ. ᑭᓯᐊᓂ ᐃᖅᑲᓇᐃᔮᕐᑏᑦ ᑕᐃᒪᖓᑦ ᐃᑲᔪᕐᑐᕐᑐᑦ ᑕᒪᑦᓯᒥᖓ ᐱᒪᓇᐅᔪᒥᒃ ᐱᒋᐊᓐᖓᐅᒧᒃ ᐊᒻᒪᓗ ᓱᓕᔪᕐᓴᕐᑐᑦ ᐃᑲᔪᕐᑐᒻᒪᕆᐅᓂᐊᕆᐊᖓ ᑲᔪᓯᓂᓕᒻᒥᒃ ᐱᕚᓪᓕᐊᔭᐅᓗᓂ ᓄᖑᑉᐸᓪᓕᐊᖏᓪᓗᑎᒃ ᑮᓇᐅᔾᔭᑦᓴᕈᑎᒋᓗᒋᑦ ᐃᖃᓗᒃᐱᓐᓂᐊᕐᕕᑦ ᐃᖃᓗᒃᑑᑦᑎᐊᕐᒥ.

ᑎᑎᖅᑲᒃᑯᕕᒃ 1379
ᐃᖃᓗᐃᑦ, ᓄᓇᕗᑦ X0A 0H0
ᐅᖄᓚᐅᑎᖓ: (867) 975-7300
ᓱᑲᑦᑐᒃᑯᑦ: (867) 975-7320

Titiqqap Turaarvia 1379
Iqaluit, NU X0A 0H0
Hivajaut: (867) 975-7300
Kajumiktukkut: (867) 975-7320

Box 1379
Iqaluit, NU X0A 0H0
Telephone: (867) 975-7300
Fax: (867) 975-7320

ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑐᑦᓯᕋᕐᐳᑦ ᑐᓴᐅᒪᑎᑕᐅᖏᓐᓇᕈᒪᓪᓗᑎᒃ ᐱᕙᓪᓕᐊᓂᖏᓐᓂᒃ ᐱᔭᕆᐊᑭᓪᓕᑎᑦᓯᔾᔪᑦ, ᐊᒻᒪᓗ ᓂᕆᐅᓐᓂᖅᐸᕐᔪᑦ ᕿᒥᕐᕈᓂᐊᕐᓂᕐᒥᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᐸᕐᓇᒍᑎᓂᒃ ᑭᖑᕐᖓᒍᑦ ᐱᔭᕇᕐᑕᐅᕙᒃᑕ. ᖃᓄᐃᓐᓇᖅ ᐊᐱᖅᑯᑎᑦᓴᖃᕈᑦᓯ ᐅᕙᓐᓄᓐᓃᑦ ᐃᓱᒫᓗᒍᑎᖃᕈᑦᓯ ᐱᓪᓗᒋᑦ ᐃᓗᓕᖏᑦ ᐅᑯᐊ ᑎᑎᖅᑲᑦ, ᐊᑏ ᖃᐅᔨᒃᑲᕐᑕᐃᓕᓂᐊᕐᓯᐅᒃ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᐃᖅᑲᓇᐃᔭᕐᑎᖏᑦ. ᕐᑯᔭᓐᓇᒦᒃ ᓯᕗᕐᖓᒍᑦ ᐊᒃᓱᕈᕐᑐᓯ ᐱᓕᕆᒐᑦᓯ ᐊᒻᒪᓗ ᐃᕐᕿᐊᓱᒐᓯ ᑕᒪᑦᓱᒥᖓ ᐱᒋᓐᖑᕐᑕᐅᔪᒥᒃ.

ᓱᓕᔪᒥᒃ,

ᐋᑕᒻ ᓯᓇᐃᑦᒥᓗᕐ
ᑐᑭᒧᐊᕐᑎᑦᓯᔨ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ
ᓄᓇᕗᑦᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᑦ ᑲᑎᒪᔨᖏᑦ

ᐱᖅᑕᖅ: ᑕᐃᓗᕐ ᔨᕚᓐ, ᕐᑯᒻᕙᓯᓐᓂᕐᕙᖅ ᐃᖃᓗᓐᓂᐊᕐᓇᕐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ, ᐃᒪᕐᒥᐅᑕᓕᕆᔩᑦ ᑲᓇᑕᒥ ᕗᐃᓂᐲᒻᒥ

Engagement Timeline, Cambridge Bay Arctic Char commercial fishery IFMP

Date	Engagement Type	Participants/Recipients	Outcome
September 29, 2009	DFO request for meeting	EHTO	EHTO to discuss interest in developing management plan at next Board meeting
November 26, 2009	EHTO Board Meeting	EHTO	EHTO approved DFO meeting to discuss management plan with community stakeholders
March 15 2010	Cambridge Bay Working Group	EHTO board members and manager, commercial fishers, KFL management, DOE wildlife officers, DFO RM, DFO C&P	Drafted Working Group membership, Terms of Reference; reviewed IFMP template and content; discussed fishery issues and objectives
March 15 2010	Public consultation	Commercial fishers, community elders, other local resource users	Reviewed IFMP template and content; discussed general fishery issues and concerns; collected traditional knowledge and mapped fishing locations
March 16 2010	Public consultation	Commercial fishers, community elders, other local resource users	Reviewed IFMP template and content; discussed general fishery issues and concerns; collected traditional knowledge and mapped fishing locations
September 14, 2010	Invitation	NWMB, EHTO, NTI, KRWB, KFL, DFO RM, DFO Science, DFO C&P	Recipients invited to participate as member of the Working Group
September 14, 2010	Notification	NIWS, DOE Fisheries and Sealing division	Recipients notified of Working Group
February 15, 2011	Acknowledgement	DFO	NTI acknowledged invitation to be a member of Working Group. BTI intended to assign staff at a later date.
April 07, 2011	Invitation	DOE Fisheries and Sealing division	Invited to participate as a member of the Working Group
April 20, 2011	Letter of Support	EHTO, DFO	Letter of Support received from NWMB in support of the Cambridge Bay Arctic Char Working Group and the development of a management plan for the Cambridge Bay Arctic char fisheries
May 4, 2011	Cambridge Bay Working Group	EHTO board members and manager, commercial	Finalized Working Group Terms of Reference; reviewed

		fishers, KFL management, NWMB staff (call-in), youth participant, DOE Fisheries and Sealing division, DFO RM, DFO C&P, DFO Science	NWMB letter of support; approved Working Group membership, including addition of DOE Fisheries and Sealing division; reviewed science stock assessment; reviewed preliminary management issues, long-term management objectives, management measures developed through Working Group and consultations
May 4, 2011	Public consultation	Commercial fishers, community elders, other local resource users	Reviewed preliminary management issues, long-term management objectives, management measures developed through Working Group and consultations
May 16, 2012	Nunavut General Monitoring Plan	EHTO board member and manager, KFL management, DFO RM, DFO Science	Developed community-based monitoring program as an action to current management issues, long-term and short-term objectives; reviewed draft logbook materials
July 3, 2012	Nunavut General Monitoring Plan	EHTO board member and manager, KFL management, monitors, commercial fishers, DFO RM, DFO Science	Implemented 2012 community-based commercial monitoring program in support of management issues and objectives identified through Working Group and consultations
November 14-15, 2012	Nunavut General Monitoring Plan	EHTO board member and manager, commercial fishers, KFL management, monitors, DFO RM, DFO Science	Reviewed 2012 community-based commercial monitoring program, collected feedback from local community monitors, commercial fishers, project partners
March 20, 2013	Public consultation	Commercial fishers, community elders, other local resource users	Reviewed recent fishery activities, science stock assessment and recent science activities; approved management issues, long-term and short-term management objectives, management measures, compliance plan; collected feedback on

			community-based monitoring program
March 21, 2013	Cambridge Bay Working Group	EHTO board members and manager, commercial fishers, community elders, DOE Fisheries and Sealing division, DFO RM, DFO C&P, DFO Science, invited research scientist	Approved Working Group Terms of Reference; reviewed science stock assessment and recent science activities; approved management issues, long-term and short-term management objectives, management measures, compliance plan; reviewed community-based monitoring program, recent fishery activities
July 8, 2013	Nunavut General Monitoring Plan	EHTO board member and manager, KFL management, monitors, commercial fishers, DFO RM, DFO Science	Implemented 2013 community-based commercial monitoring program in support of management issues and objectives identified through Working Group and consultations
September 19, 2013	Draft IFMP distribution	EHTO board members and manager, commercial fishers, community elders, DOE Fisheries and Sealing division, DFO RM, DFO C&P, DFO Science	Distributed draft IFMP to Working Group for review and comment in advance of next Working Group meeting
October 30, 2013	Cambridge Bay Working Group	EHTO board members and manager, commercial fishers, DOE fisheries and sealing division, DFO RM, DFO C&P, DFO Science	Finalized draft IFMP document, including format of management issues, long-term and short-term management objectives, management measures; reviewed science stock assessment and recent science activities; reviewed 2013 community-based monitoring program, recent fishery activities
November 13, 2013	Draft IFMP distribution	NWMB, NTI, KRWB, DOE wildlife officer	Distributed draft IFMP to stakeholders for information and review
December 19, 2013	Final draft IFMP distribution	EHTO board members and manager, commercial fishers, community elders, DOE Fisheries and	Distributed final draft IFMP incorporating comments and edits received to date.

		Sealing division, DFO RM, DFO C&P, DFO Science, NWMB, NTI, KRWB, DOE wildlife officer	

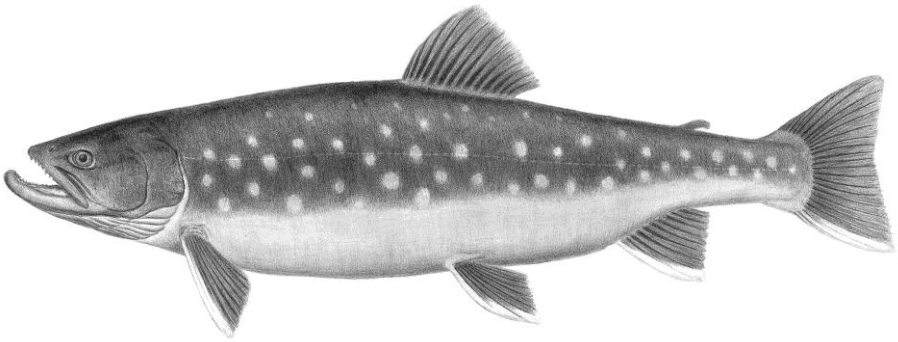
Acronyms:
Department of Environment, Government of Nunavut (DOE)
Ekaluktutiak Hunter & Trapper Organization (EHTO)
Fisheries and Oceans Canada (DFO), Resource Management (RM), Conservation & Protection (C&P)
Kitikmeot Foods Ltd. (KFL)
Kitikmeot Regional Wildlife Board (KRWB)
Nunavut Inuit Wildlife Secretariat (NIWS)
Nunavut Tunngavik Incorporated (NTI)
Nunavut Wildlife Management Board (NWMB)

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
Stock Conservation	
Conserve Arctic Char stocks through sustainable use and effective fishery management	• 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.
Ecosystem	
Conserve bycatch species through effective fishery management.	• 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.
Shared Stewardship	
Promote collaboration, participatory decision making, and shared responsibility with resource users, co-management organizations and other stakeholders.	• 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.
Social, Cultural and Economic	
Promote an economically viable and self-sufficient fishery based on high quality that maximizes social and economic benefits, while ensuring stocks remain healthy and	• 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. • 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.	• 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	• Commercial waterbodies are set out in Regulations. • Waterbodies opened annually by Variation Order
Quota	• 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	• Required when commercially fishing.
Species, area and catch limitations	• 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	• April 1 – March 31, annually.
Notification of closure	• Once the competitive quota is reached, the waterbody is closed to commercial fishing • Via public notice, issued by Fishery Officer.
Fishing gear	• 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	• Fish are to be disposed in gurry grounds, where they have been designated.
Discards and Bycatch	• 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	• 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
	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. • 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.

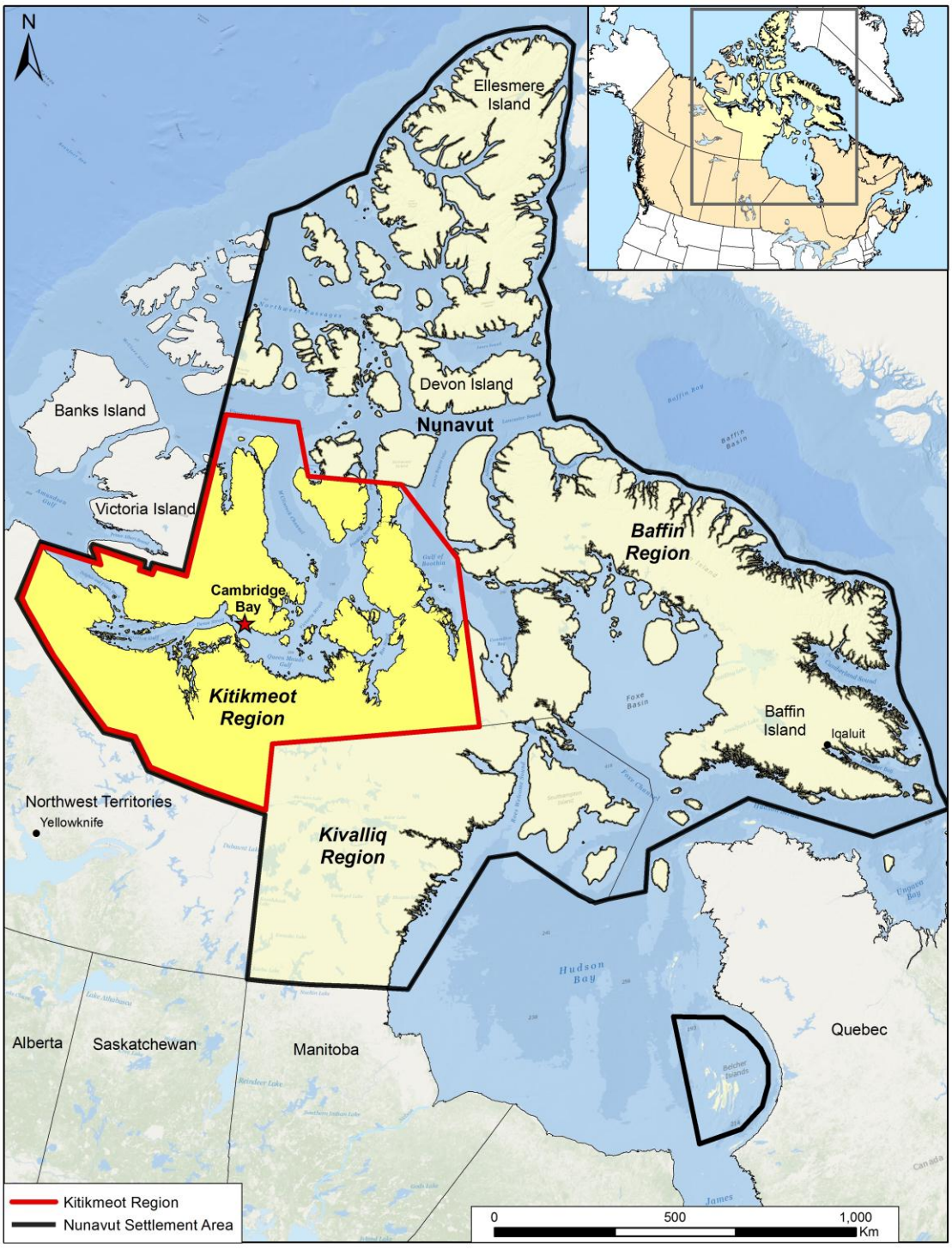
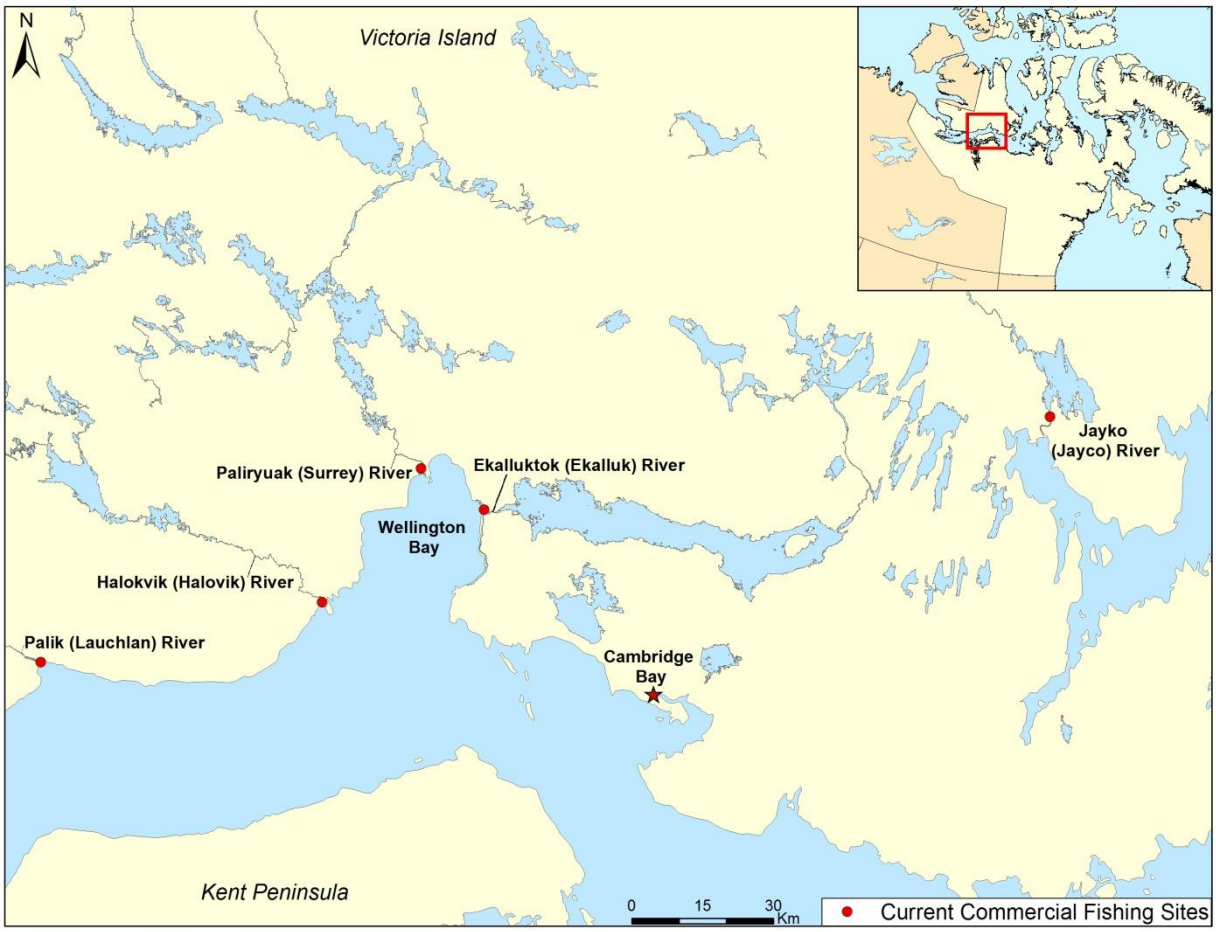


Figure 2: Map of Cambridge Bay area showing current commercial fishing locations.



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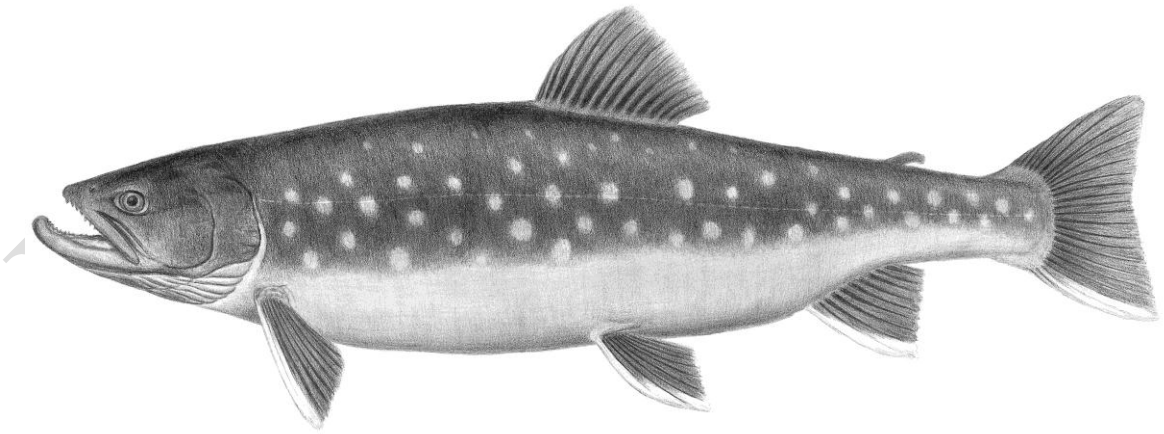
FINAL DRAFT

Integrated Fisheries Management Plan

Cambridge Bay Arctic Char Commercial Fishery, Nunavut Settlement Area

Effective 2014

Arctic Char
(*Salvelinus alpinus*)



Canada

Produced by:

Fisheries and Oceans Canada
Central and Arctic Region
Resource Management and Aboriginal Affairs
501 University Crescent
Winnipeg, MB
R3T 2N6

FORWARD

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.

_____

David Burden, Regional Director General, Central and Arctic Region
Fisheries and Oceans Canada

_____

Date

_____

Chairperson/Executive Director, Nunavut Wildlife Management Board

_____

Date

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ACROYNMS

C&A	Central and Arctic Region, Fisheries and Oceans Canada
C&P	Conservation and Protection, Fisheries and Oceans Canada
CPUE	Catch-Per-Unit-Effort
DFO	Fisheries and Oceans Canada
EHTO	Ekaluktutiak Hunters and Trappers Organization
HTO	Hunters and Trappers Organization
IFMP	Integrated Fishery Management Plan
NLCA	*Nunavut Land Claims Agreement*
NSA	Nunavut Settlement Area
NWMB	Nunavut Wildlife Management Board
NWT	Northwest Territories
RWO	Regional Wildlife Organization
TC	Transport Canada
TEK	Traditional Ecological Knowledge

1 OVERVIEW OF THE FISHERY

1.1 HISTORY

Arctic Char, *Salvelinus alpinus* (L.) are distributed across the Canadian Arctic. Occurring as both a non-anadromous (lake-resident or land-locked) and anadromous (searun) forms, this species is found in many of the rivers and lakes on Victoria Island, near the Community of Ekaluktutiak, also known as Cambridge Bay. Anadromous Arctic Char are harvested in the food, recreational and commercial fisheries in the area.

There are several key commercial waterbodies in the Cambridge Bay area. These waterbodies are known by several names, including local Inuinnaqtun and English names, as well as the legal name used in the NWT Fishery Regulations (see Table 1). Throughout this IFMP both the Inuinnaqtun and English local names are used concurrently given they are most commonly recognized by resource users.

Table 1. Commercial waterbody names in the Cambridge Bay area.

Inuinnaqtun Local Name	English Local Name	English Legal Name[1]
Ekalluktok River	Ekalluk (Wellington) River	Ekalluk River
Halokvik River	Thirty-Mile River	Halovik River
Paliryuak River	Surrey River	Paliryuak River
JaykoRiver	Jayco River	Jayco River, Albert Edward Bay
Palik River	Lauchlan River	Lauchlan River (Byron Bay)

Prior to the onset of the commercial fishery, it is likely that all river systems in the Cambridge Bay area were fished for food by Inuit. Commercial fishing in the area first began in 1960, with a gillnet operation on nearby Freshwater Creek. To avoid over-exploitation of this system from the competing pressure of the local food fishery, the commercial fishery was relocated in 1962 further from the community to the mouth of the Ekalluktok (Ekalluk) River, where the river empties into Wellington Bay.

Initially, a river-specific quota was used at Ekalluktok (Ekalluk) River and remained in effect until 1967. Subsequently an "area" quota was established for Wellington Bay to allow fishing to take place at other rivers in the region (i.e. Paliryuak (Surrey), Halokvik (Thirty-Mile) and Palik (Lauchlan) rivers). However, the decline in the fishery (as evidenced by a decrease in mean weight) at Ekalluktok (Ekalluk) River, where most of the fishing took place, necessitated the establishment of "river-specific" quotas to distribute fishing effort among these systems. Eventually commercial fishing was extended to Jayko (Jayco) River to the northeast of Cambridge Bay and the Ellice and Perry rivers, on the nearby mainland. Presently, only the Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan), Ekalluktok (Ekalluk) and Jayko (Jayco) rivers are commercially fished. The early history of this fishery is described in Abrahamson (1964) and Barlishen and Webber (1973). Recent harvest and stock status of this fishery is provided by Day and Harris (2013) and is available on the internet at: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2013/2013_068-eng.html.

[1] Legal Name refers to the commercial waterbody name used in Column I of Schedule V, *NWT Fishery Regulations*.

With the exception of the Ekalluktok (Ekalluk) River location, where a local outfitter directs a sport-fishing operation during the upstream fall migration, commercial fisheries in the region do not coincide with regular recreational or food harvesting locations. Several other locations nearer to and in the community are used for both recreational and food fisheries (e.g. Starvation Cove and Gravel Pit areas, and Freshwater Creek) by local residents. Although each of the commercial locations has at different times been historically harvested for food fisheries, most food fisheries now occur at the same locations as the local recreational fisheries close to the community of Cambridge Bay.

For the purposes of this IFMP, all current Arctic Char commercial waterbodies in the Cambridge Bay area are collectively referred to as the "Cambridge Bay Arctic Char commercial fishery". For management purposes, each commercial waterbody is considered an individual management unit.

1.2 FISHERY TYPE AND PARTICIPANTS

Arctic Char are primarily harvested in food and commercial fisheries in the Cambridge Bay area. In addition, there are several recreational (sport) fisheries in and around the community. Arctic Char plays an important role in the social culture, nutritional and economic growth of the community – fostering the continuation of traditional culture and lifestyles, provision of irreplaceable traditional foods, and the economic benefits of successful commercial and recreational fisheries.

The commercial fishery, which is the focus of this IFMP, is conducted by local Inuit fishers in conjunction with the operational support of Kitikmeot Foods Ltd., the commercial processing plant for both Arctic Char and muskox. Kitikmeot Foods Ltd. was established in 1990 as a subsidiary of the Nunavut Development Corporation, and serves a growing domestic and international fish market under the territorial brand *Truly Wild Arctic Char*™. Centrally located in Cambridge Bay, Kitikmeot Foods Ltd. currently employs as many as 28 local residents and beneficiaries, including management, seasonal processors and commercial fishers.

1.3 LOCATION OF THE FISHERY

The Community of Cambridge Bay is located on the south shore of Victoria Island in the Canadian Arctic Archipelago. Cambridge Bay is the largest community in the Kitikmeot Region (Figure 1). Fishing typically takes place at or near the mouth of the various river systems targeting either downstream (spring) or upstream (fall) migrants. Over the years, various other sites have also been periodically fished (see Appendix I for a map of historical sites). Current commercial fishing is directed at the Ekalluktok (Ekalluk), Paliryuak (Surrey), Halokvik (Thirty-Mile) and Jayko (Jayco) rivers. Although there continues to be commercial interest in fishing at the Palik (Lauchlan) River, harvesting at this site has not occurred since 2010 due to a lack of economic viability related to the available commercial quota and significant transportation costs. (See Figure 2 for a map of current commercial fishing locations).

No fishing has occurred at Ellice River since 1999 and Perry River since 1991 for a variety of reasons, including transportation costs, noticeably whiter and less marketable flesh, and regularly

inclement weather in the fall. Factors in considering commercial locations may include social and cultural practices (e.g. primary food fisheries), availability of commercial quota, and geography in addition to economic viability (e.g. proximity to community, transportation costs), fish quality and weather conditions.

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

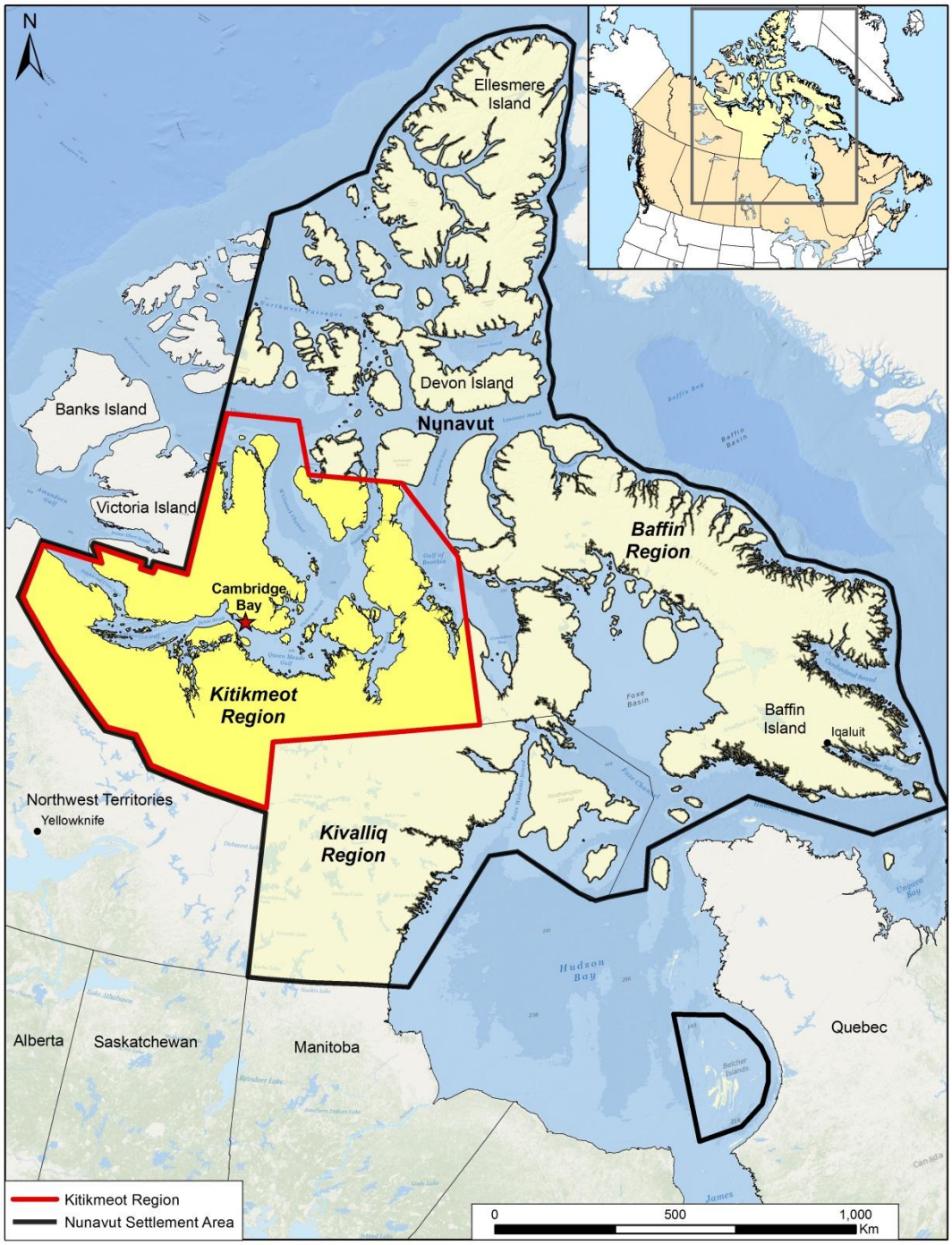
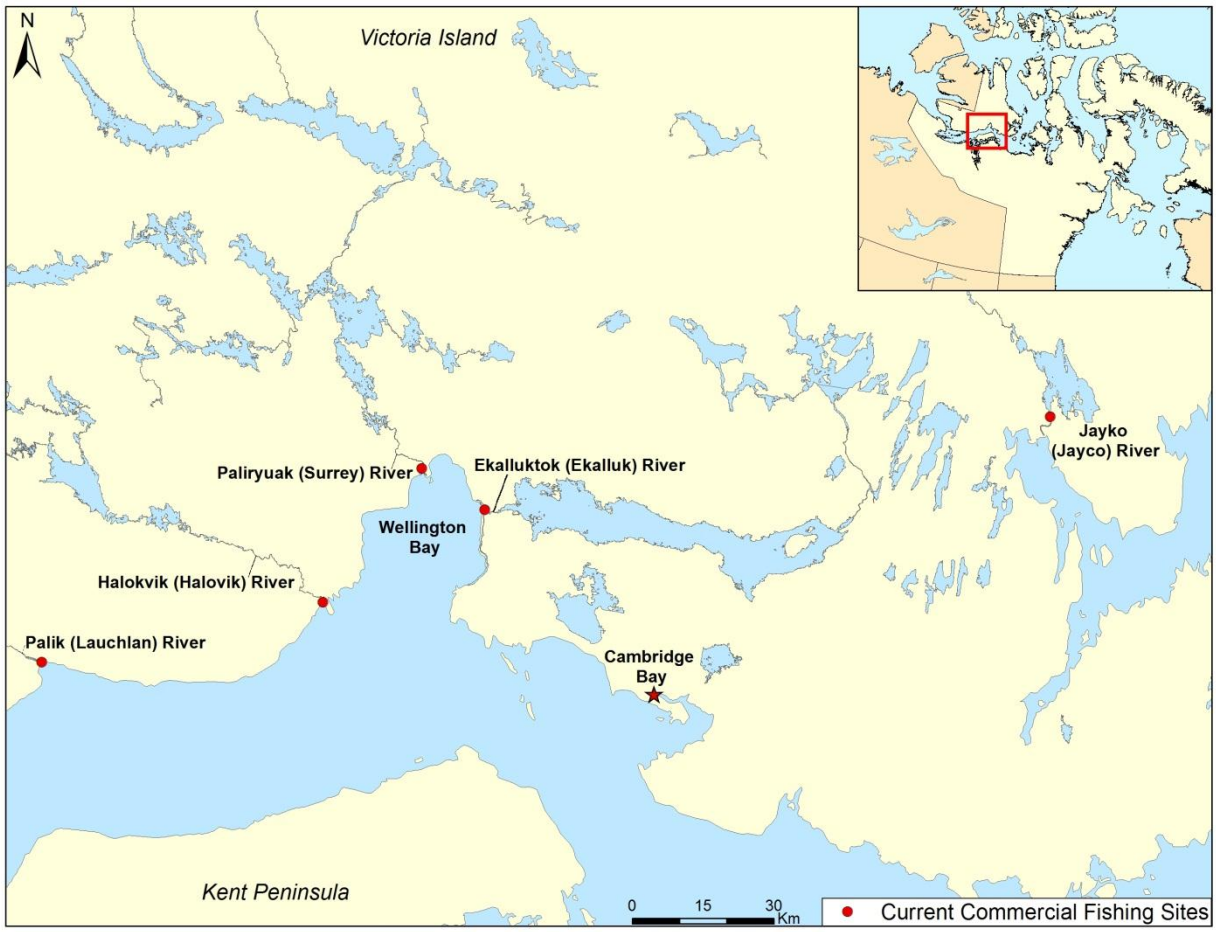


Figure 2: Map of Cambridge Bay area showing current commercial fishing locations.



1.4 GOVERNANCE

The Cambridge Bay Arctic Char commercial fishery is co-managed by the Nunavut Wildlife Management Board (NWMB), Ekaluktutiak Hunters and Trappers Organization (EHTO), and Fisheries and Oceans Canada (DFO), in accordance with the Nunavut Land Claims Agreement, the *Fisheries Act* and its regulations. The NWMB is the main instrument of wildlife management in the Nunavut Settlement Area, although the Minister retains ultimate authority and responsibility for wildlife management and conservation of fish.

Fisheries Act, regulations and policies

The Cambridge Bay Arctic Char commercial fishery is regulated by the *Fisheries Act* (R.S., 1985, c. F-14) 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.

These documents are available on the Internet at: www.dfo-mpo.gc.ca/acts-loi-eng.htm

Sustainable Fisheries Framework

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. The Sustainable Fisheries Framework contains policies for adopting an ecosystem based approach to fisheries management, including *A Fishery Decision-Making Framework Incorporating the Precautionary Approach*, *Managing Impacts of Fishing on Benthic Habitat, Communities and Species* and *Policy on Managing Bycatch*.

These documents are available on the Internet at:
www.dfo-mpo.gc.ca/fm-gp/peches-fisheries/fish-ren-peche/sff-cpd/overview-cadre-eng.htm

Nunavut Land Claims Agreement

In 1993, Canada settled a comprehensive land claim agreement with the Inuit of the Nunavut Settlement Area. The Nunavut Land Claims Agreement (NLCA) created priority access and wildlife harvesting rights for Inuit and other Aboriginal groups who traditionally harvested within the Nunavut Settlement Area.

The Agreement also created an Institution of Public Government, the NWMB, to share decision making authority with the Federal Government. The NWMB and DFO Minister consider matters relating to the proper management and control of fisheries and the conservation of fish within the Nunavut Settlement Area. Under this co-management regime, the NWMB is the main instrument of wildlife management, but the Minister retains ultimate responsibility for wildlife management and may accept, reject or vary decisions made by the NWMB with respect to harvesting and other decisions related to management and protection of wildlife and wildlife habitat.

The Nunavut Land Claims Agreement establishes wildlife management authority for Regional Wildlife Organizations (RWO) and Hunters and Trappers Organizations (HTO). The RWO in the Cambridge Bay area is the Kitikmeot Regional Wildlife Board. The powers and functions of RWOs (NLCA 5.7.6) include:

- Regulation of harvesting practices and techniques among the members of HTOs in the region, including the use of non-quota limitations.
- Allocation and enforcement of regional basic needs levels and adjusted basic needs levels among HTOs in the region.
- Assignment to any person or body other than an HTO, with or without valuable consideration and conditions, of any portion of regional basic needs levels and adjusted basic needs levels.
- Generally, the management of harvesting among the members of HTOs in the region.

The HTO in the Cambridge Bay area is the Ekaluktutiak Hunters and Trappers Organization (EHTO). The powers and functions of HTOs (NLCA 5.7.3) include:

- Regulation of harvesting practices and techniques among the members, including the use of management measures.

- Allocation and enforcement of community basic needs levels and adjusted basic needs levels among members.
- Assignment to non-members, with or without valuable consideration and conditions, of any portion of community basic needs levels and adjusted basic needs levels.
- Generally, the management of harvesting among the members.

The Nunavut Land Claims Agreement establishes authority to Nunavut Tunngavik Incorporated as the primary Designated Inuit Organization under the Agreement (Article 39). It is responsible for ensuring that Inuit rights and obligations under the land claim are implemented, including the wildlife management provisions (Article 5) of the Nunavut Land Claims Agreement.

Under the Agreement, wildlife management and Inuit harvesting are guided by the principles of conservation (NLCA s.5.1.5).

The Nunavut Land Claims Agreement is available on the internet at:
http://laws-lois.justice.gc.ca/eng/acts/N-28.7/

1.5 FISHERY CHARACTERISTICS

Upon ratification of the Nunavut Land Claims Agreement in 1993, all existing restrictions or quotas on the amount of wildlife that could be harvested within the Nunavut Settlement Area were retained and deemed to have been established by the NWMB. These regulatory provisions continue to form the basis for the regulation and management of the Cambridge Bay Arctic Char commercial fishery, requiring among other things:

- A licence to commercially fish Arctic Char in water bodies identified in Schedule V of the *NWT Fishery Regulations*
- Management measures, including gear restrictions, to ensure sustainable harvests
- Requirements to keep records and to report harvest information

In accordance with Section 17(1) of the *NWT Fishery Regulations*, all waterbodies commercially fished in the Cambridge Bay area are listed in Schedule V (see Table 3 (Section 6) for current quotas).Variation Orders are issued annually by DFO to open each commercial waterbody specifying the fishing periods, quotas, and gear limits. Each spring (April or May) DFO releases a summary of all issued Variation Orders to each community HTO office in Nunavut. Additionally, if there is community interest in opening a commercial waterbody that has not been harvested in recent years, an HTO can request the waterbody be opened for commercial fishing.

Fishers are responsible for obtaining a commercial fishing licence for each commercial waterbody. Licences specify the waterbody, quota and other conditions (including the requirement to report harvest) and are currently issued by local Conservation Officers (Department of Environment - Government of Nunavut) on behalf of the DFO. Each commercial waterbody is fished by a lead fisher with a crew of two to five other fishers, all of whom live in camp during the harvest. Due to the distance from Cambridge Bay, camps are established at each

of the waterbodies, and fishers typically remain in camp for the duration of the harvest, which may last for 3 weeks or more.

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. In recent years, the Ekalluktok (Ekalluk) River quota has been harvested at the outlet of this river system nearest to Ferguson Lake, because of sport-fishing interests in the area. Commercial harvests are conducted by either gillnet or weir, depending on geographic conditions. Where conditions are favourable, a weir is the preferred method. Weirs more effectively allow smaller fish to avoid capture, and those Arctic Char that are large enough to be retained are allowed to swim freely in the area, causing little stress and thus a better quality of fish. As well, whereas gillnets may leave markings on the flesh of the fish, weir harvests generate a greater market value for whole product form, and accordingly fishers are paid a premium.

Arctic Char are dressed in the field (i.e. viscera and gills are removed) and washed before being packed on ice in tubs. Each tub holds, on average, 45 Kg (100 lbs.) of dressed fish and as many as 13 tubs can typically be loaded on a float plane. 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.

The plant reports harvest details related to each trip daily to DFO, allowing real time harvest reporting and quota monitoring during the commercial fishing season. Conversion factors are applied to the reported harvest to reconcile weight in Round Kilograms, as per the assigned commercial quota. When a quota is reached, a Notice of Closure is issued by DFO and posted in the community, formally closing the waterbody to further commercial fishing.

Throughout the year DFO works with fishers, Kitikmeot Foods Ltd., and the EHTO to identify priority management issues, and during the fishing season DFO Fishery Officers monitor commercial harvesting activities for compliance with the *Fisheries Act* and applicable regulations. Management issues and compliance concerns are addressed during the fishing season and at pre- and post-fishing season meetings, or whenever possible. In addition, Kitikmeot Foods Ltd. holds a fishers' meeting in advance of each fishing season to discuss related issues and priorities.

1.6 APPROVAL PROCESS

This IFMP will be provided to the Minister of DFO and the NWMB for approval. 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 (see Section 9) 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.

The approved IFMP will be translated to Inuinnaqtun and made publically available from DFO.

2 SCIENCE, TRADITIONAL KNOWLEDGE AND STOCK ASSESSMENT

2.1 BIOLOGICAL SYNOPSIS

Arctic Char, *Salvelinus alpinus* (L.) are distributed throughout the Canadian Arctic including the islands of the Arctic Archipelago (McPhail and Lindsey 1970; Scott and Crossman 1973), and occur as both non-anadromous (lake-resident or land-locked) and anadromous (i.e. searun) forms (Johnson, 1980; Jonsson and Jonsson 2001; Loewen et al. 2009). Arctic Char can tolerate the salinity of the sea when they reach a length of 15 to 20 cm, at which size they are able to descend rivers accessing marine habitats for feeding (Johnson 1980). 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. (Moore 1975; Johnson 1980; Dempson and Kristofferson 1987). The Cambridge Bay commercial fishery targets these downstream, or spring, migrations (July) associated with feeding and upstream, or fall, migrations (mid to late August and early September) 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, and the central Canadian Arctic in general, spawning takes place in lakes, because most rivers freeze completely in winter (Johnson 1980). After hatching, the young Char spend their early years entirely in fresh water (Johnson 1980). The young Arctic Char feed on freshwater shrimp (amphipods) and insect larvae, and the adults feed on small fish and benthic organisms including snails, clams and insect larvae. In most systems, the young Char reach a size of about 150-200 mm in four or five years, and they are ready to take their first migration to sea. Summer feeding migrations may last from five to eight weeks depending on geographic location and local environmental conditions (Johnson 1980; Dempson and Kristofferson 1987). In the fall, all Char return to fresh water to overwinter, to escape the lethal temperatures of winter marine waters (Johnson 1980). Non-anadromous Arctic Char are also found in systems inhabited by the anadromous form. Although these Char also have access to the sea, they do not migrate. The reasons for this have yet to be explored in the Cambridge Bay area, however, in other systems differential migratory strategies appear to be a life history tactic conditional on some threshold of size or growth (Hendry et al. 2004).

Sexual maturity of anadromous Arctic Char is generally reached at a size of about 450 mm in length (Johnson 1980). Kristofferson (unpublished) found that the mean length of spawners in the Cambridge Bay area was 657 mm and ranged from 459 mm to 850 mm (N=402). In this area, sexual maturity was reached at an age of approximately 9 or 10 years. Mean age composition of these spawners was 14.5 years and ranged from 9 to 21 years (N=185) (Kristofferson 2002). Females generally carry 3000 to 5000 eggs (Scott and Crossman 1973). Arctic Char are capable of spawning more than once in a lifetime. In the Cambridge Bay area, however, they do not appear to spawn in consecutive years, once sexual maturity is reached. 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 (Sprules 1952; Grainger 1953; Johnson 1980). After spawning, the Char remain in fresh water for another winter before resuming their feeding migration to the sea the following spring. This behaviour results in a loss of 30-40% of their body weight, so they are often in very poor condition at this time (Dutil 1986). Clearly, spawning

uses a great deal of energy, therefore anadromous Arctic Char may spawn only once or twice in their lifetime (Sprules 1952; Johnson 1980).

2.2 STOCK DELINEATION

Studies have suggested that discrete stocks may exist between and within river systems (Kristofferson 2002), and that straying among all commercial waterbodies occurs (Dempson and Kristofferson 1987). This provides evidence that the stocks are mixing, and that several stocks are potentially harvested at any given fishing location. At each commercial waterbody, however, it is unknown specifically which stocks are being harvested and to what extent. Early genetics analysis proved inconclusive for stock discrimination; however new molecular genetic techniques are available and may help to resolve stock delineation issues.

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. Given the lack of specific information on stock identification, it is believed that such an approach offers the greatest degree of protection to the populations of the whole area (Clarke et al. 1989). This has been the historical management approach for the Cambridge Bay Arctic Char commercial fishery, and to date has proved to be sustainable.

2.3 ECOSYSTEM INTERACTIONS

Habitat alteration and/or degradation of spawning and overwintering sites do not appear to be an issue. Kristofferson (2002), with the assistance of community elders and fishers, identified 12 spawning grounds in the Cambridge Bay area. Given the size and complexity of each commercial freshwater system, however, it is likely that there are other potential spawning areas. Those that have been identified through traditional knowledge are not in the immediate vicinity of commercial fishing locations.

Anadromous Arctic Char feed on marine invertebrates (amphipods such as *Parathemisto libellula*, *Mysis*, and molluscs) and marine fishes (sand launce, capelin, Arctic Cod) while at sea in summer. Young Char are preyed upon by Lake Trout (*Salvelinus namaycush*) in fresh water; and by gulls and other fish-eating birds and occasionally seals while in the sea. None of these impacts likely pose a serious threat to Arctic Char population health. Large Arctic Char appear to be virtually immune to predation and can be considered the terminal predator (Johnson 1980).

There is minimal bycatch in the Cambridge Bay Arctic Char commercial fishery because of the targeted fishing period and gear selection. Recent commercial monitoring has identified that in the gillnet fisheries very little bycatch occurs, and of those captured are Lake Whitefish (*Coregonus clupeaformis*) and Lake Trout; other species may include marine sculpins (*Myoxocephalus spp*.) and Arctic Cod (*Boreogadus saida*). Some of the bycatch that is retained in the commercial 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.

2.4 TRADITIONAL ECOLOGICAL KNOWLEDGE

The Cambridge Bay area has been a place of significant fishing activity for centuries. 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 (Riedlinger and Berkes 2001). 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 occupied the area. As discussed in an exhibit booklet developed by the Kitikmeot Heritage Society (2007), because of the strong runs of Arctic Char that occur both in the spring and the fall the Ekalluktok (Ekalluk) River area has been an important settlement area with archaeological evidence of the area being continuously occupied for four thousand years. Since 2000 the Kitikmeot Heritage Society has collaborated with the University of Toronto on an oral history/archaeological research project documenting traditional life with specific attention given to fishing activities, including knowledge, practices and beliefs. The exhibit booklet is available on the internet at: http://www.kitikmeotheritage.ca/research.htm#iq.

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 of local Arctic Char spawning locations has been collected through the assistance of community elders and fishers (Kristofferson 2002) and traditional knowledge has contributed to the information needed to support an updated stock status of commercially harvested Arctic Char in the Cambridge Bay area (Day and Harris 2013). TEK continues to be collected regularly through community consultations. DFO Science research plans are reviewed annually with resource users, and project designs are adjusted to incorporate local knowledge and advice. This IFMP, including management measures and best practices related to the use of fishing gear and the release of spawning char, has been developed by the Cambridge Bay Arctic Char Working Group in consultation with the community.

2.5 STOCK ASSESSMENT

A complete stock status assessment of Cambridge Bay Arctic Char was completed by Day and Harris (2013) and is available on the internet at: http://www.dfo-mpo.gc.ca/csas-sccs/Publications/ResDocs-DocRech/2013/2013_068-eng.html. The assessment addresses historical fisheries in the area, including Freshwater Creek, Ekalluktok (Ekalluk), Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan), Jayko (Jayco), Ellice and Perry Rivers. In support of stock assessment past attempts have been made to determine the abundance of various systems (McGowan 1990; McGowan and Low 1992), primarily through the use of weirs in upstream runs. However, counts differed significantly among rivers and due to other factors (including escapement and the likely presence of multiple stocks within some river systems), counts could not provide an estimate of stock size. In the absence of annual counts of Arctic Char entering rivers, Day and Harris (2013) inferred stock trends from commercial harvests and biological characteristics obtained from commercial sampling programs. Despite some indications of changes in the age distribution, the commercial quotas are considered to be sustainable for all rivers.

A multi-year stock assessment plan has been developed by DFO, in consultation with resource users and co-management organizations, for the Cambridge Bay Arctic Char commercial fishery. The objectives of the plan are to determine estimates of abundance and biomass, to assess stock

health and to establish sustainable harvest levels for each of the Ekalluktok (Ekalluk), Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan), and Jayko (Jayco) rivers. 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. Fishery dependent data includes biological sampling, total harvest and catch-per-unit-effort (CPUE) data collection. Fishery independent data further contributes to biological sampling and CPUE data collection. Combined, this planned approach to data collection will provide the most complete understanding of the Cambridge Bay Arctic Char commercial fishery.

Fishery-dependent data continues to be collected through the DFO-funded plant sampling program, which has generated a long-term series of biological data and is a key assessment tool in Cambridge Bay. Samples are examined annually for changes in the average length, weight and age and their frequency distributions that may signal a response of the stock to the current level of harvest. CPUE and harvest information collected through a long-term, river-based monitoring program beginning in 2012 will further contribute to fishery dependent data collection for actively harvested commercial fisheries. Led by the EHTO with support of Kitikmeot Foods Ltd. and DFO, the program will be maintained for 5 consecutive years through a funding contribution from the Nunavut General Monitoring Plan. Over time, the monitoring program will be transitioned into a commercial fisher-led program. The monitoring program is designed to estimate annual CPUE of commercial harvest through the use of logbooks. Additionally, the reporting of bycatch and discards in the fishery will contribute to an improved understanding of species interactions.

Fishery-independent data has been collected at Jayko (Jayco) River since 2010, and is expected to continue for 5 consecutive years as part of the multi-year stock assessment plan. Likewise, a 5 year DFO Science research program was established at Halokvik (Thirty-Mile) River in 2011, and others are planned at Ekalluktok (Ekalluk) and Paliryuak (Surrey) rivers beginning in 2014. Weir assessments are planned for Halokvik (Thirty-Mile) River in 2013 and 2014, followed by Jayko (Jayco) River in 2015 and 2016. A multi-year tagging program is also proposed for these two locations beginning in 2013. Additionally, an acoustic tagging project funded by the Ocean Tracking Network planned for the Cambridge Bay area commenced in 2013 which will assess straying among systems, ocean migration patterns and habitat use. Finally, parasite assessments for Arctic Char from all river systems are currently being undertaken in collaboration with Lakehead University.

Current quotas are based on a conservative exploitation level of about 5% of the number of Char in the run vulnerable to the fishing gear (e.g. fish that are 400 mm in fork length and larger are considered vulnerable to 139mm gillnet). Further research to update exploitation rates for commercially harvested Arctic Char in the Cambridge Bay area is needed. Improved understanding of abundance, biomass, and stock health are important for assessing these exploitation rates and for establishing sustainable harvest levels for each waterbody.

3 SOCIAL, CULTURAL AND ECONOMIC IMPORTANCE

3.1 SOCIAL AND CULTURAL

Arctic Char is very important to the social connection, cultural definition and food requirements of Inuit across Canada (Myers et al 2005; Balikci 1980). 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. Today the area remains a significant food fishery as well as a social and economic contributor through recreational and commercial fisheries.

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 nutritional value of country foods like Arctic Char cannot be adequately replaced by southern foods, which are costly to transport and lack the same quality as a food source (Myers et al 2005). 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. Some of the fishers in the commercial fishery harvest at the same locations they were born at, and where their families spent their lives fishing and hunting. The skills and traditions they learned are passed down through their families and are shared with other fishers.

According to the Nunavut Wildlife Harvest Study (NWMB 2004) between 1996 and 2001 the annual number of food harvesters varied between 23 and 55, harvesting an average of 6461 Arctic Char per year from the many waterbodies in the Cambridge Bay area. Fish sold to the fish plant were excluded from the study. Assuming that the average size of Arctic Char from the food harvest is similar to the average commercially harvested size, the Study suggests the food harvest may be as much as half of the average commercial harvest.

3.2 ECONOMIC

The economic contribution of the Cambridge Bay Arctic Char commercial fishery is significant for both the local economy and the Territory. In 2009, the total Arctic Char commercial harvest in Nunavut was estimated at 74,900 kgs with an estimated market value of $1,479,000 (based on an estimated average market price of $19.75 per kilogram generated by DFO). Cambridge Bay contributed 33,056 kgs (44%) of that total harvest, with an estimated market value contribution of $652,749. [2] 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. For example, rising transportation costs,

[2] See Appendix IV: Economic Analysis for details.

productive food fisheries, and poor weather can negatively impact the market value, demand and supply of Arctic Char. A detailed analysis of landings, values, economic viability and potential economic influences is provided in Appendix IV: Economic Analysis.

The Nunavut Development Corporation is a public agency of the Government of Nunavut, and is responsible for promoting economic opportunities, diversity, and long-term growth and stability in Nunavut. It is committed to maximizing opportunities across Nunavut, as well as expanding Arctic Char markets both domestically and internationally. In 2011 Kitikmeot Foods Ltd. registered with CleanFish™, a company that works to bring smaller-scale, more traditional-based fisheries to the marketplace while promoting traceability and sustainability. There also continues to be some interest in achieving eco-certification for Arctic Char to further support branding and market growth. Additionally, Kitikmeot Foods Ltd. is currently registered with Nutrition North Canada's program, a retail subsidy program focused on increasing access to perishable healthy food in isolated northern communities.

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.

As Arctic Char total sales and market opportunities grow, operational costs too continue to increase. Kitikmeot Foods Ltd. has had to rely heavily on freight subsidies from the Nunavut Development Corporation on an on-going basis to offset high transportation costs incurred to bring Arctic Char from fishing sites to the plant and onto various domestic and international markets.

4 MANAGEMENT ISSUES

There are a number of issues that co-management organizations continue to address in the management of the Cambridge Bay Arctic Char commercial fishery. The priority management issues 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.

4.1 STOCK ABUNDANCE ESTIMATES

Comprehensive up-to-date abundance estimates (or biomass) and stock assessments are required for each of the commercially harvested stocks of Arctic Char (See Section 3.2.5). Traditional scientific approaches for stock assessments and abundance estimates for setting sustainable harvest levels may be impractical in terms of cost, feasibility and applicability at all river systems. To compliment these approaches, quantitative modelling methods with predictive strengths are now being recommended in many cases where the data are available. With updated abundance estimates and stock assessments, updated exploitation rates for commercially harvested Arctic Char in the Cambridge Bay area can be provided. Science research needs to continue to support management decisions and resource conservation.

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 contribute to an improved understanding of abundance and species interactions, necessary for the sustainable management of Arctic Char in Cambridge Bay.

4.2 HARVEST REPORTING

Timely, accurate reporting of all catches and the effort exerted to harvest these catches from each of the commercial waterbodies is essential. Without complete and accurate monitoring of all harvesting activities, total harvest removals from all fisheries remain unknown, and co-managers must exercise caution when establishing harvest limits so that healthy Arctic Char populations capable of sustaining commercial harvests and the needs of Inuit can be maintained.

Overharvests of commercial quotas have occurred on occasion. Commercial harvesting needs to remain within regulated harvest levels. The timeliness of the 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 (see Management Measures, Section 7.4). In addition, 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. The monitor-based program will be transitioned to a fisher-led program for commercial fisheries over time. The monitoring program is being extended to recreation and food fisheries at sites other than the commercial waterbodies, in an effort to improve reporting of total removals of all Arctic Char from the Cambridge Bay area.

4.3 ECONOMIC VIABILITY OF THE FISHERY

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. The purchase of Arctic Char from other nearby communities, the use of a collector vessel, and other strategies are being assessed by stakeholders to supplement commercial landings in Cambridge Bay, optimizing the full processing and employment capacity of Kitikmeot Foods Ltd. Regional and territorial co-management organizations continue to promote economic viability while ensuring stocks remain healthy and abundant.

5 OBJECTIVES

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 may be 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 to address existing

management issues in the fishery. The objectives listed in Table 2 were developed by the IFMP Working Group and other stakeholders.

Table 2. Long-term and short-term term objectives for the Cambridge Bay Arctic Char commercial fishery.

Long-term Objectives	Short-term Objectives
Stock Conservation	
Conserve Arctic Char stocks through sustainable use and effective fishery management	• 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.
Ecosystem	
Conserve bycatch species through effective fishery management.	• 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.
Shared Stewardship	
Promote collaboration, participatory decision making, and shared responsibility with resource users, co-management organizations and other stakeholders.	• 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.
Social, Cultural and Economic	

Long-term Objectives	Short-term Objectives
Promote an economically viable and self-sufficient fishery based on high quality that maximizes social and economic benefits, while ensuring stocks remain healthy and abundant for future generations.	• Support initiatives to optimize community-based processing and employment capacity. • Support strategies to increase feasibility of commercial operations at more distant river systems and other fishery locations. • 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.	• 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

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 3 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 to record landings). Conversion factor calculations are outlined in Section 7.3. Quotas and landings for the commercial fishery in recent years are presented in Appendix II.

Table 3: 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 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. These measures are based on the *Fisheries Act* and its regulations, and the NLCA. In addition, these measures are supported by the shared stewardship arrangements and best practices in place for the Cambridge Bay Arctic Char commercial fishery (see Section 8). Appendix III provides an overview of the management measures currently in place.

7.1 LICENSING OF COMMERCIAL FISHING ACTIVITIES

Commercial fishing licences are issued annually in accordance with Section 7 of the *Fisheries Act*. Section 5(1) of the *NWT Fishery Regulations* further specifies that all fishing activities must occur under the authority of a licence. In addition to the provisions set out in the *Fishery (General) Regulations* and *NWT Fishery Regulations*, specific management measures may be outlined in commercial licences.

7.2 QUOTA

All waterbodies have a competitive quota. Once the competitive quota is reached for a waterbody, no further harvesting of Arctic Char is allowed for commercial purposes. The waterbody is closed to further commercial fishing through public issuance of a Notice of Closure by a Fishery Officer consistent with Section 19(2) of the *NWT Fishery Regulations*. This includes issuing the notice to both the EHTO and Kitikmeot Foods Ltd for posting on their respective premises.

7.3 MONITORING AND REPORTING

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. In support of this measure, logbooks are available from the EHTO or Kitikmeot Foods Ltd. Commercial fishers use logbooks 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. Reports are verified regularly during the fishing season, and accumulated landings for each waterbody are tracked against the commercial quota. Plant reporting is validated using logbook information at the end of the season. Any discrepancies are addressed during the post-season review.

Effective quota monitoring requires the application of conversion factors. Landings are recorded in pounds (lbs.) dressed weight, whereas the quota is issued in kilograms (Kg) round weight. A conversion factor of 1.2 is used to convert product dressed weight to round weight. A standard conversion factor of 0.45359237 is applied to convert pounds to kilograms. Round weight kilogram estimation is therefore calculated using the following equation:

Round Weight Kg = (Dressed Weight lbs. x 1.2) x (0.45359237)

An example of the monitoring and reporting process is presented in Appendix II. A quota monitoring and conversion report (Figure 4) is maintained based on daily reporting summaries (Figure 5) and daily trip reports (Figure 6).

8 SHARED STEWARDSHIP

The IFMP for the Cambridge Bay Arctic Char commercial fishery was initiated and developed by the Cambridge Bay Arctic Char Working Group in 2010. Participation on the Working Group includes representatives from the EHTO (co-Chair), 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.

A letter of support from the NWMB was received by the Working Group in 2011 expressing support for the initiative of the Working Group and development of a management plan. The Working Group reports its progress to its member organizations as well as the NWMB, Kitikmeot Regional Wildlife Board, and Nunavut Tunngavik Incorporated. The Cambridge Bay Arctic Char Working Group produced a Terms of Reference to help guide the development of the IFMP. Meetings have been held in Cambridge Bay at least once annually since 2010. Each meeting is accompanied by a community consultation to obtain community views regarding Arctic Char management issues, objectives, management measures and scientific research. Minutes of each meeting are publically available through the EHTO.

There are a number of different ways that the objectives for the fishery may be achieved. Current management measures are identified in Appendix III. Other measures may be initiated by co-management organizations, through the IFMP Working Group, and are included in this section of the IFMP.

8.1 BEST MANAGEMENT PRACTICE – SPAWNERS

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. The almost complete absence of spawners in the fall upstream migrations suggests that the spawning component of the population is not adversely impacted by the commercial fishery. 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

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.

The program is delivered by DFO Fishery Officers in the Central and Arctic Region through a balanced regulatory management and enforcement approach including the following:

- Promotion of compliance through education and shared stewardship;
- Monitoring, control and surveillance activities; and
- Management of investigations in relation to complex compliance issues.

9.1 COMPLIANCE PROGRAM DELIVERY

DFO Fishery Officers are responsible for compliance activities related to the Cambridge Bay Arctic Char commercial fishery. Fishery Officers conduct surveillance activities, and are supported by Regional DFO staff that provide assistance with monitoring, reporting, education and shared stewardship.

Fishery Officers are designated under Section 5 of the *Fisheries Act* with enforcement powers and responsibilities consistent with the *Fisheries Act* and any other Act of Parliament, including the Criminal Code and the *Constitution Act*. Fishery Officers can inspect and investigate processing operations, fishing locations and vessels for compliance with the *Fisheries Act* and related regulations, including Variation Orders and conditions of licences.

9.2 CONSULTATION

DFO Fishery Officers participate in fishery review meetings where compliance issues are presented and recommendations requested for resolution. As well, informal meetings continue on an ad hoc basis to resolve in-season matters. Fishery Officers discuss fisheries conservation and shared stewardship during visits to Cambridge Bay and interact with community resource users, fishers and processors.

9.3 COMPLIANCE PERFORMANCE

Post season analysis sessions are conducted to review issues encountered during the previous season and make recommendations on improving management measures.

10 PERFORMANCE REVIEW

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.

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APPENDICES

Appendix I – Historical Commercial Fishing Locations, Cambridge Bay Area

Appendix II – Commercial Quota and Landing, Monitoring and Reporting

Appendix III – Overview of Current Management Measures

Appendix IV – Economic Analysis of Commercial Fishery

Appendix V – Safety at Sea

APPENDIX I – HISTORICAL COMMERCIAL FISHING LOCATIONS

Figure 3: Map of Cambridge Bay area showing historical commercial fishing locations.

APPENDIX II – COMMERCIAL QUOTA AND LANDING REPORTING

Table 4: Commercial Arctic Char quota and landings in the Cambridge Bay Area, 2007-2012.

Year	Ekalluktok (Ekalluk) River		Paliryuak (Surrey) River		Halokvik (Thirty-Mile) River		Palik (Lauchlan) River		Jayko (Jayco) River		Total Quota	Total Landing
	Quota	Landing	Quota	Landing	Quota	Landing	Quota	Landing	Quota	Landing		
2007	20,000	10,586	9,100	8,736	5,000	6,786	2,400	8,666	17,000	8,633	53,500	43,407
2008	20,000	10,944	9,100	4,855	5,000	4,555	2,400	2,367	17,000	14,327	53,500	37,049
2009	20,000	12,666	9,100	8,657	5,000	5,219	2,400	NF	17,000	6,514	53,500	33,056
2010	20,000	20,434	9,100	9,074	5,000	3,317	2,400	2,534	17,000	NF	53,500	35,359
2011	20,000	13,636	9,100	11,475	5,000	1,124	2,400	NF	17,000	NF	53,500	26,235
2012	20,000	19,038	9,100	8,945	5,000	4,920	2,400	NF	17,000	15,231	53,500	48,134

Quota and landing values reported in Kilograms, Round Weight.
NF = Not Fished.

A complete history (1960 – 2009) of quota and harvest of the Cambridge Bay Arctic Char commercial fishery is provided by Day and Harris (2013).

Figure 4: Example, 2012 Quota Monitoring and Conversion Report.

Site	2012 Commercial Quota - Round Weight		2012 Commercial Quota - Dressed Weight (conversion =1.2)		2012 Kitikmeot Foods Reported Harvest (original reporting in Dressed Weight)		2012 Kitikmeot Foods Reported Harvest (converted to Round Weight)		Quota (Round Weight) Remaining		Harvest %
	KG	LB	KG	LB	KG	LB	KG	LB	KG	LB	
Ekalluk	20,000	44,092	16,667	36,744	15,864.85	34,976.00	19,037.82	41,971.20	962.18	2,121.20	95.2%
Halovik (30 Mile)	5,000	11,023	4,167	9,186	4,100.02	9,039.00	4,920.03	10,846.80	79.97	176.30	98.4%
Jayco	17,000	37,479	14,167	31,232	12,692.88	27,983.00	15,231.45	33,579.60	1,768.55	3,898.94	89.6%
Lauchlan (Byron Bay)	2,400	5,291	2,000	4,409	0.00	0.00	0.00	0.00	2,400.00	5,291.09	0.0%
Paliryuak (Surrey)	9,100	20,062	7,583	16,718	7,453.88	16,433.00	8,944.66	19,719.60	155.34	342.44	98.3%
TOTAL	**53,500**	**117,947**	**44,583**	**98,289**	**40,111.63**	**88,431.00**	**48,133.95**	**106,117.20**	**5,366.05**	**11,829.97**	76.3%
			Reflects a round weight to dressed weight (gutted, head on) conversion in kilograms - Standard conversion for Cambridge Bay Arctic Char is 1.2	Reflects a round weight to dressed weight (gutted, head on) conversion in pounds - Standard conversion for Cambridge Bay Arctic Char is 1.2	Harvest converted to kilograms, Dressed Weight (gutted, head on) - this column can be compared to Column D	Original harvests from Kitikmeot Foods are reported in Lbs, Dressed Weight (gutted, head on) - this column can be compared to Column E (quota)	Harvest converted to kilograms, Round Weight (gutted, head on) - this column is compared to Column B to determine over/under harvesting (See Column L)	Original harvests from Kitikmeot Foods in Lbs, converted to Round Weight - this column is compared to Column C to determine over/under harvesting (See Coulmn M)	A negative (-) value (displayed in red) indicates an over-harvest of the quota	A negative (-) value (displayed in red) indicates an over-harvest of the quota	
						THIS IS THE ONLY COLUMN YOU NEED TO ENTER DATA IN - all other data is automatically calculated from this.					

Original form is maintained in an Excel spreadsheet, and is updated regularly based on Daily Reporting Summary Sheet (see Figure 5 below).

Figure 5: Example, 2012 Commercial Landings Daily Reporting Summary Sheet

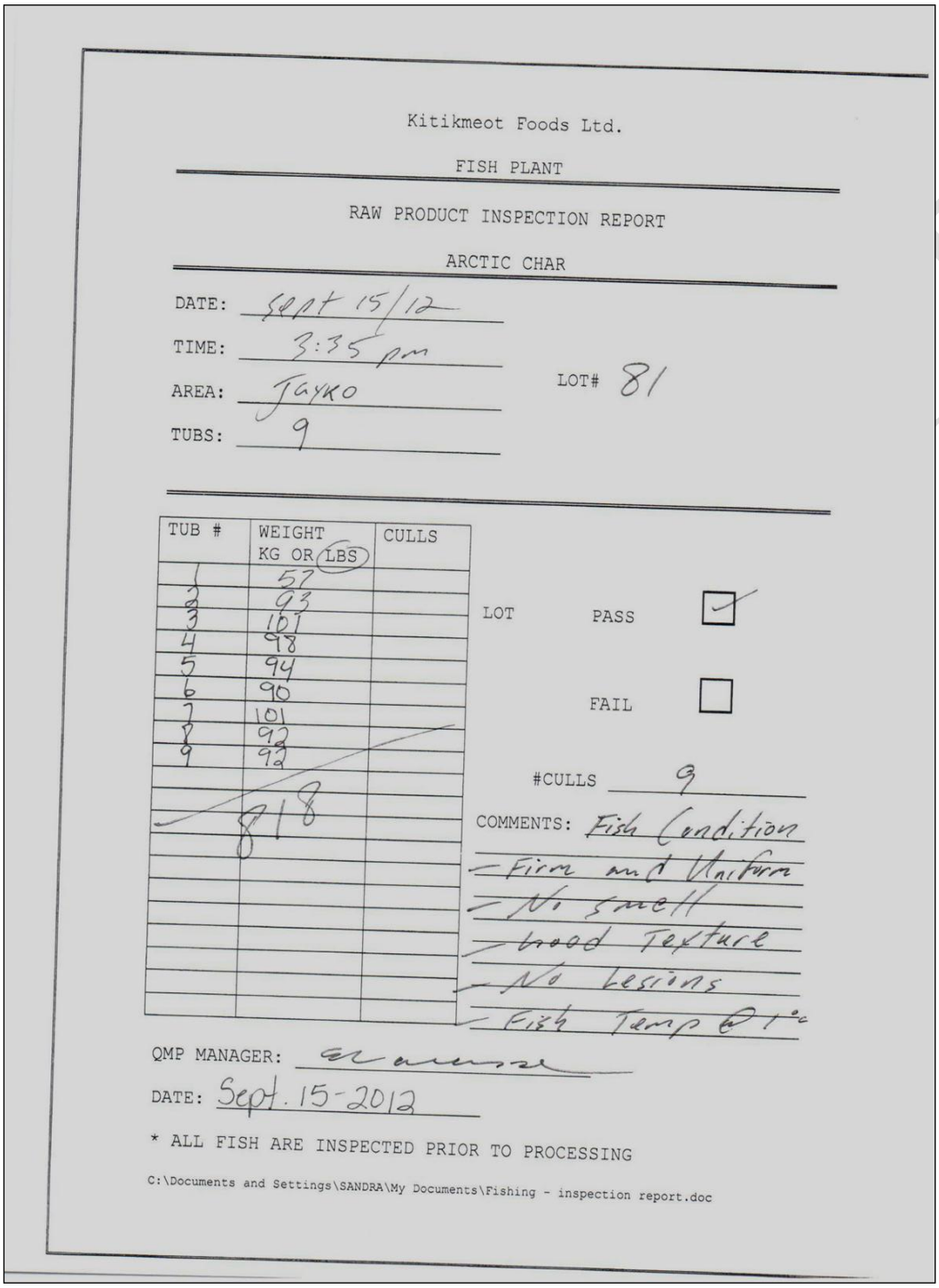
Date	Time	Lot#	Tub#	Dressed Weight (lbs)	Round Weight (Kg)	Trip Total (Dressed Wt lbs)	Average Weight per Tub per Trip (Lbs)	Culls (#)	Comments
21-Aug-12		20	1	84	45.72				
21-Aug-12		20	2	93	50.62				
21-Aug-12		20	3	88	47.90				
21-Aug-12		20	4	85	46.27				
21-Aug-12		20	5	94	51.17				
21-Aug-12		20	6	94	51.17				
21-Aug-12		20	7	84	45.72				
21-Aug-12		20	8	90	48.99				
21-Aug-12		20	9	98	53.34				
21-Aug-12		20	10	85	46.27				
21-Aug-12		20	11	97	52.80				
21-Aug-12	1730	20	12	96	52.25	1,088.00	90.67	12	Fish firm and uniform, no smell, good texture, no lesions. Fish temperature 3C.
22-Aug-12		21	1	95	51.71				
22-Aug-12		21	2	100	54.43				
22-Aug-12		21	3	94	51.17				
22-Aug-12		21	4	106	57.70				
22-Aug-12		21	5	80	43.54				
22-Aug-12		21	6	80	43.54				
22-Aug-12		21	7	98	53.34				
22-Aug-12		21	8	91	49.53				
22-Aug-12		21	9	86	46.81				
22-Aug-12	1145	21	10	100	54.43	930.00	93.00	10	Fish firm and uniform, no smell, good texture, no lesions. Fish temperature 3C.
22-Aug-12		22	1	86	46.81				
22-Aug-12		22	2	72	39.19				

Site:	**Ekaluq**
Fishing Period:	**Aug 21 - Sept 5, 2012**
Average Weight per Tub:	**95.84**
Average Weight per Trip:	**1,093.00**
Total Trips:	**32**
Total Culls:	**365**
Quota (Dressed Wt LB):	**36,667**
Total Harvest (Dr Wt LB):	**34,976.00**
Remaining Quota (Dr Wt LB):	**1,691.00**

Quota (Rd Wt KG):	**20,000**
Harvest (Rd Wt KG):	**19,037.82**
Remaining Quota (Rd Wt KG):	**962.18**
Percent Landed:	**95.2%**

Original form is maintained in an Excel spreadsheet, and is updated daily based on Daily Trip Reports (see Figure 6 below).

Figure 6: Example, 2012 Daily Trip Report Completed by Kitikmeot Foods.



Kitikmeot Foods Ltd.

FISH PLANT

RAW PRODUCT INSPECTION REPORT

ARCTIC CHAR

DATE: Sept 15/12

TIME: 3:35 pm

AREA: Jayko

LOT# 81

TUBS: 9

TUB #	WEIGHT KG OR (LBS)	CULLS
1	57	
2	93	
3	101	
4	98	
5	94	
6	90	
7	101	
8	92	
9	92	
	818	

LOT PASS ☑

FAIL ☐

#CULLS 9

COMMENTS: Fish Condition
- Firm and Uniform
- No smell
- Good Texture
- No lesions
- Fish Temp @ 1°c

QMP MANAGER: [signature]

DATE: Sept. 15-2012

* ALL FISH ARE INSPECTED PRIOR TO PROCESSING

C:\Documents and Settings\SANDRA\My Documents\Fishing - inspection report.doc

Example of a 2012 daily trip report for Jayko (Jayco) River submitted to DFO by Kitikmeot Foods Ltd. Note landings are reported in Pounds, Dressed Weight. Weight conversions are applied as illustrated in Figures 4 and 5.

APPENDIX III – CURRENT MANAGEMENT MEASURES, CAMBRIDGE BAY ARCTIC CHAR COMMERCIAL FISHERY.

Management Measure	Description
Locations	• Commercial waterbodies are set out in Regulations. • Waterbodies opened annually by Variation Order
Quota	• 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	• Required when commercially fishing.
Species, area and catch limitations	• 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	• April 1 – March 31, annually.
Notification of closure	• Once the competitive quota is reached, the waterbody is closed to commercial fishing • Via public notice, issued by Fishery Officer.
Fishing gear	• 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	• Fish are to be disposed in gurry grounds, where they have been designated.
Discards and Bycatch	• 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	• 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 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. • 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.

APPENDIX IV – ECONOMIC ANALYSIS, CAMBRIDGE BAY ARCTIC CHAR COMMERCIAL FISHERY

Fishers from Cambridge Bay have long recognized the economic importance of the Arctic Char resource for their community. The commercial fishery is conducted by local Inuit fishers in conjunction with the operational support of Kitikmeot Foods Ltd., the commercial processing plant for both Arctic Char and muskox. Kitikmeot Foods Ltd. was established in 1990 as a subsidiary of the Nunavut Development Corporation, and serves a growing domestic and international fish market under the territorial brand *Truly Wild Arctic Char*™.

The major commercial fishing sites in the Cambridge Bay area currently include Ekalluktok (Ekalluk), Paliryuak (Surrey), Halokvik (Thirty-Mile), Palik (Lauchlan) and Jayko (Jayco) rivers. In 2012 all but Palik (Lauchlan) River were fished, under a total of 18 commercial licences. Of the 51,100 kg of total commercial quota issued for the fisheries actively fished in 2012, a little more than 94% (48,134 kg) was landed.

LANDINGS, LANDED AND MARKET VALUES

Over the most recent 5-year period from 2008-12, a combined total of 179,834 kg of Arctic Char was landed in the Cambridge Bay commercial fishery. Over that 5-year period the total landings of each site were: Ekalluktok (Ekalluk) River – 76,719 kg; Paliryuak (Surrey) River – 43,007 kg; Jayko (Jayco) River – 36,072 kg; Halokvik (Thirty-Mile) River – 19,135 kg; and Palik (Lauchlan) River – 4,901 kg).[3] See Table 5 for detailed annual and 5-year totals for landings and values.

During the same 5-year period, the landed and market values[4] generated by the landings were approximately $1.0 million and $4.1 million, respectively. Despite having lower values per kg than in some other years, 2012 had the greatest total values due to the increase in landings. The five-year average landed and market prices[5] of Char were $5.24/kg and $22.65/kg, respectively. The weighted market price of Arctic Char was up by about 25% during the 5-year period considered, which may partly be explained by the increased consumer demand and the continued increase in costs of operation (particularly transportation costs) of the fishery. The greatest increase to market price was recorded in whole dressed form of product (35%), followed by head/tail off (29%), fillets (23%) smoked sides (18%) and jerky (7%).

INDUSTRY VIABILITY

[3] For details on landings and values, see Table 5.

[4] Landed value represents the sum total of payments received by fishers and transportation costs incurred to receive landings at the plant. Market value is an estimate of the value of the catch and is a product of the quantity of Arctic Char landed and the average market selling price for the given year.

[5] Market prices were calculated based on the percentages of sales volume as follows: (i) Whole dressed: 55% of production; (ii) Head, tail off: 23%; (iii) Fillets: 10%; (iv) Smoked sides: 8%; and (v) Jerky: 4%. For details about the percentages of sales volume, see RT & Associates (2001).

During 2008-12, the major operational expenses related to the commercial fishery were processing and plant costs (35.2%), followed by operational costs (27.6%).[6]

Table 6 demonstrates that the cost of landing Arctic Char ranges from $1.67 - $3.29 per lb. for the various commercial sites over the five-year period. It is evident that for some rivers, although the total cost of landing Arctic Char was high, the unit cost was lower due to the increased quantity landed from the respective river (e.g. Ekalluktok (Ekalluk) River, Paliryuak (Surrey) River) and vice versa for those with fewer landings (e.g. Palik (Lauchlan) River, Halokvik (Thirty-Mile) River). The greater the total landing is at a given site, the lower the unit costs, since the transportation and plant costs (per unit) are reduced.

EMPLOYMENT

The commercial fishery and the processing plant are economically important for the community of Cambridge Bay. The Arctic Char fishery stimulates local job creation and business growth, provides long-term employment and training opportunities for local residents, and promotes economic diversification. Additionally, both Arctic Char and the community itself are promoted regionally, nationally, and internationally as a leader in quality fish products and sustainable fisheries management which result in economic and employment spin-offs related to recreational fishing and tourism.

Kitikmeot Foods Ltd. currently employs as many as 28 local residents and beneficiaries related to Arctic Char operations, including management, seasonal processors and fishers. For the period of 2008 to 2012, the average annual number of fishers was 14. Most of the fishers were active at Ekalluktok (Ekalluk) River, followed by Jayko (Jayco), Halokvik (Thirty-Mile) and Paliryuak (Surrey) Rivers, reflecting the larger quotas and landings and the required scale of operations at the respective sites. Each commercial site is coordinated by a lead fisher, who manages a crew of other fishers. The size of the crew may vary depending on different factors, including site location and gear used, quota, expectations of the run (e.g. climate, timing), and the availability and experience of fishers.

DISTRIBUTION, PRODUCT FORM AND VALUE

The primary markets for Cambridge Bay commercial Arctic Char include Nunavut and the Northwest Territories, and select markets throughout Canada and the United States (most recently through a partnership with CleanFish™ – a US-based fish broker promoting seafood under traceable, transparent and sustainable brands).

Product is marketed in various forms to discerning restaurants, grocery stores, gift markets, as well as for local consumption (Consilium Nunavut Inc., 2002). According to the current comparative income statement of Kitikmeot Foods Ltd., in 2011-12 the total revenue generated from Arctic Char products was $466,916, of which whole dressed (fresh and frozen) accounted for 31%; premium and regular fillet (30%), jerky (12%), head/tail off (11%), smoked (7%), and other products (10%).

[6] For details on cost structure, see Table 6.

It has been suggested that instead of focusing on southern markets, a stronger inter-regional market may be developed for Char (Consilium Nunavut Inc., 2002). Increasing costs related to operations, transportation, and alternate foods throughout Nunavut communities may limit the economic viability of expanding markets, and as a result may make local and traditional food sources a stronger market within the Territory.

POTENTIAL ECONOMIC ISSUES

Some key issues that may impact the economic operation and viability of the fishery are:

(i) Fluctuation of the Canadian dollar against the US dollar.

(ii) Increasing costs of production (e.g. fuel prices, transportation costs).

(iii) Financial costs associated with pursuing some eco-certification labels. Eco-certification is being driven by some retailers and others in the food service sector, and is becoming a major determinant of market entry and maintaining market presence in Asia and Europe in particular, and increasingly in the United States.

(iv) Interest in adjusting quotas and opportunities to fish alternate sites may increase the scale and viability of the fishery. Commercial harvesting at Palik (Lauchlan) River has not occurred since 2010 due to a lack of economic viability related to the available commercial quota and significant transportation costs.

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Table 5: Landings, Landed and Market Values and Prices by Waterbody, 2008 – 2012.

Waterbody Name	2008	2009	2010	2011	2012	5-Year Total	5-Year Average
Ekalluktuk River (Ekalluk)							
Landings (kg)	10,944	12,666	20,434	13,636	19,038	**76,719**	**15,344**
Landed Value[1]	$36,136	$44,145	$74,441	$64,617	$63,346	**$282,684**	**$56,537**
Market Value[2]	$210,447	$250,117	495,766	359,016	$458,656	**$1,774,002**	**$354,800**
Jayko River (Jayco)							
Landings (kg)	14,327	6,514	NF	NF	15,231	**36,072**	**7,214**
Landed Value[1]	$65,912	$37,696	-	-	$57,684	**$161,292**	**$32,258**
Market Value[2]	$275,490	$128,624	-	-	$366,954	**$771,068**	**$154,214**
Halokvik River (Thirty-Mile)							
Landings (kg)	4,555	5,219	3,317	1,124	4,920	**19,135**	**3,827**
Landed Value[1]	$21,533	23,044	$15,253	$13,099	$16,770	**$89,700**	**$17,940**
Market Value[2]	$87,588	$103,057	80,471	29,597	$118,533	**$419,245**	**$83,849**
Paliryuak River (Surrey)							
Landings (kg)	4,855	8,657	9,074	11,476	8,945	**43,007**	**8,601**
Landed Value[1]	$25,859	$36,847	$38,451	$44,096	$39,804	**$185,057**	**$37,011**
Market Value[2]	$93,355	$170,951	220,153	302,139	$215,493	**$1,002,092**	**$200,418**
Palik River (Lauchlan)							
Landings (kg)	2,367	NF	2,534	NF	NF	**4,901**	**980**
Landed Value[1]	$19,795	-	$15,646	-	-	**$35,441**	**$7,088**
Market Value[2]	$45,516	-	61,474	-	-	**$106,990**	**$21,398**
Total[3]							
Landings (kg)	37,049	33,056	35,359	26,236	48,134	**179,834**	**35,967**
Landed Value[4]	$169,235	$141,732	$206,693	$184,715	$240,508	**$942,883**	**$188,577**
Landed Price/kg	$4.57	$4.29	$5.85	$7.04	$5.00		**$5.24**
Market Value[2]	$712,396	$652,749	$857,863	$690,752	$1,159,636	**$4,073,397**	**$814,679**
Market Price/kg	$19.23	$19.75	$24.26	$26.33	$24.09		**$22.65**

Table Continued. Legend on next page.

Market Prices/Lb. of Arctic Char by Product Form							
Whole Dressed	$6.02	$6.27	$7.67	$9.17	$8.15	NA	$7.45
Head, tail off	$7.04	$7.29	$10.21	$10.84	$9.05	NA	$8.89
Fillets	$10.22	$10.47	$11.87	$12.59	$12.61	NA	$11.55
Smoked sides	$15.39	$15.64	$17.04	$18.08	$18.15	NA	$16.86
Jerky	$39.02	$38.89	$47.85	$43.13	$41.84	NA	$42.14
Weighted Ave. Price	**$8.74**	**$8.98**	**$11.03**	**$11.97**	**$10.95**	**NA**	**$10.33**

Notes: NF – Not Fished; NA – Not applicable; [1] Landed value for individual waterbodies excludes the freight guarantee. Data is not available by waterbody. [2] Market price based on Kitikmeot Foods Ltd. Price List (various years) and were calculated based on the percentages of sales volume as follows: (i) Whole dressed: 55% of production; (ii) Head, tail off: 23%; (iii) Fillets: 10%; (iv) Smoked sides: 8%; and (v) Jerky: 4%.[3] Slight discrepancies in total values due to rounding up of values/prices [4] Total landed value is the summation of payment to fishers and transportation costs. Does not include other operational costs (See Table 6). Total landed values for period 2010-12 include transportation cost guarantee. A freight subsidy of $32,555 given in 2012 is excluded.

Table 6. Operational Costs Incurred by Kitikmeot Foods Ltd., 2008-2012.

Cost Items	2008	2009	2010*	2011*	2012*	Total	Average
Ekalluktok River (Ekalluk)							
Operational Cost[1]	$34,136	$44,145	$74,441	$64,617	$63,347	$461,053	$56,537
Weight (lb.)	24,078	27,865	44,956	29,999	41,883	168,781	33,756
Costs per lb.[2]	$1.50	$1.58	$1.66	$2.15	$1.51		$1.67
Jayko River (Jayco)							
Operational Cost[1]	$65,912	$37,696	-	-	$57,684	$161,292	$53,764
Weight (lb.)	31,519	14,330	NF	NF	33,509	79,359	26,453
Costs per lb.[2]	$2.09	$2.63	-	-	$1.72		$2.07
Halokvik River (Thirty-Mile)							
Operational Cost[1]	$21,533	$23,044	$15,253	$13,099	$16,770	$89,700	$17,940
Weight (lb.)	10,021	11,481	7,297	2,473	10,824	42,097	8,419
Costs per lb.[2]	$2.15	$2.01	$2.09	$5.30	$1.55		$2.27
Paliryuak River (Surrey)							
Operational Cost[1]	$25,533	$36,847	$38,451	$44,451	$39,804	$185,057	$37,011
Weight (lb.)	10,681	19,046	19,963	25,247	19,678	94,615	18,923
Costs per lb.[2]	$2.42	$1.93	$1.93	$1.75	$2.02		$1.89
Palik River (Lauchlan)							
Operational Cost[1]	$19,795	-	$15,646	-	-	$35,441	$17,720
Weight (lb.)	5,208	NF	5,574	NF	NF	10,782	5,391
Costs per lb.[2]	$3.80	-	$2.81	-	-		$3.29
Total							
Operational Cost[1]	**$169,235**	**$141,732**	**$206,693**	**$184,715**	**$240,508**	**$942,883**	**$188,577**
Weight (lb.)	**81,507**	**72,722**	**77,791**	**57,719**	**105,895**	**395,634**	**79,127**
Costs per lb.[2]	**$2.08**	**$1.95**	**$2.66**	**$3.20**	**$2.27**		**$2.38**
KFL Plant Costs							
Wage	$40,228	$101,236	$38,491	$50,248	46,148	$276,350	$55,270
Electricity	$30,071	$58,109	$26,979	$40,330	36,892	$192,381	$38,476
Fuel	$3,933	$7,087	$7,065	$3,460	9,183	$30,728	$6,146
Water	$2,115	$2,067	$2,982	$1,744	3,028	$11,936	$2,387
Total	**$76,347**	**$168,499**	**$75,517**	**$95,781**	**$95,251**	**$511,395**	**$102,279**
Distribution of KFL Costs							
Operational Costs	32.0%	21.7%	25.8%	26.0%	32.4%		27.6%
KFL Plant Costs	31.1%	54.3%	26.8%	34.1%	28.4%		35.2%
Weight	81,507	72,722	77,791	57,719	105,895		79,127
Average Total Costs per lb.	**$3.01**	**$4.27**	**$3.63**	**$4.86**	**$3.17**		**$3.68**

Source: Kitikmeot Foods Limited (KFL).

Notes: NF – Not Fished; [1]Operational costs include payment to fishers and transportation costs. Does not include KLF plant costs. Total operational cost values for period 2010-12 include transportation cost guarantee. A freight subsidy of $32,555 given in 2012 is excluded. [2]Excludes KFL plant costs.

APPENDIX V – SAFETY AT SEA

Vessel owners and masters have a duty to ensure the safety of their crew and vessel. Adherence to safety regulations and good practices by owners, masters and crew of fishing vessels will help save lives, protect the vessel from damage and protect the environment. All fishing vessels must be in a seaworthy condition and maintained as required by Transport Canada (TC), and other applicable agencies. Vessels subject to inspection should ensure that the certificate of inspection is valid for the area of intended operation.

In the federal government, responsibility for shipping, navigation, and vessel safety regulations and inspections lies with TC; emergency response with the Canadian Coast Guard and DFO has responsibility for management of the fisheries resources. In Nunavut, the Workers Safety and Compensation Commission has jurisdiction over health and safety issues in the workplace. DFO and TC have a Memorandum of Understanding to formalize cooperation and to establish, maintain and promote a safety culture within the fishing industry.

For information on boating safety, please call the TC Office of Boating Safety toll-free at 1-800-230-3693 or visit the website at www.boatingsafety.gc.ca.

GLOSSARY

Abundance: Number of individuals in a stock or a population.

Age Composition: Proportion of individuals of different ages in a stock or in the catches.

Anadromous: An anadromous species, such as salmon, spends most of its life at sea but returns to fresh water grounds to spawn in the river it comes from.

Bycatch: The unintentional catch of non-targeted species while directing fishing for another species. For example, in this IFMP the directed fishing is Arctic Char, bycatch is all other species.

Biomass: total weight of all individuals in a stock or a population.

Fishery: As defined by the *Fisheries Act*, a fishery includes the area, locality, place or station in or on which a pound, seine, net, weir, or other fishing appliance is used, set, placed, or located, and the area, tract or stretch of water in or from which fish may be taken. For the purposes of this IFMP, all current Arctic Char commercial waterbodies in the Cambridge Bay area are collectively referred to as the "Cambridge Bay Arctic Char commercial fishery".

Gillnet: Fishing gear: netting with weights on the bottom and floats at the top used to catch fish. Gillnets can be set at different depths and are anchored to the seabed. For the purposes of this IFMP, all commercially used gillnets must have a minimum mesh size is 139mm (5-½ inch), in accordance with the *NWT Fishery Regulations*.

Harvesting: Catching or attempting to catch fish by any method.

Landings: Quantity of a species caught and kept. For the purposes of this document, landings refer to the quantity of Arctic Char kept for commercial sale.

Notice of Closure: As defined in Section 19 of the *NWT Fishery Regulations*, a notice issued by a Fishery Officer or Regional Director-General stating that the quota set out in a Variation Order has been, or is about to be, reached. Notice must be brought to the attention of persons affected by (e.g. notice provided to Ekaluktutiak HTO and Kitikmeot Foods Ltd. for public posting).

Nunavut Land Claim Agreement (NLCA): The 1993 agreement between the Inuit of the Nunavut Settlement Area, as represented by the Tunngavik Federation of Nunavut and Her Majesty the Queen in Right of Canada.

Nunavut Wildlife Management Board (NWMB): Established by the NLCA, an institution of public government that shares decision-making authority with the Federal Government.

Population: Group of individuals of the same species, forming a breeding unit, and sharing a habitat.

Quota: For the purposes of this IFMP, the total amount (in Kilograms Round Weight) of Arctic Char that can be commercially harvested, as set out in Column V, Schedule V of the *NWT Fishery Regulations* or in accordance with a Variation Order.

Spawner: Sexually mature individual.

Stock: Describes a population of individuals of one species found in a particular area. Ex: a group of Arctic Char that share a common gene pool. Waterbody specific stock is used as a unit for fisheries management purposes in the Cambridge Bay commercial fishery. For management purposes, each commercial waterbody is considered an individual management unit.

Traditional Ecological Knowledge (TEK): A cumulative body of knowledge handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment.

Variation Order: As defined in Section 6(1) of the *Fishery (General) Regulations*, where a close time, fishing quota or limit on the size or weight of fish is fixed in respect of an area (such as a waterbody) under any Regulations, the Regional Director-General may, by order, vary such restrictions.

Weir: Fishing gear: an underwater fence that is set up in a V-shape, which is designed to hinder the passage of fish. It comes in from two sides in a channel, directing the fish into a catch basin. In the Cambridge Bay area fish weirs were traditionally built from stones. Current weirs are constructed of conduit pipe.

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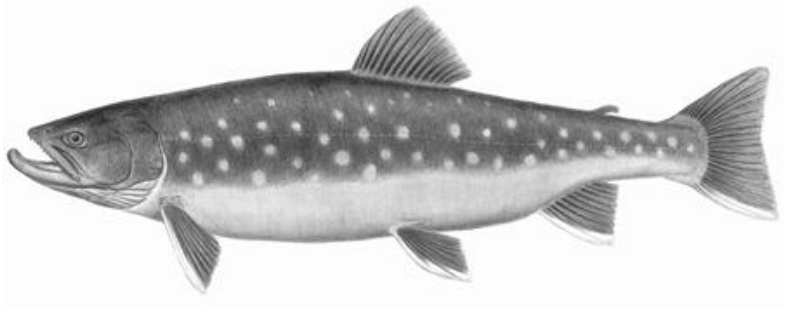
Ekaluktutiak Hunters & Trappers Organization

Integrated Fishery Management Plan

Cambridge Bay Arctic Char Commercial Fishery
Effective 2014



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Ekaluktutiak Hunters & Trappers Organization

Request for NWMB Decision

Integrated Fishery Management Plan (IFMP) for the Cambridge Bay Arctic Char Commercial Fishery (effective 2014)

Submitted by:
Ekaluktutiak Hunters and Trappers Organization and Fisheries and Oceans Canada

Iqaluit, Nunavut

Canada

Fisheries and Oceans Canada | Pêches et Océans Canada

Ekaluktutiak Hunters & Trappers Organization

Cambridge Bay Arctic Char Commercial Fishery IFMP

IFMP Development

- Ekaluktutiak Hunters and Trappers Organization (EHTO) recognized importance of developing IFMP to highlight long history of successfully co-managing the Cambridge Bay Arctic Char commercial fishery in a sustainable manner.
- IFMP developed through collaboration of co-management organizations, resource users and stakeholders.
- IFMP documents existing practices - reflects current management regime which has been in place for years.
- 2011 letter of support from NWMB expressing support for the initiative of Working Group and development of IFMP.

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Ekaluktutiak Hunters & Trappers Organization

Cambridge Bay Arctic Char Commercial Fishery IFMP

IFMP Development

- Initiative has been led by the EHTO through a series of Working Group meetings since 2010; members include:
  - EHTO (chair)
  - DFO (co-chair)
  - Kitikmeot Foods Ltd.
  - DOE - Fisheries & Sealing
  - Commercial fishers
  - Community elders
  - High school youth
- Reports provided to NWMB, NTI, KRWB and others
- Working Group meetings include public consultations – discussions focused on stock conservation, licence conditions, compliance, monitoring & harvest reporting.

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Background

- Commercial fishing began in 1960. Largest commercial Arctic Char fishery in Nunavut.
- Employs 28 local Inuit fishers and processors.
- Current fishery targets searun Arctic Char at 5 locations:
  - Paliryuak (Surrey) – 9,100 Kg
  - Halokvik (Thirty-Mile) – 5,000 Kg
  - Palik (Lauchlan) – 2,400 Kg
  - Ekalluktok (Ekalluk) – 20,000 Kg
  - Jayko (Jayco) rivers – 17,000 Kg
- Total quota = 53,500 Kg; all quotas considered sustainable.
- 2012 Harvest = 48,133 Kg, market value ~$1.15 Million

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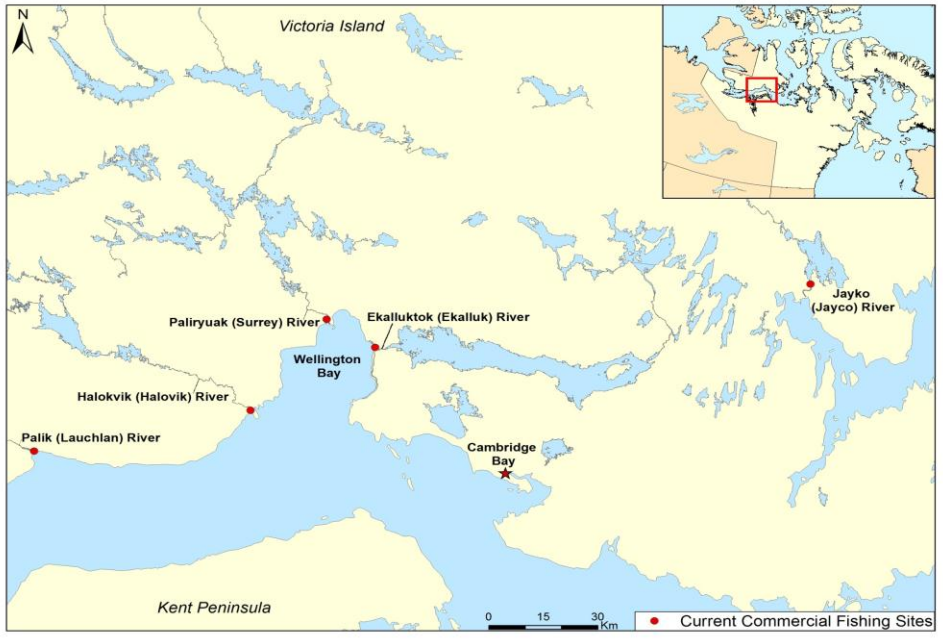

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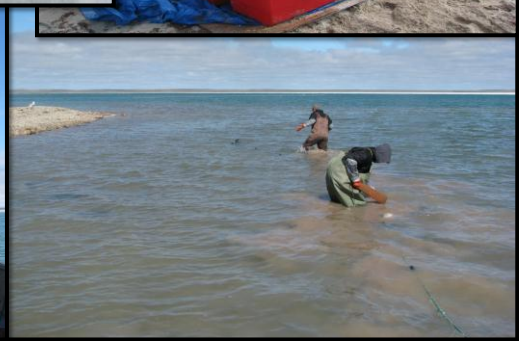
Cambridge Bay Arctic Char Commercial Fishery IFMP

Paliryuak River



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Cambridge Bay Arctic Char Commercial Fishery IFMP

Governance

- IFMPs are an important reporting tool and valuable source of information on how a fishery is managed.
- Managed under the *Fisheries Act,* the *Fishery (General) Regulations* and the *NWT Fishery Regulations*.
- Managed consistent with the *Nunavut Land Claims Agreement.*
- Management objectives have been developed by the Working Group and stakeholders
- All management measures and best practices in the IFMP are currently in place for the fishery.

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Management Issues

Stock Abundance Estimates

- Up-to-date abundance estimates and stock assessments for each commercial stock
- Long-term monitoring to estimate catch effort and report bycatch and discards in the fishery

Harvest Reporting

- Timely, accurate reporting of catches to assess harvest as limits are approached

Economic Viability

- Rising transportation costs impacting feasibility of commercial fishing

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Management Objectives

- Long-term and short-term objectives developed by the Working Group and through discussions with public.

Stock Conservation - Conserve stocks through sustainable use and effective fishery management.

Ecosystem - Conserve bycatch species through effective management.

Shared Stewardship - Promote collaborative decision making and shared responsibility with resource users, co-management organizations and other stakeholders.

Social, Cultural, Economic - Promote economically viable and self-sufficient fishery that is sustainable

Compliance – Promote compliance with management measures in support of conservation and sustainability

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Management Measures

- Measures outline the controls or rules adopted for the fishery. All measures have been identified through discussions with Working Group and the public.
- All measures are currently in place and have been used for years to sustainably manage the fishery.
- Measures include licensing, quota and monitoring and reporting requirements.
- All measures are supported by shared stewardship arrangements and best practices.
- Refer to Table 3 of IFMP Summary (Appendix III of full IFMP)

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Shared Stewardship

- Working Group participants include the EHTO, commercial fishers, community elders, co-management organizations; meet regularly and include public consultations
- Community input, traditional knowledge and best practices are used to support the management of the fishery
  - Commercial locations avoid spawning areas
  - Spawning char released unharmed
  - Monitoring programs collect harvest and catch effort from all fishing activities
- Promote compliance through education and shared stewardship

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Performance Review

- Fishery will continue to be assessed through:
  - shared stewardship (Working Group, consultation with resource users & stakeholders)
  - multi-year stock assessments and scientific advice (DFO Science plan)
  - Monitoring using quota monitoring, logbooks, compliance surveillance
- Post-season reviews with stakeholders and Working Group.
- Progress on achieving objectives will be reviewed.

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Cambridge Bay Arctic Char Commercial Fishery IFMP

Request for Decision from NWMB

- EHTO and DFO request NWMB approve the Cambridge Bay Arctic Char commercial fishery Integrated Fishery Management Plan
- EHTO recognizes importance of having an up-to-date IFMP to ensure sustainable harvest of Arctic Char and support economically prosperous commercial fisheries in Cambridge Bay.
- It is important to have an approved IFMP in place for the 2014 fishing season, which typically begins in July.

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