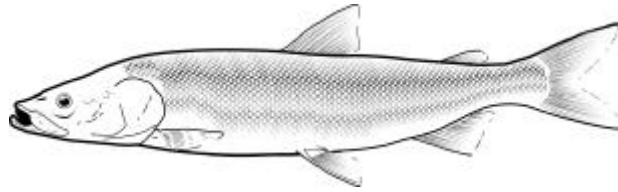


**Integrated Fisheries Management Plan for Coney  
(*Stenodus leucichthys*)  
in the  
Gwich'in Settlement Area,  
Inuvialuit Settlement Region,  
and the  
Sahtu Settlement Area,  
Northwest Territories  
2000-2005**

**(with Work Plans for 2000-2005)**



**June 2000**

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## **1.0 Why do we need a Management Plan?**

The best way to manage the coney (*Stenodus leucichthys*) stocks, also called “inconnu” or “sheefish” (“shruh” in Gwich’in and “higaq” in Inuvialuktun), is to develop a management plan that everyone can understand and agree with. The plan should explain what is known about coney, what needs to be done to better understand and manage them and who will do it. The Fisheries Joint Management Committee (FJMC) and the Inuvialuit Game Council (IGC), the Gwich’in Renewable Resource Board (GRRB) and the Sahtu Renewable Resource Board (SRRB) under their respective land claims agreements, as well as the Department of Fisheries and Oceans (DFO), all have various defined mandates to manage coney in their waters.

With respect to management of migratory species, the federal government (*i.e.*, DFO) shall work with the boards, other wildlife bodies and users to establish wildlife management agreements [see the Gwich’in Comprehensive Land Claim Agreement (Sec. 12.6) and the Sahtu, Dene and Metis Comprehensive Land Claim Agreement (Sec. 13.6)].

Since coney are a migratory species within the Lower Mackenzie River Basin (defined here as that area downstream of the Ramparts Rapids), they are shared by resource users in all three-claimant areas including the communities of Fort Good Hope, Tsiigehtchic, Fort McPherson, Inuvik, Aklavik and Tuktoyaktuk. It is known that some coney migrate through one or more claims agreement areas and may spawn in the upper reaches of the Peel River (Yukon Territory). Due to this complexity, DFO agreed to lead the initial process and to develop a management plan for discussion in the three claimant areas (from hereon referred to as the “Plan Area”). The Integrated Fisheries Management Plan (IFMP) for coney is the first of several IFMPs that will involve the FJMC, GRRB and the SRRB and address the needs and concerns of resource users that utilize fish species that are migratory or transboundary in nature. This is called an “integrated” management plan because it uses both scientific and traditional knowledge for managing coney.

## **2.0 Goals of the Management Plan**

This plan was developed to manage the migratory coney stocks in the Lower Mackenzie River and the inshore marine waters of the Beaufort Sea in the Mackenzie Delta Area. Lake dwelling, non-migratory coney stocks are not managed by this plan. To be effective, the management plan must address the needs of the coney stocks and the resource users.

Relevant goals for coney management are:

- 1.** to determine the current stock size and health,
- 2.** to maintain or enhance the size of coney stocks through management practices (such as using closed seasons or quotas), and

3. to identify, protect and manage critical coney habitats.

Relevant goals for resource users involved in the harvest and management of coney in the Plan Area are related to wise-use (*e.g.*, maintenance of traditional cultural/social usage, maintenance of sustainable harvests and/or economic viability of fishing activities), increasing knowledge and ensuring effective communication. Goals for resource users are:

1. to protect and maintain traditional fishing activities and areas,
2. to encourage conservation, efficient and responsible fishing practices for coney,
3. to work to increase the knowledge of coney ecology by promoting research and exchanging traditional and scientific knowledge,
4. to ensure that management decisions and study results are communicated back to communities and other users/groups in a timely manner and in a meaningful way, and
5. to ensure that all decisions that may effect the status of coney stocks and their habitats, and thus the well being of those who utilize coney, are based on the best available information

### **3.0 Who Manages Coney?**

Coney are already co-managed under the terms of the following agreements:

Inuvialuit Final Agreement (1984),  
Gwich'in Comprehensive Land Claim Agreement (1992),  
Sahtu Dene and Metis Comprehensive Land Claim Agreement (1993), and  
under applicable sections of the Northwest Territories Fishery Regulations. DFO also plays a key role in the management of fish stocks in the area.

The following groups also play an important role in the management of coney stocks and their habitat in the Plan Area:

1. Wildlife Co-management Boards: (FJMC, IGC, GRRB and SRRB),
2. Community Councils: Hunting and Trapping Committees (HTCs) and Renewable Resource Councils (RRCs),
3. Various Land and Water Boards and Environmental Impact Screening and Review Boards, and
4. Possibly, relevant organizations in the Yukon Territory (*e.g.*, Yukon Department of Renewable Resources).

#### **4.0 What will Guide Co-management?**

Co-management and conservation principles stated in the three lands claim agreements and the DFO mission, goals and policy, will guide the management of coney in the Plan Area. Effective co-management of coney requires participation, co-operation, communication and consensus among users, co-management boards and DFO. The principles of co-management include:

1. Recognizing and promoting the social, cultural and economic importance of coney to the Inuvialuit, Gwich'in, Sahtu and other Canadians,
2. Respect for, and utilization of, both traditional and scientific knowledge of coney to make informed management decisions,
3. Establishing research priorities that are consistent with local and regional concerns that involve all groups,
4. Contributing funds for priority research projects that will benefit all groups,
5. Communicating management programs, decisions and research results to all groups in a timely fashion and in plain language,
6. Distributing technical and non-technical information and advice to individuals and groups.

#### **5.0 How the Plan was Designed**

The flow chart in Appendix 1 illustrates how the plan proceeded from the preliminary stages to this document. Community and co-management board involvement was solicited and incorporated into all stages of the development of the plan. A stock status report on Mackenzie River coney prepared by DFO in September 1998, a workshop held in Inuvik in October 1998, and community consultations in early 1999, added to the list of concerns and solutions originally identified by DFO and Renewable Resource Boards (RRBs).

The management plan is organized into two separate sections: Coney and Resource Users. The coney section has four sub-sections:

- **Stock Status/Biological Features**  
Information on the current status and biological features of coney stocks within the Plan Area and what important information is absent.
- **Traditional Ecological Knowledge**  
A summary of the current availability of regional traditional knowledge concerning coney and how this knowledge could be increased and utilized.
- **Harvest Management**  
Information on the coney harvest by the commercial and subsistence fisheries within the Plan Area and aspects of harvesting that require additional attention.
- **Habitat Use/Management**

Information on the known and suspected habitat requirements of coney during different life stages and specific questions that require additional study to better understand habitat use and habitat management.

The section on resource users has two sub-sections:

- **Co-management**  
Information on how coney are and could be co-managed in the Plan Area.
- **Culture and Education**  
Methods that could be used to increase participation in programs studying coney or more widely distribute the presently available knowledge of coney.

Under each section, four sub-sections provide information on:

- Status (what we know),
- Concerns (what we still need to know for proper management),
- Solutions (how we plan to get the information we need to address the concerns),
- Actions - Rather than repeating the solutions, actions are steps that can be taken without being part of a formalized work plan. Actions are ongoing advancements to the planning process that will aid in resolving some specific concerns.

Based on results of the Coney Workshop and informal discussions with community members during visits in January and February 1999, some actions have already been taken. Most of the solutions to the concerns will, however, come from the Work Plans.

The Work Plan section identifies the activities and commitments required by DFO, FJMC and RRBs to address specific concerns. The Work Plan is not extensive for 1999-2000 as there are other issues considered more urgent than research programs that focus exclusively on coney. However, readers should remember that projects not listed in the Work Plan might also produce useful information for managing coney. In most categories, work plans do not exist beyond the first year because it is unknown whether issues of greater concern may result in a re-allocation of resources.

The lists of concerns under the Coney and Resource Users headings are numbered, not by priority, but rather so that solutions identify which concerns they address. Some solutions address multiple concerns, as many concerns are inter-related. However, even in light of extensive review and consultations, the list of concerns and solutions is probably not exhaustive and more may be identified in the future. Readers are also reminded that DFO, RRBs and university researchers are currently performing or summarizing studies that may aid in managing coney.

## **6.0 Time frame for the Plan**

Harvest levels and quotas for the commercial fishery are normally set for the period April 1<sup>st</sup> to March 31<sup>st</sup>. Since coney are seasonal migrants, this time frame should be acceptable for the plan. This plan will cover a five-year period. For each year ending

March 31<sup>st</sup>, there will be a work plan that describes who will do what. At the end of each year, all groups or representatives will review the progress made to date and, if necessary, changes or additions to the work plan for the following year will be made. The plan was designed so that it can be read quickly, understood easily, and most importantly, used regularly.

## **7.0 Coney in the Plan Area.**

### **General Biology**

Coney are the largest members of the whitefish family growing to a size of over 20 kilograms (45 lbs.) in weight (Scott and Crossman 1973). Coney in the Lower Mackenzie River Basin and in the Mackenzie River Delta are migratory and mainly anadromous (spending some portion of their lives in the ocean) (Reist and Bond 1988; Day 1998). Due to this migratory life style, they exhibit complex life histories that are not yet fully understood. Coney are a long-lived species (20+ years) and mature late (6-8 years) with some stocks spawning only every two to three years (Scott and Crossman 1973; Day 1998). Thus the adult segment of the coney stock is comprised of a spawning and non-spawning component.

### **Migration and Reproduction**

The upstream spawning migration for current year spawners begins in the inner delta in July. Mature coney captured in the outer delta during this same time period are generally non-spawners. Current year spawners leave their overwintering areas prior to spring break-up and begin a summer-long migration to the upstream spawning sites (Day 1998). Spawning is known to occur in late-September or early-October in major tributaries such as the Peel and the Arctic Red rivers (Howland 1997). Spawning may also take place in the Mackenzie River or its tributaries. Coney are known to require silt-free water and gravel-boulder areas for successful spawning. With few exceptions, coney in the Lower Mackenzie River do not migrate beyond the Ramparts Rapids (Howland 1997). Following spawning, most individuals rapidly move back downstream to the Mackenzie Delta (Howland 1997).

### **Stock Differentiation**

Based on movements of radio tagged fish and a synthesis of tagging data, coney inhabiting the Lower Mackenzie River appear to be comprised of at least three distinct stocks (Day 1998). A stock that spawns in the Peel River utilizes the West Channel of the Mackenzie Delta for migration while those that spawn either in the Arctic Red River or near the Ramparts probably utilize only the East and Middle channels (Howland 1997; Day 1998). Additional study will be required to determine how much mixing occurs between these three stocks. A riverine (non-anadromous) coney stock near the Fort Simpson area is beyond the scope of this management plan, but it is mentioned as migration between the Sahtu Settlement and the Deh Cho regions is possible (Day 1998) and may thus require specific attention at a later date.

## **Harvest**

Commercial fisheries for coney in the Mackenzie Delta are sporadic, taking at least a few thousand kilograms annually (Anderson 1995; Day 1998). Much of the commercial coney harvest is currently taken as by-catch (incidentally caught) while fishing for other species, such as broad whitefish (*Coregonus nasus*) (Anderson 1995). An increase in commercial fishing activity for broad whitefish or other species could conceivably increase the coney harvest. Neither the commercial nor subsistence fisheries can be characterized by a specific age, length, state of maturity or life history stage due to variation in harvest location, time of harvest, gear size and inherent differences between harvested stocks (Day 1998). Total annual fishing mortality for coney is estimated to be low as indicated by the large and older individuals captured in the commercial and experimental fisheries (Day 1998). There is no evidence of pronounced between-year variation in recruitment or of recruitment failure (Day 1998). An unknown, but presumably small number of fish are taken annually by the recreational fishery. However, the potential exists for a greatly expanded recreational fishery as has been demonstrated in Alaskan waters (McPhail and Lindsey 1970). Overall, based on the present levels of harvest, a cautious evaluation suggests that coney stocks appear healthy (Day 1998).

## **8.0 People who use Coney in the Plan Area.**

Coney are an important food species for people and their dogs in the Plan Area. People in the Plan Area have reported that harvests of all fish species are considerably lower when compared to 20 or more years ago. Most people no longer require large numbers of fish to maintain dog teams as dogs have generally been replaced by snowmobiles. Peak harvests of coney typically take place in July or October corresponding to upstream pre-spawning and downstream post-spawning movements (Day 1998). All Gwich'in communities surveyed harvest coney and data suggests 3000-6000 fish are harvested annually (average  $\approx$  4225) between July and November (McDonald 1998). Most coney in the Inuvialuit area are harvested between June and October. The Inuvialuit study indicates that the communities of Aklavik, Inuvik and Tuktoyaktuk harvest coney (average  $\approx$  5150) with Tuktoyaktuk residents taking the majority of the fish. Coney harvest in both settlement areas varies widely, however, by month, year and community (Day 1998). Coney are also important to the community of Fort Good Hope and the Sahtu Settlement Area harvest study is in the process of determining the number of fish harvested by this community.

Both Sahtu and Gwich'in fishers have reported that the taste, abundance and size of coney harvested in their settlement areas have changed little during their lifetimes (Day 1998). Views of Inuvialuit area fishers are generally unknown, although interviews with a few individuals suggest that they have noted little change in any of these parameters.

## **9.0 Coney and Resource Users.**

### **9.1 Coney**

## 9.1.1 Stock Status/Biological Features

### Status

Coney of the Lower Mackenzie River are known to be highly migratory and mainly anadromous. Pre-spawners undertake extensive upstream, summer migrations from coastal and outer Mackenzie Delta overwintering areas. Immature and non-spawners also possibly migrate within the mainstem Mackenzie River. Different stocks appear to use different migration routes (*i.e.*, different channels of the Mackenzie) and may migrate at slightly different times. Coney in the Anderson and Liard rivers are likely different stocks from those harvested in the Lower Mackenzie Basin. Spawning takes place in clear water areas with coarse gravel or boulders mainly in late-September or early-October in rivers such as the Peel and Arctic Red rivers and in the mainstem and, possibly, tributaries of the Mackenzie River.

### Concerns

1. The number of genetically distinct coney stocks is unknown.
2. The abundance of each stock is unknown.
3. Seasonal migration patterns of, potentially, several stocks are unknown.
4. It is unknown where each stock spawns, how often and if they utilize the same sites every year.
5. The contaminant levels of coney in general, and particular stocks specifically, are unknown.
6. The safe harvest level for individual stocks is unknown.
7. The distribution of coney by life stage (*e.g.*, juvenile, immature adult, mature adult) within the Lower Mackenzie Basin on a seasonal basis is unknown.

### Solutions

- Perform biochemical genetic studies to determine how many stocks are present (1).
- Perform tagging studies (radio or traditional Floy tags) to understand migration patterns and assist in estimating abundance and harvest levels (2, 3, 4, 6).
- Seek out traditional knowledge that might provide information on spawning locations of coney (4).
- Determine contaminant levels (5).

- Determine spawning frequency, fecundity and spawning site fidelity (4, 6).
- Study population dynamics (6).
- Determine distribution of coney by season, habitat and life stage (7).

### **Actions**

- A very clear direction was given for determining spawning areas at the October 1998, workshop and again at community meetings in Tsiigehtchic in January 1999. Although there is wide interest in conducting this work, conditions at spawning time (mid-September to early-October) are recognized as being difficult. The ability to positively identify any spawning areas may require the development of new techniques or the work may have to be performed only during a warm autumn period. Both DFO and the GRRB (due to the suspected presence of many coney spawning grounds in the Gwich'in Settlement Region) should be prepared to begin studies on spawning locations on short notice should the opportunity present itself.
- The GRRB is currently in the process of compiling all traditional knowledge information that was either not available or summarized for inclusion in the chapter on coney in "Gwich'in words about the land" (GRRB 1997). Some of this information may prove useful in identifying spawning areas or locations that are used by various life stages.

## **9.1.2 Traditional Ecological Knowledge**

### **Status**

Progress has been made in recording natural history information on coney from community elders and long-term resource users (*e.g.*, "Gwich'in words about the land", "Community concerns on coney (inconnu) in the Gwich'in Settlement Area"). Additional plans are in place to collect more information. Government agencies continue to make use of traditional knowledge when it is readily available or through discussions with knowledgeable community members prior to beginning research programs.

### **Concerns**

1. Traditional knowledge may not be fully appreciated by scientific community.
2. Not all available traditional knowledge on coney may be readily available to the scientific community.
3. Some important information may not yet be recorded due to the lack of surveys/questionnaires in some communities/areas or lack of participation by community members.

## **Solutions**

- Communities could encourage/assist scientific community in “ground truthing” traditional knowledge about coney or other fish species (*e.g.*, positive identification of rearing areas) to gain greater support for the use of this information (1).
- Ensure transfer of traditional knowledge to scientific community in an appropriate and available written fashion (*e.g.*, “Gwich’in words about the land”) (2).
- Stress the importance of collecting and transferring traditional knowledge to the scientific community to communities/individuals participating in surveys (2, 3).
- Increase the number of surveys/questionnaires collecting traditional knowledge (3).

## **Actions**

- In conjunction with communities, FJMC, RRBs, DFO and other interested groups will jointly develop additional methods for the collection of traditional knowledge.
- DFO will continue to seek input from HTC/RRCs so as to include traditional knowledge when planning research programs in their respective claim areas.
- The GRRB is currently in the process of producing a CD-ROM disk which contains additional traditional knowledge of coney that was not included in “Gwich’in words about the land” (GRRB 1997). This information may provide additional insights into the historic distribution and abundance of coney.

### **9.1.3 Harvest Management**

#### **Status**

Harvest studies in the Plan Area indicate the importance of coney in the subsistence fishery and the act of fishing as an important traditional lifestyle. The coney subsistence fishery is, however, currently unrestricted within the Plan Area. Coney are a by-catch in the commercial fishery for broad whitefish in the Lower Mackenzie Delta. Historical harvest data for the subsistence and commercial fisheries are sporadic and often unreliable, although recent land claim harvest studies are providing improved information.

#### **Concerns**

1. There is a strong possibility that pre-spawners of the same stock(s) are being harvested at multiple locations and perhaps at differential rates during their summer migration.

2. There is a potential for overharvest when coney concentrate at spawning or over-wintering locations.
3. There are no overall harvest allocations for possible shared stocks in the Plan Area.
4. There is a possibility that a sports fishery may develop, as has occurred in Alaska, therefore increasing the overall harvest of coney.
5. There is a concern over potential conflicts that may arise between subsistence and commercial users, should a large commercial fishery develop.
6. The safe level of harvest for any/all stocks is currently unknown.

### **Solutions**

- Determine correlation between migration and harvesting time/location to ascertain if the same stocks are being repeatedly subject to harvesting as the move towards their spawning or over-wintering grounds (1, 2).
- After the stock structure and abundance are known, total allowable harvests will be established in the Plan Area (3, 6).
- Beneficiary Needs Levels and Surplus Levels will be established from harvest study data (5).
- Wise-use principles (*e.g.*, quotas, season closures) will be used in managing existing commercial fisheries and in developing new commercial or recreational fisheries (also see section 9.2.1 - Co-management) (2, 4, 5, 6).
- Also see solutions under Stock Status/Biological Features (1).

### **Actions**

- There was an agreement at the Coney Workshop that the sharing of harvest data between land claim areas is an important aspect of coney management. This information should now be available for use between all RRBs and FJMC.
- DFO (Inuvik) is currently investigating and developing methods to more accurately record the commercial fisheries harvest. This may include the initiation of a Daily Catch Report (DCR) system for all commercial licence holders. A DCR system has already proven itself valuable in the management of fish stocks in a number of jurisdictions in Canada. Better documentation of commercial harvests of coney would allow more effective management practices.
- Also see Actions under Section 9.1.1 (Stock Status/Biological Features).

## **9.1.4 Habitat Use/Management**

### **Status**

Coney are known to require silt-free water and gravel substrates for successful spawning. Some juveniles and adults are known to overwinter in the outer delta and/or other marine/freshwater coastal areas, although habitat use is likely different for each life stage. At least some immature fish and non-spawners appear to require summer feeding areas in the outer delta/coastal areas.

### **Concerns**

1. The specific locations of critical habitats for all life stages (*e.g.*, spawning, rearing of fry) and activities (*e.g.*, feeding, overwintering) are generally unknown.
2. The results of disruption or destruction of critical habitats are unknown.
3. The lack of specific information about coney habitat use make environmental screening and land-use reviews for development projects difficult or ineffective.
4. Community fishing areas require protection from development/environmental degradation.

### **Solutions**

- Focus research on quantifying critical habitat requirements for all life stages and identify stock specific locations for spawning, feeding and overwintering (**1, 3**).
- Protect critical areas once identified (**2, 3, 4**).

### **Actions**

- Agreement was reached at the Coney Workshop that any development within land claim areas would require extensive fisheries survey work to ensure that the development is not destroying valuable fish habitat. Certain types of work would only be allowed during specific times of the year. Involved HTC/RRCs, with the support and advice from RRBs and FJMC, associated land and water boards and DFO, will reach appropriate decisions on a case by case basis.
- Participants at the Coney Workshop also agreed that activities planned or conducted within a land claim area (*e.g.*, timber harvesting or commercial fishing) that could potentially negatively affect the status of transboundary stocks should be conveyed to other RRBs, FJMC and HTC/RRCs.

## **9.2 Resource Users**

## **9.2.1 Co-management**

### **Status**

Within the Plan Area, three co-management wildlife boards are established under their respective land claims. These co-management boards regularly consult and involve local representatives (*e.g.*, HTC and RRC) in all aspects related to fisheries management and research. These co-management boards are the main instruments of fisheries management for their area/region. Various organizations in the Yukon Territory and the Deh Cho may need to be involved in future management plans. DFO retains the ultimate jurisdiction for conservation of fish and their habitat.

### **Concerns**

1. Management and research related to coney is not co-ordinated within the Plan Area.
2. Beneficiaries may not fully appreciate or understand the need for this co-ordinated approach (*e.g.*, sharing of harvest numbers or location of harvests).
3. More community consultations are required by DFO when formulating IFMPs.

### **Solutions**

- Shared coney stocks in the Plan Area will be managed in a co-ordinated manner to ensure wise use. Creation of a Planning Committee may be required to co-ordinate management and research plans (1).
- The three co-management boards and DFO, under the direction of a Planning Committee, could develop an agreement to cost-share and administer a program for the joint research and management of coney in the Lower Mackenzie Basin and marine waters of the delta area (1).
- Involve/inform other groups/organizations (*e.g.*, universities) as to status of the plan and encourage participation where required or when beneficial to coney health and their habitats and the users of coney (2).
- Take IFMPs to communities early in the developmental process (3).

### **Actions**

- The planned index-netting program for 1999 (see Work Plans) will include participants from communities in all land claim areas. All participating communities will share the information collected by this program. This information will allow communities to see how coney and other fish species are distributed near their communities during one period of the year and may reveal important habitats or areas that should be given additional protection.

- Although there was no final decision reached at the October 1999, workshop, there was an agreement that a planning or steering committee could co-ordinate and prioritize all fisheries research affecting two or more land claim areas to ensure that there is no duplication of effort. Although needs differ in each land claim area, DFO will take the lead in co-ordinating research until a decision on possibly creating an area co-ordinating group is reached. DFO currently holds annual planning meetings to focus on regional priorities and ensure that there is no duplication of effort between land claim areas on proposed research projects.

## **9.2.2 Culture and Education**

### **Status**

There are currently no specific programs in place that convey knowledge about coney to beneficiaries within the educational system. However, a large amount of information, both scientific and traditional, is available that could be used for introducing primary or secondary school students (both beneficiary and non-beneficiary) to coney biology and ecology and their importance to the people of the Plan Area.

Additionally, all co-management boards either continue or are considering:

- programs for elders to teach youth about cultural values and traditional use of wildlife resources (*e.g.*, Gwich'in Science Camp),
- incentives (*e.g.*, scholarships) to interest youth in post secondary education in the renewable resources field,
- hiring beneficiaries as assistants or trainees on co-operative programs with DFO,
- recommending beneficiaries for hiring in assisting with DFO programs,
- additional means for collecting traditional ecological knowledge,
- methods for distributing this traditional knowledge along with scientific information to people in communities.

### **Concerns**

1. There are currently few, but there is a need for more beneficiaries to be involved in the management and research of fish and wildlife.
2. There are currently no programs that introduce traditional and scientific knowledge about coney into the school system.
3. There is a need to distribute traditionally (*e.g.*, questionnaire results) and scientifically collected information (*e.g.*, research results) back to communities in plain language.

### **Solutions**

- DFO, FJMC and the co-management boards should continue, whenever possible, to co-employ beneficiaries to participate in management and research programs (1).

- DFO, FJMC and RRBs could provide information and assist with the development of school and cultural programs (2).
- DFO, FJMC and RRBs could jointly produce more “posters” (e.g., Gwich’in “Coney Facts” poster) to convey summary results of research studies or educational facts for distribution to communities (3).
- DFO, FJMC and RRBs should ensure that reports and posters produced concerning coney are sent to school and community libraries as well as regional community colleges (3).

### **Actions**

- DFO, FJMC and RRBs will, when requested, provide any available educational materials for the use of interested parties. DFO staff members currently assist in the preparation/presentation of fisheries related materials for schools. The GRRB integrates traditional and scientific knowledge about the natural world through the Gwich’in Science Camp sponsored by the Gwich’in Social and Cultural Institute.
- When time and personnel permit, DFO, FJMC and RRBs will assist in additional school programs.
- DFO, FJMC and RRBs will continue, as in the past, to train and employ beneficiaries to assist in research being conducted within their land claim areas.
- When acceptable to the communities involved, DFO, FJMC and RRBs will ensure that the results of scientific studies or traditional knowledge materials relating to coney are forwarded not only to HTC and RRCs, but also to school and community libraries so that more people have access to this information.

## 10.0 Work Plans: 2000-2005

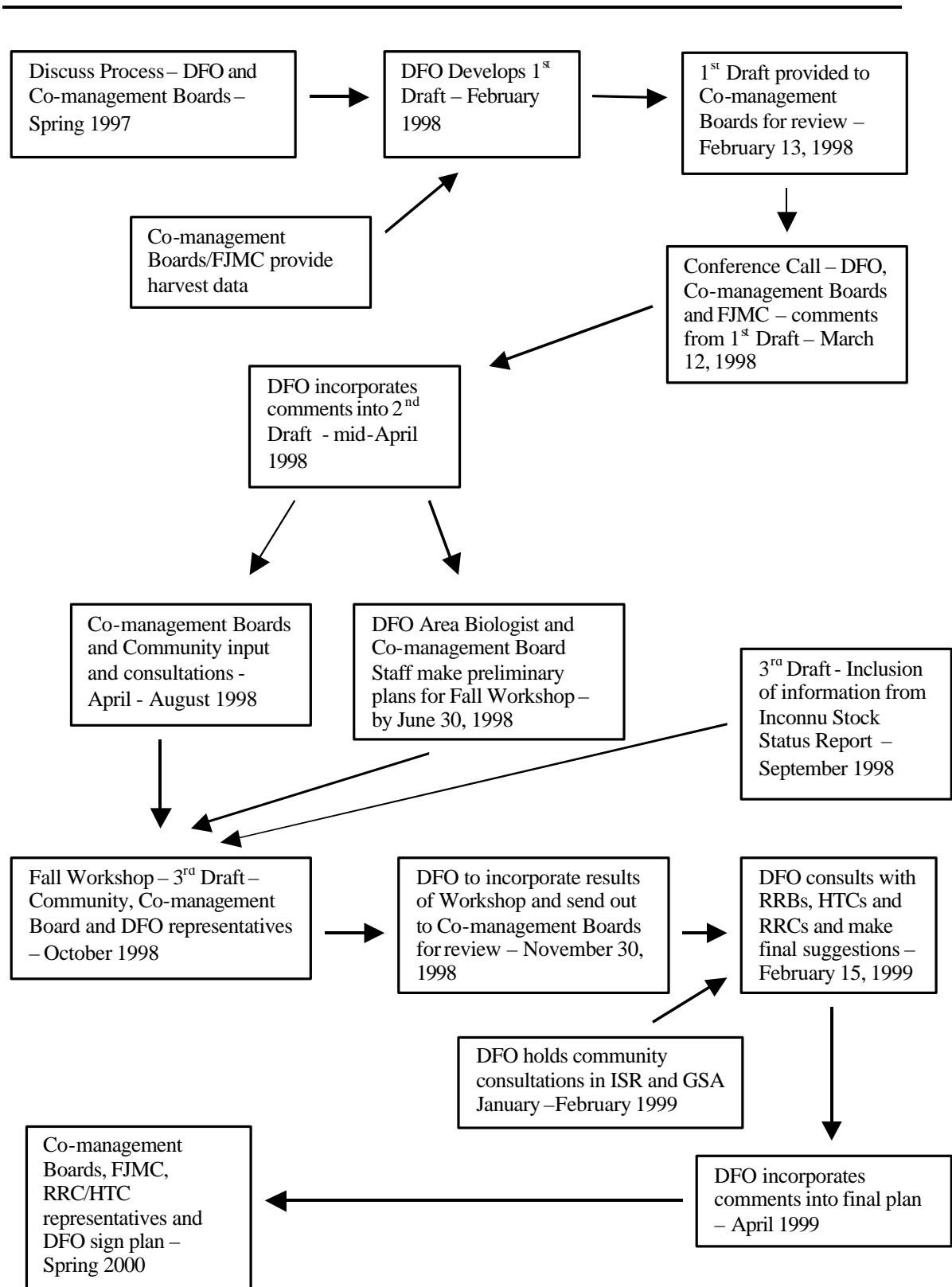
Stock/Biological Status	Traditional Knowledge	Harvest Management
<p><b>2000</b> – index-netting to continue in the Inuvialuit Settlement Region (ISR), Sahtu Settlement Area (SSA) and the Gwich'in Settlement Area (GSA) documenting current stock conditions and distribution of life stages by area and habitat (project is expected to run from 1999-2001 and every 2-3 years thereafter).</p> <p><b>2000</b> – DFO/GRRB Peel River study to collect timing of migration, stock health and critical habitat information on coregonids (whitefish). May include information on coney.</p>	<p><b>1999</b> – Completion of CD-ROM disk by GRRB with additional traditional knowledge on coney.</p> <p><b>2000-Ongoing</b> - DFO to involve local residents when seeking information on historic use or knowledge of coney prior to beginning research programs (e.g., index-netting program).</p>	<p><b>2000-Ongoing</b> - DFO to develop new methods for the reporting of commercial and domestic catch data to better track coney and other fish harvests.</p>
Habitat Use/Management	Co-management	Culture and Education
<p><b>2000</b> – index-netting to continue in ISR, SSA and the GSA documenting current stock conditions and distribution of life stages by area and habitat (project is expected to run from 1999-2001 and every 2-3 years thereafter).</p> <p><b>2000</b> – DFO/GRRB Peel River study continued to identify timing of migration, stock health and critical habitat information on coregonids. May include information on coney.</p> <p><b>2000-2005</b> – DFO/GRRB prepared to begin study on short notice to determine location of coney spawning sites on Arctic Red River as opportunities permit.</p>	<p><b>2000</b> – DFO to pursue the idea of creating a steering committee involving members from each RRB, FJMC and perhaps each HTC/RRC that could review and prioritize all fisheries projects that involve transboundary fish stocks, including coney.</p>	<p><b>2000</b> – DFO to produce community “posters” describing the results of the 1999-2000 index netting project.</p>

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## 11.0 References

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**Appendix 1:** Flow chart showing the stages of development in the Integrated Fisheries Management Plan for coney.



On behalf of the following communities, on December 14, 1999, at Inuvik, NT, we are signatories to the Integrated Fisheries Management Plan for coney (inconnu) effective from this date to March 31, 2004.

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Aklavik RRC

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Aklavik HTC

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Inuvik RRC

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Inuvik HTC

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Fort Good Hope RRC

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Fort McPherson RRC

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Tsiigehtchic RRC

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Tuktoyaktuk HTC

\_\_\_\_\_  
Fisheries Joint  
Management Committee

\_\_\_\_\_  
Gwich'in Renewable  
Resource Board

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Sahtu Renewable  
Resource Board

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Dept. of Fisheries and Oceans