



canada/yukon economic
development agreement

**CANADA-YUKON COOPERATION AGREEMENT
FORESTRY DEVELOPMENT
(1991-1996)**

1992/1993 ANNUAL REPORT

**Submitted by the Canada-Yukon Cooperation Agreement:
Forestry Development Management Committee**

A Canada-Yukon Economic Development Agreement Initiative

Canada

Yukon
Government

CANADA - YUKON
COOPERATION AGREEMENT:
FORESTRY DEVELOPMENT
(CAFD)
(1991-1996)

1992/93
ANNUAL REPORT

submitted to:

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Minister of Natural Resources

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Minister of Economic
Development


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Minister of Indian and Northern Affairs

Mr. Ken McKinnon
Commissioner of the Yukon


The 1992/93 Canada-Yukon Annual Report is presented in accordance
with the terms of the Agreement.

Approved by:

Approved by:



Wayne Coombs
Federal Co-chair
CAFD Management Committee



Steve Smyth
YTG Co-chair
CAFD Management Committee

Date: *August 12, 1993*

Date: *93.08.12*

A Canada - Yukon Economic Development Agreement Initiative

HIGHLIGHTS

CAFD 1992/93 ANNUAL REPORT

CAFD PURPOSE AND OBJECTIVES

- * Support expansion and diversification in areas of forestry.
- * Assist Northern residents to benefit from the forest resources.
- * Promote the sustainable development of the forest resources.
- * Recognize consumable and non-consumable values.
- * Protect ecological diversity.
- * Create employment, increase economic diversity and stability.
- * Improve awareness of sound forest management objectives.

Program Achievements Highlights

Forest Planning:	3 projects:	\$70,095.55
<ul style="list-style-type: none"> - History of Logging in the Yukon. - Employment Opportunities in Yukon Forestry. - Facilitator. 		
Research and Technology Transfer:	6 projects:	\$86,769.85
<ul style="list-style-type: none"> - Bibliography on Forest Research applicable to the Yukon. - Regeneration Status on Burned-over Lands. - Location search for Juvenile Spacing trials and demonstration. - Framework for Forest Ecosystem description and interpretation. - Watson Lake Work Shop and field trip on site preparation. - Study and factors involved in forest riparian zones. 		
Operational Silviculture:	3 projects:	\$196,922.19
<ul style="list-style-type: none"> - Initiated a survey of non-satisfactorily restocked lands. - Site prepared approximately 222 hectares. - Cleared debris from a site (Halfmoon) for further site preparation. - Purchase of 200,000 seedlings for 1993/94 planting. 		
Public Awareness and Communications:	1 project:	\$1,776.16
<ul style="list-style-type: none"> - Establishment of a multi-agency Technical Review Committee including representation from CYI and industry. 		
Human Resource Development:		no expenditures
<ul style="list-style-type: none"> - Developed Guiding Principles encouraging local projects, training, and human resource development within projects. The intent is to encourage proposal which will fulfill the objectives of the Agreement. 		
Administration: (YTG and Forestry Canada)		\$56,563.43

1992-1993 Expenditures		\$412,129.18
Forestry Canada	86.56%	
Yukon Government	13.44%	
1993-1994 Budget		\$860,200.00

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Executive Summary

The Canada-Yukon Cooperation Agreement: Forestry Development (CAFD) is a five year (1991-1996), \$2.714 million agreement shared jointly between Canada and the Yukon. Expenditures in 1992/93 were \$412,129.18 (Table 2); Forestry Canada contributing 86.56% and the Yukon contributing 13.44%. Fourteen projects were initiated creating an estimated 1,147 person days of employment (Table 3).

The objective of the Agreement is to promote the sustainable development of the forest resources of the Yukon. The six programs of the Agreement will contribute to a continuous supply of forest resources, both consumable and non-consumable, protect the ecological diversity of the forest environment and create employment. They will also increase economic diversity and stability, and improve the awareness of forest management amongst the Yukon people including First Nations.

A Management Committee consisting of representatives from the Yukon, (the Department of Renewable Resources and the Department of Economic Development: Mines and Small Business), the federal government, (Forestry Canada, Pacific and Yukon Region and the Department of Indian and Northern Affairs: NAP) and the Council of Yukon Indians. A CAFD Secretariat and a Technical Review Committee have been appointed to assist the Management Committee. In addition, the EDA Secretariat is providing administrative assistance. The activities of the Management Committee have been consistent with the directions and the intent of the Economic Development Implementation Committee.

Although most project concepts were proposed by the Management Committee and the Technical Review Committee, all the work was done under contract or contribution. An attempt was made to build local training into project design addressing the need to develop local forestry expertise and experience. The ultimate beneficiary of projects completed under the Agreement will be Yukoners; the managers of the resource base.

Forest Planning:

Projects within this program will assist long-term resource planning and further the concepts of sustainable resource management. Topics include:

- * History,
- * Bibliography,
- * Employment Opportunities,
- * Issues of Integrated Resource Management (Riparian study),
- * Ecosystem description and interpretation (Framework),
- * Growth and Yield on NSR lands,
- * Assessment and prescriptions for NSR lands.

Research and Technology Transfer:

Silviculture and multiple resource management are relatively new to the Yukon. Consequently, there are large knowledge gaps in most topics surrounding resource values and sustainable forest resources development. The Agreement was created to address these gaps emphasizing forest research and technology transfer. A major step was the development of a forest research bibliography applicable to the Yukon.

Forest ecology, the relationships within a forest and the means of describing and interpreting the ecosystems, is considered to be fundamental for resource management decisions. The Agreement funded a framework development which will systematically further the ecological knowledge base.

Looking toward further forestry work, a project was initiated to find areas which would be used to demonstrate forest treatment options.

Operational Silviculture:

Following a slow start in 1991/92, efforts to regenerate non producing forest sites were successfully initiated in 1992/93. Some 222 hectares were prepared for planting in 1993/94. The site preparation involved two contractors. An Alberta contractor hired local equipment operators from Watson Lake using local equipment. A number of different site preparation techniques were used. The Liard Indian Band had the second contract to remove wind-thrown debris from a site at Halfmoon Bay.

This work has provided important opportunities for Yukoners to try different techniques and learn through "hands-on" experience. Efforts to develop local expertise in site preparation and planting will continue through the remainder of the Agreement.

Public Awareness and Communications:

A major success of the public awareness program was a workshop on site preparation techniques held in Watson Lake. In addition, a workshop was held in Whitehorse to discuss the approach used across Canada to describe and interpret ecosystems, and determine the most suitable approach to the Yukon.

Work was initiated on a Communications Plan which will include a number of training and information methods.

Administration:

Substantial work was done to refine procedures, initiate an evaluation framework and a communication plan. Extensive support and development was required to stimulate and encourage activities. This was because silviculture enterprises and integrated resource management are relatively new to the Yukon.

1993 - 1994 Work Plan:

1993/94 activities will build upon the planning, research, and operational silviculture initiatives launched in 1992/93. The interrelationship between activities require that the Management Committee remain pro-active in stimulating projects which will achieve the objectives of the Agreement. Projects will be designed to provide local training and development of local expertise.

Continuation of the reforestation of non-satisfactorily restocked lands will provide the stimulation for local employment, entrepreneur development and the accumulation of local forest resource management experience. Some 222 hectares prepared in 1992/93 will be planted with 200,000 seedlings. An additional 278 hectares will be prepared for planting 400,000 seedlings in 1994/54. (300,000 seedlings will be planted during 1995/96.)

An application for a major project to fill in the knowledge gaps in Yukon forest ecosystems and provide interpretations for resource managers will begin in 1993/94. It will build upon the analysis and framework completed in 1992/93. Other proposed research project will evaluate seedling performance and aspects of integrated resource management.

In 1993/94, more effort will be directed toward communications, training and the application of research results. It is anticipated that the Management Committee will be involved in the second phase of the evaluation; an opportunity to improve delivery, effectiveness and appropriateness of projects.

Table 1

CAFD EXPENDITURES TO DATE

<u>Programs</u>	<u>Five Year Budget</u>	
	<u>(\$'000)</u>	<u>%</u>
1. Forest Planning	200k	7%
2. Research and Technology Transfer	530k	20%
3. Operational Silviculture	1,354k	50%
4. Public Awareness and Communications	200k	7%
5. Human Resource Development	150k	6%
6. Administration	<u>280k</u>	10%
	2,714k	
Forestry Canada		70.0%
Yukon		30.0%
<u>Expenditures to Date</u> (April 1992-March 31, 1993)		
Total	422.1k	
Forestry Canada	363.7k	86.2%
Yukon	58.4k	13.8%

Table 2

CAFD 1992/93 SUMMARY OF EXPENDITURES

<u>Programs</u>	<u>Original 92/93 Budget</u> (\$)	<u>1992/93 Expenditures</u>	<u>92/93 %</u>
1. Forest Planning	60,000	70,095.55	17%
2. Research and Technology Transfer	105,000	86,769.85	21%
3. Operational Silviculture	275,900	196,922.19	48%
4. Public Awareness and Communications	45,000	1,776.16	0%
5. Human Resource Development	30,000	0.0	0%
6. Administration	<u>36,000</u>	<u>56,563.43</u>	14%
	551,900	412,129.18	
Forestry Canada	70%		86.56%
Yukon	30%		13.44%

CAFD GUIDING PRINCIPLES

- * Establish a proactive agenda to encourage themes which will fulfill the Agreement objectives in a planned, systematic manner;
- * All work will be done under contract by non-government contractors, consultants or agencies;
- * Develop and encourage local expertise, local business and local employment through "Hands - on" operations;
- * Emphasize applied research and field applications;
- * Develop silvicultural expertise within communities;
- * Promote projects which consider sound biological, ecological and environmental principles in management using the best cost - effective technology;
- * Apply environmental reviews;
- * Apply integrated resources prescriptions, and
- * Produce products within the term of the Agreement which demonstrate utility and significance.

Potential future themes:

- **Overview / problem analysis**
(Outline resource planning criteria and options)
- **Integrated forest resources "Needs Analysis"**
- **Linkages with other resource users and areas**
- **Management Plan Development**
- **National data base statistics enhancement**
- **Forestry Opportunities for First Nations**
- **Urban / Social Forestry (Working with cities and municipalities)**

Program 2 RESEARCH AND TECHNOLOGY TRANSFER

- **Forest Ecosystem Descriptions and Interpretations: (A Framework)**

4132-009, 1992/93, \$56,257

Incremental employment:

150 days

(17 tenders were submitted, nation wide)

Phase 1. Evaluate the various classification approaches and recommend the one most appropriate for the Yukon; identify, collect and summarize existing information; identify information gaps and detail future sampling required; and develop a detailed work plan. Data from some 400 southeast Yukon sites have been collected and knowledge gaps identified.

Forest ecosystem descriptions and interpretations are fundamental for integrated, multiple-use resource management which considers fibre, wildlife, recreation and other forest resource values within a sustainable development framework. The Yukon is positioned to use the best technology from other regions and advance quickly towards using biologically sound interpretations to fulfill the resource objectives of Yukon society.

A successful, multi-agency, workshop was held in Whitehorse, February 26, 1993, on forest ecosystem descriptions and interpretations. The major differences between various classification systems were presented and discussed. Other topics included: ecoregion priorities, the importance of non-forested ecosystems, land use planning and mapping, climax and seral stages, interpretation, classification linkages, permafrost, wildlife, conservation, recreation, forestry and resource use applications.

- **Evaluation of Riparian Zones**

4132-013, 1992/93, \$8,700

Incremental employment:

60 days

This study provided an evaluation of buffer strips for the protection of riparian zones from the effects of logging on the Rancheria and Meister Rivers. It reviewed the factors involved in the riparian ecosystems, morphological changes and buffer strip design. It identified knowledge gaps and recommended future work.

Integrated forest management and biological diversity are fundamental concerns in sound forest management. The most sensitive and most complex issues exist at the interface between rivers and forests in the areas known as the riparian zones. As these are usually highly productive areas, they are subjected to the highest use. Understanding the impacts of activities and the interrelationships are important for planning, resource allocation and fulfillment of the Yukon's objectives.

- **Site Survey for Juvenile Spacing Trials**

4132-005, 1992/93, \$5,000
(Phase 1)

Incremental employment: 20 days

Suitable demonstration areas for a variety of juvenile spacing regimes and other intensive forestry practices in and around the forested areas of the City of Whitehorse were explored under this contract with the Yukon College.

Very little information exists in the Yukon on the response of forests to various types of intensive forest management. The growth and yield response usually requires several years to develop. In the interim, the trials will serve for educational and demonstration purposes. The project is an excellent way of involving the Yukon College and others in the concepts of local forest management.

- **Establishment of Natural Regeneration**

4132-004, 1992/93, \$3905

Incremental employment: 8 days

New information on the establishment of natural regeneration was developed by analyzing previously collected data from a 1983/84 reconnaissance forest inventory on burnt over lands. The study provided some additional information on the time lag between burn and regeneration, age and size of regeneration, effects of competition and the differences between Ecoregions.

Work on this topic is important to determine effective regeneration and site preparation requirements. Although additional work is required, local experience indicates that some form of site preparation is required to warm soils, expose mineral soils and reduce the effects of prevailing winds on seedling survival.

- **Site Preparation Workshop, Watson Lake**

4132-011, 1992/93, \$2,909.85

Incremental employment: 4 days

A well-received, two day workshop on site preparation was held in Watson Lake. It attracted some 35 participants in the presentations and field trips.

Workshops of this nature are important for technological transfer to local practitioners and for adopting appropriate technology from other areas to local conditions. The result was a high level of local interest and local participation in the site preparation contract. A number of the different methods suggested during the workshop were implemented in the field operations.

Potential Future Themes:

- **Regeneration status and prescriptions**
- **Stand Tending trials and demonstrations**
- **Integrated Resource Management:**
 - **Work on wildlife within the forest environment.**
 - **Work on other forest land uses and values, (e.g. recreation)**
 - **Compatibility of resource uses with environmental concerns**
 - **Social and economic use of the resource base**
- **Technology Transfer**
 - **Workshops, trials and demonstrations.**

Program 3 OPERATIONAL SILVICULTURE

- **Seedling Purchase**

4133-008, 1992/93, \$27,000
(Phase 1)

Incremental employment: 5 days

An open tender to grow 900,000 seedlings for the Yukon resulted in a contract to Pelton Nurseries of Surrey, B.C. (The capability of local nurseries to handle this contract was not available. The limited size of the agreement precluded the capital investment to develop a local nursery and timing did not allow for development of local expertise through this contract. However, there are potentials for smaller growing seed lots locally.)

A downpayment of \$27,000 enabled approximately 200,000 seedlings to be grown for sites scarified in 1992/93. The total cost of the seed growing contract will be \$242,000 spread over a three year period. The availability of site preparation and planting contractors will determine the delivery schedule.

- **Assessment of Non-satisfactorily Restocked Lands (NSR) and Prescriptions**

4132-012, 1992/93, \$3,923.19,
Kaska

Incremental employment: 30 days

A contract was let to Kaska Forest Resources (KFR) to assess the current stocking conditions and make prescriptions for approximately 1,200 hectares of NSR lands in the Watson Lake area. There are no tenure obligations for KFR or DIAND to do this NSR survey work.

The contract was for "up to" \$50,000. However, adverse weather conditions prevented completion of the NSR survey during the 1992/93 fiscal year.

- **Site Prepare Approx. 222 hectares for 1993/94 Planting**

4133-007, 1992/93, \$166,000.

Incremental employment: 500 days

A variety of treatments were used to site prepare 222 hectares of NSR for planting. This is part of a multi-year agreement objective to reforest approximately 500 hectares. The project will be used as a means of developing local expertise through "hands-on" experience. Watson Lake residents have been actively involved in this project.

The NSR sites are some of the Yukon's most productive forest lands. There are a number of reasons why they haven't regenerated naturally. Cold soils covered with organic materials are the main restriction to natural regeneration. The site preparation plans have considered other uses and environmental issues.

- **The Halfmoon Debris Site Preparation**

4133-007, 1992/93, \$10,000.

Incremental employment: 80 days

Treatment of blocks of NSR lands in the Halfmoon area was hampered by wind-thrown trees and dead material on the sites. This contract was used to buck the material and enable mechanical scarification of the sites.

Potential future themes:

- **1993/94: Plant 200,000 seedlings on approx. 222 hectares of land site prepared in 1992/93**
- **1994/95: Prepare 278 hectares. Plant 400,000 seedlings**
- **1995/96: Plant 300,000 seedlings**
- **Incorporate local training and human resource development in silviculture contracts**
- **Workshops for site preparation and planting, ecological interpretations**
- **Applied growth and yield research incorporated into operational planting**
- **Consider site preparation, planting and training programs in other communities and with First Nations**
- **Consider contracts for local nurseries to grow specific stock types**

Program 4 PUBLIC AWARENESS AND COMMUNICATIONS

- **Technical Review Committee establishment**

4134-014, 1992/93, \$1,776.16

A technical review committee (TRC) was established in 1992 representing various government interests, industrial representatives and the Council of Yukon Indians. The TRC offered a wide range of comments and recommendations on the CAFD activities and potential projects.

- **Printing of the Agreement and brochures**

The Agreement and an accompanying brochure were published in both English and French.

Potential future themes:

- **Completion of a Communications Plan and a Technological Resource Plan**
- **Work with the College and other educational institutions**
- **Sponsor public tours of forest operations and facilities**
- **Publication of the cooperation reports.**

Program 5 HUMAN RESOURCE DEVELOPMENT

- **Most projects have incorporated local participation and training.**
- **All projects are done under contract or contribution agreement. There are no government implemented projects.**

Potential future themes:

- **Workshops and discussion groups**
- **Work with Employment Canada and others; involve a range of agencies and other interest groups in projects (such as planting)**
- **Study training requirements and opportunities for the Yukon**

Table 3

ESTIMATED DAYS OF EMPLOYMENT GENERATED 1992/93

<u>Project</u>	<u>Person Days of Employment</u>
History	90
Overview	
Facilitator	120
Bibliography	40
Regeneration	8
J.S. Trial location	20
Ecosystem framework	150
Workshop	4
Site prep, Halfmoon	80
Site prep, Watson Lake	500
Seedling Purchase	5
Stocking survey	30
TRC	
Employment opportunities	100
Administration	0
TOTAL	1,147 days

CANADA-YUKON COOPERATION AGREEMENT : FORESTRY DEVELOPMENT 1991-1996

W O R K P L A N 1993-1994

1. Background

1.1 Agreement Purpose

The purpose of this Agreement is to establish the processes and structures necessary to implement projects and programs designed to support the expansion and diversification of the Yukon economy in the areas of forestry, and to assist Northern residents to benefit from the forest resources in a way which contributes to the Yukon economy and is consistent with their interests and aspirations.

1.2 Agreement Objectives

The overall objective of this Agreement is to promote the sustainable development of the forest resources of the Yukon thereby ensuring a continuous supply of forest resources both consumable and non-consumable, protecting the ecological diversity of the forest environment, creating employment, increasing economic diversity and stability, and improving the awareness of forest management amongst the Yukon people including First Nations. More specifically the objectives are to:

- (a) improve forest planning including the identification of opportunities for further development of Yukon forest resources both consumable and non-consumable;
- (b) strengthen operational research in silviculture and the transfer of knowledge to forest practitioners;
- (c) establish an operational silviculture program to enhance timber supply and forest health including the reforestation of up to 500 hectares of forest not satisfactorily regenerated;
- (d) improve Yukon residents' awareness, understanding and knowledge of the forest resources and integrated forest management practices; and,
- (e) promote the development of silvicultural enterprises and a human resource base capable of supplying the broad range of forest management services required to support sustainable forestry development in the Yukon.

1.3 Budget for 1993/94

<u>Program</u>	<u>Budget (000's)</u> (Forestry Canada + YTG)
1. Planning	50.0
2. Research	160.0
3. Operational Silviculture	551.3
4. Public Awareness	45.0
5. Human Resources	45.0
6. Administration	80.0
Total	<u>931.3</u>

2. Priorities

2.1 Key Priorities for 1993/94

Build on the planning, research, operational silviculture, and human resources initiatives launched in 1992/93, including continuing the reforestation of Non Satisfactorily Restock lands, training and forestry work shop series. The priorities for 1993/94 will be:

- (a) strengthening operational research in silviculture and transfer of knowledge to forest practitioners; and,
- (b) establishing an operational silviculture program to enhance timber supply and forest health.

3. Projects

Projects will focus on:

- (a) plant 250 hectares of site prepared forest land; prepare an additional 300 hectares for planting in 1994 and 1995;
- (b) preparing a research design for evaluating seedling regeneration on scarified and non-scarified ground;
- (c) develop ecological descriptions and interpretations which can be used by forester, biologists, and wildlife managers;
- (d) develop human resources through a forestry work shop series and operational training; and,
- (e) complete an overview of forest planning activity in the Yukon.

4. Communications

Communications will be facilitated by:

- (a) advertising and publicity about courses and training opportunities;
- (b) press release and advertising on site preparation and tree planting activities;
- (c) advertising for tenders on research projects;
- (d) invitations to the public to participate or observe tree planting activities; and,
- (e) improve communications with other EDA Committees.

5. Audit

4132-005 Juvenile Spacing Trials
4132-003 Annotated Bibliography

6. Evaluation

Systems will be established and implemented to capture the data required for the evaluation of the Agreement based on the requirements to be outlined in the EDA Evaluation Framework.

Wayne Coombs
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Yukon Co-Chair