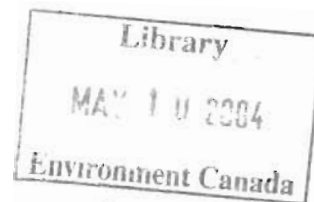


**WATER QUANTITY SURVEYS  
COST SHARING AGREEMENT  
CANADA - NEWFOUNDLAND  
ANNUAL REPORT 1997 - 1998**



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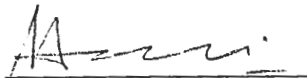
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Martin Goebel  
Administrator for Newfoundland

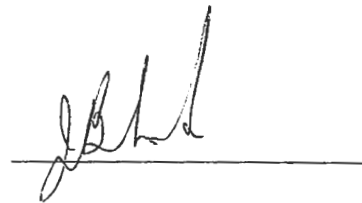
Mr. W. S. Appleby  
Administrator for Canada

In accordance with Article XII of the Memorandum of Agreement covering Water Quantity Surveys in the Province of Newfoundland we submit herewith the annual report for fiscal year 1997 - 1998.

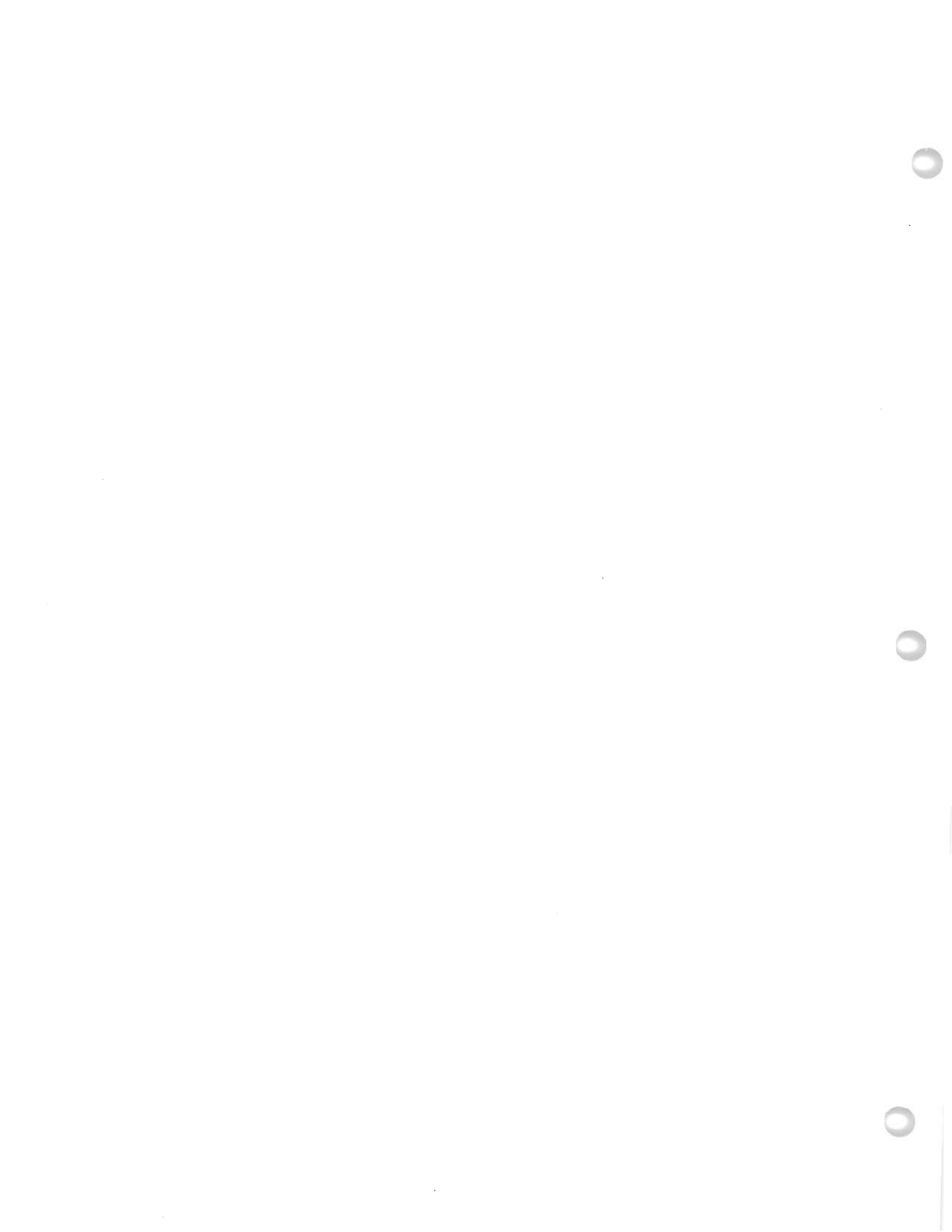
Members of the Co-ordinating Committee



H. Khan  
Co-ordinator for Newfoundland  
St. John's, Newfoundland



J. B. Merrick  
Co-ordinator for Canada  
Dartmouth, Nova Scotia



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## INTRODUCTION

The year ending March 31, 1998 was the twenty third in which water quantity surveys in Newfoundland were conducted under a Memorandum of Agreement between the Federal and Provincial Governments.

The Agreement establishes the basis on which co-operative water quantity surveys are made. It is administered for Canada by the Director of the Atmospheric Environment Branch (AEB) of Environment Canada and for Newfoundland by the Director, Water Resources Division, Department of Environment and Labour.

A Co-ordinating Committee comprising the Manager Environmental Monitoring Division of AEB, and the Manager Surface Water Section, Newfoundland Department of Environment and Labour, reports to the Administrators. It is the responsibility of the Co-ordinating Committee to prepare annually, Schedules A and D for approval by the Administrators.

The full Memorandum of Agreement includes four schedules. The annually changing **Schedules A and D** for 1997 - 1998 are attached to this report in Appendices I and II. **Schedules B and C** are primarily administrative in nature. They are provided in previous annual water reports of this series, as well as in the publication entitled Compendium of Practices, Interpretations and Administrative Procedures for the Water Quantity Survey Agreements: dated 1985-07.

**Schedule A** is a list of water quantity stations operated under the terms of the Agreement and their responsibility classification as federal, federal-provincial or provincial.

**Schedule D** provides a summary of the 1997 - 1998 annual payment.

Changes to the network continued with the closure of the following 16 stations in 1997-98:

Responsibility Class	Station No.	Station Name
F/P	02YA001	St. Genevieve River
F/P	02YJ003	Pinchgut Brook
F/P	02ZA001	Little Barachois Brook at St. Georges
F/P	02ZA003	Little Codroy River
P	02YL010	West Pond Brook
P	02YK007	Glide Brook

Responsibility Class	Station No.	Station Name
F/P	02YG002	Middle Arm Brook
P	02YP001	Shoal Arm Brook
F/P	02YO010	Junction Brook
F/P	02YR002	Ragged Harbour River
F/P	01ZG002	Tides Brook
P	02ZK005	Trout Brook
F/P	02ZL003	Spout Cove Brook
P	02ZM021	South Brook at Pearl Town Road.
P	02ZM017	Leary Brook at St. John's
P	02ZM019	Virginia River at Cartwright Place

The following four stations are programmed for closure in 1998-99.

F/P	02YN003	Star Brook.	[hydro development project]
F	02YH001	Bottom Creek	
F/P	02YQ004	North West Gander	
F	02ZD002	Grey River	[remote.]

### **Modernization of the Newfoundland and Labrador Hydrometric Network**

The Newfoundland and Labrador Hydrometric Network has been cut significantly in the past couple of years as a result of the federal and provincial program reviews. In 1994 there were 103 stations in the network. At the end of 1997 there were 74. There has been a growth in commercial stations ( currently 8 from zero ) as a result of the downsizing and major industrial developments. The Water Survey staff in Newfoundland decreased from 8 to 4 by the end of 1997.

The expected cost to finish the modernization of the Newfoundland and Labrador network is 250k. Most of this is the provincial portion of the network. However, a proposal for pay-back from the Newfoundland and Labrador Government is in the early stages of development.

The pay-back at a future date is money in the bank.

Commercialization activities can be seen as a means of maintaining a critical mass of skilled technologists in a down turn of government's ability to participate in water monitoring. Commercial activities would not be possible without modernization. Water Survey is the recognized "expert" in Newfoundland and Labrador and nobody in Newfoundland and Labrador currently has the skill or infrastructure to work in this field. The efficiencies of modernization will increase the opportunity for further commercialization. The 1996 revenue was 70k; 1997, 100k; expectations for 1998, 135k. Newfoundland and Labrador is still undeveloped and hydroelectric development etc. will result in increasing demands for hydrometric expertise.



The decrease in staff numbers by 50% with only a 37% reduction in stations was based upon a fully modernized network. The partners are already reaping these savings. The current extra workloads are acceptable by staff because of the promise of modernization.

Staff in Newfoundland are proud of their commercialization efforts. Putting money back into the network shows confidence in them and gives them a sense of accomplishment.

We cannot afford any delay in the modernization of the Newfoundland and Labrador Network as it will significantly jeopardize our progress towards commercialization. Revenue alone over the next two years should help pay for modernization.

WATER QUANTITY SURVEYS

PROVINCE OF NEWFOUNDLAND

ANTICIPATED OPERATIONAL COSTS FOR HYDROMETRIC SURVEYS - ISLAND

1997 - 1998

<u>Budget Item</u>	<u>1997 - 98</u>
Personnel - Basic Pay - 01, 02, 03 (Salaries of hydrometric technical staff including overtime)	219,036
Transportation and Communications	
Travel - 07	20,700
Transportation and Postage - 09	1,800
Telecommunications - 10, 11	2,700
Professional and Special Services	
Professional Services - 18	450
Other Services - 22	3,600
Rentals - 25	40,000
Purchased Repair and Upkeep	
Equipment Purchased and Repairs - 28	4,000
Building and Structures Repairs - 29	3,100
Utilities, Materials and Supplies	
Public Utility Services - 32	1,200
Purchased Materials, Supplies,	
Misc. Goods - 33, 34	27,000
Parts and Consumable Tools - 35	5,000
Other Costs - Data Processing	6,000
Depreciation of Vehicles (5)	9,400
Depreciation of Field Equipment and Instruments	0
<b>TOTAL</b>	<b>343,986</b>

**WATER QUANTITY SURVEYS**  
**PROVINCE OF NEWFOUNDLAND AND**  
**ANTICIPATED OPERATIONAL COSTS FOR HYDROMETRIC SURVEYS - LABRADOR**

**1997 - 1998**

<b><u>Budget Item</u></b>	<b><u>1997 - 98</u></b>
Personnel - Basic Pay - 01, 02, 03 (Salaries of hydrometric technical staff including overtime)	5,253
Transportation and Communications	
Travel - 07	5,500
Transportation and Postage - 09	500
Telecommunications - 10, 11	0
Professional and Special Services	
Professional Services - 18	0
Other Services - 22	300
Rentals - 25	15,200
Purchased Repair and Upkeep	
Equipment Purchased and Repairs - 28	200
Building and Structures Repairs - 29	0
Utilities, Materials and Supplies	
Public Utility Services - 32	0
Purchased Materials, Supplies,	
Misc. Goods - 33, 34	500
Parts and Consumable Tools - 35	200
Other Costs - Data Processing	600
Depreciation of Vehicles (5)	0
Depreciation of Field Equipment and Instruments	600
<b>TOTAL</b>	<b>28,853</b>

WATER QUANTITY SURVEYS

CALCULATION OF ANTICIPATED ANNUAL COSTS AND PAYMENTS - 1997 - 1998

HYDROMETRIC NETWORK - ISLAND

Station Category	Stations	Station Units
Federal 1	6	6.0
Federal 4	8	8.0
Federal / Provincial 3	33	33.0
Provincial 1	17	14.6
<b>Total</b>	<b>64</b>	<b>61.6</b>

Average Cost per Station Unit =  $\$343,986.00 / 61.6 = \$5584.19$

Provincial Share =  $\$5584.19 [ (33 \times .5) + 14.6 ] = \$5584.19 [ 31.1 ] = \$173,668.31$

HYDROMETRIC NETWORK - LABRADOR

Station Category	Stations	Station Units
Federal 2	1	1.0
Federal 4	3	3.0
Provincial 1	1	0.2
<b>Total</b>	<b>5</b>	<b>4.2</b>

Average Cost per Station Unit =  $\$28,853 / 4.2 = \$6869.76$

Provincial Share =  $\$6,869.76 [ 0.2 ] =$

**\$1,373.95**

HUMBER BASIN METEOROLOGICAL STATIONS

Station Category	Stations	Station Units
Humber Basin Meteorology	5	1.0

Cost per Station = 20% of Hydrometric station =  $\$5584.19 \times .2 = \$1116.84$

Provincial Share =  $\$1116.84 \times 5 =$

**\$5584.19**

**Total Provincial Share =**

**\$180,626.45**

**TABLE 1**  
**WATER QUANTITY SURVEYS**  
**GAUGING STATION DATA FOR 1997 - 1998**

No. of Stations: incl Contrib		Changes during 1997 - 1998		Stn. Designation April 1, 1997			
April 1, 1996	April 1, 1997	Added	Discontinued	Fed	F/P	Prov.	Contrib.
99	83	0	16	18	33	18	14
		Change					
		16					

**TABLE 2**  
**WATER QUANTITY SURVEYS**  
**COMPARATIVE GAUGING STATION DATA April 1, 1975 - April 1, 1997 TABLE**

Federal Stations	F/P Stations			Provincial Stations			Total Stations		
	Apr 1, 1975	Apr 1, 1997	Change	Apr 1, 1975	Apr 1, 1997	Change	Apr 1, 1975	Apr 1, 1997	Change
14	18	4	7	9	33	26	18	69	39

**TABLE 3**  
**WATER QUANTITY SURVEYS**  
**DETAILED GAUGING STATION DATA 1997 - 1998 TABLE**

F-1	*F-2	F-3	F-4	Total F	FP-1	FP-2	FP-3	Total F/P	P-1	P-2	Total P	Contrib.	Total-All
6	1	0	11	18	0	0	33	33	18	0	18	14	83

**TABLE 4**  
**WATER QUANTITY SURVEYS**  
**SUMMARY OF SCHEDULE D - 1997 - 1998 TABLE 4**  
 (does not include costs for Humber River Meteorological Stations or Sediment Program)

Streamflow & Water Level	Sediment		Total
	Construction	Operation	
Operation \$167,169	0	0	\$167,169.01


**TABLE 5**  
**WATER QUANTITY SURVEYS**  
**COMPARISON - SCHEDULED & ACTUAL DOLLAR COSTS FOR 1997 - 1998**  
 (does not include costs for Humber River Meteorological Stations or Sediment Program)

Salary & Operations	Construction			Total		
	Sch. D	Sch. D	Sch. D	Actual Cost	Difference	Amount Payment Received
\$167,169	0	0	\$167,169	\$175,042.21	\$7,873.21	\$167,169
						Received Minus Actual
						-\$7,873.21

**SUMMARY OF ACTUAL ANNUAL COSTS AND PAYMENTS**

1975-76 TO 1997-98

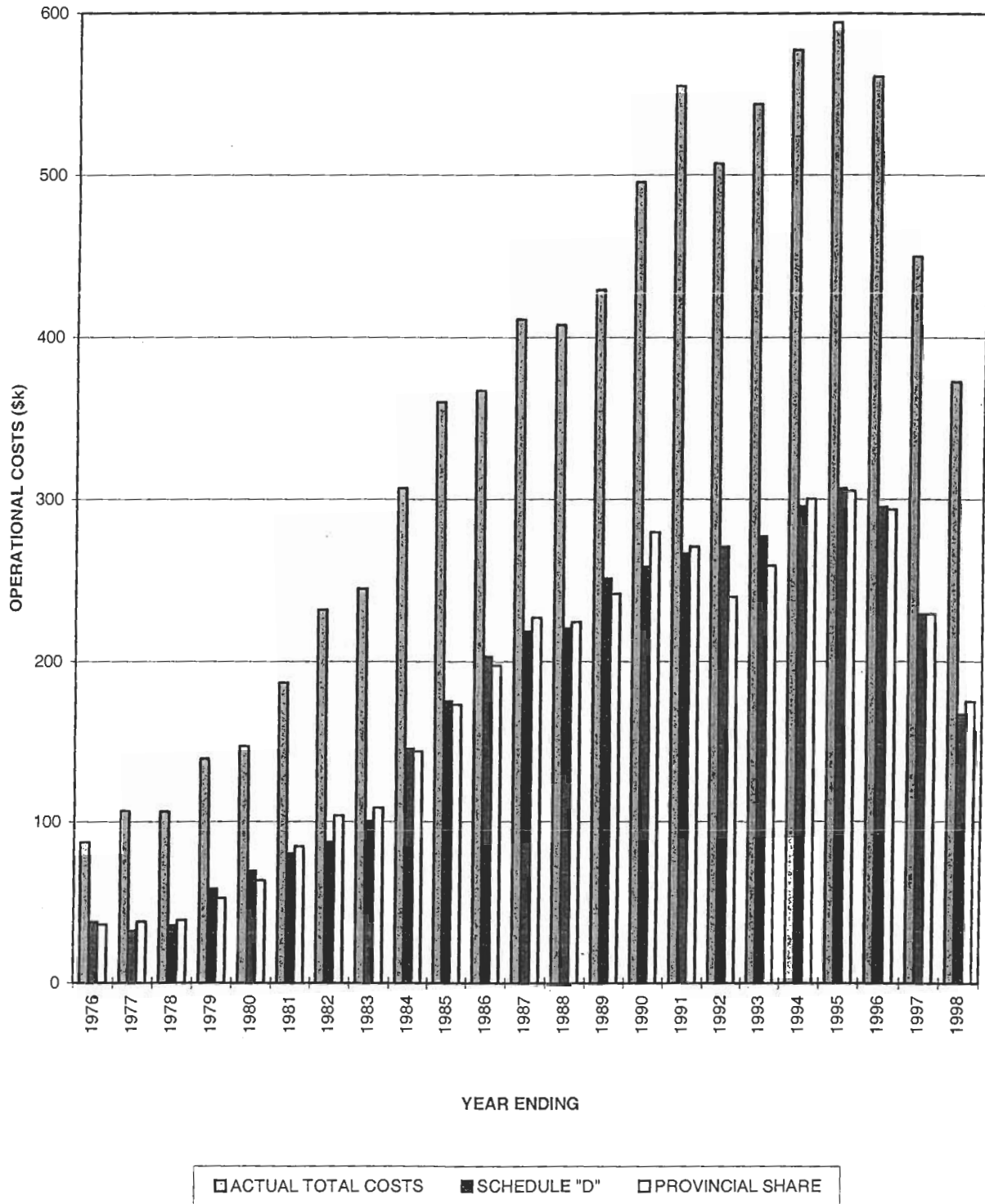
YEAR	SCHEDULE "D" PAYMENTS BY PROVINCE			ACTUAL PROVINCIAL SHARE			TOTAL	PROVINCIAL +CREDIT	
	HYDROMET	SEDIMENT	CONSTR'N	HYDROMET	SEDIMENT	CONSTR'N			
1975-76	37,800	0	3,600	36,238	0	2,177	38,415	2,985	
1976-77	32,340	0	12,000	37,840	0	1,573	39,413	4,927	
1977-78	35,520	0	24,480	38,700	0	13,963	52,663	7,337	
1978-79	56,775	1,400	11,825	51,371	679	26,000	78,050	-8,050	
1979-80	68,338	933	25,729	62,256	896	22,476	85,628	9,372	
1980-81	78,639	1,475	6,000	83,518	1,064	7,703	92,285	-6,171	
1981-82	83,523	3,750	14,000	100,726	3,114	16,560	120,400	-19,127	
1982-83	96,542	3,744	55,000	102,735	5,886	47,224	155,845	-559	
1983-84	141,457	4,470	38,000	136,917	6,906	37,864	181,687	2,240	
1984-85	168,244	7,350	52,000	168,247	5,295	48,662	222,204	5,390	
1985-86	195,563	7,650	36,787	191,580	6,324	39,203	237,107	2,893	
1986-87*	211,706	6,975	34,641	222,843	4,413	35,136	262,392	-9,070	
1987-88*	213,634	6,975	42,000	220,934	3,597	47,957	272,488	-9,879	
1988-89*	245,221	6,300	15,000	237,249	4,683	16,148	258,080	8,441	
1989-90*	253,392	5,173	30,000	274,004	5,571	21,264	300,839	-12,274	
1990-91**	260,691	5,925	0	266,616	4,809	2,532	273,399	-6,783	
1991-92**	264,591	6,450	0	271,041	5,649	0	239,871	31,170	
1992-93**	273,482	3,825	0	277,307	4,713	0	259,143	18,164	
1993-94	270,983	3,700	21,000	295,683	276,163	20,496	300,164	-4,481	
1994-95	295,500	3,200	0	298,700	288,835	0	292,055	6,645	
1995-96	294,040	1,375	0	295,415	1,180	0	294,040	1,375	
1996-97	229,643	0	0	229,643	0	0	229,643	0	
1997-98	167,169	0	0	167,169	175,042	0	175,042	-7,873	
NOTES.	A positive net total indicates funds owed to the Province.							Net total	16,672
	** Not including \$11,678 DCP payment plus cost of operation of Humber River met sites								
	* Not including \$11,678 payment for imputed rental of 14 DCPs								

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# WATER QUANTITY SURVEYS NEWFOUNDLAND & LABRADOR

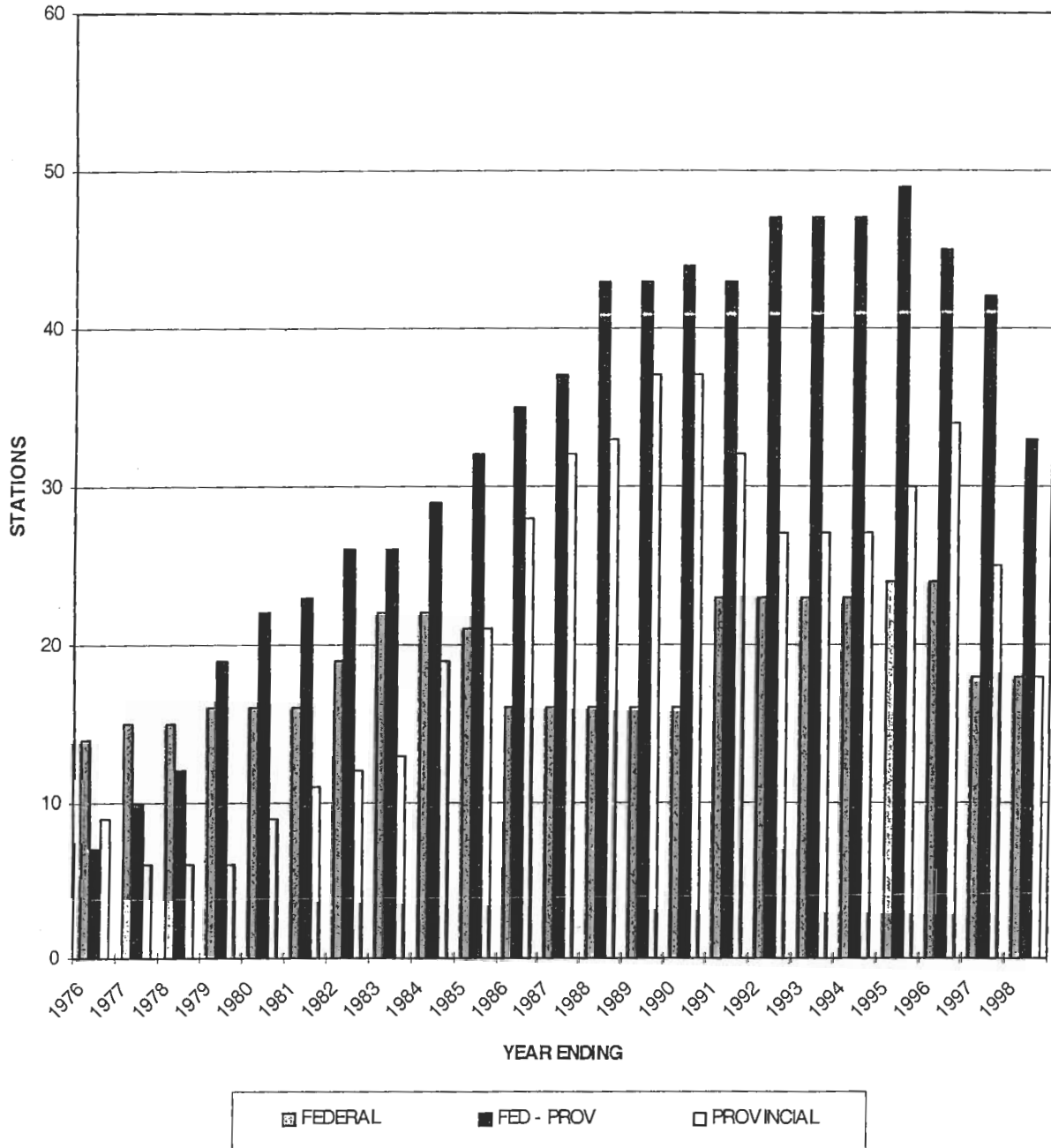
## OPERATIONAL COSTS





# WATER QUANTITY SURVEYS NEWFOUNDLAND and LABRADOR

NUMBER OF STATIONS



APPENDIX I

SCHEDULE A

WATER QUANTITY SURVEY STATIONS

SCHEDULE "A"

RESPONSIBILITY CLASSIFICATION

NEWFOUNDLAND AND LABRADOR

1997-98

**FEDERAL 1 - FEDERAL DEPARTMENTAL PROGRAMS (6)**

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02YH001	Bottom Creek near Rocky Harbour **	1985	33.4	Q R C	A B
02ZB001	Isle aux Morts River below Highway Bridge	1962	205	Q R C	DCP TYP LRTAP A B E
02YS006	Northwest River at Terra Nova National Park	1994	663	Q R C	DCP LGR A
02ZK001	Rocky River near Colinet	1948	285	Q R C	DCP TYP WQ A B E
02YS003	Southwest Brook at Terra Nova National Park	1967	36.7	Q R C	A B E(CARRIER)
02YL001	Upper Humber River near Reidville	1928	2110	Q R C	LGR TYP A B E

\*\* indicates stations scheduled for closure in 1998-99.

[ 6 Island, 0 Lab]

**FEDERAL 2 - INTERPROVINCIAL WATERS (1)**

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02XA003	Little Mecatina River above lac Fourmont	1979	4540	Q R C DCP RMT M A	

[ 0 Island, 1 Lab]

**FEDERAL 4 - NATIONAL WATER QUANTITY INVENTORY (11)**

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
03QC002	Alexis River near Port Hope Simpson	1978	2310	Q R C	DCP RMT MET M A
02ZF001	Bay du Nord River at Big Falls	1950	1170	Q R C	LGR A B E
03QC001	Eagle River above Falls	1966	10900	Q R C	LGR RMT WQ TYP A
02YQ001	Gander River at Big Chute	1949	4400	Q R C	LGR TYP A B E
02ZD002	Grey River near Grey River **	1969	1340	Q R C	DCP RMT LRTAP MET M A E
02YJ001	Harrys River below Highway Bridge	1968	640	Q R C	DCP WQ LRTAP A B C E
02YL003	Humber River at Humber Village Bridge	1982	7860	Q R C	LGR REG A C
02YG001	Main River at Paradise Pool	1986	627	Q R C	LGR RMT A E
02YD002	Northeast Brook near Roddickton	1980	200	Q R C	M A B
02YC001	Torrent River at Bristol's Pool	1959	624	Q R C	WQ LGR A B E
03NF001	Ugjohtok River below Harp Lake	1979	7570	Q R C	RMT LGR A

[ 8 Island, 3 Lab]

FEDERAL-PROVINCIAL 3 - REGIONAL WATER QUANTITY INVENTORY (33)

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02YA002	Bartletts River near St. Anthony	1986	33.6	Q R C	A B
02ZH002	Come-by-Chance River near Goobies	1961	43.3	Q R C	A B
02ZE004	Conne River at Outlet of Conne Pond	1988	99.5	Q R C	DCP M A
02YO011	Exploits River below Noel Pauls Brook	1985	6300	Q R C	LGR REG A E
02ZG001	Garnish River near Garnish	1958	205	Q R C	LRTAP A B
02ZC002	Grandy Brook below Top Pond Brook	1982	230	Q R C	LGR RMT LRTAP A E
02YO008	Great Rattling Brook above Tote River Confluence	1984	823	Q R C	LGR A E
02YE001	Greavett Brook above Portland Creek Pond	1983	95.7	Q R C	M A E
02ZA002	Highlands River at TCH	1982	72.0	Q R C	M A B E
02YR003	Indian Bay Brook near Northeast Arm	1981	554	Q R C	A B E
02YK002	Lewassechjeech Brook at Little Grand Lake	1952	470	Q R C	DCP RMT M A E
02YN002	Lloyds River below King George IV Lake	1980	469	Q R C	RMT M A
02YR001	Middle Brook near Gambo	1959	267	Q R C	A B E
02ZK002	Northeast River near Placentia	1979	89.6	Q R C	A B
02YQ004	Northwest Gander River near Gander Lake **	1983	2150	Q R C	RMT LGR A
02YO006	Peters River near Botwood	1981	177	Q R C	A B
02ZH001	Pipers Hole River at Mothers Brook	1952	764	Q R C	WQ LRTAP A B
02ZG004	Rattler Brook near Boat Harbour	1981	42.7	Q R C	A B
02YL005	Rattler Brook near McIvers	1985	17.0	Q R C	A B
02YQ005	Salmon River near Glenwood	1987	80.8	Q R C	LGR A E
02ZG003	Salmonier River near Lamaline	1980	115	Q R C	LGR A E
02ZM009	Seal Cove Brook near Cappahayden	1979	53.6	Q R C	A B
02YK005	Sheffield Brook near TCH	1972	391	Q R C	DCP A B E
02ZJ003	Shoal Harbour River near Clarenceville	1985	106	Q R C	A B
02ZM016	South River near Holywood	1983	17.3	Q R C	A B
02ZJ001	Southern Bay River near Southern Bay	1976	67.4	Q R C	LGR A
02YO012	Southwest Brook at Lewisporte	1989	47.7	Q R C	LGR A
02YM003	South West Brook near Baie Verte	1980	93.2	Q R C	A B
02YN003	Star Brook below Star Lake **	1987	427	Q R C	RMT DCP M A E
02YS005	Terra Nova River at Glovertown	1985	2000	Q R C	LGR A E
02YL008	Upper Humber River above Black Brook	1988	471	Q R C	RMT LGR MET A E
02ZM018	Virginia River at Pleasantville	1984	10.7	Q R C	LGR A
02ZM008	Waterford River at Kilbride	1974	52.7	Q R C	LGR A

[ 33 Island, 0 Lab]

**PROVINCIAL 1 - PROVINCIAL DEPARTMENTAL PROGRAM (18)**

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>RECORD</u>	<u>REMARKS</u>
02ZL005	Big Brook at Lead Cove	1985	11.2	Q R C	A B
03OE010	Big Pond Brook below Big Pond	1993	71.4	Q R C	RMT LGR A
02YK008	Boot Brook at Trans-Canada Highway	1985	20.4	Q R C	A B
02YF002	Cat Arm Reservoir near Spillway	1994		H R C	RMT DCP LGR A
02YL011	Copper Pond Brook near Corner Brook Lake	1994	12.9	Q R C	LGR A
02YL009	Corner Brook Lake at lake Outlet	1990		H R C	REG DCP MET
02YL007	Deer Lake at Deer Lake	1987		H R C	TMK M C
02YK010	Grand Lake East of Grand Lake Brook	1988		H R C	DCP RMT MET M A
02YM004	Indian Brook Diversion above Birchy Lake	1990		Q R C	DCP MET M A E
02ZM020	Leary Brook at Prince Philip Drive	1985	17.8	Q R C	LGR A
02ZK003	Little Barachois River near Placentia	1983	37.2	Q R C	A B
02ZK004	Little Salmonier River near North Harbour	1983	104	Q R C	A B
02ZM006	Northeast Pond River at Northeast Pond	1953	3.63	Q R C	A B
02ZM022	Raymond Brk at Outlet of Bay Bulls Big Pond	1988		Q R C	REG A B
02ZJ002	Salmon Cove River near Champneys	1983	73.6	Q R C	A B
02ZL004	Shearstown Brook at Shearstown	1983	28.9	Q R C	A B
02YL004	South Brook at Pasadena	1983	58.5	Q R C	LGR A C E
02ZN002	St. Shotts River near Trepassey	1985	15.5	Q R C	LGR DCP A

[ 17 Island, 1 Lab]

**CONTRIBUTED STATIONS**

<u>STA. NO.</u>	<u>STATION NAME</u>	<u>ESTAB.</u>	<u>D.A.</u>	<u>AGENCY</u>	<u>REMARKS</u>
03OA001	Ashuanipi River at Menihek Rapids	1952	19000	IOCCL	REG RMT
03OC006	Atikonak River at Gabbro Lake	1973	21400	CFLCO	REG73 RMT
03OD006	Atikonak River at Ossakmanuan Lake Control Structure	1977		CFLCO	REG64 RMT
03OD005	Churchill River at Churchill Falls Powerhouse	1972	69200	CFLCO	REG71 RMT
02YL002	Corner Brook at Watsons Brook Powerhouse	1959	127	DLPCL	REG
02YO001	Exploits River at Grand Falls	1914	8390	AB-PR	REG
02YK006	Hinds Brook at Hinds Brook Powerhouse	1981	651	N&LHY	REG81
02YK001	Humber River at Grand Lake Outlet	1898	5020	DLPCL	REG
02ZM003	Mobile River at Mobile First Pond	1962	112	NLPCL	REG
02ZM001	Petty Harbour River at Second Pond	1962	134	NLPCL	REG
02ZM002	Pierres Brook at Gull Pond	1962	117	NLPCL	REG
02YO003	Rattling Brook at Rattling Brook Powerhouse	1962	378	NLPCL	REG
02ZE003	Salmon River at Bay D'Espoir Powerhouse	1967	5910	N&LHY	REG67
02YO004	Sandy Brook at Sandy Brook Powerhouse	1964	508	NLPCL	REG

[ 10 Island, 4 Lab]

## EXPLANATION OF SYMBOLS & ABBREVIATIONS

### TYPE OF RECORD

H \_ water level data

Q - flow data

### TYPE OF GAUGE

M - manual gauge

R - automatic recording gauge

### OPERATION SCHEDULE

C - continuous record

M - miscellaneous record

S - seasonal record

### REMARKS

DCP - data collection platform

LRTAP - samples collected for acid precipitation monitoring

MET - data available from meteorological sensors

REG - regulated flow REG78 - regulated flow since 1978

RMT - remote station accessed by aircraft

TMK - telephone interrogated telemark

TYP - typical stream; data used to produce statement on runoff conditions

WQ - samples collected for water quality national overview network

LGR - data recorded by digital data logger

A - building of any type on the site; California shelter incl

B - well

C - power and/or telephone

E - cableway

M - manometer

## HUMBER RIVER DATA COLLECTION NETWORK

Real Time Instrumentation To Be Operated and Maintained By Water Survey of Canada In Accordance With Memorandum of Understanding.

<u>Station</u>	<u>Response Time</u>
1. Burgeo Road near Buchans Access	48 Hrs.*
2. Grand Lake at Southwest End	48 Hrs.
3. Grand Lake on Glover Island	48 Hrs.*
4. Upper Humber River above Black Brook	48 Hrs.
5. Corner Brook Lake at Lake Outlet	48 Hrs.*
6. Sandy Lake at Howley Road	48 Hrs.*
7. Indian Brook Diversion to Birchy Lake	48 Hrs.
8. Lewassechjeech Brook at Little Grand Lake	48 Hrs.
9. Sheffield Brook near T.C.H.	48 Hrs.
10. Humber River at Humber Village Bridge	48 Hrs.
11. Upper Humber River near Reidville	48 Hrs.
12. Deer Lake near Generating Station	48 Hrs.
13. Aides Lake	48 Hrs*
14. Hinds Lake	48 Hrs*

\* precipitation gauge

Station 8-12 are not equipped with meteorological sensors but are included in this list of "Response Time Repair" due to the significance of the data in supporting the "Humber River Basin Data Collection Network".

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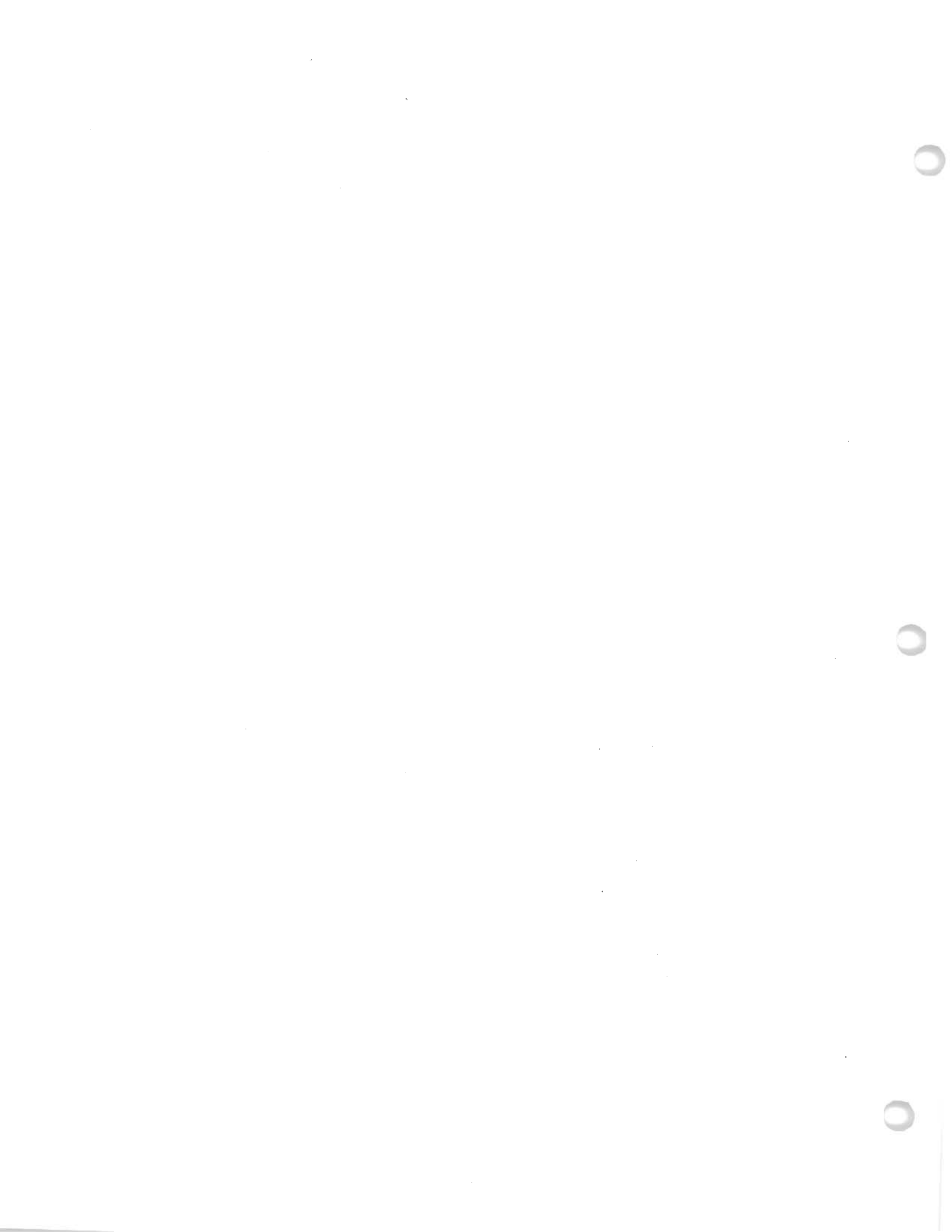
APPENDIX II

SCHEDULE D

SUMMARY OF ANNUAL PAYMENT

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APPENDIX III

MINUTES OF COORDINATING COMMITTEE MEETING

## Canada-Newfoundland Water Quantity Surveys Agreement

### Progress Review Meeting

1997- 98

The Co-ordinating Committee for the Canada-Newfoundland Water Quantity Surveys Agreement met on September 24, 1997 in Bedford, Nova Scotia. The following members were in attendance:

John Merrick (Chair)	Environment Canada, Bedford, NS
Martin Goebel	Newfoundland and Labrador Environment and Labour, St. John's, NF
Haseen Khan	Newfoundland and Labrador Environment and Labour, St. John's, NF

The following is an overview of discussions and decisions:

#### 1. Introductory Remarks

Martin Goebel was welcomed as Provincial Administrator for the Agreement in place of Dr. Wasi Ullah who retired from the public service on March 31, 1997. John gave a brief overview of on-going changes in Environment Canada.

#### 2. Hydrometric Agreement (Schedules A and D)

Haseen indicated that Newfoundland and Labrador hydrometric network has been reduced from 103 stations in 1994-95 to 67 stations in the current fiscal year. These changes were necessary to respond to fiscal restraint measures of federal and provincial governments.

John indicated that in as a result of negotiated network reductions, there was a need to proportionally reduce Environment Canada hydrometric staff.

The network downsizing was based on detailed technical evaluation of the network undertaken by the staff of Environment Canada and Newfoundland and Labrador Environment and Labour.

It is hoped that the present level of network will be maintained for next few years. Few new stations might be added to the network if traditional data users (City of St. John's, Newfoundland Hydro, and Newfoundland Power) are willing to cover the operation and maintenance costs of these stations.

John gave assurances that failing any other unexpected federal developments, the hydrometric networks in place now in NF will continue to be wholeheartedly supported by Environment Canada.

All discontinued stations have been mothballed instead of being fully decommissioned. This was the most appropriate option under the present situation.

Schedules A and D for 1998-99 will be discussed in the next meeting.

#### 3. Automation Project

John gave a brief update on the automation project. This is a two phase project. The first phase of the project deals with office automation (COMPUMOD) which has been on the go for last two years, and the second phase deals with field automation which will begin some time in this fiscal year.

The office modernization phase has been completed with the introduction of hardware and software to permit automated manipulation, verification and quality control of data as well as the automated preparation of hydrometric products.

Some field equipment will be ordered this fiscal year by Environment Canada for installation in 98-99. It is anticipated the balance of field equipment will be ordered in 98-99. Current plans are to have full field modernization completed as soon as possible in order to mesh with staff reductions.

Provincial share of the automation project is estimated to be about \$200,000. The actual amount and payment details are to be worked out between coordinators at a later date.

#### 4. Other Business

National Administrators for the hydrometric agreements will meet in Ottawa from October 29 to October 30 to discuss the future of these agreements.

Next coordinators meeting will be held in February or March in St. John's. Haseen and Charley will fix the meeting date.

**APPENDIX IV**

**OTHER CORRESPONDENCE**



Note : The next two items were not located on hard copy but the intent was carried out as noted in the Introduction of the Annual Report 1997-9.

From: Merrick,John [Bedford]  
Sent: Tuesday, May 13, 1997 12:30 PM  
To: Baker,Calvin [St. John's]  
Cc: Merrick,John [Bedford]  
Subject: Drafts for Haseen

Cal

The attached are drafts for Haseen's approval. After your OK, I'll e-mail them over.

I've made a small change on the spreadsheet to clarify the Island/Labrador salary breakdown and it made a small upward change in the bottom line.

Haseen continues to want some money saved for next year and Charlie will have to deal with that.

Are you comfortable with the commitment to prepare the equipment list for what has already been spent and deployed as well as for eqpt needs for the remainder of the network?

<<File: A\_D Draft to Haseen 970513.doc>> <<File: Minutes Mar 97-Sched A et al.doc>> <<File: PLANNING SHEET1.xls>>

John

John Merrick

AEB Bedford, N.S.

902 426 9129: fax 426 9158

John.Merrick@ec.gc.ca

Date / file

Mr. Haseen Khan  
Manager Surface Water Section  
Newfoundland Department of Environment and Labour  
P. O. Box 8700, St. John's NF  
A1B 4J6

Dear Mr. Khan

1. Enclosed for your approval are;
  - a) minutes of the Coordinator's meeting,
  - b) 1997-98 Newfoundland Schedule A, and,
  - c) a draft of Schedule D.

Please feel free to comment on any aspect of the enclosures.

2. The stations scheduled for closure this year are the subject of information letters being sent to potentially interested parties.

These discussions and negotiations may take some time and there is no guarantee that any stations will be retained. In the interests of proceeding with the finalizing of the minutes and the invoicing for this fiscal year, I am proposing calculating Schedule D on the basis of the attached station list. A first invoice would be prepared covering 50% of the Schedule D amount (\$76,000.00) with adjustments to be made to the remaining 50% if any of the deleted stations are indeed retained within the agreement.

3. Concerning Schedule D, the miscellaneous credit of \$20,000.00 will be applied in this year's accounting.
4. It was previously agreed that the accumulated amount of \$23,172.00 would be credited to the Province in the form of modernizing Provincial or Provincial-Equivalent stations. That amount will be accounted for in this fiscal year's program.

Calvin Baker will prepare and circulate an equipment inventory which will detail the cost and deployment of equipment items to be purchased in 1996-97 using AEB funding. These newly modernized stations have been annotated with the word 'Logger' in the Remarks column of Schedule A. As well, the inventory will detail the cost of equipment required to complete the modernization program in all classifications.

5. If you find everything in order, please sign the Schedule D and return it to me.

Regards

JBM

file c:\awater\NF97-98\A\_D draft to Haseen 970513.doc

Peter Deering  
702 Canadian Heritage  
Terra Nova National Park  
Glovertown. NF A0G 2L0

Dear Mr. Deering

I wish to follow up on your conversation with our Area Manager Mr. Calvin Baker on 25 September 1997 regarding the invoicing for services provided by Environment Canada at the hydrometric station in Terra Nova National Park.

Environment Canada welcomes your inquiry. We want to ensure that you are satisfied with the program and that our professional and technological services meet your needs for a quality, scientifically valid data product.

As you are aware the streamflow monitoring program was initiated at the request of Parks Canada and was fully funded by PCH, including purchase of equipment and construction of site infrastructure. As Mr. Baker mentioned however, the presence of the Terra Nova station and the data obtained from the site are supplemental to Environment Canada's requirements and as such cannot be maintained without full operational support from the requesting agency.

Environment Canada provides similar hydrometric services to a wide range of government and private sector clients. Where that client is another government department, it has been customary practice to have the fee structure determined by the federal-provincial Water Quantity Cost Sharing Agreement which provides cost benefits to the requesting agency. In Newfoundland and Labrador for f/y 1997-98 that annual cost has been determined to be \$5,200.00 per station.

The invoice which you received in July past was prepared on the basis of Environment Canada's commitment in advance to maintain a hydrometric data acquisition and processing service for the full 1997-98 fiscal year. The invoice was prepared and the work at the site was continued into f/y 1997-98 on our understanding of an on-going, long-term program prescribed by PCH. Should you at this point deem it in your best interest to request a shorter data acquisition and site management period or to terminate the data program altogether, we are certainly willing to meet your conditions and a suitably adjusted invoice for work performed will be provided.

To assist you in funding a continuing on-going program, Mr. Baker spoke of how you might develop cost-share agreements with other partners who may be interested in the quality controlled data which Environment Canada will provide. In that vein, we will take steps should you request them, to make the data proprietary and remove it from the real time distribution network so that you and your partners may develop your own cost recovery mechanisms for that data.

I regret that circumstances have occurred which have caused questions on the operation of the hydrometric program, but the interchange allows us at least to demonstrate our continued interest in working with you to provide high quality hydrometric data and program management.

Failing any further requests for clarification or negotiation, I am requesting that the present invoice be permitted to stand. I will ensure that the 30 day terms and conditions are extended to mid November to avoid any undue penalties.

Please feel free to contact me at 902 426 9129 or Mr. Calvin Baker at 709 772 4844 at any time.

Sincerely

John Merrick  
Manager Hydrometric Program  
cc:  
CR  
Calvin Baker  
Doug Gilbert

Jan. 19,1998

Mr. Haseen Khan  
Manager, Surface Water Section, Water Resources Division  
Newfoundland and Labrador Department of Environment and Labour  
P. O. Box 8700, St. John's Newfoundland  
A1B 4J6

Dear Mr. Khan

Further to our conversation of 19 January 1998, please be advised that we will be forwarding an invoice to you for \$20,000.00 to cover supplementary expenses incurred by Environment Canada for operation and maintenance for the Newfoundland Hydrometric network.

Sincerely

John Merrick  
Superintendent Hydrometrics  
Atmospheric Environment Branch  
Environment Canada

From: Khan, Haseen ENV[SMTP:hkhan@env.gov.nf.ca]  
Sent: Wednesday, April 23, 1997 2:09 PM  
To: Baker, Calvin [St. John's]  
Subject: Hydrometric Agreement

Hi Calvin:

Thanks for coming over for the meeting. We had very interesting and useful discussion.

I have given appropriate thoughts to all action items. I am making the following recommendations for your consideration:

#### 1. Hydrometric Station Closures

We would like to suggest the following changes: (i) Close West Pond Brook instead of Copper Pond Brook. Copper Pond Brook is being used for hydrologic impact assessment studies, (ii) Anil feels that NW Gander (YQ004) be closed instead of Great Rattling Brook (YO008), (iii) For regional representation purposes, Anil feels that Middle Brook Near Gambo (YR001) should be closed instead of Ragged Harbour (YR002)

Bottom Creek (YH001) is slated for closure in 1998-99. Anil has some concerns about the closure of this station, but we will wait to see how things shapes up from now until the end of the fiscal year. We will discuss the ultimate fate of this station at a later date (1998-99 fiscal year).

With the closure of ZA001 and ZA003, we will have no equivalent alternative in that region and, therefore, would like you to consider the possibility of upgrading Lloyds to a DCP station. This upgrade would be useful for flood forecasting purposes.

All other closures suggested by you are ok with us.

#### 2. Schedule D

I have following suggestions for your consideration:

A. Modernization cost be not included in the Schedule D. Charley could write a separate letter to me outlining the justification and benefits of modernization along with the total network modernization cost and the expected provincial share. Province be given the option to pay its share as a one time lump sum payment to Environment Canada, or spread it over two to three years. I will use this request to go to the Treasury Board for special payment. If we succeed well and good, and could therefore save \$20K banking for future rainy days. If not, you will have the option to recover modernization cost from \$20k banking.

B. Entire \$23K banking of previous years could be used to bring down this years provincial share to \$152, 809.50

3. Taking above into consideration, please finalize Schedules and meeting minutes, and forward these to me for appropriate action at this end.

4. Can Abitibi be invoiced for Star Brook station operation cost for 1997-98? I think it will take a while before the Star Lake project is operational.

Thank you for all the support and cooperation. If there are any questions, please feel free to call.

Haseen Khan

Date / file

Mr. Haseen Khan  
Manager Surface Water Section  
Newfoundland and Labrador Department of Environment and Labour  
P. O. Box 8700, St. John's NF  
A1B 4J6

Dear Mr. Khan

1. Enclosed for your approval are;
  - a) minutes of the Coordinator's meeting,
  - b) 1997-98 Newfoundland and Labrador Schedule A, and,
  - c) a draft of Schedule D.

Please feel free to comment on any aspect of the enclosures.

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These discussions and negotiations may take some time and there is no guarantee that any stations will be retained. In the interests of proceeding with the finalizing of the minutes and the invoicing for this fiscal year, I am proposing calculating Schedule D on the basis of the attached station list. A first invoice would be prepared covering 50% of the Schedule D amount (\$76,000.00) with adjustments to be made to the remaining 50% if any of the deleted stations are indeed retained within the agreement.

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Regards

JBM

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