CANADA/ONTARIO COST SHARING AGREEMENT FOR WATER QUANTITY SURVEYS

ANNUAL REPORT 1987/1988

OCTOBER 1988

TO Mr J N Bishop
Mr M G Lewis
Administrators for Ontario

Mr E T Wagner Administrator for Canada

FROM Members of the Ontario Coordinating Committee

In accordance with Article XII of the Memorandum of Agreement signed June 10, 1975 covering the water quantity surveys in the Province of Ontario, we submit herewith the annual report for the fiscal year 1987/88

Province of Ontario

Government of Canada

P N Gryniewski Ontario Ministry of Natural Resources

LNA Logan
Ontario Ministry of
the Environment

Environment Canada

W M Archer Environment Canada

Ontario Hydro

R P Metcalfe Ontario Hydro

CANADA/ONTARIO

COST SHARING AGREEMENT

FOR

WATER QUANTITY SURVEYS

ANNUAL REPORT
1987/88

EXECUTIVE SUMMARY

This is the thirteenth annual report which describes the cost sharing of water quantity and sediment data collection under the terms of a Memorandum of Agreement between Canada and Ontario

The Coordinating Committee, established under the terms of the Agreement, met three times during the year to plan and coordinate the construction maintenance and operation of the hydrometric/sediment network. The Network Evaluation and Planning Sub-committee (NEPS) which was established in 1985/86 to coordinate network studies, held two meetings during the year.

Effective April 1 1987, the Ontario network excluding contributed data stations—consisted of 428 hydrometric stations—Of—this number 375 were operated by the Water Resources Branch in Guelph—47 were operated by the Manitoba District of—the Water Resources Branch—and 6 were—operated by Ontario—Hydro—The sediment network consisted—of 47 continuous—seasonal and miscellaneous stations operated by Water Resources Branch—Guelph

During 1987/88 a total of 9 new hydrometric stations were added to the network and 4 stations were discontinued A total of 8 new sediment stations were added and 1 station was discontinued

In addition to the increased number of stations a number of other significant improvements were made to the network during 1987/88 including the construction of artificial controls and the installation of equipment for real-time data access. About 63% of the stations in Ontario now have equipment that allows users to access data from off-site on a real-time basis.

A data user survey was completed in 1987/88 with results confirming that Ontario hydrometric data are used extensively and that more data are required for certain parts of Ontario

During 1987/88 the Region responded to 640 requests for data advice, and other information related to the hydrometric and sediment network. The level of service being provided by the WRB has been improved in two ways first by allowing clients to retrieve data themselves from the WRB computer and second by providing data to clients on IBM-compatible floppy diskettes

The unit cost of operating a station during 1987/88 was \$3 626 per stationyear for conventional stations and \$7 812 per station-year for remote stations. These costs represent an increase of 1 2/ over 1986/87 for conventional stations and a decrease of 4 8/ for remote stations. The total shareable portion of the program including costs for the network in Northwest Ontario was \$1,872 700 of which the Provincial share was \$955 853. The three provincial agencies shared the actual cost as follows

Ontario Ministry of Natural Resources	\$676,529
Ontario Ministry of Environment	234,044
Ontario Hydro	<u>45,280</u>
Total	\$9 55 853

In 1988/89 attention will need to be given to several new/changing issues and programs that relate to the Cost Sharing Agreement. These issues/ programs include the heavy workload of the hydrometric technicians (WRB) resource constraints modernization of the data acquisition system (WRB), network evaluation and planning and training of staff (WRB)

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1 0 INTRODUCTION

This is the thirteenth annual report which summarizes activities of the Canada/Ontario Coordinating Committee and provides statistical and financial information related to the Canada/Ontario hydrometric and sediment networks. Cooperative arrangements for the cost sharing of the network were established by a Memorandum of Agreement between Canada and Ontario in 1975. A sample copy of the agreement which is similar for all provinces and the territories is included in the National Annual Reports on Water Quantity Surveys. Federal/Provincial Cost Sharing Agreements which is prepared by Water Resources Branch (WRB). Headquarters

The Agreement establishes the basis on which cooperative water quantity surveys will be undertaken and cost shared between Canada and Ontario. It requires that the Administrators establish a Coordinating Committee to plan and review network operations and prepare Schedules A and D annually for their approval. For this year 1987/88 Schedule A (Appendix A) lists the gauging stations in operation and covered by the Agreement and Schedule D (Appendix B) gives the annual cost sharing payment to be paid by Ontario to Canada

The water quantity survey network in operation at March 31 1975 was reviewed to determine the division of responsibility between the Federal Each station was designated either Federal and Ontario governments Federal/Provincial or Provincial the designation not only indicating the prime purpose but also the financial responsibility The Federal government pays 100/ of the costs of operation and construction of stations designated Federal and 50% of the specified costs of stations designated The province pays 100 of the specified costs of Federal/Provincial operation and construction of stations designated Provincial and 50% of the specified costs of operation and construction of stations designated The basic water level recording equipment for all Federal/Provincial stations is paid for by the operating party while any specialized equipment is funded by the party or parties requiring the service

In Ontario three provincial agencies Ministry of Natural Resources (MNR), Ministry of Environment (MOE) and Ontario Hydro (OH) all participate in the cost sharing of the network along with Environment Canada and several other federal departments

In 1977 a set of national guidelines were developed for designating stations in the above categories. In 1982/83 these guidelines were revised and formally accepted by the Administrators for implementation beginning April 1 1984. These guidelines are included in the previously mentioned national report.

It should be noted that because of geographical location a portion of the Ontario network in the northwest part of the province is operated by the Manitoba District of the Western and Northern Region of the Inland Waters Directorate. The Manitoba District prepares a separate Annual Report for this portion of the network in Northwest Ontario which for 1987/88 included only Federal stations.

As the operating party the Water Resources Branch Ontario Region has prepared this annual report on behalf of the Canada/Ontario Coordinating Committee Section 2 deals with Committee activities Section 3 provides information on the water quantity/sediment network including its historical development changes in 1987/88 and gives highlights on construction and operation of the network over the past year. The section concludes with a summary of network evaluation/planning and other studies being conducted by WRB. Section 4 highlights activities related to data management and Section 5 provides information on network costs and the shareable portion for each party. Section 6 briefly identifies some programs and issues that will be particularly significant in the future.

2 0 COMMITTEE ACTIVITIES

Members of the Coordinating Committee during 1987/88 were

- L J Kamp (Chairman) Environment Canada
- W M Archer Environment Canada
- P N Grynlewski Ontario Ministry of Natural Resources
- L A Logan Ontario Ministry of Environment
- R P Metcalfe Ontario Hydro

The Committee held meetings on April 21, 1987 July 28, 1987 and January 26 1988 Highlights of each meeting were as follows

April 21, 1987

- Discussed WRB s proposal to reduce the number of federal stations to accommodate a 2 0 person year reduction in network operations it was decided that 14 federal stations would be discontinued 10 federal stations would be reclassified to federal/provincial or provincial, and one provincial station would be reclassified to federal/provincial
- Members agreed that the review of stations in the network should be on-going

July 28, 1987

Discussed required changes to the network for 1988/89 including 6 new federal stations for the Soil and Water Environmental Enhancement Program (SWEEP), 2 new provincial stations for sewage lagoon monitoring, up to 3 new stations for the Remedial Action Plan (RAP) program and 3 new provincial stations for streamflow forecasting

- Members agreed that the billing schedule outlined in Article VIII of the Cost Sharing Agreement should be implemented in 1988/89, is a invoices should be submitted for one quarter of the annual payment on July 1 October 1 January 1 and March 1 of each fiscal year. Environment Canada had been deviating from this schedule in submitting invoices only three times yearly (approximately October 1 for the first 2 quarters. December 1 for the third quarter and March 1 for the fourth quarter)
- Environment Canada confirmed that employee benefits would not be recovered under the Cost Sharing Agreement
- Discussed plans for the Water Quality/Quantity Workshop held October 28-30 1987 and sponsored jointly by Environment Canada and Ontario Ministry of Environment

January 26, 1988

- Environment Canada presented results of the Fairbairn Workload Study the results showed that the stations/technician ratio has been very high in the Ontario Region relative to the other Regions across Canada (study based on 1984/85 data)
- Environment Canada reported that it has formed an Operational Task
 Group to address the problem of heavy workload of hydrometric technicians
- Discussed the status of various stations and started finalizing Schedule A for 1988/89
- Approved station unit costs to be used in the preparation of Schedule
 D for 1988/89

- Discussed various construction projects and began finalizing the construction program for 1988/89
- Environment Canada and Ontario Ministry of Environment reported that the October 1987 workshop on water quality/quantity was successful with approximately 55 people attending each day and favorable comments from most attendees
- Environment Canada reported that the five-year DCP Expansion Program would be completed by early summer 1988 and that ACS will be installing meteorological sensors at some of the DCP sites across Canada
- Discussed the recent report prepared by the Network Evaluation and Planning Sub-committee Report on Results of the Hydrometric Data User Questionnaire Survey for Ontario
- Environment Canada reported that the Direct Readout Ground Station (Downsview) may be in operation by the end of 1987/88 and that a working group composed of federal and provincial representatives would be studying/evaluating the potential for provincial agencies to utilize the DRGS
- Discussed the problem of Conservation Authorities doing their own construction at WSC operated stations without prior discussion with WSC

Official minutes of all Coordinating Committee meetings are kept on file in the Guelph office of WRB

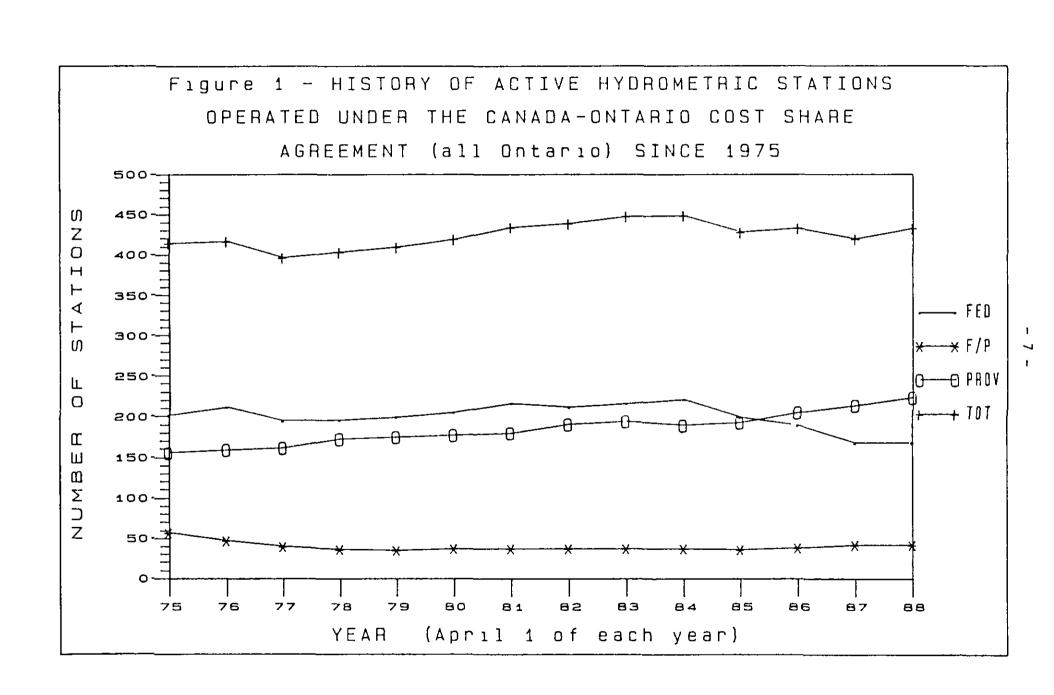
3 O HYDROMETRIC AND SEDIMENT NETWORKS

3 1 History

The numbers of hydrometric stations in the Ontario network by category as of April 1 each year are displayed graphically in Figure 1. These numbers include all stations operated under Schedule A by WRB (Guelph and Winnipeg) and Ontario Hydro in the Province of Ontario since implementation of the Agreement on April 1 1975. Of interest is that the total number of stations on April 1 1975 was 414 which has increased to 427 as of April 1 1987. During the twelve year period the network reached a maximum of 449 stations in 1984 and a minimum of 396 stations in 1977. Overall, it can be concluded that there has been a slight increase in the network over the period of the Agreement and that discontinued stations have been replaced with new stations to meet data needs at other sites.

A number of agencies like the Freshwater Institute contribute their hydrometric data to HYDAT and these data are published by WRB. In 1975 there were 71 contributed data stations which has increased to 128 as of April 1 1987. Including contributed data stations which complement the network operated under the Canada/Ontario Agreement, the number of stations in Ontario has increased from 485 in 1975 to 555 as of April 1 1987.

In 1987/88 WRB continued to add seasonal and miscellaneous stations to the sediment network. This was done to provide additional coverage in Ontario at a minimal extra cost and to assist in determining the need for regular sediment stations and the sampling strategy to be used. As of April 1 1987, there were 7 regular 3 seasonal and 37 miscellaneous sediment stations. All were operated by WRB. Ontario Region. Also during the year, an automatic sediment sampler at the Don River at Todmorden site continued to assist in providing more complete data on suspended sediment loads in this reach of the river.



Tables 1 2 and 3 in Appendices E and F provide additional information on that portion of the network operated by WRB Ontario Region and the total network for the province. Attention is drawn to the footnotes in these tables because some stations in Ontario are operated by WRB Winnipeg and Ontario Hydro and some stations operated by WRB Guelph are located in Quebec

3 2 Network Changes During 1987/88

During 1987/88 15 hydrometric stations were added and 8 discontinued in the province. Four of the 8 discontinued stations were reactivated with new sources of funding before the end of the year these 4 reactivated stations are included in the list of 15 added stations. The list of added stations also includes one that had been operating as a contributed station and one that was discontinued at the end of 1986/87 but reactivated with new sources of funding in 1987/88. The net result of all these changes is that the network gained 9 new stations and dropped 4 existing stations.

A number of changes were also made to the sediment network all involving Federal Stations effective January 1 1988 Eight new miscellaneous stations were added 1 continuous station was discontinued and 5 were changed from continuous to seasonal operation. Annual sediment network reviews are carried out to enhance the sediment data base as well as to meet user needs.

Figures 2 and 3 show the location of hydrometric and sediment stations that were added or discontinued. Appendix C gives more detailed information on network changes and changes in Schedule. A over the reporting period







3 3 Network Construction and Maintenance

The WRB Ontario Region Construction Section completed projects including 11 new stations 2 relocations 4 artificial controls 7 shelter upgrades and and 2 cableway upgrades. Also 28 minor maintenance projects were included in the program. Categories of construction projects include

a) Field Investigations

Included in this category were

- on-site field reconnaissance of new and existing site locations
- 11) preparation of project site plans
- iii) obtaining necessary approvals for hydrometric/sediment
 installations
- inv investigations of specific problems requiring immediate
 remedial action

During the year 31 such investigations were conducted

b) New Construction

This category includes installation of stilling wells intakes instrument shelters artificial controls cableways access roads and some instrumentation. Such construction is associated with new stations in areas never before gauged or the relocation of existing stations because of poor quality of records or bridge reconstruction. The following projects were undertaken in this category.

New or Relocated Stations	<u>Classification</u>
02HB024 Black Creek below Acton (New)	P-1 MOE
02GD023 Thames River near Tavistock (New)	P-2 MOE
Niagara River at Fort Erie (Water Quality station	only)
O2KF015 Graham Creek at Nepean (New)	P-2 MNR
02KF016 Mississippi River below Marble Lake (New)	P-1 MNR
02FA005 Sauble River above Tara (New)	P-2 MNR
02GC031 Dodd Creek below Paynes Mills (New)	P-2 MNR
02LA018 Rideau River at Merrickville (New)	F-1 PC
02HC013 Highland Creek near West Hill (Relocated)	F-3 DOE
02HC038 W Duffins Creek above Green River (Relocated)	P-1 MNR
Talon Lake at Blanchards Landing (New)	Operated out-
	side CSA
Porcupine Lake near South Porcupine (New)	Operated out-
	side CSA
O2ADO11 Namewamınıkan River at Long Rapids (New)	P-2 MNR

c) Upgrading of Stations

It is necessary in some situations to improve the capability of existing stations to collect more accurate or timely data. In order to do so it is required that the Construction Section install artificial controls erect larger shelters to house added instrumentation for real-time data access and install essential services such as hydro and telephone and construct sediment sampler housing. Thirteen projects were carried out in this category.

d) Maintenance

General maintenance projects were carried out at a number of stations and included such work as replacement of shelter doors repairs to cableways, intake repairs straightening of wells and bank stabilization All major construction projects were screened for local environmental effects under the Federal Environmental Assessment and Review Process A report documenting screening decisions is on file at the WRB office in Guelph

Details of the 1987/88 Construction program are provided in the Annual Construction Feport 1987/88 which is available from the WRB office in Guelph

3 4 Network Operations and Field Surveys by WRB, Ontario Region

Faking into account the type of stations (water level or discharge) seasonal stations start-up of new stations record loss and discontinued stations during the year 359 33 equivalent station years of hydrometric data were collected by WRB. Ontario Region. To collect this information 2 272 discharge measurements and 1 856 additional station visits were made to hydrometric stations over the reporting period. Total field staff person years devoted to hydrometric data collection. (Hydrometric supervisors technicians terms and students) were approximately 25 3 or approximately 14 station units per person year.

About 63/ of the stations in Ontario are equipped with devices that allow users to access data from off-site on a real time basis These devices not only improve services to users but allow technicians to plan their trips to improve data quality. In this regard a number of projects and services were carried out over the year to improve network operations and the collection of data in the field One data collection platform (DCP) was installed at the remote hydrometric station on Albany River above Nottick Island for the retransmission of data via satellite Three more units will be installed in May 1988 to complete the 5 year DCP Expansion Program a number of real time data units were installed at Southern stations at the request of clients and WRB made arrangements with 2 additional conservation authorities to service such equipment total number of such arrangements with Provincial and other Federal agencies to 14

Lightning arrestors which were installed in 1986/87 at all gauging stations with data logging equipment to protect real time data units against over voltages and malfunctions during electrical storms resulted in a major improvement in servicing and percentage data capture in 1987/88

WRB continued to operate a small sediment laboratory in support of the network and special surveys. A total of 919 samples were submitted and 1 300 analyses performed. An estimated 1 0 person year was utilized for the sediment program in field office and laboratory work.

A three-day workshop jointly sponsored by the Ministry of the Environment and the Water Resources Branch was held October 28-30 1987 at CCIW Burlington. Staff of both agencies were provided with demonstrations and explanations of various water quality and quantity techniques and methodologies used in the surveys and their interrelationships. Tours of the hydraulics and water quality laboratories at CCIW were provided.

3 5 Network Evaluation/Planning and Other Studies

a) Hydrometric

Network evaluation and planning studies are carried out under the terms of the Canada/Ontario Cost Sharing Agreement to ensure the hydrometric network provides the required data at lowest cost Due to ever changing data requirements and costs network evaluation and planning is an on-going activity

Network evaluation and planning activities except for Northwestern Ontario were coordinated by the Network Evaluation and Planning Sub-committee (NEPS) of the Coordinating Committee Network evaluation and planning for Northwestern Ontario is the responsibility of WRB/Manitoba-Northwestern Ontario (Winnipeg

office) The NEPS held meetings on June 1 1987 and October 20 1987 Attendees at one or both meetings included R Phinney (Chairman WRB) B Whitehead (Member MOE) C Stevens (Member OH) M Odell (Member MNR) H Goertz (WRB) J Power (WRB) Minutes of each meeting were distributed to members/attendees the Coordinating Committee and WRB offices in Winnipeg and Ottawa

A major activity during 1987/88 was the completion of the data user survey project. The 205 questionnaire responses received in late 1986/87 were analyzed and a summary report Results of the Hydrometric Data User Questionnaire Survey for Ontario was prepared. The report confirms that Ontario hydrometric data are used by many users for many different purposes. The report also points out that more data are required for certain parts of Ontario.

Station profiles for Ontario stations are updated regularly. The profiles document the data uses/requirements operation procedures/problems hydrologic characteristics and other useful information for each station. Work will begin in 1988/89 on modifying the existing profiles to match the format of the new national standard.

b) Sediment

A number of activities were carried out to enhance the Sediment Surveys Program in the Region Several recommendations in the National and Regional Action Plans were carried out Reports entitled Ontario Sediment-Related Literature Annotated Bibliography and Sediment Data Reference Index for Ontario were completed under contract

A sediment station analysis report was completed for the Humber river at Elder Mills station

4 O DATA MANAGEMENT

4 1 Data Dissemination

During 1987/88 WRB answered 640 requests for technical data advice and information related to the hydrometric and sediment network. Some 3 680 station years of record were distributed comprised of 206 requests (3,200 station years) for historical record. 308 requests (480 station years) for current record. and 126 requests for other related information.

Several data publications were printed and distributed during 1987/88 including

- Surface Water Data Ontario 1986
- Surface Water Data Reference Index 1986
- Surface Water Data Reference Index Map Supplement Ontario 1986
- Historical Streamflow Summary Ontario 1986
- Historical Water Level Summary Ontario 1985
- Sediment Data Ontario 1985
- Sediment Data ~ Ontario 1986
- Sediment Data Reference Index 1984
- Miscellaneous Sediment Data Canada 1966-1983

Interest continued on behalf of data users in utilizing interactive access to the WRB Guelph mini-computer for the downloading of data to their own terminals and/or computers. By year s end 16 user accounts resided on the system including 7 consultants 6 provincial agencies 2 federal agencies and 1 educational institution. As an added service to the data user procedures were developed to download the data from the DEC mini-computer to a Compaq 286 and then onto floppy diskettes for use in the users. IBM-type units

4 2 Computer System

Expansion of the WRB Ontario Region EDP system during 1987/88 included the purchase of additional Ethernet internal communications equipment, six graphics terminals a second Microvax II, one Compaq 286 PC one desk top plotter and several A/B switches to facilitate equipment sharing for non-networked equipment. With these purchases, the WRB is proceeding with expansion into the North Bay and Thunder Bay Sub-offices and to enhance access and data management within the Guelph office. Installation of EDP equipment is being delayed for the Ottawa Sub-office due to a possible relocation of this office in the near future.

4 3 Quality Assurance

Under the WRB Quality Assurance Program the Regional Evaluation Team proceeded to examine selected stations operated out of Guelph for conformance to the WRB National Standards for water quantity data collection computation and processing. Under a mutual agreement between the WRB Regional Chiefs of Ontario and Atlantic Regions, the Data Control Engineer, Guelph and the Regional Engineer Dartmouth, sat as observers to each others audit program to facilitate the exchange of ideas and techniques.

Several computational procedures were examined for adherence to the National Standards Discussions between the hydrometric staff and the Evaluation Team helped resolve some of the differences in procedures and revealed areas where more attention is required

5 0 NETWORK OPERATING COSTS

Costs to operate the network identified as operational costs in Schedule B of the Agreement were computed based on actual costs provided in WRB financial statements or recorded for the purpose of computing shareable costs. The per station cost based on actual equivalent station years of data was 3 626 for conventional stations and 7 812 for remote stations. Table 1 gives a comparison of the actual unit costs for 1987/88 to estimated unit costs for 1987/88 and actual costs for 1986/87.

TABLE 1
COMPARISON OF UNIT COSTS FOR
OPERATING WATER QUANTITY STATIONS

	1986/87 Actual Costs	1987/88 Estimated Costs	1987/88 Actual Costs	<pre>/ Increase(+) Decrease (-) From 1986/87</pre>
Conventional	\$3 582	\$3 620	\$3 626	+ 1 2
Remote	\$8 202	\$7 420	\$7 812	- 4 8-

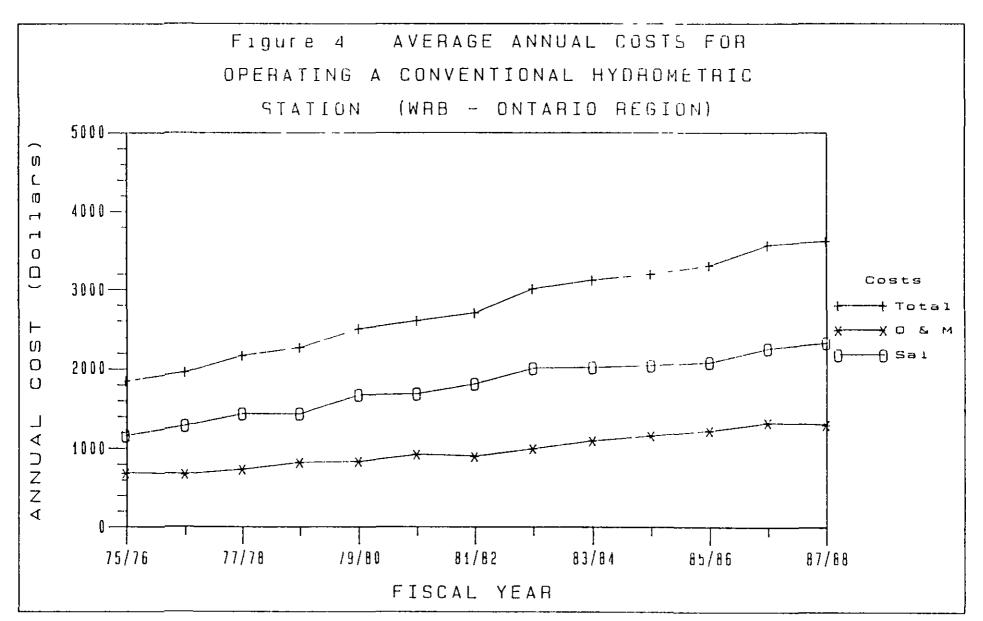
It is particularly significant that the change in unit costs from 1986/87 to 1987/88 was less than the Government Price Index (3 969-) Inflation did cause some significant cost increases however these increases were largely offset by reduced hiring of temporary help reduced use of aircraft and delays in ratifying/implementing salary increases for technical staff

Figures 4 and 5 give a comparison of unit costs per station for remote and conventional stations since 1975

The total shareable cost for construction of new stations purchase and installation of equipment and operation and intenance of the network in the province was \$1 872 700 of which the provincial share was \$955 853 or 51 0- Table 2 gives a summary of the provincial costs. The tables in Appendix D show how these costs were derived

Over and under payments by the province have been reconciled up to and including the year 1986/87. Table 3 summarizes the over and under payments since 1975 and indicates when payments were balanced. For 1987/88 MOE and Ontario Hydro under paid by \$6.816 and \$633 respectively while MNR over paid by \$2.555.

Additional cost information is provided in Appendix E (WRB Ontario Region) and Appendix F (entire province) This information will be incorporated into the 1987/88 National Report on Water Quantity Surveys



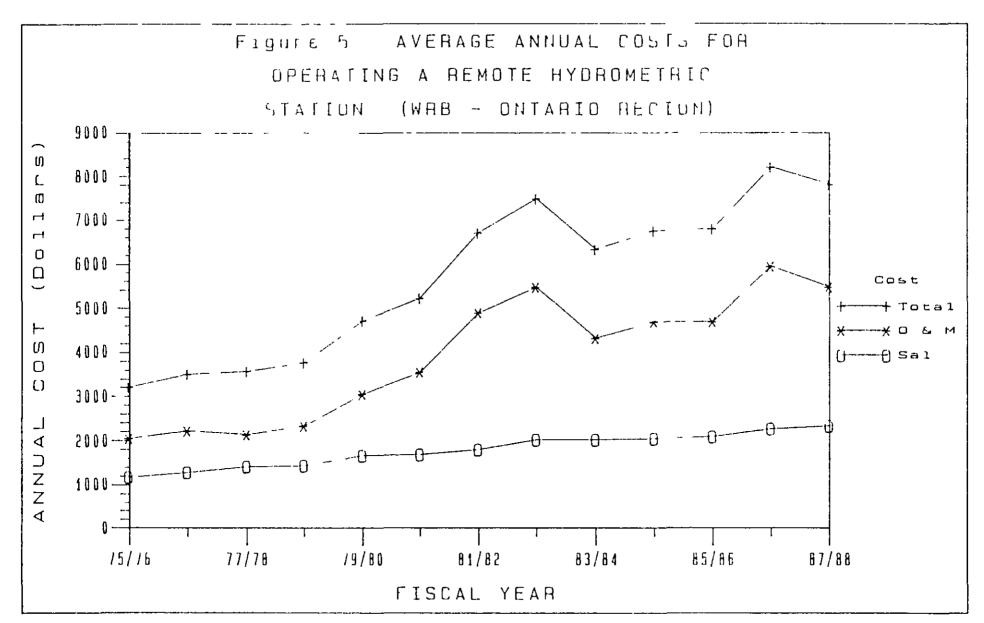


TABLE 2 SUMMARY OF PROVINCIAL COSTS 1987/88

		Schedule D	Recovered and Paid During 1987/88	Actual Cost	Difference (cost recov- ered less actual cost)
a)	Hydrometric Operations				
	1 MNR 2 MOE 3 OH 4 WRB (to OH)	\$ 620 285 193 575 38 280 6,770	\$622 393 193 575 38 280 6 770	\$619 788 200 391 38 913 6,770	+ \$ 2 605 - 6 816 - 633 0
L. 1	Subtotal	\$ 858 910	\$861 018	\$865 862	- \$ 4 844
ijΊ	Sediment 1 MNR	<u>\$ 5,400</u>	<u>\$ 5,400</u>	\$ 5,450	- \$ 50
	Subtotal	\$ 5 400	\$ 5 400	\$ 5 450	- \$ 50
c)	Construction 1				
	1 OH 2 MNR 3 MOE	\$ 5 925 111 050 40,500	\$ 5 925 45 487 32,906	\$ 5 925 45 487 32,906	\$ 0 0 0
	Subtotal	\$ 157 475	\$ 84 318	\$ 84 318	\$ 0
ď)	Specialized Equipment 2				
	1 MOF 2 MNR 3 MOE	\$ 3 800 8 000 1,000	\$ 747 5 804 442	\$ 747 5 804 442	\$ 0 0 0
	Subtotal	\$ 12,800	\$ 6,993	\$ 6,993	\$ 0
	TOTAL	\$1,034,585	\$957,729	\$962,623	- \$ 4,894
	Total Actual Cost MNR Total Actual Cost MOE Total Actual Cost OH Total Actual Cost WRB Pa	ald to OH	- - -	\$676 529 234 044 45 280 6,770	
	TOTAL			\$962 623	

NOTES

 $[\]underline{\underline{1}}$ Includes purchase of specialized equipment $\underline{\underline{2}}$ Includes only the operation of specialized equipment

TABLE 3 SUMMARY OF OVER/UNDER PAYMENTS 1975/76 TO DATE

	1975/76 ¹	1976/77 ^{<u>1</u>}	1977/78 ¹	1978/79 ²	1979/80 ³	1980/81 ³	1981/82 ^{<u>4</u>}
		- - 					
Hydrometric Operations							
MNR	\$6 071	+\$5 008	-\$ 542	+\$2 058	~\$4 667	+\$28 692	+\$19 537
MOE	- 2 293	- 1 275	+ 3 493	+ 3 190	- 4 028	+ 8 505	+ 3 286
ОН	+ 354	+ 1 427	0	+ 300	- 354	+ 1 506	+ 574
<u>Sediment</u>							
MNR	- 4	- 431	+ 523	+ 24	+ 1 329	+ 2 603	+ 4 454

- NOTE + Indicates overpayment i e the funds recovered are more than actual costs
 - Indicates under payment i e the funds recovered are less than actual costs
 - 1 Over/under payments for 1975/76 1976/77 and 1977/78 were reconciled on the second quarter billing for 1978/79
 - 2 Over/under payments for 1978/79 were reconciled on the second quarter billing for 1979/80
 - 3 Over/under payments for 1979/80 and 1980/81 were reconciled on the second quarter billing for 1982/83
 - 4 Over/under payments for 1981/82 1982/83 and 1983/84 were reconciled on the second quarter billing for 1984/85

TABLE 3 (continued) SUMMARY OF OVER/UNDER PAYMENTS 1975/76 TO DATE

	1982/83 ⁴	1983/84 ^{<u>4</u>}	1984/85 ⁵	1985/86 ⁵	1986/87 ⁶	1987/88
Hydrometric Operations	- 				-	
MNR	+\$28 334	+\$ 1 072	+\$25 623	+\$14,113	-\$7 520	+\$2 604
MOE	+ 2 393	+ 11 617	+ 11 323	- 4 526	- 6 993	- 6 816
ОН	+ 745	+ 2 745	+ 3 571	+ 1 229	- 1 998	- 633
<u>Sediment</u>						
MNR	+ 1 749	- 1 142	- 2 360	- 259	- 1 162	<u>- 50</u>
						<u>-\$4,894</u>

NOTE

- + Indicates overpayment i e , the funds recovered are more than actual costs
- Indicates under payment i e the funds recovered are less than actual costs
- 5 Over/under payments for 1984/85 and 1985/86 were reconciled on the second quarter billing for 1986/87
- 6 Over/under payments for 1986/87 were reconciled on the third quarter billing for 1987/88

6 0 FUTURE PROGRAMS AND ISSUES

In 1988/89 attention will be given to several new/changing issues and programs including

a) Workload and Resources

Results of the Fairbairn Workload Study (based on 1984/85 data) will be updated for Ontario Region using current information. The updated results will be useful in planning network operations and allocating resources within the Ontario Region.

The Operational Task Group formed in 1987/88 will be finalizing its report on ways of alleviating the heavy workload on hydrometric technicians. Implementation of the Group's recommendations is expected to begin in 1988/89

It is expected that some network expansion will take place in 1988/89 to meet new and growing requirements for hydrometric data in the Ontario Region. This will put additional pressure on the already strained resources of the federal and provincial agencies.

b) Modernization

Environment Canada is developing a plan for modernizing its data acquisition system All components of the system are included field instrumentation and equipment telemetry links data receive sites data communications data integrity/quality control data computation/management and data dissemination to clients is hoped that the plan will be finalized and approved (by Environment Canada management) by the end of 1988/89 with implementation beginning in 1989/90

The Direct Readout Ground Station (Downsview) is expected to be fully operational by the end of 1988. Federal and provincial representatives have been invited to visit the DRGS in November 1988 to view the installation and to exchange information on the services and costs related to the DRGS.

c) Network Evaluation and Planning

A national workshop on network evaluation and planning is scheduled for October 1988. The purpose of the workshop will be for federal and provincial representatives to discuss how the process of network evaluation and planning should be implemented across Canada. It is expected that all member agencies of the Canada/Ontario Cost Sharing Agreement will be participating in the workshop.

d) Training

A significant achievement in 1988/89 will be the completion of training material for the Hydrometric Technician Career Development Program. This material is being prepared by regional and headquarters offices of Environment Canada and will be used starting in 1988/89 to upgrade the training of all new/junior technicians.

APPENDIX A

SCHEDULE A

MEMORANDUM OF AGREEMENT BETWEEN

GOVERNMENTS OF CANADA AND ONTARIO

FOR WATER QUANTITY SURVEYS

1987/88

(not including portion of the network operated
 in N W Ontario by WRB, Manitoba)

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CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST FOR

SCHEDULE A FOR THE FISCAL YEAR: 87/88(FINAL)

April 22, 1987

(ONTARIO REGION ONLY)

INDEX OF HYDROMETRIC CODES

GAUGE INFORMATION H=WATER LEVEL STATION M=MANUAL STATION P=POWERPLANT RATING Q=DISCHARGE STATION R=RECORDING STATION S=SUMMATION OF FLOW

DATA MEASURED ****** N=MORTHERN REMOTE STATIONS S=SEDIMENT SAMPLING Q=WATER QUALITY SAMPLING T=CONT. WATER TEMPERATURE M=TELEMARK L=SATELLITE STATION D=TELEPHONE DATA LOGGERS

RESPONSIBILITY CODE - TECHNICIAN

S.C.ONTARIO AREA **************** 10=60B REES 11=VACANT 12=0.GIBB 14=B.SMITH	S.E.ONTARIO AREA **************** 20=REG LEBLANC 22=B.RUSSELL 23=m.ABRAHAMSE 24=S.SAUNDERS	S.W.ONTARIO AREA AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	NORTH BAY AREA ***************** 40=DON COPELAND 41=D.JACKSON 42=J.DOUCET 43=E.WAUGH 44=E.PESSAH 45=F.LAVOIE	OTTAWA AREA ************** 50=DOUG ROWE 51=G.WIGGINS 52=S.TEEPLE 53=J.MYKE	THUNDER BAY AREA ***********************************
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RESPONSIBILITY CODE - CONTRIBUTOR

OO=WINNIPEG DISTRICT STATIONS
72=DEPARTMENT OF PUBLIC WORKS (KEY IN DATA)
73=ST.LAWRENCE SEAWAY AUTHORITY (KEY IN DATA)
74=DEPT. FISHERIES & OCEANS. FRESH WATER INSTITUTE
75=PARKS CANADA TRENT-SEVERN MATERWAY (KEY IN DATA)
76=INT. LAKE SUPERIOR BOARD OF CONTROL (KEY IN DATA)
77=INT. ST.LAWRENCE BOARD OF CONTROL (CORNWALL - KEY IN DATA)
78=COORD. COMMITTEE ON GREAT LAKES (BURLINGTON - KEY IN DATA)
79=M.E.D.S TIDES AND WATER LEVELS. OTTAWA (VIA WRB HQ'S)
80=ONTARIO HYDRO (MORTH BAY)
31=ONTARIO HYDRO (GUELPH - BUN MANUAL PROGRAM)
82=ONTARIO HYDRO (GUELPH - KEY IN DATA)
83=ONTARIO HYDRO (THUNDER BAY)
84-ONT. MIN. OF ENVIRONMENT (SENDS OUTPUT CARDS AND PRINTOUTS)
90=ARITIBI-PRICE INC (NORTH BAY)
93=EDDY FOREST PRODUCTS LIMITED (MORTH BAY)
93=EDDY FOREST PRODUCTS LIMITED (MORTH BAY)
93=EDDY FOREST PRODUCTS LIMITED (MORTH BAY)
93=EDDY FOREST PRODUCTS LIMITED (NORTH BAY) 95=ORILLIA LIGHT AND POWER (KEY IM DATA)

FUNDING CODES FOR STATIONS

AA =FEDERAL 1:FED.HYD. PROGRAMS:OPERATED BY FED(WSC)
BA =FEDERAL 2:INTERPROV. WATERS:OPERATED BY FED(WSC)
CA =FEDERAL 3:INTERNATL. WATERS:OPERATED BY FED(WSC) DA =FEDERAL 4:NAT.WAT.QUAN.INV.:OPERATED BY FED(WSC) FAD =FED-PROV 1: OPERATED BY FED(WSC): OMOE FAE =FED-PROV 1: OPERATED BY FED(WSC): OMNR EAF =FED-PROV 1: OPERATED BY FED(WSC): OMOE/OMNR GAC =FED-PROV 2: OPERATED BY FED(WSC): ONT.HYDRO
GAD =FED-PROV 2: OPERATED BY FED(WSC): OMOE
GAE =FED-PROV 2: OPERATED BY FED(WSC): OMOR
GBC =FED-PROV 2: OPERATED BY FED(WSC): OMT.HYDRO
HAD =FED-PROV 3: OPERATED BY FED(WSC): OMOE/OMNR
TAC =PEO(MOC)ALL 1: OPERATED BY FED(WSC): OMOE/OMNR
TAC =PEO(MOC)ALL 1: OPERATED BY FED(WSC): OMOE/OMNR HAF =FED-PROV 3: OPERATED BY FED(WSC): OMOE/OMNR
IAC =PROVINCIAL 1: OPERATED BY FED(WSC): ONT.HYDRO
IAD =PROVINCIAL 1: OPERATED BY FED(WSC): OMOE
IAE =PROVINCIAL 1: OPERATED BY FED(WSC): OMOE/OMNR
IAF =PROVINCIAL 1: OPERATED BY FED(WSC): CNT.HYD/OMNR
IAG =PROVINCIAL 1: OPERATED BY FED(WSC): OMOE/OMNR
IAD =PROVINCIAL 2: OPERATED BY FED(WSC): OMOE
JAE =PROVINCIAL 2: OPERATED BY FED(WSC): OMOE
JAE =PROVINCIAL 2: OPERATED BY FED(WSC): OMOE/OMNR
RAT =CONTRIBUTED DATA: OPERATED BY FED(WSC): MEDS/CHS
RBC =CONTRIBUTED DATA: OPERATED BY PROV: ONT. HYD.
RBD =CONTRIBUTED DATA: OPERATED BY PROV: OMOE
RDP =CONTRIBUTED DATA: OPERATED BY PROV: OMOE
PROP =CONTRIBUTED DATA: OPERATED BY PROVINCE
RDP =CONTRIBUTED REO =CONTRIBUTED DATA: OPERATED BY FED(OTHER)
SAA =FED. 1 SED. PROG.:OPERATED BY FED(WSC)
SJAE=PROV.2 SED. PROG.:OPERATED BY FED(WSC): OMNR

NOTES: 1) DRAINAGE AREAS: ALL FIGURES SHOWN ARE IN METRIC UNITS (KM2).
2) UNITS COLUMN: ALL GAUGES OPERATE IN METRIC UNITS EXCEPT AS HOTED.

APR 22 1987

FEDERAL 1: FEDERAL DEPT. PROGRAMS: OPERATED BY FEDERAL(WSC)

DATA IS FROM GUELPH STATIONS ONLY

						10 11.011	SOURTH STREETS CREET		
STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02ECG02 02JC008 02HE003 02MA002 02MA003	1520.00 1780.00 1270.00 294.00 904.00	G	13 43 22 51 51	QR QR QR QR	H H H	AA AA AA AA	BLACK RIVER NEAR WASHAGO BLANCHE RIVER ABOVE ENGLEHART BURNI RIVER NEAR BURNI RIVER CATARAGUI R. AT CHAEFEYS LOCKS (OCT15-MAY15) CATARAGUI RIVER AT KINGSTON MILLS (MAR1-APR15)		1 2 3 4 5
02HK003 02HH001 02DD017 02DD016 02JE002	1990.00 241.00 0.00 0.00 0.00	G	22 22 45 45	OR OR OM OM	М	AA AA AA AA	CROWE RIVER AT MARMORA EELS CREEK SELOW APSLEY EKENCH KIVER AT CHAUDIERE DAM ERENCH RIVER AT PORTAGE DAM GORDON CREEK AT KIPAWA		6 7 8 9
02BF002 02HF002 02JE017 02JE001 02EC015	1160.00 1280.00 0.00 0.00 0.00		44 22 13	OR OR HR OR HK	S L	AA AA AA AA	GOULAIS RIVER NEAR SEARCHMONT MISC.SED. GULL RIVER AT NORLAND KIPAWA LAKE AT LANIEL KIPAWA RIVER AT LANIEL LAKE SIMCOE NEAR GAMEBRIDGE		11 12 13 14 15
02DD020 02EC013 04LJ001 02HH002	0.00 0.00 0.00 8940.00 326.00	G	45 13 41 22	HR QM QM QR QR	D	AA AA AA AA	LAKE TIMISKAMING AT VILLE MARIE LITTLE ERENCH RIVER AT OKIKENDAWT ISLAND MIDDLE SEVERN RIVER AT WASHAGO MISSINAIBI RIVER AT MATTICE MISSISSAGUA RIVER BELOW MISSISSAGUA LAKE		16 17 18 19 20
02KF006 02BF005 02BF012 02BF009 02BF007	2900.00 11.50 1.15 2.02 5.40	G	51 44 44 44 44	QR QR QR QR QR	D	AA AA AA AA	MISSISSIPPI RIVER AT APPLETON NORBERG CREEK(SITE A) ABOVE BATCHAWANA RIVER NORBERG CREEK(SITE F)AT OUTLET OF BATCHAWANA L NOPBERG CREEK (SITE E) BELOW BATCHAWANA LAKE NORBERG CRK.(SITE C)AT OUTLET OF LIT. TURKEY L		21 22 23 24 25
02BF006 02BF008 02EA010 02HJ002 02KF005	8.64 4.03 149.00 7360.00 90900.00	9999	44 43 220 50 6	OR OR OR OR	I H	AA AA AA AA AA	NORBERG CREEK(SITE B) AT OUTLET OF TURKEY LAKE NORBERG CREEK (SITE D) BELOW WISHART LAKE NORTH MAGNETAWAN RIVER ABOVE PICKEREL LAKE OTONABEE RIVER AT LAKEFIELD OTTAWA RIVER AT BRITANNIA		26 27 28 29 30
02LB010 02JE011 02JE013 02JE004 02JE003	0.00 0.00 0.00 0.00	6	53 43 43	HR HR HR HR	H	AA AA AA AA AA	OTTAWA RIVER AT HOLE OTTAWA RIVER AT CUMBERLAND OTTAWA RIVER AT LAKE TIMISKAMING OTTAWA RIVER AI MAITAWA OTTAWA RIVER BELOW TIMISKAMING OTTAWA RIVER NEAR TIMISKAMING		31 32 33 34 35
02KA003 02KB001 02LA012	7.30 4120.00 0.00 0.00 9.00 3120.00	666	52 52 51	OR OR HR HR OR	T M	AA AA AA AA	PERCH LAKE OUTLET NEAR CHALK RIVER PETAWAWA RIVER NEAR PETAWAWA QUINZE LAKE ABOVE QUINZE DAM QUINZE LAKE AT RED PINE POINT RIDEAU RIVER BELOW MANOTICK		36 37 39 39 40
02LA011 02LA004 02LA005 02EC006 02EC007	1920.00 3830.00 1290.00 0.00 0.00	G G	51 53 51 13	QR QR QR QM	D D D	AA AA AA AA	RIDEAU RIVER BELOW MERRICKVILLE RIDEAU RIVER AT OTTAWA RIDEAU R. ABOVE SMITH FALLS OCT 1-APR 30 SEVERN RIVER AT BIG FALLS SEVERN RIVER AT LITTLE FALLS		41 42 43 44 45
02EC014 02EC005	5310.00	G	13 13	HR GM	D	AA AA	SEVERN RIVER ABOVE WASDELL FALLS SEVERN RIVER AT WASHAGO		46 47
02LB005 02LA016	0.00 3810.00 786.00	G	53 51	HR OR OR	S M D	AA AA AA	SIMARO LAKE AT LA FORCE S. MATION R. NR PLANTAGENET SPRINGS (MAR-JUN) TAY PIVER AT PORT ELMSLEY (MAR1-MAY31)		48 49 50

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FEDERAL 1: FEDERAL DEPT. PROGRAMS; OPERATED BY FEDERAL(WSC)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA DIST	. RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02HA016 02HK004 02HK902 02HA015	4.38 G 12000.00 G 9090.00 G 2.08 G	11 22 22 22 11	GR GR GR GR	SH	AA AA AA	THREE MILE CREEK AT MOUNT HOPE TRENT RIVER AT GLEN RUSS MISC.SED. TRENT RIVER AT HEALEY FALLS (SPILLWAY) WELLAND RIVER NEAR MOUNT HOPE		51 52 53 54

WINN IPEG:	REMOTE	_	WATER LEVEL	=	0	
		-	DISCHARGE	=	0.	
	CONVENTIONAL	-	WATER LEVEL	=	0	
		_	DISCHARGE	=	()	
	SUB-TOTAL	-	WATER LEVEL	=	0	
		-	DISCHARGE	=	0	
	TOTAL			=	0	
GUELPH:	REMOTE	-	WATER LEVEL	=	0	
		-	DISCHARGE	=	0	
	CONVENTIONAL		WATER LEVEL	=	拉13	
			DISCHARGE	=	42	
	SUB-TOTAL	-	WATER LEVEL	=	13	
		-	DISCHARGE	=	42	
	TOTAL			=	54 55	

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FEDERAL 2: INTERPROVINCIAL WATERS: OPERATED BY FEDERAL (WSC)

SUMMARY

REMOTE - WATER LEVEL = 0
- DISCHARGE = 0
CONVENTIONAL - WATER LEVEL = 0
- DISCHARGE = 0
SUB-TOTAL - WATER LEVEL = 0
- DISCHARGE = 0 WINNIPEG: REMOTE TOTAL REMOTE REMOTE - WATER LEVEL =
- DISCHARGE =
- CONVENTIONAL - WATER LEVEL = GUELPH: 0 - WATER LEVEL - DISCHARGE = 0
- WATER LEVEL = 0
- DISCHARGE = 0
= 0 SUB-TOTAL TOTAL

APR 22 1987

FEDERAL 3: INTERNATIONAL WATERS: OPERATED BY FEDERAL (WSC)

DATA IS FROM GHELPH STATIONS ONLY

						DA	TA IS FROM	GUELPH STATIONS ONLY		
STA.N	0.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02FF0 02CE0 02BF0 02GG0 02GC0	02 01 09	865.00 1350.00 1190.00 533.00 591.00	G	32 44 44 32 12	QR QR	SD M SD	CA CA CA CA	AUSABLE RIVER NEAR SPRINGBANK AUX SABLES RIVER AT MASSEY BATCHAWANA RIVER NEAR BATCHAWANA BEAR CREEK BELOW BRIGGEN MISC.SED.		1 2 3 4 5
02GC0 02BB0 02AC0 02HB0 02HC0	02 02 02	676.00 1980.00 2980.00 795.00 316.00	G	12 61 60 14 23	QR QR QR QR	SD SD SD	CA CA CA CA	BIG OTTER CREEK NEAR CALTON SED.OPEN WAT. BLACK RIVER NEAR MARATHON MISC.SED. BLACK STURGEON RIVER AT HIGHWAY NO 17 CREDIT RIVER AT ERINDALE DON RIVER AT TODMORDEN DUFFINS CREEK AT PICKERING ETOBICOKE CREEK BELOW G.E.W. MISC.SED. GANARASKA RIVER ABOVE DALE MISC.SED. GRAND RIVER AT BRANTFORD HIGHLAND CREEK NEAR WEST HILL MISC.SED.		6 7 8 9 10
02HC0 02HC0 02HD0 02GP0 02HC0	30 12 01	249.00 204.00 232.00 5210.00 88.10	G	24 23 24 11 23	OR OR OR OR	SD SD SD	CA CA CA CA	DUFFINS CREEK AT PICKERING ETOBICOKE CREEK BELOW G.E.W. MISC.SED. GANARASKA RIVER ABOVE DALE MISC.SED. GRAND RIVER AT BRANTFORD HIGHLAND CREEK NEAR WEST HILL MISC.SED.		11 12 13 14 15
02HC0 02GC0 02BA0 02HC0 02EA0	02 03 23	800.00 329.00 1320.00 77.70 2850.00	G	23 12 61 23 45	OR OR OR OR OR	SD S	CA CA CA CA	HUMBER RIVER AT WESTON KETTLE CREEK AT ST THOMAS MISC.SED. LITTLE PIC RIVER NEAR COLDWELL MISC.SED. LITTLE ROUGE CREEK NEAR LOCUST HILL MAGNETAWAN RIVER NEAR BRITT MAGPIE RIVER NEAR MICHIPICOTEN		16 17 18 19 20
02BD0 02GB0 02CC0 02HL0 02EB0	10 08 01	1930.00 171.00 9300.00 2620.00 0.00	G	61 11 44 24 13	QR QR QR QR	H D	CA CA CA CA	MAGPIE RIVER NEAR MICHIPICOTEN MCKENZIE CREEK NEAR CALEDONIA MISSISSAGI RIVER AT MISSISSAGI CHUTE MOIRA RIVER NEAR FOXBORO MOON RIVER AT HIGHWAY NO 69		21 22 23 24 25
02EB0 02GC0 02HM0 02AB0 02ED0	22 07 08	0.00 181.00 694.00 187.00 1180.00	G	13 12 51 62 14	OP	S M D S M	CA CA CA CA	MUSKOKA RIVER AT HIGHWAY NO G9 NANTICOKE CREEK AT NANTICOKE MISC.SED. NAPANEE RIVER AT CAMDEN EAST NEEBING RIVER NEAR THUNDER BAY NOTTAWASAGA RIVER NEAR BAXTER SED.OPEN WAT.		26 27 28 29 30
02HB0 02BB0 02AA0 02HC0 02HC0	03 01 22	95.60 4270.00 1550.00 186.00 391.00	G G	61 60 23 24	QR QR QR QR QR	D S	CA CA CA CA	QAKVILLE CREEK AT MILTON PIC RIVER NEAR MARATHON MISC.SED. PIGEON RIVER AT MIDDLE FALLS ROUGE RIVER NEAR MARKHAM SALMON RIVER NEAR SHANNONVILLE	ENGL ISH	31 32 33 34 35
02FA0 02FC0 02CD0 02MC0 02HB0	01 09	927.00 3960.00 1350.00 0.00 169.00	G	33 42 53 22	OR OR OR OR	0 M	CA CA CA CA	SAUBLE RIVER AT SAUBLE FALLS SAUGEEN RIVER NEAR PORT ELGIN SERPENT RIVER AT HIGHWAY NO 17 S. RAISIN R. DIVERSION AT LONG SAULT(JUN-SEP) SPENCER CREEK AT DUNDAS		36 37 38 39 40
02CA0 02FB0 02GE0 02HA0 02DB0	07 03 06	0.00 181.00 4300.00 293.00 3130.00	G	44 32 45	HR QR QR QR	SD N	CA CA CA CA	ST MARYS RIVER NEAR GARDEN RIVER SYDENHAM RIVER NEAR OWEN SOUND MISC.SED. THAMES RIVER AT THAMESVILLE TWENTY MILE CREEK AT BALLS FALLS MISC.SED. WANAPITET RIVER NEAR WANUP		41 42 43 44 45
02HA0 02BC0 02HM0 02AC0	04 04	230.00 4170.00 112.00 736.00	G	12 61 51 60	QR QR QR QR	N L	CA CA CA	WELLAND RIVER BELOW CAISTOR CORNERS WHITE RIVER BELOW WHITE LAKE WILTON CREEK NEAR NAPANEE WOLF RIVER AT HIGHWAY NO 17		46 47 48 49

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FEDERAL 3: INTERNATIONAL WATERS: OPERATED BY FEDERAL(WSC)

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	1
	CONVENTIONAL	-	WATER LEVEL	=	1
		-	DISCHARGE	=	47
	SUB-TOTAL	-	WATER LEVEL	=	1
		-	DISCHARGE	=	48
	TOTAL			=	49

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FEDERAL 4: NATIONAL WATER QUANTITY INVENTORY: OPERATED BY FEDERAL(WSC)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA DIS	ST. RESP.	GAUGE DATA	FUND.CD.	STATION NAME	UNITS	NO.
04ME003 04HA001 04F5001 04FC001 04CE001	27500.00 G 118000.00 G 24200.00 G 36000.00 G 0.00 G	41 61 41	QR NS L QR NS L QR NS L QR NS L HM N	DA DA DA DA DA	ABITIBI RIVER AT ONAKAWANA MISC.SED. ALBANY RIVER HEAR HAT ISLAND MISC. SED. ATTAWAPISKAT RIVER BELOW ATTAWAPISKAT LAKE ATTAWAPISKAT R. BELOW MUKETEI R. MISC. SED. BIG TROUT LAKE AT TROUT LAKE		1 2 3 4 5
04GB005 02DD015 04EA001 04CE002 04KA002	1170.00 G 106.00 G 10400.00 G 4350.00 G 133.00 G	41 41 61	QR N L QP QR N L QR N L	DA DA DA DA DA	BRIGHTSAND RIVER AT MOBERLY LAKE COMMANDA CREEK AT COMMANDA EKWAN RIVER BELOW NORTH WASHAGAMI RIVER FAWN RIVER BELOW BIG TROUT LAKE HALEWAY CREEK AT MOOSONEE		6 7 8 9 10
04JG001 04KA001 04JE001 04LG004 04GE001	26200.00 G 4250.00 G 5360.00 G 60100.00 G 1890.00 G	43 41 43	QR N L QR N L QR N L QR MS L QR N L	DA DA DA DA	KENOGAMI RIVER MEAR MAMMAMATTAWA KWATABOAHEGAN RIVER NEAR THE MOUTH LITTLE CURRENT RIVER AT PERCY LAKE HOOSE RIVER ABOVE MOOSE RIVER MISC. SED. MUSWABIK RIVER AT OUTLET OF MUSWABIK LAKE		11 12 13 14 15
04ME001 04JD005 04CC001 04DC002 04DC001	6680.00 G 2020.00 G 94300.00 G 4710.00 G 50000.00 G	41 61 41	OR N L OR N L OR N L OR N L OR NS L	DA DA DA DA DA	NORTH ERENCH RIVER NEAR THE MOUTH PAGWACHUAN RIVER AT HIGHWAY NO 11 SEVERN RIVER AT LIMESTONE RAPIDS SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE WINISK R. BELOW ASHEWEIG R. TRIB. MISC. S		16 17 18 19 20

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	1
		-	DISCHARGE	=	16
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	3
	SUB-TOTAL	-	WATER LEVEL	=	1
		-	DISCHARGE	=	19
	TOTAL			=	20

APR 22 1987

FEDERAL-PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.O.E.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02GC018 02AB006 02ED005 02CA002 02GH002	287.00 6470.00 295.00 108.00 125.00	666	12 62 14 44 32	QR QR QR QR QR	SD D	EAD EAD EAD EAD EAD	CATFISH CREEK NEAR SPARTA MISC.SED. KAMINISTIQUIA RIVER AT KAMINISTIQUIA HAD RIVER NEAR GLENCAIRN ROOT RIVER AT SAULT STE MARIE RUSCOM RIVER NEAR RUSCOM STATION MISC.SED.		1 2 3 4 5

WINNIPEG:	REMOTE	- WATER LEVEL = 0	
		- DISCHARGE = 0	
	CONVENTIONAL	- WATER LEVEL = 0	
	CUD_TOTAL	- DISCHARGE = 0	
	SUB-TOTAL	- WATER LEVEL = 0 - DISCHARGE = 0	
	TOTAL	= 0	
GUELPH:	REMOTE	- WATER LEVEL = 0	
	CONVENT IONAL	- DISCHARGE = 0 - WATER LEVEL = 0	
	COMVERTIONAL	- WATER LEVEL = 0 - DISCHARGE = 5	
	SUB-TOTAL	- WATER LEVEL = 0	
		- DISCHARGE = 5	
	TOTAL	= 5	

APR 22 1987

FEDERAL-PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02HC027 02GB007 02DB010 02GC008 02FE002	58.00 360.00 13900.00 134.00 1630.00	666	23 11 45 12 33	QR QR QR QR	s M	FAE FAE FAE FAE	BLACK CREEK NEAR WESTON FAIRCHILD CREEK NEAR BRANTFORD MISC.SED. FRENCH PIVER AT DRY PINE BAY LYNN RIVER AT SIMCOE MAITLAND RIVER BELOW WINGHAM		1 2 3 4 5
02HD008 02FE009 02GG003	95.80 376.00 1160.00	G	24 33 32	QR QR QR	D SD SD	EAE FAE FAE	OSHAWA CREEK AT OSHAWA SOUTH MAITLAND P. AT SUMMERHILL SED.OPEN WAT. SYDENHAM RIVER AT FLORENCE (SED.FEB-MAY)		6 7 8

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	8
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	8
	TOTAL			=	8

APR 22 1987

FEDERAL-PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.O.E./O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO. DR.AREA DIST. RESP. GAUGE DATA FUND.CD. UNITS STATION NAME NO. 02HC033 70.60 G 23 QR D FAF MINICO CREEK AT ISLINGTON 1

SUMMARY

- WATER LEVEL = 0 - DISCHARGE = 0 WINNIPEG: REMOTE CONVENTIONAL - WATER LEVEL = 0

CONVENTIONAL - WATER LEVEL = 0

SUB-TOTAL - WATER LEVEL = 0

- DISCHARGE = 0

TOTAL - DISCHARGE = 0 TOTAL 0 GUELPH: - WATER LEVEL = 0 REMOTE - DISCHARGE = 0
CONVENTIONAL - WATER LEVEL = 0
- DISCHARGE = 1
SUB-TOTAL - WATER LEVEL = 0 - DISCHARGE = TOTAL

APR 22 1987

FEDERAL-PROVINCIAL 2: OPERATED BY FEDERAL(WSC): ONTARIO HYDRO

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UN	ITS	NO.
02KC009 02KD004 04LM001 02KD002	2380.00 5800.00 22900.00 837.00	G	52 52 43 52	QR QR QR QR	N L	GAC GAC GAC GAC	BONNECHERE RIVER NEAR CASTLEFORD MADAWASKA RIVER AT PALMER RAPIDS MISSINAIBI R BELOW WAROOSE R YORK RIVER NEAR BANCROFT			1 2 3 4

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	1
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	3
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	4
	TOTAL			=	4

APR 22 1987

FEDERAL-PROVINCIAL 2: OPERATED BY FEDERAL(WSC): O.M.O.E.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE DATA	FUND.CD.	STATION NAME	UNITS	NO.
02ED007 02HB004	177.00 199.00	_	13 14	QR QR	GAD GAD	COLDWATER RIVER AT COLDWATER EAST DAKVILLE CREEK NEAR OMAGH		1 2

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	2
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	2
	TOTAL			=	2

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FEDERAL-PROVINCIAL 2: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02FF007 02FB009 02FB010 02AB015 02LA007	466.00 572.00 293.00 492.00 559.00	6 6	31 14 14 60 51	OR OR OR OR	S SD SD	GAE GAE GAE GAE GAE	BAYFIELD RIVER NEAR VARNA MISC.SED. BEAVER RIVER NEAR CLARKSBURG MISC.SED. BIGHEAD RIVER NEAR MEAFORD MISC.SED. CURRENT RIVER NEAR STEPSTONE JOCK RIVER NEAR RICHMOND		1 23 4 5
02DD006 02EA005	0.00 321.00		45 43	HR QR	H	GAE GAE	LAKE NIPISSING AT NORTH BAY NORTH MAGNETAWAN RIVER NEAR BURKS FALLS		6 7

WINNIPEG:	REMOTE	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	. =	Ō
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	. =	1
		-	DISCHARGE	=	6
	SUB-TOTAL	-	WATER LEVEL	. =	1
		-	DISCHARGE	=	6
	TOTAL			=	7
	STREET, STREET				

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FEDERAL-PROVINCIAL 2: OPERATED BY PROVINCE(ONTARIO HYDRO)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE DATA	FUND.CD.	STATION NAME	UNITS	NO.
04MD002 02JP011 02KD007 02DC008 04MB003	2870.00 1370.00 2720.00 2360.00 238.00	6	82 82 82 82 82	MO MO MO MO MO	GBC GBC GBC GBC GBC	FREDERICK HOUSE RIVER AT F.H. LAKE DAM LADY EVELYN PIVER AT LADY EVELYN LAKE DAM MADAWASKA RIVER AT BARK LAKE DAM TEMAGAMI RIVER AT RED CEDAR LAKE DAM WAIABEAG RIVER AT WATABEAG LAKE DAM		1 2 3 4 5
02JD012	1780.00	G	82	QM	GBC	WEST MONTREAL RIVER AT MISTINIKON LAKE DAM		6

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	6
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	6
	TOTAL			=	6

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FEDERAL-PROVINCIAL 3: OPERATED BY FEDERAL(WSC): O.M.O.E.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
04DB001 04GA002 04GB004 04FA001 04FA003	7950.00 5390.00 11200.00 9010.00 4900.00	96	61 62 61 62 61	QR QR	NL	HAD HAD HAD HAD	ASHEWEIG RIVER AT STRAIGHT LAKE CAT RIVER BELOW WESLEYAN LAKE OGOKI RIVER ABOVE WHITECLAY LAKE OTOSKWIN RIVER BELOW BADESDAWA LAKE PINEIMUTA RIVER AT EYES LAKE		1 2 3 4 5
04DA001 04CA003 04CD002 04CA002 04CB001	5960.00 619.00 4270.00 36500.00 10800.00	G	62 62 62 62 62	QR QR QR QR QR	N L	HAD HAD HAD HAD HAD	PIPESTONE RIVER AT KARL LAKE ROSEBERRY R. ABOVE ROSEBERRY LAKES SACHIGO RIVER BELOW OUTLET OF SACHIGO LAKE SEVERN RIVER AT OUTLET OF MUSKRAT DAM LAKE WINDIGO RIVER ABOVE MUSKRAT DAM LAKE		6 7 8 9 10

WINNIPEG:	REMOTE	- WATER LEVEL =	0
		DISCHARGE =	0
	· CONVENTIONAL	- WATER LEVEL =	0
		DISCHARGE =	0
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	0
	TOTAL	:	0
GUELPH:	REMOTE	- WATER LEVEL =	0
		- DISCHARGE =	9
	CONVENTIONAL	- WATER LEVEL =	0
		- DISCHARGE =	1
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	10
	TOTAL	=	10

APR 22 1987

PROVINCIAL 1: OPERATED BY FEDERAL(WSC): ONTARIO HYDRO

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE DATA	FUND.CD.	STATION NAME	UNITS	NO.
04GD001 04LD001 02JD009 04JC002 02KC005	32400.00 11900.00 4300.00 2410.00 0.00	6	41 41 43 41 52	QR N QR D QR QR HR	IAC IAC IAC IAC IAC	ALBANY RIVER ABOVE NOTTIK ISLAND GROUNDHOG RIVER AT FAUQUIER MONTREAL RIVER AT MOUNTAIN CHUTES NAGAGAMI RIVER AT HIGHWAY NO 11 OTTAWA RIVER NEAR WESTMEATH		1 2 3 4 5
02AB009	2800.00	G	62	QR	IAC	SHEBANDOWAN RIVER AT SUNSHINE		6

WINNIPEG:	REMOTE	- WATER LEVEL = 0
		- DISCHARGE = 0
	CONVENTIONAL	- WATER LEVEL = 0
		- DISCHARGE = 0
	SUB-TOTAL	- WATER LEVEL = 0
		- DISCHARGE = 0
	TOTAL	= 0
GUELPH:	REMOTE	- WATER LEVEL = 0
		- DISCHARGE = 1
	CONVENTIONAL	- WATER LEVEL = 1
		- DISCHARGE = 4
	SUB-TOTAL	- WATER LEVEL = 1
		- DISCHARGE = 5
	TOTAL	= 6

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PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.O.E.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02GA030 02GD018 02EC017 02EC011 02EC008	49.70 144.00 50.10 282.00 274.00	G	11 31 33 13 13	OR OR OR OR	D	IAD IAD IAD IAD IAO	ALDER CREEK NEAR NEW DUNDEE AVON RIVER BELOW STRATFORD BEATTY SAUGEEN RIVER NEAR HOLSTEIN BEAVERTON RIVER NEAR BEAVERTON BLACK RIVER AT BALDWIN		1 2 3 4 5
02AD010 02HE004 02BB004 02HM005 02DB007	650.00 21.30 201.00 155.00 59.00	G	60 22 61 51 45	OR OR OR OR		IAD IAD IAD IAD IAD	BLACKWATER RIVER AT BEARDMORE BOB CREEK NEAR MINDEN CEDAR CREEK NEAR HEMLO COLLING CREEK NEAR KINGSTON CONISTON CREEK ABOVE WANAPITEI RIVER		6 7 8 9
02LB012 02HB014 02AE001 02HB013 02EC009	76.70 58.50 616.00 41.60 181.00	G	53 24 60 24 13	QR QR QR QR	s M	IAD IAD IAD IAD IAD	E BR SC. R NR ST ISIDORE DE PRESCOTT MARI-DECI FAREWELL CREEK AT OSHAWA GRAVEL RIVER NEAR CAVERS MISC.SED. HARMONY CREEK AT OSHAWA HOLLAND RIVER AT HOLLAND LANDING		11 12 13 14 15
02CF012 04EA002 02LA006 02CD007 02HM006	207.00 1540.00 409.00 4.58 150.00	6	42 62 53 42 51	OR OR OR OR	SH	IAD IAD IAD IAD IAD	JUNCTION CREEK BELOW KELLEY LAKE KAWINOGANS RIVER NEAR PICKLE CROW KEMPTVILLE CREEK NEAR KEMPTVILLE MISC.SED. LITTLE NORDIC CREEK AT ELLIOT LAKE MILLHAVEN CREEK NEAR MILLHAVEN		16 17 18 19 20
02CF013 02GD022 02HJ003 02FD001 04MD004	40.60 0.00 282.00 154.00 401.00	G	45 22 33 43	OR OR OR OR	S	IAD IAD IAD IAD IAD	MOOSE CREEK AT LEVACK NISSOURI CREEK NEAR EMBRO OUSE RIVER NEAR MESTWOOD PINE RIVER AT LURGAN MISC.SED. PORCUPINE RIVER AT HOYLE		21 22 23 24 25
02HC039 02CD002 02CD004 02CD006 02CD003	38.30 109.00 567.00 157.00 319.00	G	24 42 42 42 42	OR OR OR OR OR		IAD IAD IAD IAD IAD	REESOR CREEK ABOVE GREEN RIVER SERPENT RIVER AT OUTLET OF DUNLOP LAKE SERPENT RIVER BELOW PECORS LAKE SERPENT RIVER ABOVE QUIRKE LAKE SERPENT RIVER BELOW QUIRKE LAKE		26 27 28 29 30
02FA002 02CF011 02D0012 02LB018 02ED013	50.50 704.00 741.00 99.50 118.00	G	33 45 45 53 13	QR QR QR QR QR	D	IAD IAD IAD IAD IAD	STOKES RIVER NEAR FERNDALE VERNILION RIVER NEAR VAL CARON VEUVE RIVER NEAR VERNER W BR SC. R NR ST ISIDORE DE PRESCOTI MARI-JUNI WYE RIVER NEAR WYEVALE		31 32 33 34 35

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
•		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	35
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	35
	TOTAL			=	35

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PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

	DATA IS FRO	M GUELPH STATIONS ONLY	
STA.NO. DR.AREA DIST	. RESP. GAUGE DATA FUND.CD	. STATION NAME UNITS	NO.
02JE019 1130.00 G 02HB021 9.14 G 02LB008 440.00 G 02HC026 124.00 G 02HK006 541.00 G	43 OR IAE 11 OR D IAE 53 OR IAE 53 OR D IAE 22 OR D IAE	AMABLE DU FOND R AT SAMUEL DE CHAMPLAIN P.P. ANCASTER CREEK AI ANCASTER BEAR BROOK NEAR BOURGET BEAUDETTE RIVIERE NEAR GLEN NEVIS BEAVER CREEK NEAR MARMORA	1 2 3 4 5
02GC006 363.00 G 02BF004 51.50 G 02GC017 93.20 G 02GC010 342.00 G 02HL003 401.00 G	12 QR IAE 44 QR IAE 12 QR IAE 12 QR IAE 12 QR M IAE 52 QR D IAE	BEAVER CREEK NEAR MARHORA BIG CREEK NEAR DELHI BIG CARP RIVER NEAR SAULT STE. MARIE BIG OTTER CREEK ABOVE OTTERVILLE BIG OTTER CREEK AT TILLSONBURG BLACK RIVER NEAR ACTINOLITE	6 7 8 9 10
02HE001 13.90 G 02GA031 44.50 G 02FE014 77.70 G 02HE022 117.00 G 02HK009 82.30 G	24 OR IAE 13 OR IAE 33 OP D IAE 22 OR IAE 22 OR D IAE	BLOOMFIELD CREEK AT BLOOMFIELD BLUE SPRINGS CREEK NEAR EDEN MILLS PLYTH BROOK BELOW BLYTH BRONTE CREEK AT CARLISLE BURNLEY CREEK ABOVE WARKWORTH	11 12 13 14 15
02GA023 118.00 G 02GH003 159.00 G 02KF011 269.00 G 02FC011 163.00 G 02LB006 433.00 G	11 OR IAE 32 OR IAE 52 OR D IAE 33 OR IAE 53 OR IAE	CANAGAGIGUE CREEK NEAR ELMIRA CANARD RIVER NEAR LUKERVILLE CARP RIVER NEAR KINBURN CARRICK CREEK NEAR CARLSRUHE CASTOR RIVER AT RUSSELL	16 17 18 19 20
02GC030 120.00 G 02GD011 93.20 G 02DD014 37.30 G 02KF013 280.00 G 02KF010 614.00 G	AC OD TAF	CATFISH CREEK AT ALYMER CEDAR CREEK AT WOODSTOCK CHIPPEWA CREEK AT NORTH BAY CLYDE RIVER AT GORDON RAPIDS CLYDE RIVER NEAR LANARK	21 22 23 24 25
02HC023 62.20 G 02HK007 159.00 G 02GA039 272.00 G 02GA028 578.00 G 02HE002 114.00 G	23	COLD CREEK NEAR BOLTON COLD CREEK AT ORLAND CONESTOGO RIVER ABOVE DRAYTON MISC.SED CONESTOGO RIVER AT GLEN ALLAN CONSECON CREEK AT ALLISONVILLE	26 27 28 29 30
02HB019 59.50 G 02HB018 402.00 G 02HB001 205.00 G 02HB020 32.30 G 02HB013 62.20 G	14 QR D IAE	CREDIT RIVER ALTON BRANCH ABOVE ALTON CREDIT RIVER AT BOSTON MILLS CREDIT RIVER MEAR CATARACT CREDIT RIVER ERIN BRANCH ABOVE ERIN CREDIT RIVER HEAR ORANGEVILLE	31 32 33 34 35
02HB008 127.00 G 02HK005 456.00 G 02MC028 85.40 G 02HM002 189.00 G 02GE005 146.00 G	53 QR D IAE	CREDIT RIVER WEST BRANCH AT NORVAL CROWE RIVER MEAR GLEN ALDA DELISLE RIVIERE NEAR ALEXANDRIA DEPOT CREEK AT BELLROCK DINGMAN CREEK BELOW LAMBETH	36 37 38 39 40
02HC005 88.10 G 02HC019 93.50 G 02EB013 593.00 G 02HC032 94.80 G 02HC009 197.00 G	23	DON RIVER AT YORK MILLS DUFFINS CREEK ABOVE PICKERING EAST RIVER NEAR HUNTSVILLE EAST HUMBER RIVER AT KING CREEK EAST HUMBER RIVER NEAR PINE GROVE	41 42 43 44 45
02GA029 236.00 G 02HC017 63.20 G 02KF014 277.00 G 02GD010 150.00 G 02HD003 67.30 G	13 QR IAE 23 QR IAE 52 QR IAE 31 QR IAE 24 QR D IAE	ERAMOSA RIVER ABOVE GUELPH ETOBICOKE CREEK AT BRAMPTON FALL RIVER NEAR FALLBROOK FISH CREEK NEAR PROSPECT HILL GANARASKA RIVER NEAR OSACA	46 47 48 49 50

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PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.N.R.

					DA	TA IS FROM	GUELPH STATIONS ONLY		
STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02GA003 02GA014 02GA016 02GA034 02HB012	3520.00 694.00 800.00 1170.00 82.60	6	11 11 11 11 23	QR QR QR QP QR	L	IAE IAE IAE IAE IAE	GRAND RIVER AT GALT GRAND RIVER NEAR MARSVILLE GRAND RIVER BELOW SHAND DAM GRAND RIVER AT WEST MONTROSE GRINDSTONE CREEK NEAR ALDERSHOT		51 52 53 54 55
02GB006 02HC025 02HC047 02KF012 02HJ001	150.00 303.00 117.00 203.00 110.00	6 6	12 23 23 52 22	OP	S M D D	IAE IAE IAE IAE IAE	HOPMER CREEK NEAR PRINCETON HUMBER RIVER AT ELDER MILLS HUMBER RIVER NEAR PALGRAVE INDIAN RIVER NEAR BLAKENEY JACKSONS CREEK AT PETERBOROUGH		56 57 58 59 60
02CF005 02GB009 02GC029 02JC010 02GA024	89.10 91.90 135.00 256.00 59.60	6	42 12 12 43 11	QR QR QR QR QR	N L	IAE IAE IAE IAE IAE	JUNCTION CREEK AT SUDBURY KENNY CREEK NEAR BURFORD KEITLE CREEK ABOVE ST THOMAS LARDER RIVER ABOVE RAVEN LAKE LAUREL CREEK AT WATERLOO		61 62 63 64 65
02DD013 02GH011 02HC029 02FE007 02GC015	70.40 50.50 130.00 326.00 104.00	666	42 32 23 33 12	QR HR QR QR QR	D D S M	IAE IAE IAE IAE	LA VASE RIVER AT MORTH BAY LITTLE RIVER AT WINDSOR LITTLE DON RIVER AT DON MILLS LITTLE MAITLAND RIVER AT BLUEVALE LITTLE OTTER CRK NR STRAFFORDVILLE MISC.SED.		66 67 68 69 70
02FD002 02GA033 02MB006 02HC018 02FE011	54.90 64.70 0.00 106.00 112.00	999	33 13 51 24 33	QR QR QR QR QR	DM SD DI	IAE IAE IAE IAE IAE	LUCKNOW RIVER AT LUCKNOW LUTTERAL CREEK NEAR OUSTIC LYN CREEK NEAR LYN MISC.SED. LYNDE CREEK NEAR WHITBY MISC.SED. MAITLAND RIVER NEAR HARRISTON		71 72 73 74 75
02FE005 02HG001 04LA002 02JE020 02GE007	528.00 189.00 5540.00 909.00 202.00	GGG	33 22 43 43 32	QR QR QR QR QR	DM M	IAE IAE IAE IAE IAE	MAITLAND RIVER ABOVE WINGHAM MARIPOSA BROOK NEAR LITTLE BRITAIN MATTAGAMI RIVER NEAR TIMMINS MATTAWA RIVER BELOW BOUILLON LAKE MCGREGOR CREEK NEAR CHATHAM (SED.MAR-MAY)		76 77 78 79 80
02AB020 02AB019 02GD008 02FE008 02FE013	90.00 46.40 200.00 647.00 416.00	666	62 62 31 33 31	QR QR QR QR QR	0000	IAE IAE IAE IAE IAE	MCINTYRE RIVER ABOVE THUNDER BAY MCVICAR CREEK AT THUNDER BAY MEDWAY RIVER AT LONDON MIDDLE MAITLAND RIVER NR BELGRAVE MIDDLE MAITLAND RIVER ABOVE ETHEL		81 82 83 84 85
02FE003 02GD004 02KF001 02HL005 02GA010	77.70 306.00 2620.00 308.00 1030.00	GGG	31 31 51 22 11	QR QR QR QR	DM D D D S	IAE IAE IAE IAE IAE	MIDDLE MAITLAND RIVER NEAR LISTOWEL MIDDLE THAMES RIVER AT THAMESFORD MISSISSIPPI RIVER AT FERGUSONS FALLS MOIRA RIVER NEAR DELORO NITH RIVER NEAR CANNING MISC.SED.		86 87 88 89 90
02GA018 02GA038 02CF009 02EB004 02FC018	552.00 326.00 21.50 1390.00 216.00	GGG	11 11 42 13 33	OR OR OR OR		IAE IAE IAE IAE IAE	NITH RIVER AT NEW HAMBURG NITH RIVER ABOVE MITHBURG NOLIN CREEK AT SUDBURY NORTH BRANCH MUSKOKA RIVER AT PORT SYDNEY NORTH SAUGEEN RIVER ABOVE CHESLEY		91 92 93 94 95
02GD003 02GD014 02GD005 02GD015 02HD004	1450.00 319.00 1080.00 1340.00 42.70	666	31 31 31 31 24		D D SD	IAE IAE IAE IAE IAE	NORTH THAMES RIVER BELOW FANSHAWE DAM NORTH THAMES RIVER NEAR MITCHELL NORTH THAMES RIVER AT ST MARYS NORTH THAMES RIVER NEAR THORNDALE MISC.SED. NORTH WEST GANARASKA RIVER NEAR OSACA		96 97 98 99 100

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PROVINCIAL 1: OPERATED BY FEDERAL (WSC): O.M.N.R.

	DATA IS FROM GUELPH STATIONS ONLY											
STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME		NO.			
02CF010 02EB014 02FF008 02HL006 02GC012	1570.00 601.00 110.00 205.00 51.30	6	45 13 32 52 12	QR QR QR QR	D S M D	IAE IAE	ONAPING RIVER NEAR LEVACK OXTONGUE RIVER NEAR DWIGHT PAPKHILL CRK AB. PARKHILL RESERVOIR MISC.SED. PARKS CREEK NEAR LAITA PATTERSON CREEK NEAR SIMCOE		101 102 103 104 105			
02MC027 02MC001 02HK008 02HA014 02FC016	129.00 404.00 86.70 60.90 329.00	6	53 53 24 23 33	QR QR QR QR QR	D D S M DM	IAE IAE IAE IAE IAE	RAISIN RIVER AT BLACK RIVER FEB 15-MAY 15 RAISIN RIVER NEAR WILLIAMSTOWN RAWDON CREEK NEAR WEST HUNTINGDON REDHILL CREEK AT HAMILTON MISC.SED. SAUGEEN RIVER ABOVE DURHAM SAUGEEN RIVER NEAR WALKERTON SCHNEIDER CREEK AT KITCHENER SCHOMBERG PIVER NEAR SCHOMBERG SHELTER VALLEY BROOK NEAR GRAFTON SKOOTAMATIA RIVER NEAR ACTINOLITE		106 107 108 109 110			
02FC002 02GA037 02EC010 02HD010 02HL004	2150.00 25.10 42.90 64.70 712.00	6 6	33 11 23 24 52	QR QR QR QR	DM D	IAE IAE IAE IAE IAE	SAUGEEN RIVER NEAR WALKERTON SCHNEIDER CREEK AI KITCHENER SCHOMBERG FIVER HEAR SCHOMBERG SHELTER VALLEY BROOK NEAR GRAFTON SKOOTAMATTA RIVER NEAR ACTINOLITE		111 112 113 114 115			
02DD009 02EB008 02LB020 02LB013 02LB009	316.00 1390.00 189.00 2410.00 1050.00	6	41 13 53 53 51	QR QM QR QR QR	ĸ	IAE IAE IAE IAE IAE	SOUTH RIVER AT SOUTH RIVER SOUTH BRANCH HUSKOKA RIVER AT BAYSVILLE SOUTH CASTOR RIVER AT KENHORE SOUTH NATION R. AT CASSELMAN SOUTH NATION RIVER AT CHESTERVILLE (MAR-MAY)		116 117 118 119 120			
02LB007 02FF004 02MC030 02FC012 02GA040	246.00 41.40 34.70 635.00 167.00	6	51 32 53 33 11	QR QR	M D D S	IAE IAE IAE IAE IAE	SOUTH NATION RIVER AT SPENCERVILLE SOUTH PARKHILL CREEK NEAR PARKHILL SOUTH RAISIN R. NR CORNWALL (MAR-MAY) SOUTH SAUGEEN RIVER NEAR HANOVER SPEED RIVER NEAR ARMSTRONG MILLS MISC.SED.		121 122 123 124 125			
02GA015 02HB015 02DC004 02GH001 02DC012	593.00 63.50 2980.00 14.20 1200.00	G G	11 22 44 32 44	QR	H L N L	IAE IAE IAE IAE IAE	SPEED RIVER BELOW GUELPH SPENCER CREEK NEAR WESTOVER STURGEON RIVER NEAR GLEN AFTON STURGEON CREEK NEAR LEAMINGTON STURGEON RIVER AT UPPER GOOSE FALLS SYDENHAM RIVER AT STRATHROY SYDENHAM RIVER AT WALLACEBURG TEESWATER RIVER NEAR PAISLEY THAMES RIVER AT BYRON THAMES RIVER AT CHATHAM THAMES RIVER NEAR DUTTON THAMES RIVER AT INGERSOLL THAMES RIVER AT INGERSOLL THAMES RIVER AT HOODSTOCK		126 127 128 129 130			
0266002 0266005 0266008 02FC015 02GE002	730.00 172.00 2680.00 663.00 3110.00	G	32 32 32 33 31	OR OR HP OR OR	D D D Dm	IAE IAE IAE IAE IAE	SYDENHAM FIVER NEAR ALVINSTON SYDENHAM RIVER AT STRATHROY SYDENHAM RIVER AT WALLACEBURG TEESWATER RIVER NEAR PAISLEY THAMES RIVER AT BYRON		131 132 133 134 135			
02GE004 02GE006 02GD001 02GD016 02GD021	4610.00 3760.00 1340.00 518.00 149.00	G	32 31 31 31	HR QR QR QR QR	M B DT SD	IAE IAE IAE IAE IAE	THAMES RIVER AT CHATHAM THAMES RIVER NEAR DUTTON THAMES RIVER NEAR EALING THAMES RIVER AT INGERSOLL THAMES RIVER AT INNERKIP MISC.SED.		136 137 138 139 140			
02GD012 02GD019 02GD009 02GH004 02HA020	254.00 36.00 140.00 29.60 168.00	6 6 6	31 31 31 32 12	OR OR OR OR	D D	IAE IAE IAE IAE IAE	THAMES RIVER AT WOODSTOCK TROUT CREEK NEAR FAIRVIEW TROUT CREEK NEAR ST MARYS TURKEY CREEK AT WINDSOR TWENTY HILE CREEK ABOVE SMITHVILLE		141 142 143 144 145			
02GC021 02GD020 02HC026 02HC031 02AB017	68.40 108.00 98.10 148.00 210.00	6	12 31 24 23 62	OR OR OR OR	D D D	IAE IAE IAE IAE IAE	THAMES RIVER AT INNERKIP MISC.SED. THAMES RIVER AT WOODSTOCK TROUT CREEK NEAR FAIRVIEW TROUT CREEK NEAR ST MARYS TURKEY CREEK AI WINDSOR TWENTY MILE CREEK ABOVE SMITHVILLE VENISON CREEK NEAR WALSINGHAM WAUBUNO CREEK NEAR DORCHESTER WEST DUFFINS CREEK AI GREEN RIVER WEST HUMBER RIVER AT HIGHWAY NO 7 WHITEFISH RIVER AI NOLALU		146 147 148 149 150			

APR 22 1987

PROVINCIAL 1: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02GF008 02CF007 02CF008 02ED009 02ED010	383.00 243.00 155.00 94.80 127.00	-	12 45 45 13 13	OR OR OR OR OR	D D	IAE IAE IAE IAE IAE	WHITEMANS CREEK NEAR MOUNT VERNON WHITSON RIVER AT CHELMSFORD WHITSON RIVER AT VAL CARON WILLOW CREEK ABOVE LITTLE LAKE WILLOW CREEK AT MIDHURST		151 152 153 154 155
02HD009 02GD013	82.60 38.80	-	24 31	QR QR	D	IAE IAE	WILHOT CREEK NEAR NEWCASTLE WYE CREEK NEAR THORNDALE		156 157

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	MILTON DOLD	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	
		-	DISCHARGE	=	2
	CONVENTIONAL	4	WATER LEVEL	=	0 2 3
		-	DISCHARGE	=	152
	SUB-TOTAL	-	WATER LEVEL	=	3
		-	DISCHARGE	=	154
	TOTAL.			=	157

APR 22 1987

PROVINCIAL 1: OPERATED BY FEDERAL(WSC): 0.M.O.E./ 0.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02CG003 02EA006 02AB014 02EC018 02BA002	17.90 650.00 112.00 332.00 1190.00	G G	42 43 60 84 61	OR OR OR OR		IAF IAF IAF IAF	BLUE JAY CREEK MEAR TEHKUMMAH MAGNETAWAN RIVER MEAR BURKS FALLS MORTH CURRENT RIVER MEAR THUNDER BAY PEFFERLAW BROOK MEAR UDORA STEEL RIVER MEAR TERRACE BAY		1 2 3 4 5

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	5
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	05055
	TOTAL			=	5

APR 22 1987

PROVINCIAL 1: OPERATED BY FEDERAL(WSC): ONTARIO HYDRO/ O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	UNITS	NO.
02CB003 02CC005 02CC010	1440.00 1960.00 1190.00	Ğ	42 42 42	GR GR GR	IL H IL	IAG	AUBINADONG RIVER ABOVE SESABIC CREEK LITTLE WHITE RIVER MEAR BELLINGHAM LITTLE WHITE RIVER BELOW BOLAND RIVER		1 2 3

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	3
	SUB-TOTAL	7	WATER LEVEL	=	0
		-	DISCHARGE	=	3
	TOTAL			=	03033

APR 22 1987

PROVINCIAL 2: OPERATED BY FEDERAL(WSC); O.M.O.E.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	ETIMU	NO.
02FF009 02GA041 04LK001	113.00 G 62.90 G 1140.00 G	31 11 41	QR QR QR	D	JAD JAD JAD	AUSABLE RIVER NEAR EXETER GRAND RIVER NEAR DUNDALK MATTAWISHKWIA RIVER AT HEARST		1 2 3

WINNIPEG:	REMOTE	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	, =	Ō
		-	DISCHARGE	=	2
	SUB-TOTAL	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	Q
	CONVENTIONAL	-	WATER LEVEL	. =	0
		-	DISCHARGE	=	3
	SUB-TOTAL	-	WATER LEVEL	. =	
		-	DISCHARGE	=	3
	TOTAL			=	033

APR 22 1987

PROVINCIAL 2: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA DIST	. RESP.	GAUGE DATA	FUND.CD.	STATION NAME	UNITS	.NO.
02LB017	69.20 G	53	QR	JAE	NORTH BRANCH SOUTH NATION RIVER NEAR HECKSTON		1
02LB022	152.00 G	53	QR	JAE	PAYNE RIVER NEAR BERWICK		2
02EA004	301.00 G	33	QR	JAE	SAUBLE RIVER AT ALLENEORD		3
02HB023	132.00 G	22	QR D	JAE	SPENCER CREEK AT HWY NO. 5		4

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	4
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	4
	TOTAL			=	4

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST FOR SCHEDULE A

FOR THE FISCAL YEAR: 87/88(FINAL)

APR 22 1987

PROVINCIAL 2: OPERATED BY FEDERAL(WSC): 0.H.O.E./. 0.H.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO. DR.AREA DIST. RESP. GAUGE DATA FUND.CD. STATION NAME

UNITS NO.

02GG006 267.00 G 32 OR D

JAF BEAR CREEK NEAR PETROLIA

1

SUMMARY

WINNIPEG:

REMOTE

REMOTE - WATER LEVEL =
- DISCHARGE =
CONVENTIONAL - WATER LEVEL =
- DISCHARGE = 0

SUB-TOTAL

- WATER LEVEL = - DISCHARGE =

TOTAL

0

0

GUELPH: REMOTE - WATER LEVEL =

- DISCHARGE = CONVENTIONAL - WATER LEVEL = DISCHARGE =

- WATER LEVEL = SUB-TOTAL

- DISCHARGE = 1 TOTAL

APR 22 1987

FEDERAL 1 SEDIMENT PROGRAMS: OPERATED BY FEDERAL (WSC):

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE DATA	EUND.CD.	STATION NAME	UNIIS	NO.
04FC001 02FE002	27500.00 118000.00 36000.00 865.00 466.00	G G	41	QR NS L QR NS L QR NS L QR SD QR 5	SAA SAA SAA SAA SAA	ABITIBI RIVER AT ONAKAWANA HISC.SED. ALBANY RIVER NEAR HAT ISLAND HISC. SED. ATTAWAPISKAT R. BELOW HUKETEI R. MISC. SED. AUSABLE RIVER NEAR SPRINGBANK BAYFIELD RIVER NEAR VARNA MISC.SED.		1 2 3 4 5
0265009 02F8009 02F8010 02G8026 02BB002	533.00 572.00 293.00 676.00 1980.00	U	32 14 14 12 61	QR SD QR SD QR SD QR SD QR S	SAA SAA SAA SAA	BEAR CREEK BELOW BRIGDEN MISC.SED. BEAVER RIVER NEAR CLARKSBURG MISC.SED. BIGHEAD RIVER MEAR MEAFORD MISC.SED. BIG OTTER CREEK MEAR CALTON SED.DPEN WAT. BLACK RIVER NEAR MARATHON MISC.SED.		6 7 3 9
02GS018 02GA039 02HB002 02HC024 02HC030	287.00 272.00 795.00 316.00 204.00	G G	12 11 14 23 23	QR SD QR S QR SD QR SD QR SD	SAA SAA SAA SAA SAA	STATION NAME ABITIBI RIVER AT ONAKAWANA MISC.SED. ALBANY RIVER NEAR HAT ISLAND MISC. SED. ALBANY RIVER NEAR HAT ISLAND MISC. SED. AUSABLE RIVER NEAR SPRINGBANK BAYFIELD RIVER NEAR VARNA MISC.SED. BEAR CREEK BELOW BRIGDEN MISC.SED. BEAVER RIVER NEAR CLARKSBURG MISC.SED. BIG OTTER CREEK NEAR MEAFORD MISC.SED. BIG OTTER CREEK NEAR CALTON SED.OPEN WAT. BLACK RIVER NEAR MARATHON MISC.SED. CATFISH CREEK NEAR SPARTA MISC.SED. CONESTOGO RIVER ABOVE DRAYTON MISC.SED. CREDIT RIVER AT TODMORDEN ETOBICOKE CREEK BELOW Q.E.W. MISC.SED. GANARASKA RIVER ABOVE DALE MISC.SED. GANARASKA RIVER ABOVE DALE MISC.SED. GGAVEL RIVER NEAR SEARCHHONT MISC.SED. HIGHLAND CREEK NEAR WEST HILL MISC.SED. KEMPTVILLE CREEK NEAR KEMPTVILLE MISC.SED.		11 12 13 14 15
02GBC07 02H0012 02BE002 02AE001 02HC013	360.00 232.00 1160.00 616.00 88.10	666	11 24 44 60 23	QR S QR SD QR S L QR S QR SD	SAA SAA SAA SAA	FAIRCHILD CREEK NEAR BRANTFORD MISC.SED. GANARASKA RIVER ABOVE DALE MISC.SED. GOULAIS RIVER NEAR SEARCHHONT MISC.SED. GRAVEL RIVER NEAR CAVERS MISC.SED. HIGHLAND CREEK NEAR WEST HILL MISC.SED.		16 17 18 19 20
02LA006 02GC002 02GC015 02BA003 02MB006	409.00 329.00 104.00 1320.00 0.00	9	12	QR S M QR SD QR S M QR S	SAA SAA SAA SAA SAA	KEMPTVILLE CREEK NEAR WEST HILL MISC.SED. KETTLE CREEK AT ST THOMAS MISC.SED. LITTLE CREEK AT ST THOMAS MISC.SED. LITTLE CRIVER NEAR COLDWELL MISC.SED. LITTLE PIC RIVER NEAR COLDWELL MISC.SED. LYN CREEK NEAR LYN MISC.SED. LYNDE CREEK NEAR WHITBY MISC.SED. MCGREGOR CREEK NEAR CHATHAM (SED.MAR-MAY) MOOSE RIVER ABOVE MOOSE RIVER MISC.SED. NANTICOKE CREEK AT NANTICOKE MISC.SED. NORTH THAMES RIVER NEAR THORNDALE MISC.SED. NORTH THAMES RIVER NEAR BAXTER SED.OPEN WAT. FARKHILL CREK AB. PARKHILL RESERVOIR MISC.SED. PIC RIVER NEAR MARATHON MISC.SED. PINE RIVER AT LURGAN HISC.SED. REDHILL CREEK AT HAMILTON MISC.SED. REDHILL CREEK AT HAMILTON MISC.SED. ROSCOM RIVER NEAR RUSCOM STATION MISC.SED. SOUTH MAITLAND R. AT SUMMERHILL SED.OPEN WAT. S. NATION R. NR PLANTAGENET SPRINGS (MAR-JUN) SPEED RIVER NEAR ARMSTRONG MILLS MISC.SED.		21 22 23 24 25
02HC018 02GE007 04LG004 02GC022 02GA010	106.00 202.00 60100.00 181.00 1030.00	G G	24 32 43 12 11	QR SD QR SDM QR NS L QR S QR S	SAA SAA SAA SAA	LYNDE CREEK NEAR WHITBY MISC.SED. MCGREGOR CREEK NEAR CHATHAM (SED.MAR-MAY) MOUSE RIVER ABOVE MOUSE RIVER MISC. SED. NANTICOKE CREEK AT NANTICOKE MISC.SED. NITH RIVER NEAR CANNING MISC.SED.		26 27 28 29 30
02GD015 02ED003 02FF008 02BE003 02FD001	1340.00 1180.00 110.00 4270.00 154.00	GG	31 14 32 61 33	QR SD QR S M QR S M QR S QR S	SAA SAA SAA SAA	NORTH THAMES RIVER NEAR THORNDALE MISC.SED. NOTTAWASAGA RIVER NEAR BAXTER SED.OPEN WAT. FARKHILL CRK AB. PARKHILL RESERVOIR MISC.SED. PIC RIVER NEAR MARATHON MISC.SED. PINE RIVER AT LURGAN HISC.SED.		31 32 33 34 35
02HA014 02GH002 02FE009 02LB005 02GA040	60.90 125.00 376.00 3810.00 167.00	6666	23 32 33 53 11	QR S M QR S QR SD QR S M QR S	SAA SAA SAA SAA SAA	REDHILL CREEK AT HAMILTON MISC.SED. RUSCOM RIVER NEAR RUSCOM STATION MISC.SED. SOUTH MAITLAND R. AT SUMMERHILL SED.GPEN WAT. S. MATION R. NR PLANTAGENET SPRINGS (MAR-JUN) SPEED RIVER NEAR ARMSTRONG MILLS MISC.SED.		36 37 38 39 40
02GG003 02FB007 02GD021 02HK004 02HA006	1160.00 181.00 149.00 12000.00 293.00	G	32 14 31 22 12	QR SD QR SD QR SD QR S M QR S	SAA SAA SAA SAA	SYDENHAM RIVER AT FLORENCE (SED.FEB-MAY) SYDENHAM RIVER NEAR OWEN SOUND MISC.SED. THAMES RIVER AT INNERKIP HISC.SED. TRENT RIVER AT GLEN ROSS MISC.SED. TWENTY HILE CREEK AT BALLS FALLS MISC.SED.		41 42 43 44 45
04DC001	50000.00	G	62	OR NS L	SAA	WINISK R. BELOW ASHEWEIG R. TRIBUTARY MISC. S		46

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST FOR

SCHEDULE A

FOR THE FISCAL YEAR: 87/88(FINAL)

APR 22 1987

FEDERAL 1 SEDIMENT PROGRAMS: OPERATED BY FEDERAL(WSC):

SUMMARY

WINNIPEG: REMOTE - WATER LEVEL = 0
- DISCHARGE = 0
- CONVENTIONAL - WATER LEVEL = 0
- DISCHARGE = 5
- CONVENTIONAL - WATER LEVEL = 0
- DISCHARGE = 41
- SUB-IOTAL - WATER LEVEL = 0
- DISCHARGE = 41
- DISCHARGE = 46
- TOTAL = 46

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST FOR SCHEDULE A

FOR THE FISCAL YEAR: 87/88(FINAL)

APR 22 1987

PROVINCIAL 2 SEDIMENT PROGRAMS: OPERATED BY FEDERAL(WSC): O.M.N.R.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO. DR.AREA DIST. RESP. GAUGE DATA FUND.CD. STATION NAME UNITS NO. 02HC025 303.00 G 23 QR S M SJAE HUMBER RIVER AT ELDER MILLS 1

SUMMARY

REMOTE - WATER LEVEL = DISCHARGE = CONVENTIONAL - WATER LEVEL = WINNIPEG: REMOTE 0 - DISCHARGE =
- WATER LEVEL =
- DISCHARGE = 0 0 SUB-TOTAL TOTAL GUELPH: - WATER LEVEL = 0 REMOTE - DISCHARGE = CONVENTIONAL - WATER LEVEL = - DISCHARGE = SUB-TOTAL - WATER LEVEL = 0 - DISCHARGE = ì TOTAL

APR 22 1987

CONTRIBUTED DATA: OPERATED BY FEDERAL(WSC); M.E.D.S./C.H.S.

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	EUND.CD.	STATION NAME	UNITS	NO.
02GH008 02GH007 02GH009 02GE002 02GH010	0.00 0.00 0.00 0.00 0.00	6	32 32 32 32 32	HR HR HR HR	D	RAT RAT RAT RAT RAT	DETROIT RIVER AT AMHERSTBURG DETROIT RIVER AT LASALLE LAKE ERIE AT BAR POINT LAKE ERIE AT ERIEAU LAKE ERIE AT KINGSVILLE		1 2 3 4 5
02HA017 02GC028 02GC027 02EU012 02FE012	0.00 0.00 0.00 0.00	G G	12 12 12 14 33	HR HR HR HR HR	DM D D	RAT RAT RAT RAT RAT	LAKE ERIE AT PORT COLBORNE LAKE ERIE AT PORT DOVER LAKE ERIE AT PORT STANLEY LAKE HURON AT COLLINGWOOD LAKE HURON AT GODERICH	* *	6 7 8 9 10
02CG002 02EA014 02CA006 02FA003 02HB017	0.00 0.00 0.00 0.00	6	42 45 44 33 23	HR HR HR HR	D D	RAT RAT RAT RAT RAT	LAKE ERIE AT PORT COLBORNE LAKE ERIE AT PORT DOVER LAKE ERIE AT PORT STANLEY LAKE HURON AT COLLINGWOOD LAKE HURON AT GODERICH LAKE HURON AT LITTLE CURRENT LAKE HURON AT PARRY SOUND LAKE HURON AT THESSALON LAKE HURON AT TOBERMORY LAKE ONTARIO AT BURLINGTON		11 12 13 14 15
02HD015 02HM008 02HA018 02HC048 02GH005	0.00 0.00 0.00 0.00	G G	24 51 12 23 32	HR HR HR HR	D D OM D DM	RAT RAT RAT RAT RAT	LAKE ONTARIO AT COBOURG LAKE ONTARIO AT KINGSTON LAKE ONTARIO AT PORT WELLER LAKE ONTARIO AT TORONTO LAKE ST.CLAIR AT BELLE RIVER		16 17 18 19 20
02GH006 02BF010 02BD004 02BA004 02AB018	0.00 0.00 0.00 0.00	G G	32 44 61 60 62	HR HR HR HR HR	D DM	RAT RAI RAI RAI RAI	LAKE ST.CLAIR AT TECUMSEH LAKE SUPERIOR AT GROS CAP LAKE SUPERIOR AT MICHIPOTEN HARBOUR LAKE SUPERIOR AT ROSSPORT LAKE SUPERIOR AT THUNDER BAY		21 22 23 24 25
02GG010 02GG011 02MB007 02MC022 02MB008	0.00 0.00 0.00 0.00	G G	32 32 51 53 51	HR HR HR HR		RAT RAT RAT RAT RAT	LAKE ONTARIO AT BURLINGTON LAKE ONTARIO AT COBOURG LAKE ONTARIO AT KINGSTON LAKE ONTARIO AT PORT WELLER LAKE ONTARIO AT TORONTO LAKE ST.CLAIR AT BELLE RIVER LAKE ST.CLAIR AT TECUMSEH LAKE SUPERIOR AT MICHIPOTEN HARBOUR LAKE SUPERIOR AT MICHIPOTEN HARBOUR LAKE SUPERIOR AT THUNDER BAY ST. CLAIR RIVER AT POINT EDWARD ST. CLAIR RIVER AT PORT LAMBTON ST. LAWRENCE RIVER AT BROCKVILLE ST. LAWRENCE R. BELOW CORNWALL CANAL ST. LAWRENCE R. AT IROQUOIS ISLAND (BE)		26 27 28 29 30
02MB009 02MC023 02BE011 02CA005	0.00 0.00 0.00	G	51 53 44 44	HR HR HR HR	H	RAT RAT RAT RAT	ST. LAWRENCE R. AT IROQUOIS ISLAND (BE) ST. LAWRENCE R. AT SUMMERSTOWN ST. MARYS R. AT S.S.MARIE (ABOVE) ST. MARYS R. AT S.S.MARIE (BELOW)		31 32 33 34

₩INNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	34
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	34
4		-	DISCHARGE	=	0
	TOTAL.			=	34

APR 22 1987

CONTRIBUTED DATA: OPERATED BY PROVINCE(ONTARIO HYDRO)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE 1	DATA	FUND.CD.	STATION NAME	UNIIS	NO.
04ME002 04ME004 04M0003 02AB012 02AB004	22900.00 23400.00 2540.00 174.00 3760.00	G G	80 80 82 83 83	QP QP HM QM QP		RBC RBC RBC RBC RBC	ABITIBI RIVER AT AMITIBI CANYON ABITIBI RIVER AT OTTER RAPIDS FREDERICK HOUSE RIVER AT NIGHTHAWK LAKE GREENWATER CREEK AT OUTLET OF GREENWATER LAKE KAMINISTIQUIA RIVER AT OUTLET OF DOG LAKE		1 23 4 5
02AB010 02AB013 04JD002 02AD007 04GA001	6710.00 526.00 4270.00 0.00 0.00	6 6	83 82 82 83	OP OM OM HR OR N	н	RBC RBC RBC RBC RBC	KAMINISTIQUIA RIVER AT KAKABEKA FALLS P.H. KASHABOWIE RIVER AT OUTLET OF KASHABOWIE LAKE KENDGAMI RIVER AT KENOGAMI DAM LAKE NIPIGON AT MACDIARMID LAKE ST JOSEPH OUTFLOW TO ALBANY RIVER		6 7 8 9
04GA004 04JD003 04JD001 02KE005 02JE021	0.00 0.00 0.00 8160.00 749.00	G G	83 81 82 81 82	HR N QR HM QP QM		RBC RBC RBC RBC RBC	ABITIBI RIVER AT ABITIBI CANYON ABITIBI RIVER AT OTTER RAPIDS FREDERICK HOUSE RIVER AT NIGHTHAWK LAKE GREENWATER CREEK AT OUTLET OF GREENWATER LAKE KAMINISTIQUIA RIVER AT OUTLET OF DOG LAKE KAMINISTIQUIA RIVER AT OUTLET OF KASHABOWIE LAKE KASHABOWIE RIVER AT OUTLET OF KASHABOWIE LAKE KENOGAMI RIVER AT KENOGAMI DAM LAKE MIPIGON AT MACDIARMID LAKE ST JOSEPH OUTFLOW TO ALBANY RIVER LAKE ST JOSEPH ABOVE RAT RAPIDS DAM LONG LAKE DIVERSION TO LAKE SUPERIOR LONG LAKE AT LONGLAC MADAWASKA RIVER AT STEWARTVILLE MATABITCHUAN RIVER AT RABBIT LAKE DAM		11 12 13 14 15
04LG003 02CF001 02CC007 02CC009 02CB002	34700.00 4040.00 6840.00 9010.00 2150.00	G	80 83 83 82	0P 0P 0P 0P HM	L	RBC RBC RBC RBC RBC	MATTAGAMI RIVER AT LITTLE LONG RAPIDS MISSISSAGI RIVER BELOW AUBREY FALLS MISSISSAGI RIVER AT RAYNER GENERATING STATION MISSISSAGI RIVER AT RED ROCK FALLS MISSISSAGI RIVER AT RED ROCK FALLS MISSISSAGI RIVER AT ROCKY ISLAND LAKE MOJIKIT LAKE RESERVOIR AT MOJIKIT LAKE MONTREAL RIVER AT LOWER NOTCH GENERATING STA. MIPIGON RIVER AT PINE PORTAGE OGOKI RIVER AT WABOOSE FALLS DAM OTTAWA RIVER AT WABOOSE FALLS DAM OTTAWA RIVER AT CHATS FALLS OTTAWA RIVER AT DES JOACHIMS OTTAWA RIVER AT LES JOACHIMS OTTAWA RIVER AT PEMBROKE		16 17 18 19 20
04GB003 02JD010 02AU008 02AD009 04GB001	0.00 6600.00 24600.00 0.00 13600.00	G	81 80 81 81 82	HR QP QP QR QR HR		RBC RBC RBC RBC RBC	MOJIKIT LAKE RESERVOIR AT MOJIKIT LAKE MONTREAL RIVER AT LOWER NOTCH GENERATING STA. NIPIGON RIVER AT PINE PORTAGE OGOKI RIVER DIVERSION TO LAKE NIPIGON OGOKI RIVER AT WABOOSE FALLS DAM		21 22 23 24 25
02KC012 02KF009 02KA002 02JE012 02KC013	0.00 89600.00 57500.00 47900.00 0.00	G G	81 81 81 81 82	HR QP QP QP HR	н	RBC RBC RBC RBC RBC	OTTAWA RIVER AT ARNPRIOR OTTAWA RIVER AT CHATS FALLS OTTAWA RIVER AT DES JOACHIMS OTTAWA RIVER AT LA CAVE RAPIDS OTTAWA RIVER AT PEMBROKE		26 27 28 29 30
02AB011 02DC003 02DC007 02DC010 02HK802	0.00 6660.00 1360.00 0.00 9090.00	G	83 80 82 82 22	QM QP QM HM QP		RBC RBC RBC RBC RBC	SHEBANDOWAN RIVER AT OUTLET OF SHEBANDOWAN L. STURGEON RIVER AT CRYSTAL FALLS TEMAGAMI RIVER AT CROSS LAKE DAM TEMAGAMI LAKE AT TEMAGAMI TRENT RIVER AT HEALEY FALLS (P.PCONTR.82) WABOOSE LAKE RESERVOIR AT WABOOSE DAM WANAPITEI LAKE AT BOWLANDS BAY		31 32 33 34 35
04GB002 02DA002	0.00 0.00	G G	33 82	HR HM		RBC RBC	WABOOSE LAKE RESERVOIR AT WABOOSE DAM WANAPITEI LAKE AI BOWLANDS BAY		36 37

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST FOR

SCHEDULE A

FOR THE FISCAL YEAR: 87/88(FINAL)

APR 22 1987

CONTRIBUTED DATA: OPERATED BY PROVINCE(ONTARIO HYDRO)

SUMMARY

WINNIPEG: REMOTE - WATER LEVEL = 0
- DISCHARGE = 0
- CONVENTIONAL - WATER LEVEL = 0
- DISCHARGE = 0
- SUB-TOTAL - WATER LEVEL = 0
- DISCHARGE = 0
- TOTAL = 0
- DISCHARGE = 1
- CONVENTIONAL - WATER LEVEL = 10
- DISCHARGE = 1
- DISCHARGE = 25
- SUB-TOTAL - WATER LEVEL = 11
- DISCHARGE = 26
- TOTAL = 37

APR 22 1987

CONTRIBUTED DATA: OPERATED BY PROVINCE(O.M.O.E.)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	FUND.CD.	STATION NAME	ETIMU	NO.
02ED100 02ED102 02ED103 02EC101	86.00 211.00 195.00 24.30	6	84 84 84	QR QR QR QR	н	RBD RBD RBD RBD	BEETON CREEK NEAR TOTTENHAM BOYNE RIVER AT EARL ROWE PARK PINE RIVER NEAR EVERETT UXBRIDGE BROOK AT UXBRIDGE		1 2 3 4

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	4
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	4
	TOTAL			=	4

APR 22 1987

CONTRIBUTED DATA: OPERATED BY PRIVATE AGENCY

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	EUND.CD.	STATION NAME	UNITS	NO.
04MC001 04MC002 04LE001 04LB001 02BD002	13300.00 9950.00 6760.00 10000.00 5130.00	G	90 90 96 90 97	QP QP QP QP		RDP RDP RDP RDP RDP	ABITIBI RIVER AT IROQUOIS FALLS ABITIBI RIVER AT IWIN FALLS KAPUSKASING RIVER AT KAPUSKASING MATTAGAMI RIVER AT SMOOTH ROCK FALLS MICHIPICOTEN RIVER AT HIGH FALLS	ENGLISH ENGLISH ENGLISH	1 2 3 4 5
02BE002 02EC003 02CE001 02CE004 02CF004	2880.00 5850.00 11400.00 6800.00 4190.00	G	97 13 93 98 98	QR QP QP QP QP		RDP RDP RDP RDP RDP	MONIREAL RIVER NEAR MONIREAL RIVER HARBOUR SEVERN RIVER AT SWIFT RAPIDS(CONTR.95) SPANISH RIVER AT ESPANOLA SPANISH RIVER AT HIGH FALLS VERMILION RIVER AT LORNE FALLS	ENGLISH ENGLISH ENGLISH ENGLISH ENGLISH	6 7 8 9

WINNIPEG:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	SUB-TOTAL	-	WATER LEVEL	=	000
		-	DISCHARGE	=	0
	TOTAL			=	0
GUELPH:	REMOTE	-	WATER LEVEL	=	0
		-	DISCHARGE	=	0
	CONVENTIONAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	10
	SUB-TOTAL	-	WATER LEVEL	=	0
		-	DISCHARGE	=	10
	TOTAL			=	10

APR 22 1987

CONTRIBUTED DATA: OPERATED BY FEDERAL(OTHER)

DATA IS FROM GUELPH STATIONS ONLY

STA.NO.	DR.AREA	DIST.	RESP.	GAUGE	DATA	EUND.CD.	STATION NAME	UNITS	Ю.
02GG012 02DD021 02GH012 02HA003 02HC002	579000.00 0.00 596000.00 686000.00 780000.00	666	78 45 78 78 77	Q HM Q QP QP		REO REO REO REO REO	LAKE HURON OUTFLOW TO ST.CLAIR RIVER LAKE NIPISSING AT ERENCH R.OUTLET(CONTR.72) LAKE ST.CLAIR OUTFLOW TO DETROIT RIVER NIAGARA RIVER AT QUEENSTON ST. LAWRENCE RIVER AT CORNWALL	ENGLISH ENGLISH	103345
02CA001 02EC016- 02HA019-	210000.00 0.00 0.00	9 9	76 13 73	QP QM QR		REO REO REO	SI MARYS RIVER AT SAULT STE MARIE TRENT CANAL LOCK 42 NEAR WASHAGO(CONTR.75) WELLAND CANAL DIVERSION FROM LAKE ERIE		6 7 8

REMOTE	-	WATER LEVEL	=	0
	-	DISCHARGE	=	0
CONVENTIONAL	-	WATER LEVEL	=	0
	-	DISCHARGE	=	0
SUB-TOTAL	-	WATER LEVEL	=	0
	-	DISCHARGE	=	0
TOTAL			=	0
REMOTE	-	WATER LEVEL	=	0
	-	DISCHARGE	=	0
CONVENTIONAL	-	WATER LEVEL	=	1
	-	DISCHARGE	=	7
SUB-TOTAL	-	WATER LEVEL	=	1
	-	DISCHARGE	=	7
TOTAL			=	8
	CONVENTIONAL SUB-TOTAL TOTAL REMOTE CONVENTIONAL SUB-TOTAL	CONVENTIONAL - SUB-TOTAL - TOTAL REMOTE - CONVENTIONAL - SUB-TOTAL -	CONVENTIONAL - DISCHARGE SUB-TOTAL - WATER LEVEL TOTAL - DISCHARGE TOTAL - WATER LEVEL EMOTE - DISCHARGE CONVENTIONAL - WATER LEVEL SUB-TOTAL - WATER LEVEL DISCHARGE SUB-TOTAL - WATER LEVEL DISCHARGE	CONVENTIONAL - DISCHARGE = SUB-TOTAL - WATER LEVEL = DISCHARGE =

			•

APPENDIX B

SCHEDULE 'D'

ANNUAL PAYMENT FOR

1987/88

This schedule provides a summary of the annual payment. The details of the calculations for operation and construction are available and have been jointly reviewed by officers of each party.

ANNUAL PAYMENT tables are provided separately for each of the three provincial agencies involved in financing the water quantity survey program.

A. ANNUAL PAYMENT for 1987/88 to be paid to Receiver General of Canada by Ontario Hydro.

۸.	MINIO	AL PAINENI	101 13077	OO LO DE	para to kec	6146	i denera	i di cai	iada by Oil	tal lo	nyuro.
						OF	ERATION	CONS	TRUCTION	_1	OTAL
	a)	tions (6		perated b	nstalla- y and 4 ter Survey t shared	\$	38,280	\$	NIL	\$	38,280
	b)	1986/87 a	ed Equipme of 2 exis installati s to be bi nd 1987/88 D/OH and 1	with I s	tation	\$	1,000		5,925 PAYMENT		6,925 45,205
В.	ANNII				paid to Onta	rio					
ь.	MINIO	AL PAIMENT	101 13017	00 10 06	para to onte		ERATION		TRUCTION		OTAL
	C4	61		-1 /5 cts	tions		6,770		NIL		
	cost	shared wi	water lev th OH).	ei (b sta	tions	•	6,770	\$			6,770
_							_		PAYMENT	_	6,770
C.	Mini	AL PAYMENT stry of the	for 1987/ Environm	88 to be	paid to Rece						
		•				<u>0P</u>	ERATION	CONS	TRUCTION		OTAL
	a)	Streamflow tions (38 17 station Survey of cost share station co	w and wate stations ns cost sh Canada, a ed with MN ost shared	r level i operated ared with nd 6 stat R, and 1 with MNR	nstalla- by and Water ions FED/PROV).	\$1	93,575	\$	24,700	\$ 2	18,275
	b) ·	Specialize and operations to the costs to the payments of 1988/89 wifeD/MOE ar	tion of 11 be billed over 1986/ ith 10 sta	new DCP' in three 87, 1987/ tions fun	s with equal 88 and ded	\$	3,800		15,800 PAYMENT		19,600 37,875
٥.	ANNII				paid to Rece	ive	r Genera			-	
٠.	Minis	stry of Nat	tural Reso	urces.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		ERATION		TRUCTION		OTAL
	a)	Streamflow		m lovel de	e+a11a_				11,050	_	31,335
	a,	tions (161 15 station Survey of shared wit shared wit cost share	stations is cost should be cost should be cost should be continued and the cost of the cos	operated ared with d 6 statio d 3 statio 1 FED/PRO	hy and	•0		•	11,030	•**	31,333
	b)	Sediment i	installation	ons (one : urvey of (tation Canada).	\$	5,400	\$	NIL	\$	5,400
	c)	Specialize 7 DCP's, 2	d Equipment cost sha	nt (operat red with (ion of OH).	\$	8,000	\$ ANNUAL	NIL PAYMENT		8,000 44,735

Director of Water Resources Branch Ministry of Environment A/Regional Director Inland Waters Directorate

(Signature)
Director of Conservation Authorities
and Water Management Branch
Ministry of Natural Resources

APPENDIX C

CHANGES TO NETWORK AND SCHEDULE 'A'

TABLE C.1 - Changes in Gauging Network, April 2, 1987 to April 1, 1988

TABLE C.2 - Changes between Schedule 'A' 87/88 and Schedule 'A' 88/89

TABLE C.1 CHANGES IN GAUGING NETWORK - APRIL 2. 1987 TO APRIL 1. 1988

(Ontario Region Only)

A.	HYDROMETRIC	STATIONS	ADDED	(WEB	Operated)
	一大大大大大大大大大大大	*****	! ******	****	*****

2.	02JD013 02HB024 03HB006	BAY LAKE NEAR LATCHEORD BLACK CREEK BELOW ACTON BOWMANUTLE CREEK AT BOWMANUTLE	HF QH QR	FED1 P1-MOE P1-MNR	MAY	1988 1987 1987
•	02HA010	-reactivated under provincial funding E.TRIF.PERCH LK.INLET #3 MR. CHALK F.	19	FED1		1987
	02GC031 02KF015	-reactivated with AECL funding DODD CREEK BELOW PAYNES MILLS GRAHAM CREEK AT NEPEAN (Apr.1-Dec15)	Q.F. Q.R.	P2-MNR P2-MNR	APR. OCT.	
7.	02KF016 02AD011	MISSISSIPPI R. BELOW MARELE LK. NAMEWAMINIKAN RIVER AT LONG RAPIDS	OF OH	F1-MNE P2-MNR	MAE. OCT.	1988
	02HA004	PERCH LK. INLET #1 NR. CHALK RIVER	QF.	FED1	. אטנ	
	02KA005	PERCH LK. INLET #2 NR. CHALK RIVER -reactivated with AECL funding	9.5	FED1	JUN.	
	02ED014 02LA018	PINE RIVER NEAR EVERETT - former1v 02ED103 Contributed-0M0E RIDEAU R. AT MERRICKVILLE(Apr.1-Dec.1	0E	P2-MOE/MNR FED1	APE. DEC.	
13. 14.	02EA005 02GD023 02KA009	SAUBLE RIVER ABOVE TARA THAMES RIVER NEAR TAVISTOCK TRIB. PERCH LK. INLET \$2 NR. CHALK R.	HR QR QR	P2-MNR P2-MOE FED1	. NOV. . NUL. . NUI.	1987 1987
		-reactivated with AECL funding				

B. HYDROMETRIC STATIONS DISCONTINUED (WRB Goerated)

1.	02MA003	CATARAGUI RIVER AT KINGSTON MILLS	QR	FED1	DEC.	1987
2.	02KA010	E.TRIB.PERCH LK.INLET #2 MR. CHALK R.	Q.F.	FED1	APR.	1988
3.	02HJ002	-AECL to operate OTONABEE RIVER AT LAKEFIELD	QR	FED1	APP.	1988
		PERCH LK. INLET #1 NR. CHALK R.	Ĉ.P.	FED1		1988
_	001/4005	-AECL to operate	0.5	777	4 E. E.	1005
٦.	01KA005	PERCH LK. INLET #2 NR. CHALK RAECL to operate	uk	FED1	APR.	1988
6.	02KA009	TRIB. PERCH LK. INLET #2 NR. CHALK R.	QR	FED1	APR.	1988
		-AECL to operate THREE MILE CREEK AT MOUNT HOPE	QR	EED1		1987
8.	02HA015	WELLAND RIVER NEAR MOUNT HOPE	QR	FED1	JUN.	1987

C. CHANGES IN FUNDING AND/OR CLASSIFICATION OF HYDROMETRIC STATIONS (WRB Open*d)

1. 02FE002 MAITLAND RIVER BELOW WINGHAM OR FF1-MNR APR. 1988 TO FED.-3

D. OTHER CHANGES IN THE HYDROMETRIC NETWORK

1.	02HC013	HIGHLAND CREEK NEAR WEST HILL OR FED.	-3 DEC.	1987
2.	02HJ001	-gauge relocated upstream JACKSON CREEK AT PETERBOROUGH QR P1-M -renamed from "Jacksons Creek at Peterborough	NR SEP.	1987
З.	02GH011	LITTLE RIVER AT WINDSOR QR P1-M		1988
4.	0 2JE011	-converted back to discharge data station. LAKE TIMISKAMING AT HAILEYBURY HR FED. -renamed from "Ottawa R. at Lake Timiskaming"	-1 AUG.	1987

TABLE C.1 (continued)

CHANGES IN GAUGING NETWORK - APRIL 2, 1987 TO APRIL 1, 1988

(Ontario Region Only)

E. CONTRIBUTED STATIONS (HYDROMETRIC) ADDED

-- NIL --

F. CONTRIBUTED STATIONS (HYDROMETRIC) DISCONTINUED

1. 02EC101 UXBRIDGE BROOK AT UXBRIDGE OR CONTR-MOE APR. 1988
2. 02ED103 PINE RIVER NEAR EVERETT OR CONTR-MOE APR. 1988
-to WRB operation as P2-MOE/MNR (02ED014)

1.	02ED100	BEETON CREEK NEAR TOTTENHAM	QR	CONTR-MOE APR. TO CONTR-MNP	1988
2.	02ED102	BOYNE RIVER AT EARL ROWE PARK	QR	CONTR-MOE APR. TO CONTR-MNR	1988

H. SEDIMENT STATIONS ADDED

1.	02ED005	MAD RIVER NEAR GLENCAIRN (MISC.)	FED1-SED	APR.	1987
2.	0200008	MISSISSAGI R. AT MISSISSAGI CHUTE (MISC.)	FED1-SED.	APR.	1987
3.	02KF006	MISSISSIPPI RIVER AT APPLETON (MISC.)	FED1-SED.	JAN.	1988
4 .	02HL001	MOIRA RIVER NEAR FOXBORO (MISC.)	FED1-SED.	JAN.	1988
5.	02HM007	NAPANEE RIVER AT CAMDEN EAST (MISC.)	FED1-SED.	JAN.	1988
6.	02MC001	RAISIN RIVER NEAR WILLIAMSTOWN (MISC.)	FED1-SED.	JAN.	1988
7	02HM003	SALMON RIVER NEAR SHANNONUTLIE (MISC.)	FFD -1-SFD	TAN	1988

I. SEDIMENT STATIONS DISCONTINUED

1. 04HA001 ALBANY RIVER NEAR HAT ISLAND (MISC.) FED.-1-SED. JAN. 1988

J. CHANGES TO FUNDING AND/OR CLASSIFICATION OF SEDIMENT STATIONS

-- NIL --

K. OTHER CHANGES IN THE SEDIMENT NETWORK

1.	02FF002	AUSABLE RIVER NEAR SPRINGBANK FED1-SED.	JAN.	1988
2.	02HB002	-converted from continuous to seasonal-open water CREDIT RIVER AT ERINDALE FED1-SED.	JAN.	1988
3.	02HC025	-converted from continuous to seasonal-open water HUMBER RIVER AT ELDER MILLS PROV-2-SED.	JAN.	1988
		-converted from continuous to seasonal-open water SOUTH MAITLAND RIVER AT SUMMERHILL FED1-SED.		
		-converted from seasonal-open water to seasonal-fresh	net	
J.	OTFRACA	SOUTH NATION R. NEAR PLANTAGENET SPRINGS FED1-SED.	JAN.	1988

-converted from seasonal-freshet to miscellaneous

TABLE C.2

CHANGES BETWEEN SCHEDULE A - 1987/1988 AND SCHEDULE A - 1988/1989 (Ontario Region Only)

FEDERAL CATEGORIES - HYDROMETRIC

A. FEDERAL 1: Net Change = -2

	0210013	BAY LAKE AT LATCHFORD	HR		APR.	
2.	02MA003	CATARAQUI RIVER AT KINGSTON MILLS	Ø.R	DISC.	DEC.	1987
3.	02JE011	LAKE TIMISKAMING AT HAILEYBURY			AUG.	1987
		-name change from 'Ottawa R. at Lk. Timi	skami	.na *		
4	02HJ002	OTONABEE RIVER AT LAKEFIELD	Q.P.	DISC.	APR.	1988
5.	02LA018	RIDEAU R. AT MERRICKVILLE (Apr.1-Dec.1)	HE	NEW	DEC.	1987
6.	02HA016	THREE MILE CREEK AT MOUNT HOPE	OR	DISC.	JUN.	1987
7.		WELLAND RIVER NEAR MOUNT HOPE		DIEC.	JUN.	1987

B. FEDERAL 3: Net Change = +1

1. 02FE002 MAITLAND RIVER BELOW WINGHAM QR FROM FP1-MNR APR. 1988

C. OTHER FEDERAL CATAGORIES: Net Change = 0

-- NIT --

FEDERAL-PROVINCIAL CATEGORIES - HYDROMETRIC

- A. FEBERAL-PROVINCIAL 1 OMNR: Net Change = -1
 - 1. 02FE002 MAITLAND RIVER BELOW WINGHAM OR TO FED.-3 APR. 1988
- B. OTHER FEDERAL-PROVINCIAL CATAGORIES: Net Change = 0

TABLE C.2 (continued)

CHANGES BETWEEN SCHEDULE A - 1987/1988 AND SCHEDULE A - 1988/1989 (Ontario Region Only)

PROVINCIAL CATEGORIES - HYDROMETRIC *********

A.	PROVINCIAL	1		OMOE:	Met	Срэпае	= +1
----	------------	---	--	-------	-----	--------	------

1. 02HB024 BLACK CREEK BELOW ACTON

OR NEW MAY 1987

B. PROVINCIAL I - OMNR: Net Change = +0

1. 02HD006 BOWMANVILLE CREEK AT BOWMANVILLE OR REACTIV. JUN. 1987 2. 02HJ001 JACKSON CREEK AT PETERBOROUGH OF --- SEP. 1987 -name changed from 'lacksons Creek...' 3. 02GH011 LITTLE RIVER AT WINDSOF

GF. JAN. 1988

-conversion back to discharge data station.
4. 02KF016 MISSISSIPFI RIVER PELOW MARBLE LAKE QR NEW MAR. 1988

C. OTHER PROMINCIAL I CATAGORIES: Net Change = 0

-- NII --

D. PROVINCIAL 2 - OMNR: Net Change = +4

1.	02GC031	DODD CREEK BELOW PAYMES MILLS	OR	NEW	APR. 1938
2.	02KF015	GRAHAM CREEK AT MEPEAN (Apr.1-Dec.15)	QR	NEW	OCT. 1987
3.	02AD011	NAMEWAMINIKAN RIVER AT LONG RAPIDS	QM	MEW	OCT. 1987
4.	02FA005	SAUBLE RIVER ABOVE TARA	HF	MEM	NOV. 1987

- E. PROVINCIAL 2 OMOE: Net Change = +1
 - 1. 02GD023 THAMES RIVER NEAR TAVISTOCK

OR NEW JUN. 1987

- E. PROVINCIAL 2 OMOE/OMNE: Net Change = +/-
 - 1. 02ED014 PINE RIVER MEAR SUBRETT OR EROM CONTR-MOE APR. 1988 -formerly station number 02ED102
- G. OTHER PROVINCIAL 2 CATAGORIES: Net Change = 0
 - -- WIT --

TABLE C.2 (continued)

CHANGES BETWEEN SCHEDULE A - 1987/1988 AND SCHEDULE A - 1988/1989 (Ontario Region Only)

CONTRIBUTED DATA CATEGORIES

A.	OPERATED	PY PROVINCE	(OMOE): 1	Yet Change = −4

1.	02ED100	BEETON CREEK NEAR TOTTENHAM	QR	TO CONTR-MAR	APR.	1988
2.	02ED102	BOYNE RIVER AT EARL ROWE PARK	0E	TO CONTR-MAR	APP.	1988
3.	02ED103	PINE RIVER MEAR EVERETT	OR	TO PO-MOE/MMR	APE.	1988
4.	03EC101	UXBRIDGE BROOK AT UXBRIDGE	0E	DISC.	APP.	1988

B. OPERATED BY PROVINCE (OMMR): Net Change = +2

1.	02ED100	BEETON CREEK NEAR TOTTENHAM	QR F	ROm	CONTR-MOE APR.1988	3
2.	02ED102	BOYNE RIVER AT EARL ROWE PARK	OR F	PEOM	CONTR-MOE APR.1988	8

C. OTHER CONTRIBUTED DATA CATAGORIES: Net Change = 0

-- Nil --

SEDIMENT DATA CATEGORIES

A. FEDERAL 1 - SEDIMENT: Net Change = +6

1.	04HA001 02FF002 02HB002	ALBANY RIVER MEAR HAT ISLAMD AUSABLE RIVER MEAR SPRINGBANK CREDIT RIVER AT ERINDALE	MISC. DISC. TO SEASONAL TO SEASONAL	JAN. JAN. JAN.	
5.	02ED005	MAD RIVER NEAR GLENCAIRN	MISC. NEW	APR.	1987
	02CC008	MISSISSAGI R. AT MISSISSAGI CHUTES	MISC. NEW	APR.	1987
	02KF006	MISSISSIPPI RIVER AT APPLETON	MISC. NEW	JAN.	1988
7.	02HL001	MOIRA RIVER NEAR EOXBORO	MISC. NEW	JAN.	1988
8.	02HM007	NAPANEE RIVER AT CAMDEN EAST	MISC. NEW	JAN.	
10.	02MC001	RAISIN RIVER NEAR WILLIAMSTOWN	MISC. NEW	. MAL	1988
	02HM003	SALMON RIVER NEAR SHANNONVILLE	MISC. NEW	. MAL	1988
	02FE009	SOUTH MAITLAND RIVER AT SUMMERHILL	TO SEAS-ERESHET	. MAL	1988
	02LB005	S. NATION R. NR. PLANTAGENET SPRINGS	TO MISC.	JAN.	1988

B. PROVINCIAL 2 - SEDIMENT - OMNR: Net Change = 0

1. 02HC025 HUMBER RIVER AT ELDER MILLS

TO SEASONAL JAN. 1988

APPENDIX D

DERIVATION OF ACTUAL COSTS 1976/88

TABLE D.1	-	Salaries and Operating & Maintenance (O&M) Costs for Hydrometric Network Operated by WRB, Ontario Region, 1987/88
TABLE D.2	-	Derivation of Actual Operating Costs for Stations Operated by WRB, Ontario Region, By Funding Classification, April 1, 1987 - March 31, 1988
TABLE D.3	-	Summary of Shareable Operating Costs by for Hydrometric Stations Operated by WRB, Ontario Region, 1987/88
TABLE D.4	-	Actual Expenditures - Sediment Program, 1987/88
TARLE D.5	_	Summary of Construction Program Costs 1987/88

TABLE D.1

SALARIES AND OPERATING & MAINTENANCE (O&M) COSTS FOR HYDROMETRIC NETWORK OPERATED BY WRB, ONTARIO REGION 1987/88

Salaries							
Hydrometric Supervisors Hydrometric Technicians Other - Students. part-time, field help, construction (minor maintenance) etc.							
Less Salary for Sediment Network			\$872,878 - 35,682				
Net Salaries for Hydrometric Network			\$837,196				
Operating & Maintenance (O&M)							
	Common	Conventional	Remote				
Transportation & Communications	\$127,256						
Professional & Special Services	17,233	\$ 14,167					
Rentals	14,988		\$114,107				
Purchased Repairs & Upkeep	50,135						
Utilities, Materials & Supplies	58,855	89,247	22,023				
EDP Shareable Costs $\frac{1}{2}$	21,583						
Repair & Replacement Costs for Current Meters ²	0						
Vehicle Depreciation	44,897						
Equipment Depreciation	17,998						
TOTAL	\$352,945	\$103,414	\$136,130				

NOTE: <u>1</u> Based on 1986/87 costs plus 3.969% (Government Price Index) (Ceiling costs as per National Coordinating Committee Meeting - February 6, 1985) Pages 71 and 72 of Compendium Report

² See page 77 of Compendium Report

TABLE D.2

DERIVATION OF ACTUAL OPERATING COSTS FOR STATIONS

OPERATED BY WRB, ONTARIO REGION, BY FUNDING CLASSIFICATION

APRIL 1, 1987 TO MARCH 31, 1988

	# Flow St	ations Operated	# W/T C+:	ations Operated		t Station Years	Tota	al Cost
lassification	Remote	Conventional	Remote	Conventional	Remote	Conventional	Remote	Conventiona:
		,	2					
ederal 1-4	17	96 <u>1</u>	12	14	17.25	96.5 6	\$134,757	\$ 350,127
ed-Prov 1 (MOE)	0	5. <u>3</u>	0	0	0	4.16	0	15,084
ed-Prov 1 (MNR)	0	8	0	0	0	8.00	0	29.008
ed-Prov 1 (MOE/MNR)	0	1,	0	0	0	1.00	0	3,626
ed-Prov 2 (OH)	1	3 <u>*</u>	0	0	1.00	3.00	7,812	10,878
ed-Prov 2 (MOE)	0	2	0	0	0	2.00	0	7,252
ed-Prov 2 (MNR)	0	6	0	1	0	6.50	0	23,569
ed-Prov 3 (MOE)	9	1	0	0	9.00	1.00	70,308	3,626
rov 1 (OH)	1	4_	0	1	1.00	4.50	7.812	16,317
rov 1 (MOE)	0	36 2	0	0,	0	34.91	0	126,584
rov 1 (MNR)	2	153 ²	0	3 <u>′</u>	2.00	149.79	15,624	543,139
rov 1 (MOE/MNR)	0	5	0	0	0	5.00	0	18,130
rov 1 (OH/MNR)	0	3,	0	0	0	3.00	0	10,878
rov 2 (MOE)	0	48	0	0,0	0	3.83	0	13,888
rov 2 (MNR)	0	62	0	110	0	4.83	0	17,514
rov 2 (MOE/MNR)	0	1	0	0	0	1.00	0	3,626
TOTALS	30	334	1	20	30.25	329.08	\$236,313	\$1,193,244

NOTES:

- 1 Includes 1 station with no data, 2 stations with 2 months, 3 stations with 3 months, 2 stations with 7 months and 4 stations with 10 months
- 2 Includes 1 stations with 6 months
- 3 Includes 1 station with 2 months
- Does not include 6 stations operated by Ontario Hydro on a cost share basis with Federal
- 5 Includes 1 station with 3 months, 1 station with 9 months and 1 station with 11 months
- Includes 1 station with 1 month, 1 station with 2 months, 2 stations with 3 months, 1 station with 5 months, 1 station with 6 months and 1 station with 9 months
- 7 Includes 1 station with 9 months
- 8 Includes 1 station with 10 months
- 9 Includes 1 station with 2 months and 1 station with 6 months
- 10 Includes 1 station with 4 months
- Weighting factors used in calculating equivalent station years of record
 - 1.00 12 month flow record
 - 0.50 12 month water level record

For less that 12 months, divide months of data by 12 and multiply by appropriate weighting factor

Unit Costs

Conv. = Sal + O&M $\frac{$837,196}{359.33}$ + $\frac{$352,945}{359.33}$ + $\frac{$103,414}{329.08}$

\$2.330 + \$982 + \$314 = \$3.626

Remote = Sal + O&M $\frac{$837,196}{359.33}$ + $\frac{$352,945}{359.33}$ + $\frac{$136,130}{30.25}$

\$2.330 + \$982 + \$4.500 = \$7.812

TABLE D.3
SUMMARY OF SHAREABLE OPERATING COSTS FOR HYDROMETRIC
STATIONS OPERATED BY WRB. ONTARTO REGION. 1987/88

	STATIONS OPERATED BY	WRB, ON'	TARIO RE	GION, 1987/	88	
		MNR	Equiv.	Stat-Yrs	Unit	MNR
Ministry of N	latural Resources	Share	Total	MNR Share	Cost	Cost
Conventional	Prov 1 (MNR)	100%	149.79	149.79	3,626	\$543,139
	Prov 1 (MOE/MNR)	50%	5.00	2.50	3,626	9,065
	Prov 1 (OH/MNR)	50%	3.00	1.50	3,626	
	Prov 2 (MNR)	100%	4.83	4.83	3,626	17,514
	Prov 2 (MOE/MNR)	50%	1.00	0.50	3,626	
	Fed/Prov 1 (MNR)	50%	8.00	4.00	3,626	
	Fed/Prov 1 (MOE/MNR)	25%	1.00		3,626	
	Fed/Prov 2 (MNR)	50%	6.50	3.25	3,626	
Remote	Prov 1 (MNR)	100%	2.00	2.00	7,812	
MNR TOTAL				168.62	00 P (0000 0000	\$619,788
		MOE	Equiv.	Stat-Yrs	Unit	MOE
Ministry of t	he Environment	Share	Total	MOE Share	Cost	Cost
Conventional	Prov 1 (MOE)	100%	34.91	34.91	3,626	\$126,584
	Prov 1 (MOE/MNR)	50%	5.00	2.50	3,626	
	Prov 2 (MOE)	100%	3.83	3. 83	3,626	
	Prov 2 (MOE/MNR)	50%	1.00	0.50	3,626	
	Fed/Prov 1 (MOE)	50%	4.16	2.08	3,626	
	Fed/Prov 1 (MOE/MNR)	25%	1.00	0.25	3,626	907
	Fed/Prov 2 (MOE)	50%	2.00	1.00	3,626	3,626
	Fed/Prov 3 (MOE)	50%	1.00	0.50	3,626	1,813
Remote	Fed/Prov 3 (MOE)	50%	9.00	4.50	3,626	35,154
MOE TOTAL				50.07		\$200,391
		OH	Equiv.	Stat-Yrs	Unit	ОН
Ontario Hydro		Share	Total	OH Share	Cost	Cost
Conventional	Prov 1 (OH)	100%	4.50	4.50	3,626	\$ 16,317
	Prov 1 (OH/MNR)	50%	3.00	1.50	3,626	
	Fed/Prov 2 (OH)	50%	3.00	1.50	3,626	5,439
Remote	Prov 1 (OH)	100%	1.00	1.00	7,812	
	Fed/Prov 2 (OH)	50%	1.00	0.50	7,812	3,906
OH TOTAL				9.00		\$ 38,913
PROVINCIAL TO	TAL			227.69		\$859,092
		FED	Faniv	Stat-Yrs	Unit	FED
Federal		Share	Total	FED Share	Cost	Cost
					,	
Conventional	Fed 1-4	100%	96.56	96.56	3,626	\$350,127
	Fed/Prov 1 (MOE)	50%	4.16	2.08	3,626	7,542
	Fed/Prov 1 (MNR)	50%	8.00	4.00	3,626	14,504
	Fed/Prov 1 (MOE/MNR)	50%	1.00	0.50	3,626	1,813
	Fed/Prov 2 (MOE)	50%	2.00	1.00	3,626	3,626
	Fed/Prov 2 (OH)	50%	3.00	1.50	3,626	5,439
	Fed/Prov 2 (MNR)	50%	6.50	3.25	3,626	
	Fed/Prov 3 (MOE)	50%	1.00	0.50	3,626	
Remote	Fed 1-4	100%	17.25	17.25	7,812	
	Fed/Prov 2 (OH)	50%	1.00	0.50	7,812	
	Fed/Prov 3 (MOE)	50%	9.00	4.50	7,812	35,154
FEDERAL TOTAL				131.64		\$570,465
TOTAL PROVINC	IAL AND FEDERAL			359.33		\$1,429,557

TABLE D.4
ACTUAL EXPENDITURES - SEDIMENT PROGRAM
1987/88

Tot	al Ontario Region Program	Federal	Provincial	Total
	Continuous Seasonal (Freshet-May) Miscellaneous TOTAL (Full time equivalents)	6 3 <u>39</u> <u>48</u> 9	1 0 0 1 1	7 3 <u>39</u> 49 10
a)	Salary	\$32,113.80 +	\$ 3,568.20 =	\$35,682.00
b)	Operation & Maintenance (O&M)			
	Transportation & Communications Professional & Special Services Purchase, Repair & Upkeep Utilities, Materials & Supplies Publications Temporary Help Services	\$ 138.60 3,423.50 22.50 22.50 2,365.00 1,478.00	\$ 15.40 692.50 226.20* 2.50 10.00	\$ 154.00 4,116.00 248.70 25.00 2,375.00 1,478.00
	Subtotal	\$ 7,450.10	\$ 946.60	\$ 8,396.70
	*Includes \$164.00 depreciation cos	st of Sediment	Sampler	
c)	Laboratory Costs (Provincial State	ion)		
	Humber River at Elder Mills	<pre>Cost/Sample</pre>	# Samples	Total Cost
	Bottom Withdrawal Filtration Dissolved Solids Total Provincial Laboratory (\$47.86 11.88 2.26 Costs	1 72 14	\$ 47.86 855.36 31.64 \$ 934.86
d)	Laboratory Costs (Federal Stations	3)		
	Ausable River near Springbank	<pre>Cost/Sample</pre>	# Samples	Total Cost
	Filtration Dissolved Solids Total Cost	\$11.88 2.26	69 10	\$ 819.72 22.60 \$ 842.32
	Big Creek near Walsingham			
	Filtration Total Cost	11.88	3	\$ 35.64 \$ 35.64

TABLE D.4 (continued)

Big Otter Creek near Calt	<u>on</u>		
Filtration Dissolved Solids Total Cost	11.88 2.26	42 9	\$ 498.96 20.34 \$ 519.30
Credit River at Erindale	<pre>Cost/Sample</pre>	# Samples	Total Cost
Filtration Dissolved Solids Total Cost	\$11.88 2.26	111 20	\$ 1,318.68 45.20 \$ 1,363.88
Nottawasaga River at Baxt	er		
Filtration Dissolved Solids Total Cost	11.88 2.26	38 9	\$ 451.44 20.34 \$ 471.78
South Maitland River at S	ummerhill		
Filtration Dissolved Solids Total Cost	11.88 2.26	14 7	\$ 166.31 15.82 \$ 182.14
South Nation River near P	lantagenet Springs		
Filtration Dissolved Solids Total Cost	11.88 2.26	24 6	\$ 285.12 13.56 \$ 298.68
Don River at Todmorden			
Filtration Dissolved Solids Total Cost	11.88 2.26	257 20	\$ 3,053.16 45.20 \$ 3,098.36
MacGregor Creek at Chatha	<u>m</u>		
Filtration Dissolved Solids Total Cost	11.88 2.26	10 8	\$ 118.80
Sydenham River at Florence	<u>e</u>		
Filtration Dissolved Solids Total Cost	11.88 2.26	10 10	\$ 118.80 22.60 \$ 141.40

TABLE D.4 (continued)

	Northern Miscellaneous Progra	<u>nm</u>		
	Filtration Dissolved Solids Total Cost	11.88 2.26	29 29	\$ 344.52 65.54 \$ 410.06
	Southern Miscellaneous Progra	m Cost/Sample	# Samples	Total Cost
	Bottom Withdrawal Filtration Dissolved Solids Total Cost	\$47.86 11.88 2.26	2 239 236	\$ 95.72 2,839.32 533.36 \$ 3,468.40
	Total Federal Laboratory	Costs		\$10,986.30
e)	Laboratory Costs (Projects)			
	NHRI Ottawa			
	Sieve Total Cost	17.46	1	\$ 17.46 \$ 17.46
	Total Project Laboratory	Costs		\$ 17.46
f)	Summary of Provincial Sedimer	nt Costs		
	Salary \$ 3,568.2 0&M 946.6 Laboratory 934.8 \$ 5,449.6	50 36		
g)	Summary of Federal Sediment (Costs		
	Salary \$32,113.8 O&M 7,450.1 Laboratory 10,986.3 \$50,550.2	LO 30		
h)	Total Sediment Program Costs	(Provincial and Fed	deral)	
	Salary \$35,682.0 0&M 8,396.7 Laboratory 11,921.1 \$55,999.8	70 <u>L6</u>		

TABLE D.5 SUMMARY OF CONSTRUCTION PROGRAM COSTS 1987/88

Direct Cost to Agencies

	No. of Projects		Federal		Provincial		Totals				
	F	F/P	P	Salaries O&M	Capital	Salaries O&M	Capital	Salaries	M&O	Capital	Total
New Stations	2	1	8	5,279,22 -	14,226.45	9,396.95 -	30,693.16	14,676.17	-	44,919.61	59,595.78
Relocations	2	-		2,047.45 -	8,174.66		-	2,047.45	-	8,174.66	10,222.11
Upgrading	-	1	5	504.80 -	1,664.61	5,907.29 -	16,522.63	6,412.09	-	18,187.24	24,599.33
Major Maintenance	=	-	_	••• ••	_		_		_		-
TOTAL	4	2	13	7,831.47 -	24,065.72	15,304.24 -	47,215.79	23,135.71	-	71,281.51	94,417.22

- NOTE: Above costs include:
 1) Field investigations
 2) Only expenditures incurred by WRB
 3) Includes LaVase River upgrade

Other Costs

			Tot	als	
		Salaries	M30	Capital	Total
Minor Maintenance (Salaries and O&M included in station uni Field Investigations (Salaries and O&M included in station Instrumentation (Basic Recorder) Tides and Water Level Stations			1,047.85	6,303.54 - 27,695.44 5,496.82	3,517.62 27,695.44
·	TOTALS (other costs) TOTALS CONSTRUCTION	22,846.82	33,521.53	39,495.80	95,864.15
	PROGRAM COST	45,982.53	33,521.53	110,777.31	190,281.37

APPENDIX E

ONTARIO REGION TABLES

(not including portion of the network operated in N.W. Ontario by WRB, Manitoba)

TABLE E.1	-	Water Quantity Surveys Gauging Station Data for 1987/88
TABLE E.2	-	Water Quantity Surveys Comparative Gauging Station Data, April 1, 1975 to April 1, 1987
TABLE E.3	-	Water Quantity Surveys Detailed Gauging Station Data, 1987/88
TABLE E.4	-	Water Quantity Surveys Total Program Costs and Shareable Costs for 1987/88
TABLE E.5	-	Water Quantity Surveys Summary of Schedule 'D'/'F', 1987/88
TABLE E.6	-	Water Quantity Surveys Comparison - Scheduled and Actual Costs for 1987/88



REGION:

Ontario

NOTE:

All tables do not include data for the Northwest Ontario Network operated by Manitoba District

TABLE E.1

WATER QUANTITY SURVEYS

GAUGING STATION DATA FOR 1987/88^b

Number	of Stations $\frac{1}{3}$	4	April 2	Changes During $\frac{2}{2}$, 1987 to April 1, 1988		Station Designati	on April l,	1987
April 1, 1986	April 1, 1987	Change	Added	Discontinued	Federal	Federal/Provincial	Provincial	Contributed
478	474 ⁵	-4	15	8	$124^{\frac{4}{5}}_{(46)}^{\frac{5}{2}}$	43 ^{<u>3</u>} (0)	214 (1)	93 (0)

TABLE E.2 WATER QUANTITY SURVEYS

COMPARATIVE GAUGING STATION DATA, APRIL 1, 1975 TO APRIL 1, 1987

Federal Stations Federal/Provincial Stations					ations3	Provinc	ial Statio	ns	Tota	1 Stations	
Apr 1/75	Apr 1/87	Chge	Apr 1/75	Apr 1/87	Chge	Apr 1/75	Apr 1/87	Chge	Apr 1/75	Apr 1/87	Chge
142	124 ⁴ 5	-18	48	43	-5	152	214	+62	342	381	+39

TABLE E.3 WATER QUANTITY SURVEYS

DETAILED GAUGING STATION DATA 1987/886

F-1	<u>F-2</u>	F-3	F-4	Total F	F/P-1	F/P-2	F/P-3	Total F/P	<u>P-1</u>	P-2	Total P	Contributed	Total-All
55 ⁴ ⁵ (46)	0	49	20	124 (46)	14	19	10	43 (0)		8 (1)	214 (1)	93 (0)	474 (47)

NOTES:

- Includes contributed data stations
- Includes 6 stations operated by OH for Federal use
- Stations operated by Water Resources Branch
 Includes 6 stations operated by OH for Feder
 Includes 8 stations operated in Quebec for I Includes 8 stations operated in Quebec for DPW
- One station operated in Quebec but erroneously omitted from Schedule 'A'
- Numbers in parentheses indicate sediment stations

			*			

TABLE E.4 WATER QUANTITY SURVEYS TOTAL PROGRAM COSTS & SHAREABLE COSTS FOR 1987/88 (x \$1,000)

NU-EN-ALD-MIN-MIN-MIN-MIN-MIN-MIN-MIN-MIN-MIN-MIN	Total	Program Co	sts				Sì	nareable Costs			
P/Years	Salaries	Operating	Capital	Total	P/Years	<u>Salaries</u>	Operating	Construction	Total	F Share	P Share
47.1	1,704.6	776.9	344.5	2,826.0	28.0	948.6	619.8	127.0	1,695.4	739.5	955.9

TABLE E.5 WATER QUANTITY SURVEYS SUMMARY OF SCHEDULES 'D'/'F' - 1987/88 (Dollars)

Streamflow	and Water level	Sec	diment	Total
<u>Operation</u>	Construction	Operation	Construction	
\$871,710	\$157,475	\$5,400	0	\$1,034,585

TABLE E.6 WATER QUANTITY SURVEYS COMPARISON - SCHEDULED & ACTUAL COSTS FOR 1987/88 (Dollars)

Salary &	Operations	Const	ruction	To	otal ,	Sch. D/F Minus	Annual Payment	Received Minus
Sch. D/F	Actual Cost	Sch. D/F	Actual Cost	Sch. D/F	Actual Cost ¹	Actual	Received	Actual
\$877,110	\$878,305	\$157,475	\$84,318	\$1,034,585	\$962,623	\$71,962	\$957,729 ¹	-\$4,894

NOTES: 1 Includes \$6,770 paid by WRB to OH for operation of 6 stations (included in Schedule 'D')

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APPENDIX F

NATIONAL REPORT TABLES FOR THE PROVINCE OF ONTARIO

TABLE	F.1	-	Water Quantity Surveys Gauging Station Data for 1987/88
TABLE	F.2	-	Water Quantity Surveys Comparative Gauging Station Data, April 1, 1975 to April 1, 1987
TABLE	F.3	-	Water Quantity Surveys Detailed Gauging Station Data, 1987/88
TABLE	F.4	-	Water Quantity Surveys Total Program Costs and Shareable Costs for 1987/88
TABLE	F.5	-	Water Quantity Surveys Summary of Schedule 'D'/'F', 1987/88
TABLE	F.6	-	Water Quantity Surveys Comparison - Scheduled and Actual

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REGION:

Ontario

NOTE:

All tables include data for the Northwest Ontario Network operated by Manitoba District

TABLE F.1 WATER QUANTITY SURVEYS GAUGING STATION DATA FOR 1987/88

Number	of Stations $\frac{1}{3}$	4	April 2	Changes During $\frac{2}{2}$		Station Designati	on April 1,	1987
April 1, 1986	April 1, 1987	Change	Added	Discontinued	Federal	Federal/Provincial	Provincial	Contributed
527	521	-6	15	8	171 ⁴ ⁵ (46)	43 ^{<u>3</u>} (0)	214 (1)	128 (0)

TABLE F.2 WATER QUANTITY SURVEYS COMPARATIVE GAUGING STATION DATA, APRIL 1, 1975 TO APRIL 1, 1987

Feder	al Station	13	Federal/Pr	rovincial St	ations3	Provinc	ial Statio	ns	Tota	1 Stations	
Apr 1/75	Apr 1/87	Chqe	Apr 1/75	Apr 1/87	Chge	Apr 1/75	Apr 1/87	Chqe	Apr 1/75	Apr 1/87	Chge
202	171 ⁴ 5	-31	57	43	-14	155	214	+59	414	428	+14

TABLE F.3 WATER QUANTITY SURVEYS DETAILED GAUGING STATION DATA 1987/88

F-1	<u>F-2</u>	<u>F-3</u>	<u>F-4</u>	Total F	F/P-1	F/P-2	F/P-3	Total F/P	<u>P-1</u>	<u>P-2</u>	Total P	Contributed	Total-All
73 ⁴ ⁵ (46)	1	74	23	171 (46)	14	19	10	43 (0)	206	8 (1)	214 (1)	128 (0)	556 (47)

NOTES:

- 1 Includes contributed data stations
- 2 Stations operated by Water Resources Branch
 - Includes 6 stations operated by OH for Federal use
- 4 Includes 8 stations operated in Quebec for DPW
- 5 One station operated in Quebec but erroneously omitted from Schedule 'A'
- 6 Numbers in parentheses indicate sediment stations

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TABLE F.4 WATER QUANTITY SURVEYS TOTAL PROGRAM COSTS & SHAREABLE COSTS FOR 1987/88 (x \$1,000)

***************************************	Total	Program Cos	sts				Sì	nareable Costs			-
P/Years	Salaries	Operating	Capital	Total	P/Years	Salaries	Operating	Construction	Total	F Share	P Share
50.1	1,809.2	838.7	345.5	2,993.4	31.2	1,046.7	686.4	139.6	1,872.7	916.8	955.9

TABLE F.5 WATER QUANTITY SURVEYS SUMMARY OF SCHEDULES 'D'/'F' - 1987/88 (Dollars)

Streamflow a	and Water level	Sec	diment	Total
<u>Operation</u>	Construction	Operation	Construction	***************************************
\$871,710	\$157,475	\$5,400	0	\$1,034,585

TABLE F.6 WATER QUANTITY SURVEYS COMPARISON - SCHEDULED & ACTUAL COSTS FOR 1987/88 (Dollars)

Salary &	Operations	Const	ruction	To	otal ,	Sch. D/F Minus	Annual Payment	Received Minus
Sch. D/F	Actual Cost	Sch. D/F	Actual Cost	Sch. D/F	Actual Cost ¹	Actual	Received	Actual
\$877,110	\$878,305	\$157,475	\$84,318	\$1,034,585	\$962,623	\$71,962	\$957,729 ¹	-\$4,894

NOTES: 1 Includes \$6,770 paid by WRB to OH for operation of 6 stations (included in Schedule 'D')

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Agr-ONT-10 Author: WSC/WRB - Guelph Title: CANADA/ONTARIO COST SHARING AGRMT. FOR WATER QUANTITY SURVEYS - ANN. REPT. 87/88 DATE BORROWER'S NAME Borrowed Ret'd

