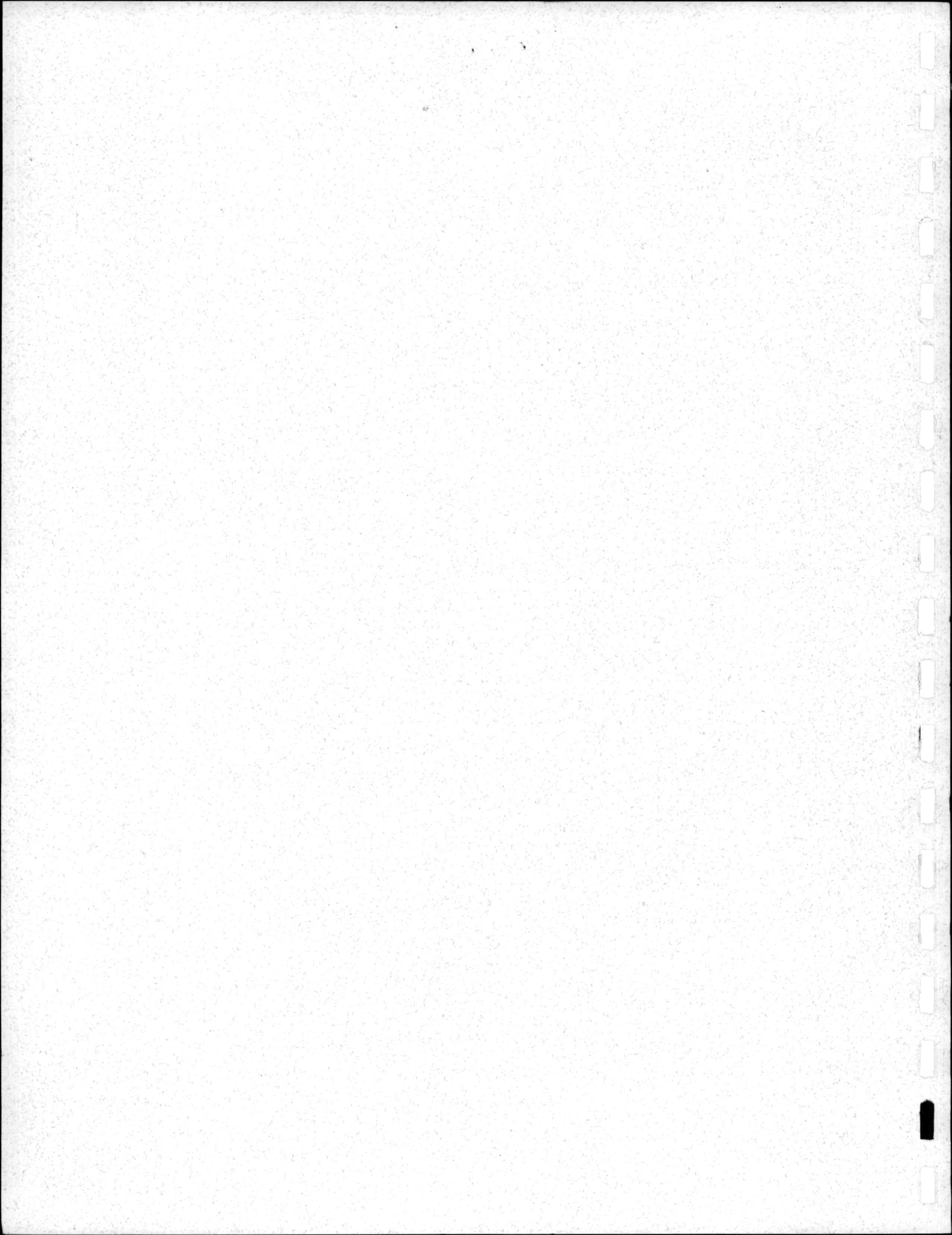


CANADA/ONTARIO
COST SHARING AGREEMENT
FOR
WATER QUANTITY SURVEYS

ANNUAL REPORT
1989/90

JANUARY, 1991



TO Ministry of Environment - Dr J S Ashman
Ministry of Natural Resources - Mr M G Lewis
Administrators for Ontario

Environment Canada - 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 1989/1990

Province of Ontario

Government of Canada



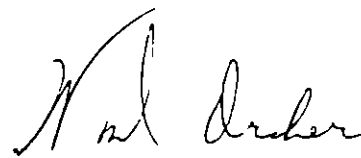
R Fox
Ontario Ministry of
Natural Resources



L J Kamp
Environment Canada



L A Logan
Ontario Ministry of
the Environment



W M Archer
Environment Canada

Ontario Hydro



R P Metcalfe
Ontario Hydro

January 1991



**CANADA/ONTARIO
COST SHARING AGREEMENT
FOR
WATER QUANTITY SURVEYS**

**ANNUAL REPORT
1989/1990**

JANUARY 1991

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EXECUTIVE SUMMARY

This is the fifteenth 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. A meeting with the Administrators was held on January 9, 1990, to discuss the Ontario Ministry of Natural Resources (MNR) network and the possibility of reductions

Effective April 1, 1989, the Ontario network, excluding 126 contributed data stations, consisted of 461 hydrometric stations. Of this number, 407 were operated by the Water Resources Branch (WRB) in Guelph, 48 were operated by the Manitoba District of the Water Resources Branch and 6 were operated by Ontario Hydro. The sediment network consisted of 80 continuous, seasonal and miscellaneous stations operated by Water Resources Branch, Guelph

During 1989/1990 a total of 10 new, reactivated or transferred hydrometric stations were added to the network and 1 station was discontinued. A total of 48 new miscellaneous sediment stations were added and 1 miscellaneous station was discontinued. The WRB construction crew had another busy season as 8 new hydrometric stations were constructed and 3 relocations were completed

For the 1989/1990 reporting period, WRB Ontario Region responded to several hundred requests for data, advice and information related to the hydrometric

and sediment networks. Data products were supplied to clients in various formats and using several different media. CD-ROM technology continued to be used by WRB for accessing historical data and answering data requests. Compact disks were provided to the provincial partners with historical data up to and including 1988 data.

Low flows were recorded in some streams in Southern Ontario in ranges that were not observed since 1916. An intense rainfall even occurred on July 19 and 20 in the Harrow area and there were several requests for hourly data from stations in the area. Three major storms passed through Southern Ontario in the winter and record high measurements were taken at some stations.

The unit cost of operating a station during 1989/1990 was \$4,091 per station-year for conventional stations and \$9,532 per station-year for remote stations. These costs represent an increase of 4.2% over 1988/1989 for conventional stations and 11.6% for remote stations. The total shareable portion of the program, including costs for the network in Northwest Ontario, was \$2,240,100 of which the Provincial share was \$1,099,800. The three provincial agencies shared the actual cost as follows:

Ontario Ministry of Natural Resources	\$ 797,479
Ontario Ministry of Environment	256,699
Ontario Hydro	<u>45,604</u>
Total	<u><u>\$1,099,772</u></u>

The Water Resources Branch paid Ontario Hydro \$7,450 for the operation of six Federal/Provincial stations.

Project 2000, a plan for the systematic modernization of the water quantity data collection program by the year 2000, was actively supported in the Region through assignment of staff to task groups and equipment testing. The Ontario Region submitted a proposal to have a P2000 pilot area in its Region.

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1 0 INTRODUCTION

This is the fifteenth 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 these networks were established by a Memorandum of Agreement between Canada and Ontario in 1975. A sample copy of the Agreement 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, 1989/1990, 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 the three provincial agencies to Environment Canada and by Environment Canada to Ontario Hydro.

The water quantity survey network in operation at March 31, 1975 was reviewed to determine the division of responsibility between the Federal and Ontario governments. Each station was designated either Federal, Federal/Provincial, or Provincial. The designation not only indicated 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 "Federal/Provincial" The province pays 100% of the specified costs of construction and operation of stations designated "Provincial" and 50% of the specified costs of operation and construction of stations designated "Federal/Provincial" The basic water level recording equipment for all stations is paid for by Water Resources Branch, Environment Canada, as the operating party, while any specialized equipment is funded by the party or parties requiring the equipment and servicing

Three provincial agencies, Ministry of Natural Resources (MNR), Ministry of Environment (MOE), and Ontario Hydro (OH), and one federal agency, Environment Canada, fund most of the construction and operation of the network and are members of the Coordinating Committee The provincial members sponsor some stations that are funded by other provincial interests, such as Conservation Authorities, Environment Canada, as the operating party, also receives funds directly from some other federal agencies for stations that are required for support of their programs

In 1977 a set of national guidelines were developed for designating stations in the above categories In 1982/1983, 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 reports

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 1989/1990, included only Federal stations. Tables in Appendices E and F provide data for the province and for the Ontario network operated from the Water Resources Branch regional office in Guelph.

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 1989/1990, and gives highlights on construction and operation of the network over the past year. The section concludes with a summary of network evaluation/planning. Section 4 highlights activities related to services and products and Section 5 provides information on network costs and the shareable portion for each party. Section 6 briefly identifies some activities and issues that will be particularly significant in the future.

2 0 COMMITTEE ACTIVITIES

Members of the Coordinating Committee during 1989/1990 were

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

The Committee held meetings on April 14, 1989, July 13, 1989, and January 11, 1990. In addition, a special meeting of Administrators/Coordinators was held on January 9, 1990. Highlights of each meeting were as follows

Meeting No 28 -- April 14, 1989

- Mr Gryniewski announced that Mr Rob Fox would be his replacement as the MNR member on the Coordinating Committee
- MNR advised that their network was being reviewed due to changes in policy with respect to the redistribution of funding of stations to the primary beneficiary. Stations selected from the MNR network would be reviewed by the Conservation Authorities for operation or funding
- The status of Schedule D for 1989/90 was reviewed and approved for transmittal to the Administrators for signature

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- The questionnaire to assist Mr D Kimmett, WRB Director, to respond to the Water Advisory Committee (WAC) of Canadian Council of Resources & Environment Ministers (CCREM) on the adequacy of the hydrometric network and Cost Share Agreements was discussed DOE was to formulate a Committee response using input from each of the members

 - NEPS tabled its report "Plan to Improve Hydrometric Network for Estimating Hydrologic Characteristics in Ontario" which recommended installation of three new stations on the Pukaskwa River, Chapleau River and Attwood River to improve the adequacy of the network for estimating hydrologic characteristics in Northern Ontario

 - WRB demonstrated the new CD-ROM (Compact Disk - Read Only Memory) reader and the optical disk which contained the daily water level and streamflow data for all of Canada

Meeting No 29 -- July 13, 1989

- The proposed construction program for 1990/1991 was discussed Accurate projections are required so that Environment Canada can build these items into their Main Estimates in August and receive adequate Third Party funding in the following year

- As a result of the NEPS recommendation for new stations in Northern Ontario, DOE noted that they would be constructing a new station on Pukaskwa River in 1989/1990 and on Chapleau River in 1990/1991 (if funds were available)

- MNR reported that a Streamgauge Network Committee had been formed to undergo the review of the MNR network. The target date to finalize the review by April 1, 1990 would possibly not be met because MNR would have to deal with both the MNR regions and also the 38 local Conservation Authorities.
- Mr. D. Kimmett, Director WRB, reviewed the status of modernization (Project 2000) within the WRB for the Committee members. MNR requested that they would like to see the "Historical Streamflow Summary" publication continued as they find it most useful.
- The Committee agreed that there should be a special edition for the annual cost share project to mark the 15th anniversary of the Agreement.
- Mr. Kimmett distributed the final version of the report "The Adequacy of Hydrometric Networks in Canada to Meet Future Needs" dated July 14, 1989 to the WAC/CCREM. The key issue raised in the report was the identification of network gaps and deficiencies in all regions of Canada, most particularly in the North, for small watersheds and in the coverage of regional hydrology stations.

Special Meeting of Administrators/Coordinating Committee -- January 9, 1990

- MOE advised that Mr. Jim Bishop was no longer the MOE Administrator and that no replacement had as yet been selected.
- The main purpose of this meeting was to discuss the MNR network review status.

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- MNR explained that the present MNR network review was due to the lack of funding available and changes in program policy to shift the responsibility for the funding of the station's operation to the prime user of the data. They hired a consultant to review the MNR and Conservation Authorities present network and make recommendations.
 - MNR outlined the consultant's report and the details of the criteria whereby MNR would continue to fund certain stations. Responsibility for 79 stations in the present MNR network would be turned over to the Conservation Authorities and other parties if they require the stations.
 - All agencies were requested to provide comments on the consultant's report to MNR by January 23, 1990.
 - MNR advised that they would be holding approximately 4 regional meetings to discuss the MNR network review with the various Conservation Authorities and MNR Regions starting about mid-March and to be finished by September 1, 1990.

Meeting No 30 -- January 11, 1990

- MNR updated members on the current status of the MNR network review. There were 61 stations, plus 16.5 stations presently operated by WRB and billed directly to Conservation Authorities, plus 4 proposed new stations to be constructed in 1990/1991 (total of 81.5) which are candidates to have funding responsibilities reassigned. The members noted that, if agencies of clients are interested in any one of these stations, they have the

options to operate the station themselves, have WRB operate it and pay the costs as per the Cost Share Agreement, or contract out the operations. If no party assumes responsibility for the station, it will be discontinued.

- The proposed agenda for the National Coordinator's meeting January 16, 1990 in Ottawa was reviewed.

- Schedule "A" changes for 1990/1991 were discussed.

- The proposed addition of 48 miscellaneous sediment stations to the Federal Sediment Network was reviewed and members were invited to provide comments to DOE.

- Provincial members were briefed on the current status of the WRB Modernization Project 2000 and the Direct Readout Ground Stations. The members were unanimously in support of Project 2000 and the Pilot Project submission proposal from the Ontario Region. MOE expressed a continuing interest in the development of a water quality sensor to attach to the new EDAS units.

3 0 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. It should be noted that the total number of stations on April 1, 1975, was 414 which has increased to 461 as of April 1, 1989. Of the 461 stations, 407 were operated by the Water Resources Branch in Guelph, 48 were operated by the Manitoba District of the Branch and 6 were operated by Ontario Hydro. During 1989/1990, the fifteenth year of the Cost Sharing Agreement, the network reached a new maximum of 461 stations.

A number of agencies, like Ontario Hydro and 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 126 as of April 1, 1989. 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 587 as of April 1, 1989.

Over the fifteen year period of the Agreement, the hydrometric network has expanded to meet new data needs as well as undergoing reductions because of redundant stations and fiscal restraints. These changes are represented by the following summary statistics over the fifteen year period:

Stations added	- 110
Stations added and later discontinued	- 34
Stations discontinued	- 149
Total station changes	- <u>293</u>

HISTORY OF ACTIVE HYDROMETRIC STATIONS OPERATED UNDER THE CANADA-ONTARIO COST SHARE AGREEMENT (all Ontario) SINCE 1975

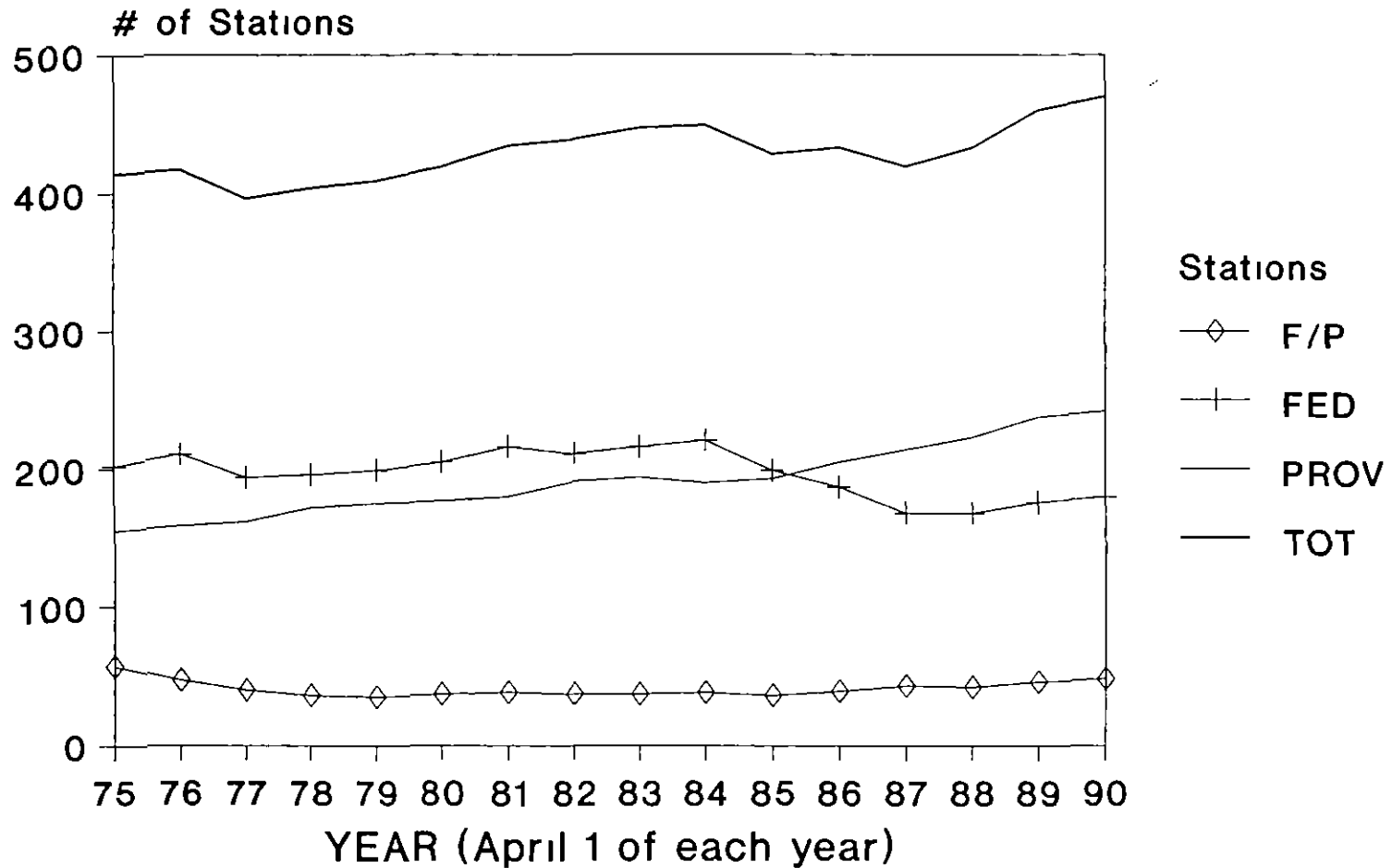


Figure 1

In 1989/1990 WRB continued to add seasonal and miscellaneous stations to the sediment network. This was done again 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, and to provide additional information for water quality purposes. As of April 1, 1989 there were 80 continuous, seasonal and miscellaneous stations. All were operated by WRB, Ontario Region.

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 1989/1990

During 1989/1990, 10 hydrometric stations were added and 1 discontinued in the province. Changes to the network operated by WRB Ontario are shown in Tables C 1 and C 2.

A number of changes were also made to the sediment network, all involving Federal Stations. Forty-eight (48) new miscellaneous stations were added and one miscellaneous station was discontinued. The net increase in sediment stations was 47. Annual sediment network proposals are forwarded to major clients for their input. The additional sediment stations include an increase in stations on the Great Lakes Tributaries to assist in the interpretation of pollutant loadings to the Great Lakes System.

3 3 Network Construction and Maintenance

The WRB, Ontario Region Construction Section completed another busy season and some assistance was solicited from Hydrometric field staff to complete maintenance programs. Completed projects included 8 new stations, 3 relocations, 3 artificial controls, 7 shelter upgrades and 4 cableway upgrades. Also, 39 minor maintenance projects were included in the program. Categories of construction projects include

a) Field Investigations

Included in this category were

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

During the year, 34 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

<u>New or Relocated Stations</u>	<u>Classification</u>
Nottawasaga River at Hockley (New)	P2-MNR
Black Ash Creek at Collingwood (New)	FP1-MOE
Bay Lake at Latchford (Relocation)	FED-1
Wawa Creek at Wawa (New)	P2-MOE
Pukaskwa River at Pukaskwa National Park (New)	FED-4
Whitson River at Val Caron (Relocation)	MNR
Tay River below Bobs Lake (New)	FED-1
Big Forks Creek near Wainfleet (New)	P2-MNR
Sandusk Creek near Selkirk (New)	FP1-MOE
Sandusk Creek near Hagersville (New)	P1-MOE
Duffins Creek at Ajax (Relocated)	FED-3

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 (13) 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

Details of the 1989/1990 Construction program are provided in the Annual Construction Report 1989/1990 which is available from the WRB office in Guelph

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

During the year 388 0 equivalent station years of data were collected by the Ontario Region, this is an increase of 17 5 units over 1988/1989. Equivalent station years take into account the type of station (water level or discharge), seasonal operation, record loss, startup of new stations and discontinued stations during the year.

Field staff conducted a total of 2,822 discharge measurements and made an additional 1,798 station visits during the reporting period. Many of the measurements and visits were made to stations with unstable controls. Of particular note are the six Soil and Water Environmental Enhancement Program (SWEEP) stations which required an above normal number of visits and measurements because of channel conditions and highly variable flows that are event related. WRB, Agriculture Canada, MOE and Consultants reviewed the data and operational problems involved with the six SWEEP stations. A report on the stations was prepared and distributed to the agencies and consultants involved in the pilot watershed studies.

The most unusual streamflow conditions were the low flows that were recorded during July, August, and September in Southern Ontario. Below normal precipi-

tation, caused flows in many streams with long term records to experience flows in ranges that have not been observed since 1916. For example, the Waterloo Region reported its driest summer since records were started in 1916.

In July, August and September 72.8 mm of rain fell. The previous record was 73.1 mm in the same three months of 1916. The normal rainfall is 233 mm for this three month period. Staff were able to take many measurements to update rating curves at these lower flows.

Three major storms passed through the southern part of the region in January, February and March of 1990 and WRB staff obtained new records for high-water discharge measurements. The three events received excellent coverage by field staff. The addition of the Total Aviation Briefing System (TABS) to the WRB greatly improved the monitoring and tracking of storms and the dispatching of field staff to obtain high water discharge measurements.

WRB gathered and processed data on flooding caused by the intense rainfall on July 19-20 in the Amherstburg-Leamington area (Harrow storm) of Southwestern Ontario. WRB operates seven hydrometric stations in the area affected by the storm. At some stations, including two new SWEEP stations, WRB technicians obtained historic maximum measurements of discharge and these measurements will be useful in better defining the high end of the stage-discharge relationships. All but one station functioned properly, giving continuous records of water level for the entire duration of the storm/flood. The exception was Canard River near Lukerville where flood waters submerged the water level recorder and put it out of operation for about 24 hours until WRB staff could make the necessary repairs. The peak water level at this station was deter-

mined from a high water mark on the shelter MNR's preliminary isohyets show that the seven hydrometric stations and their watersheds received considerably less rainfall than the hardest hit area in the vicinity of Harrow The two stations closest to the storm center were located on the Canard River near Lukerville (northwest of storm center) and Sturgeon Creek near Leamington (east of storm center) The Canard River station, in operation since 1976, experienced its highest-ever water level

The 1988 hydrometric data was completed for publication after a number of delays due to key staff being on sick leave and commitments to HQ projects Contractual problems regarding digitizing of charts and hydrometric staff being assigned to monitor border crossings in connection with the issue of tainted fuel also contributed to the later completion date The final data was forwarded to HQ on August 30

Project 2000, a national initiative to modernize the field, office and data transfer operations of surface water data collection, was announced by WRB A proposal was submitted to WRB Headquarters for the North Bay Sub-office to be considered for the pilot area for Project 2000 The pilot project will begin in 1991/1992, run for three years and involve 80-100 stations covering a wide range of equipment and conditions A decision on selection of the pilot area is expected to be made in April, 1990 Early in 1990/1991 the decision was made to have the pilot area in Alberta

As a result of the Hagersville Tire Fire, WRB technical staff were sent to Hagersville on February 22 to take streamflow measurements as part of the environmental monitoring that was underway in the area Staff were on site

daily and took a total of 29 measurements on the Sandusk and Boston Creeks. A permanent gauge was installed at the mouth of Sandusk Creek and was operational on March 2. A second permanent gauge on Sandusk Creek, requested by MOE, near the fire site, was also installed. This gauge will be used to determine flows in the Creek prior to discharge of treated water from the site and to assess the dilution that will be provided. Both gauges were constructed and operated under the terms of the Canada/Ontario Cost Sharing Agreement for Water Quantity Surveys. Flow measurements are necessary in order to estimate contaminants loadings in the streams and to Lake Erie.

WRB continued to operate a small sediment laboratory in support of the network and special surveys. A total of 526 samples were submitted and 819 analyses performed. An estimated 1.0 person year was utilized for the sediment program in field, office and laboratory work.

A number of meetings of the Streamflow Network Liaison Committee were held. Members of the committee include selected representatives of the Conservation Authorities, MNR Regions, Conservation Authorities and Water Management Branch of MNR, the Aviation Fire Management Centre and the Water Resources Branch of Environment Canada. Items addressed include strategic planning, roles and responsibilities and guidelines for flood forecasting and the MNR network review.

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 a meeting on March 5, 1990. Participants represented each of the agencies of the Cost Sharing Agreement. Minutes of meeting were distributed to members/attendees, the Coordinating Committee, and WRB offices in Winnipeg and Ottawa.

The Network Evaluation and Planning Sub-committee implemented the report of March 1989, "Plan to Improve Hydrometric Network for Estimating Hydrologic Characteristics in Ontario". The plan called for the construction of three new federally funded stations as resources became available. A new station was constructed and made operational on the Pukaskwa River at the Pukaskwa National Park. New stations on the Chapleau River and the Attwood River were delayed due to funding constraints.

Contract work was carried out by Prof G Young, Wilfrid Laurier University, regarding the use of Geographic Information Systems and Watershed Profiles as related to hydrometric network planning and data interpretation. Contract work was also carried out by Cumming-Cockburn Limited regarding the investigation of hydrometric data in Southwestern Ontario.

b) Sediment

Expansion of the Miscellaneous network in response or anticipation of data program needs was the highlight of the Sediment Surveys Program in the Region during the year. A total of 128 miscellaneous stations (51 operated by the sub-offices and 77 by the Guelph office) and 3 seasonal are now distributed around the Great Lakes, primarily as a response to Great Lakes Tributary Loading program needs. The Sediment Station Management Plan (SMP) for each station continues to play an active role in managing the network with annual assessments being completed on data collection and annual review with recommendations for the upcoming year. A regional one-day Sediment Workshop was held to explain and train technical staff on the importance and use of the SMP.

4 0 SERVICES AND PRODUCTS

4 1 Data Dissemination

During the reporting period, WRB responded to several hundred requests for data, advice and information related to the hydrometric and sediment networks. Approximately 5,000 station years of record were disseminated. In addition, a large number of telemetry units were accessed directly by data users.

Data products were supplied to clients during the year in various formats and using several different media. Data book publications were updated/distributed. Surface Water Data 1988, Historical Streamflow Summary, Water Level Publications, Sediment Publications. Many data requests were answered with data on floppy diskette. WRB used CD-ROM technology for access to and then distribution of selected historical data. Computer accounts were continued for access by several data clients via computer communications. Many requests were answered by photocopy of selected portions of hardcopy data archives. Conventional methods are being used to provide data and in addition, further developments are underway to improve methods utilizing new technologies.

All data bases and archives were updated with the additional data collected during the year. Archives include field notes, recorder charts, computational printouts, and computer-compatible files. The data collected adds to a long-term, consistent data system which has been operational for several decades. The data system is constantly being improved using computer technology and original records are carefully archived.

4 2 Fact Sheets

WRB distributed a fact sheet entitled, "Hydrologic Characteristics of Selected Ontario Rivers" The fact sheet provided various types of hydrologic information for three large rivers in Southern Ontario Grand River, Saugeen River and Thames River

4 3 Computer System

The WRB computer system functioned well and was utilized extensively during the year Much of the equipment has been used for quite some time and some maintenance was required A new development was the installation of a MicroVAX computer system in the North Bay Sub-Office This multi-user system allows data computations by the sub-office staff Data are exchanged between the sub-offices in Thunder Bay and North Bay with the main computer system in Guelph using computer communications (i e , modem communications) or by transfer of computer tapes

4 4 New Technology and Services

The Water Resources Branch enhanced its level of service to the water resources community by implementing CD-ROM optical disk technology The DC disks contain the daily streamflow and water level data for all of Canada This compact technology makes it possible for the Guelph Office to store and access large volumes of surface water data As a result the Guelph office can now respond more quickly to routine data requests In addition, the CD disk

provides quick access to summary statistics (e g , minimum, maximum monthly flows) The CD technology implementation by WRB is expected to undergo further improvements in the coming years

The Water Resources Branch, through contract work by NUCOR Computer Resources Inc , continued with the implementation of a computerized geographical information system (GIS) in the Guelph office The following types of water resource information were included in this phase of the work the locations of all hydrometric stations in Ontario, the watershed boundaries for each hydrometric station in Southern Ontario In addition WRB implemented SPANS software for GIS applications in cooperation with WRB-HQ and other IWD, Environment Canada offices

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 \$4,091 for conventional stations and \$9,532 for remote stations. Table 1 gives a comparison of the actual unit costs for 1989/1990 to estimated unit costs for 1989/1990 and actual costs for 1988/1989.

**TABLE 1
COMPARISON OF UNIT COSTS FOR
OPERATING WATER QUANTITY STATIONS**

	1988/1989 Actual Costs	1989/1990 Estimated Costs	1989/1990 Actual Costs	% Increase(+) / Decrease (-) From 1988/89
Conventional	\$3,925	\$3,980	\$4,091	+ 4.2%
Remote	\$8,545	\$8,980	\$9,532	+11.6%

Actual station unit costs for 1989/1990 conventional stations increased by 4.2% over 1988/1989 costs, however, they were significantly higher than the estimated 1989/1990 costs because the latter costs are based on percentage increases over a two year period. These increases over a two year period cannot always be predicted accurately because of negotiated salaries, which make up about two-thirds of the station unit costs, and inflation on operation and maintenance items.

Remote station costs rose sharply due to higher central costs for aircraft and prices for aviation fuel, as well as salaries. During 1990/1991, WRB will investigate implement options to minimize remote station costs.

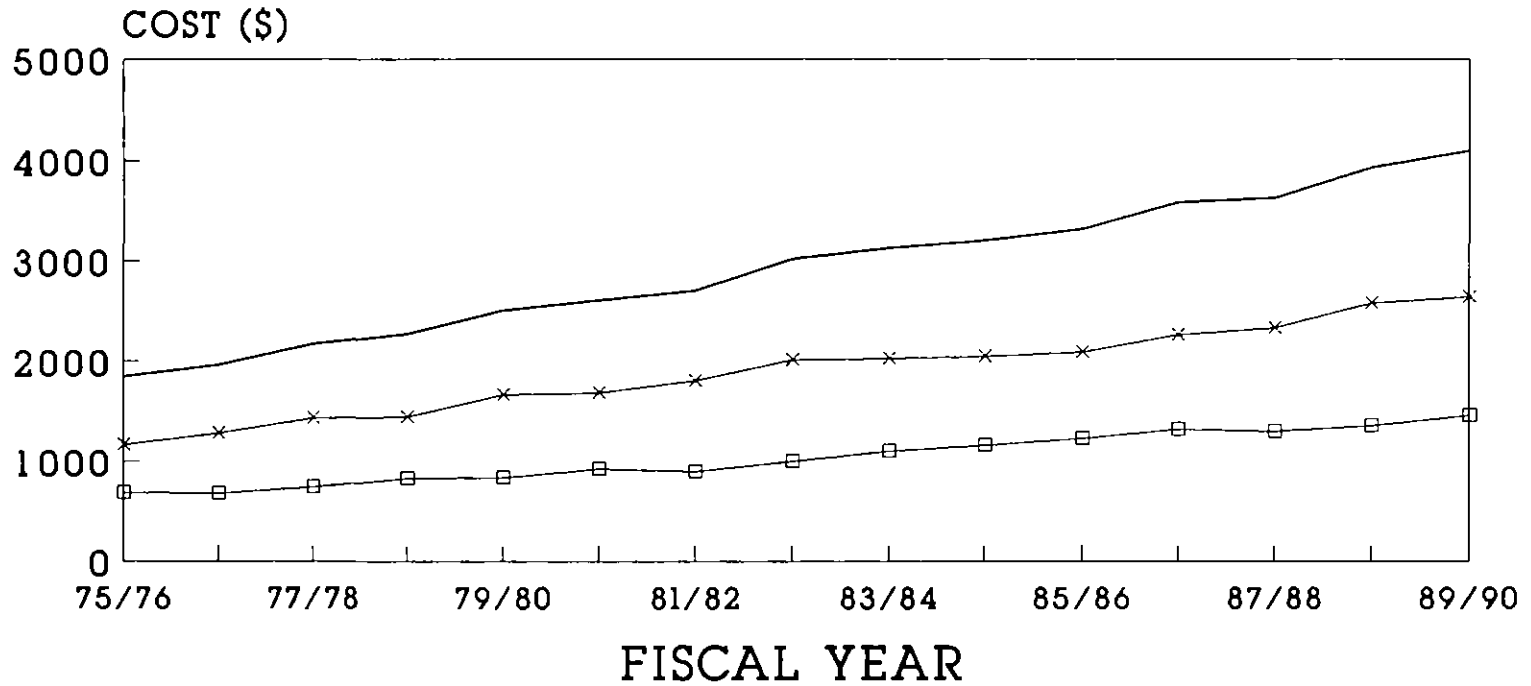
Figures 2 and 3 give a comparison of unit costs per station for remote and conventional stations since 1975

The total shareable cost for construction of new stations, purchase and installation of equipment, and operation and maintenance of the hydrometric and sediment networks in the province was \$2,240,100 of which the provincial share was \$1,099,800 or 49 1%. Including all overhead costs, the total program costs were \$3,451,200. Table 2 gives a summary of the provincial costs and the amount paid by the Water Resources Branch to Ontario Hydro for the operation of six Federal/Provincial stations. The tables in Appendix D show how these costs were derived.

As a result of the higher actual cost over the estimated costs, each provincial agency underpaid their portion of the shareable costs in 1989/1990. MOE underpaid by \$15,503, MNR by \$25,691 and OH by \$1,662. Table 3 gives a summary of the over/under payments since 1985/1986 and when the reconciliations took place.

Additional cost information is provided in Appendix E (WRB Ontario Region) and Appendix F (entire province). This information is used for the purpose of national reporting.

AVERAGE ANNUAL COSTS FOR OPERATING A CONVENTIONAL HYDROMETRIC STATION (WRB - ONTARIO REGION)



Costs
—x— SAL —□— O & M — TOTAL

Figure 2

AVERAGE ANNUAL COSTS FOR OPERATING A REMOTE HYDROMETRIC STATION (WRB - ONTARIO REGION)

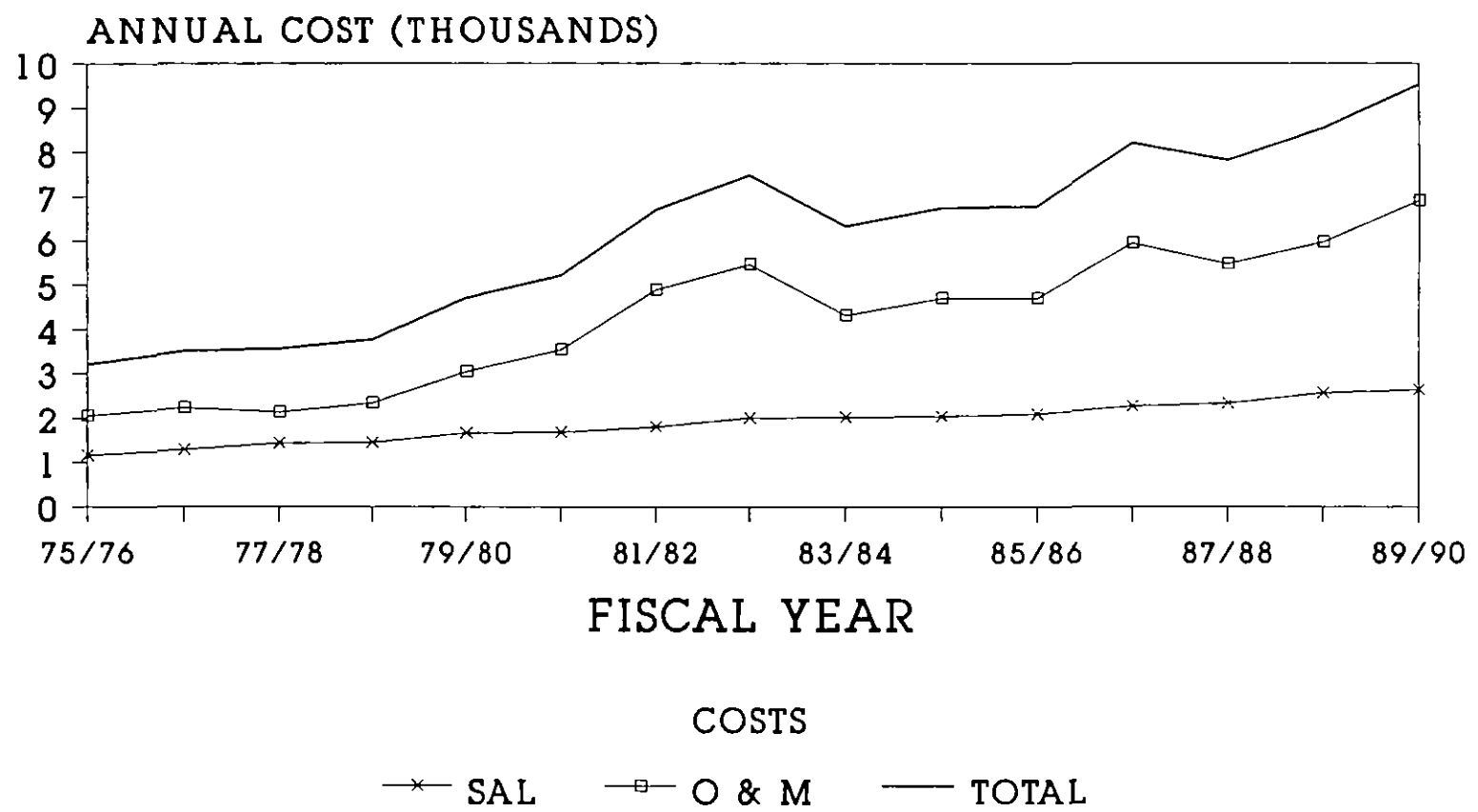


Figure 3

TABLE 2
SUMMARY OF PROVINCIAL COSTS
1989/1990

	Schedule D	Recovered and Paid During 1989/1990	Actual Cost	Difference (cost recover- ed less actual cost)
a) Hydrometric Operations¹				
1 MNR	\$ 734,002	\$ 734,002	\$ 760,824	- \$ 26,822
2 MOE	234,435	234,435	249,938	- 15,503
3 OH	43,320	43,320	44,982	- 1,662
4 WRB (to OH)	<u>7,450</u>	<u>7,450</u>	<u>7,450</u>	<u>0</u>
Subtotal	\$1,019,207	\$1,019,207	\$1,063,194	- \$ 43,987
b) Sediment				
1 MNR	\$ 5,000	\$ 5,000	\$ 3,869	+ \$ 1,131
Subtotal	\$ 5,000	\$ 5,000	\$ 3,869	+ \$ 1,131
c) Construction²				
1 OH	\$ 0	\$ 0	\$ 0	\$ 0
2 MNR	46,400	29,215	29,215	0
3 MOE	<u>7,500</u>	<u>5,645</u>	<u>5,645</u>	<u>0</u>
Subtotal	\$ 53,900	\$ 34,860	\$ 34,860	\$ 0
d) Specialized Equipment³				
1 MOE	\$ 3,000	\$ 1,116	\$ 1,116	\$ 0
2 MNR	4,200	3,571	3,571	0
3 OH	<u>1,400</u>	<u>622</u>	<u>622</u>	<u>0</u>
Subtotal	\$ 8,600	\$ 5,309	\$ 5,309	\$ 0
TOTAL	<u>\$1,086,707</u>	<u>\$1,064,376</u>	<u>\$1,107,232</u>	+ <u>\$ 42,856</u>
<hr/>				
Total Actual Cost MNR		-	\$ 797,479	
Total Actual Cost MOE		-	256,699	
Total Actual Cost OH		-	45,604	
Total Actual Cost WRB Paid to OH		-	<u>7,450</u>	
TOTAL			\$1,107,232	

NOTES

- 1 Credits or debits from previous year over and under payments not included in above figures
- 2 Includes purchase of specialized equipment and projects sponsored but not paid by these agencies
- 3 Includes only the operation of specialized equipment

TABLE 3
SUMMARY OF OVER/UNDER PAYMENTS
1985/1986 TO DATE*

	1985/86 ¹	1986/87 ²	1987/88 ³	1988/89 ⁴	1989/90
<u>Hydrometric Operations</u>					
MNR	+\$14,113	-\$7,520	+\$2,604	-\$ 905	-\$26 822
MOE	- 4,526	- 6,993	- 6,816	- 876	- 15,503
OH	+ 1,229	- 1,998	- 633	+ 1,307	- 1,662
<u>Sediment</u>					
MNR	- 259	- 1,162	- 50	+ 1,036	+ 1,131
					-\$42,856

- 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 1984/85 and 1985/86 were reconciled on the second quarter billing for 1986/87
 2 Under payments for 1986/87 were reconciled on the third quarter billing for 1987/88
 3 Over/under payments for 1987/88 were reconciled on the fourth quarter billing for 1988/89
 4 Over/under payments for 1988/89 were reconciled on the second quarter billing for 1990/91
 * The 1988/1989 report summarizes over/under payments since 1975

APPENDIX A

SCHEDULE 'A

MEMORANDUM OF AGREEMENT BETWEEN

**GOVERNMENTS OF CANADA
AND
ONTARIO**

FOR WATER QUANTITY SURVEYS

1989/1990

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

**CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)**

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=NORTHERN 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

<u>S C ONTARIO AREA</u>	<u>S E ONTARIO AREA</u>	<u>S W ONTARIO AREA</u>	<u>NORTH BAY AREA</u>	<u>OTTAWA AREA</u>	<u>THUNDER BAY AREA</u>
10=BOB REES	20=REG LEBLANC	30=WAYNE YOUNG	40=DON COPELAND	50=DOUG ROWE	60=ROSS BISHOP
11=B HENRIKSON	22=B RUSSELL	31=D LAWLOR	41=D JACKSON	51=G WIGGINS	61=A CREIGHTON
12=M MASLEN	23=M ABRAHAMSE	32=J FIRMAN	42=J DOUCET	52=S TEEPLE	62=K MILLER
13=D GIBB	24=S SAUNDERS	33=K MUNN	43=E WAUGH	53=J MYKE	
14=B SMITH		34=C THOMSON	44=B PESSAH		
15=B SCHROEDER			45=P LAVOIE		

RESPONSIBILITY CODE - CONTRIBUTOR

00=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 WATERWAY (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 (NORTH BAY)
81=ONTARIO HYDRO (GUELPH - RUN 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=ABITIBI-PRICE INC (NORTH BAY)
93=EDDY FOREST PRODUCTS LIMITED (NORTH BAY)
95=ORILLIA LIGHT AND POWER (KEY IN DATA)
96=SPRUCE FALLS POWER AND PAPER CO LTD (NORTH BAY)
97=GREAT LAKES POWER COMPANY LTD
98=INTERNATIONAL NICKEL CO OF CANADA LTD (NORTH BAY)

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
FAF =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) OMNR
GBC =FED-PROV 2 OPERATED BY PROVINCE ONT HYDRO
HAD =FED-PROV 3 OPERATED BY FED(WSC) OMOE
IAC =PROVINCIAL 1 OPERATED BY FED(WSC) ONT HYDRO
IAD =PROVINCIAL 1 OPERATED BY FED(WSC) OMOE
IAE =PROVINCIAL 1 OPERATED BY FED(WSC) OMNR
IAF =PROVINCIAL 1 OPERATED BY FED(WSC) OMOE/OMNR
IAG =PROVINCIAL 1 OPERATED BY FED(WSC) ONT HYD/OMNR
JAD =PROVINCIAL 2 OPERATED BY FED(WSC) OMOE
JAE =PROVINCIAL 2 OPERATED BY FED(WSC) OMNR
JAF =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
RBE =CONTRIBUTED DATA OPERATED BY PROV OMNR
RDP =CONTRIBUTED DATA OPERATED BY PRIVATE AGENCY
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 NOTED

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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
02JD013	0 00	G	43	HR		AA	BAY LAKE AT LATCHFORD		1
02EC002	1520 00	G	13	QR	M	AA	BLACK RIVER NEAR WASHAGO		2
02JC008	1780 00	G	43	QR	L	AA	BLANCHE RIVER ABOVE ENGLEHART		3
02HF003	1270 00	G	22	QR	M	AA	BURNT RIVER NEAR BURNT RIVER		4
02MA002	394 00	G	51	QR	M	AA	CATARAQUI R AT CHAFFEYS LOCKS (OCT15-MAY15)		5
02HK003	1990 00	G	22	QR	D	AA	CROWE RIVER AT MARMORA		6
02HH001	241 00	G	22	QR		AA	EELS CREEK BELOW APSLEY		7
02GH013	0 00	G	32	QR		AA	FIFTH CONCESSION DRAIN NEAR ESSEX (TEST)		8
02DD017	0 00	G	45	QM		AA	FRENCH RIVER AT CHAUDIERE DAM		9
02DD016	0 00	G	45	QM		AA	FRENCH RIVER AT PORTAGE DAM		10
02JE002	0 00	G	42	QR		AA	GORDON RUISSEAU AT KIPAWA		11
02GD025	0 00	G	31	QR		AA	GORING DRAIN AT CONCESSION #13 (PITTOCK TEST)		12
02BF002	1160 00	G	44	QR	S L	AA	GOULAIS RIVER NEAR SEARCHMONT MISC SED		13
02HF002	1280 00	G	22	QR	M	AA	GULL RIVER AT NORLAND		14
02GC032	0 00	G	12	QR		AA	HOLTBY DRAIN AT CONCESSION #7 (KETTLE CTRL)		15
02JE015	0 00	G	42	QR	M	AA	KIPAWA RIVIERE BELOW LANIEL		16
02JB017	0 00	G	43	HR	D	AA	LAC DES QUINZE AT ANGLIERS		17
02JB011	0 00	G	43	HR	D	AA	LAC DES QUINZE AT LA POINTE DU PIN ROUGE		18
02JE017	0 00	G	42	HR	D	AA	LAC KIPAWA AT LANIEL		19
02JB012	0 00	G	43	HR		AA	LAC SIMARD AT LAFORCE		20
02JE025	0 00	G	42	HR		AA	LAC TEMISCAMINGUE AT TEMISCAMING		21
02JE026	0 00	G	42	HR	M	AA	LAC TEMISCAMINGUE AT VILLE MARIE		22
02EC015	0 00	G	22	HR		AA	LAKE SIMCOE NEAR GAMEBRIDGE		23
02JE011	0 00	G	43	HR	D	AA	LAKE TIMISKAMING AT HAILEYBURY		24
02DD020	0 00	G	45	QM		AA	LITTLE FRENCH RIVER AT OKIKENDAWT ISLAND		25
02GC033	0 00	G	12	QR		AA	MADTER DRAIN AT CONCESSION #7 (KETTLE TEST)		26
02EC013	0 00	G	13	QM		AA	MIDDLE SEVERN RIVER AT WASHAGO		27
04LJ001	8940 00	G	41	QR	D	AA	MISSINAIBI RIVER AT MATTICE		28
02HH002	326 00	G	22	QR		AA	MISSISSAGUA RIVER BELOW MISSISSAGUA LAKE		29
02KF006	2900 00	G	51	QR	SD	AA	MISSISSIPPI RIVER AT APPLETON MISC SED		30
02BF005	11 50	G	44	QR		AA	NORBERG CREEK(SITE A) ABOVE BATCHAWANA RIVER		31
02BF012	1 15	G	44	QR		AA	NORBERG CREEK(SITE F)AT OUTLET OF BATCHAWANA L		32
02BF009	2 02	G	44	QR		AA	NORBERG CREEK (SITE E) BELOW BATCHAWANA LAKE		33
02BF007	5 40	G	44	QR		AA	NORBERG CRK (SITE C)AT OUTLET OF LIT TURKEY L		34
02BF006	8 64	G	44	QR		AA	NORBERG CREEK(SITE B)AT OUTLET OF TURKEY LAKE		35
02BF008	4 08	G	44	QR		AA	NORBERG CREEK (SITE D) BELOW WISHART LAKE		36
02EA010	149 00	G	41	QR	T	AA	NORTH MAGNETAWAN RIVER ABOVE PICKEREL LAKE		37
02HJ002	7 36	G	22	QR		AA	OTONABEE RIVER AT LAKEFIELD		38
02KF005	90900 00	G	50	QR	M	AA	OTTAWA RIVER AT BRITANNIA		39
02LB010	0 00	G	53	HR	D	AA	OTTAWA RIVER AT CUMBERLAND		40
02LA015	0 00	G	50	HR	M	AA	OTTAWA RIVER AT HULL		41
02JE013	0 00	G	43	HR	M	AA	OTTAWA RIVER AT MATTAWA		42
02JE024	0 00	G	42	HR		AA	OTTAWA RIVER BELOW TEMISCAMING		43
02KA003	7 30	G	52	QR	T	AA	PERCH LAKE OUTLET NEAR CHALK RIVER		44
02KB001	4120 00	G	52	QR	M	AA	PETAWAWA RIVER NEAR PETAWAWA		45
02LA012	3120 00	G	51	QR	D	AA	RIDEAU RIVER BELOW MANOTICK		46
02LA011	1920 00	G	51	QR	D	AA	RIDEAU RIVER BELOW MERRICKVILLE		47
02LA004	3830 00	G	53	QR	D	AA	RIDEAU RIVER AT OTTAWA		48
02LA005	1290 00	G	51	QR	D	AA	RIDEAU R ABOVE SMITHS FALLS OCT 1-APR 30		49
02GH014	0 00	G	32	QR		AA	SECOND CONCESSION DRAIN NEAR ESSEX (CTRL)		50

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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
02EC006	0 00	G	13	QM		AA	SEVERN RIVER AT BIG FALLS		51
02EC007	0 00	G	13	QM		AA	SEVERN RIVER AT LITTLE FALLS		52
02EC005	0 00	G	13	QM		AA	SEVERN RIVER AT WASHAGO		53
02LB005	3810 00	G	53	QR	SD	AA	S NATION R NR PLANTAGENET SPRINGS MISC SED		54
02LA016	786 00	G	51	QR	D	AA	TAY RIVER AT PORT ELMSLEY (MAR1-MAY31)		55
02HK004	12000 00	G	22	QR	S M	AA	TRENT RIVER AT GLEN ROSS MISC SED		56
02HK902	9090 00	G	22	QR	M	AA	TRENT RIVER AT HEALEY FALLS (SPILLWAY)		57
02BF013	0 00	G	44	QR		AA	TRIB TO NORBERG CREEK AT TURKEY LAKE		58
02GD024	0 00	G	31	QR		AA	WEBBER DRAIN AT HIGHWAY #59 (PITTOCK CTRL)		59

SUMMARY

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 =	13
		- DISCHARGE =	46
	SUB-TOTAL	- WATER LEVEL =	13
		- DISCHARGE =	46
	TOTAL	=	59

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL 2 INTERPROVINCIAL WATERS OPERATED BY FEDERAL (WSC)

SUMMARY

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 =	0
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	0
	TOTAL	=	0

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL 3 INTERNATIONAL WATERS OPERATED BY FEDERAL (WSC)

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02FF002	865 00	G	34	QR	SD	CA	AUSABLE RIVER NEAR SPRINGBANK SED OPEN WAT		1
02CE002	1350 00	G	44	QR	M	CA	AUX SABLES RIVER AT MASSEY		2
02BF001	1190 00	G	44	QR	S	CA	BATCHAWANA RIVER NEAR BATCHAWANA MISC SED		3
02GG009	533 00	G	32	QR	SD	CA	BEAR CREEK BELOW BRIGDEN MISC SED		4
02GC007	591 00	G	12	QR		CA	BIG CREEK NEAR WALSINGHAM		5
02GC026	676 00	G	12	QR	SD	CA	BIG OTTER CREEK NEAR CALTON SED OPEN WAT		6
02BB002	1980 00	G	62	QR	S	CA	BLACK RIVER NEAR MARATHON MISC SED		7
02AC002	2980 00	G	60	QR	S	CA	BLACK STURGEON RIVER AT HWY NO 17 MISC SED		8
02HB002	795 00	G	14	QR	SD	CA	CREDIT RIVER AT ERINDALE SED OPEN WAT		9
02HC024	316 00	G	23	QR	SD	CA	DON RIVER AT TODMORDEN MISC SED		10
02HC006	249 00	G	24	QR	S M	CA	DUFFINS CREEK AT PICKERING MISC SED		11
02HC030	204 00	G	23	QR	SD	CA	ETOBICOKE CREEK BELOW Q E W MISC SED		12
02HD012	232 00	G	24	QR	SD	CA	GANARASKA RIVER ABOVE DALE MISC SED		13
02GB001	5210 00	G	11	QR		CA	GRAND RIVER AT BRANTFORD		14
02HC013	88 10	G	23	QR	SD	CA	HIGHLAND CREEK NEAR WEST HILL MISC SED		15
02HC003	800 00	G	23	QR	M	CA	HUMBER RIVER AT WESTON		16
02GC002	329 00	G	12	QR	SD	CA	KETTLE CREEK AT ST THOMAS MISC SED		17
02BA003	1320 00	G	62	QR	S	CA	LITTLE PIC RIVER NEAR COLDWELL MISC SED		18
02HC028	77 70	G	23	QR	S	CA	LITTLE ROUGE CRK NR LOCUST HILL MISC SED		19
02EA011	2850 00	G	45	QR		CA	MAGNETAWAN RIVER NEAR BRITT		20
02BD003	1930 00	G	62	QR	S M	CA	MAGPIE RIVER NEAR MICHIPICOTEN MISC SED		21
02FE002	1630 00	G	34	QR	D	CA	MAITLAND RIVER BELOW WINGHAM		22
02GB010	171 00	G	11	QR	S	CA	MCKENZIE CREEK NEAR CALEDONIA MISC SED		23
02CC008	9300 00	G	44	QR	S	CA	MISSISSAGI RIVER AT MISSISSAGI CHUTE MISC SED		24
02HL001	2620 00	G	52	QR	SD	CA	MOIRA RIVER NEAR FOXBORO MISC SED		25
02EB011	0 00	G	13	QR		CA	MOON RIVER AT HIGHWAY NO 69		26
02EB012	0 00	G	13	QR		CA	MUSKOKA RIVER AT HIGHWAY NO 69		27
02GC022	181 00	G	12	QR	S	CA	NANTICOKE CREEK AT NANTICOKE MISC SED		28
02HM007	694 00	G	51	QR	S M	CA	NAPANEE RIVER AT CAMDEN EAST MISC SED		29
02AB008	187 00	G	61	QR	SD	CA	NEEBING RIVER NEAR THUNDER BAY MISC SED		30
02ED003	1180 00	G	33	QR	S M	CA	NOTTAWASAGA RIVER NEAR BAXTER SED OPEN WAT		31
02HB005	95 60	G	14	QR	D	CA	OAKVILLE CREEK AT MILTON		32
02BB003	4270 00	G	62	QR	S	CA	PIC RIVER NEAR MARATHON MISC SED		33
02AA001	1550 00	G	60	QR	S	CA	PIGEON RIVER AT MIDDLE FALLS MISC SED	ENGLISH	34
02HC022	186 00	G	23	QR	S M	CA	ROUGE RIVER NEAR MARKHAM MISC SED		35
02HM003	891 00	G	52	QR	S	CA	SALMON RIVER NEAR SHANNONVILLE MISC SED		36
02FA001	927 00	G	33	QR	D	CA	SAUBLE RIVER AT SAUBLE FALLS		37
02FC001	3960 00	G	33	QR	D	CA	SAUGEEEN RIVER NEAR PORT ELGIN		38
02CD001	1350 00	G	42	QR		CA	SERPENT RIVER AT HIGHWAY NO 17		39
02MC009	0 00	G	53	QR		CA	S RAISIN R DIVERSION AT LONG SAULT (JUN-SEP)		40
02HB007	169 00	G	15	QR	M	CA	SPENCER CREEK AT DUNDAS		41
02CA003	0 00	G	44	HR		CA	ST MARYS RIVER NEAR GARDEN RIVER		42
02FB007	181 00	G	33	QR	SD	CA	SYDENHAM RIVER NEAR OWEN SOUND MISC SED		43
02GE003	4300 00	G	32	QR	M	CA	THAMES RIVER AT THAMESVILLE		44
02HA006	293 00	G	15	QR	S	CA	TWENTY MILE CREEK AT BALLS FALLS MISC SED		45
02DB005	3130 00	G	45	QR		CA	WANAPITEI RIVER NEAR WANUP		46
02HA007	230 00	G	15	QR	D	CA	WELLAND RIVER BELOW CAISTOR CORNERS		47
02BC004	4170 00	G	62	QR	N L	CA	WHITE RIVER BELOW WHITE LAKE		48
02HM004	112 00	G	51	QR		CA	WILTON CREEK NEAR NAPANEE		49
02AC001	736 00	G	60	QR		CA	WOLF RIVER AT HIGHWAY NO 17		50

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL 3 INTERNATIONAL WATERS OPERATED BY FEDERAL (WSC)

SUMMARY

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 =	48
	SUB-TOTAL	- WATER LEVEL =	1
		- DISCHARGE =	49
	TOTAL	=	50

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
04ME003	27500 00	G	43	QR	NS L	DA	ABITIBI RIVER AT ONAKAWANA MISC SED		1
04HA001	118000 00	G	41	QR	N L	DA	ALBANY RIVER NEAR HAT ISLAND		2
04PB001	24200 00	G	61	QR	N L	DA	ATTAWAPISKAT RIVER BELOW ATTAWAPISKAT LAKE		3
04FC001	36000 00	G	41	QR	NS L	DA	ATTAWAPISKAT R BELOW MUKETEI R MISC SED		4
04CE001	0 00	G	61	HM	N	DA	BIG TROUT LAKE AT TROUT LAKE		5
04GB005	1170 00	G	62	QR	N L	DA	BRIGHTSAND RIVER AT MOBERLY LAKE		6
02DD015	106 00	G	43	QR		DA	COMMANDA CREEK AT COMMANDA		7
04EA001	10400 00	G	41	QR	N L	DA	EKWAN RIVER BELOW NORTH WASHAGAMI RIVER		8
04CE002	4350 00	G	61	QR	N L	DA	PAWN RIVER BELOW BIG TROUT LAKE		9
04KA002	133 00	G	43	QR		DA	HALFWAY CREEK AT MOOSONEE		10
04JG001	26200 00	G	41	QR	N L	DA	KENOGAMI RIVER NEAR MAMMAMATTAWA		11
04KA001	4250 00	G	43	QR	N L	DA	KWATABOAHGAN RIVER NEAR THE MOUTH		12
04JF001	5360 00	G	41	QR	N L	DA	LITTLE CURRENT RIVER AT PERCY LAKE		13
04LG004	60100 00	G	43	QR	NS L	DA	MOOSE RIVER ABOVE MOOSE RIVER MISC SED		14
04GF001	1890 00	G	41	QR	N L	DA	MUSWABIK RIVER AT OUTLET OF MUSWABIK LAKE		15
04MF001	6680 00	G	43	QR	N L	DA	NORTH FRENCH RIVER NEAR THE MOUTH		16
04JD005	2020 00	G	41	QR		DA	PAGWACHUAN RIVER AT HIGHWAY NO 11		17
04CC001	94300 00	G	61	QR	N L	DA	SEVERN RIVER AT LIMESTONE RAPIDS		18
04DC002	4710 00	G	41	QR	N L	DA	SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE		19
04DC001	50000 00	G	61	QR	NS L	DA	WINISK R BELOW ASHEWEIG R TRIB MISC SED		20

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMOE

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02GC018	287 00	G	12	QR	SD	FAD	CATFISH CREEK NEAR SPARTA MISC SED		1
02ED019	0 00	G	13	QR	S	FAD	COPELAND CRK NR PENETANGUISHENE MISC SED		2
02ED017	0 00	G	13	QR	S	FAD	HOG CREEK NEAR VICTORIA HARBOUR MISC SED		3
02AB006	6470 00	G	61	QR	D	FAD	KAMINISTIQUIA RIVER AT KAMINISTIQUIA		4
02ED015	0 00	G	33	QR	S	FAD	MAD RIVER BELOW AVENING MISC SED		5
02CA002	108 00	G	44	QR	S	FAD	ROOT RIVER AT SAULT STE MARIE MISC SED		6
02GH002	125 00	G	32	QR	S	FAD	RUSCOM RIVER NEAR RUSCOM STATION MISC SED		7
02ED018	0 00	G	13	QR	S	FAD	STURGEON RIVER AT STURGEON BAY MISC SED		8
02ED016	0 00	G	13	QR		FAD	TRIB TO WYE RIVER BELOW ELMVALE		9

SUMMARY

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 =	9
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	9
	TOTAL	=	9

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02HC027	58 00	G	23	QR	D	FAE	BLACK CREEK NEAR WESTON		1
02GB007	360 00	G	11	QR	S	FAE	FAIRCHILD CREEK NEAR BRANTFORD MISC SED		2
02DD010	13900 00	G	45	QR	SDM	FAE	FRENCH RIVER AT DRY PINE BAY MISC SED		3
02GC008	134 00	G	12	QR		FAE	LYNN RIVER AT SIMCOE		4
02HD008	95 80	G	24	QR	D	FAE	OSHAWA CREEK AT OSHAWA		5
02FE009	376 00	G	34	QR	SD	FAE	SOUTH MAITLAND R AT SUMMERHILL MISC SED		6
02GG003	1160 00	G	32	QR	SD	FAE	SYDENHAM RIVER AT FLORENCE (SED FEB-DEC)		7

SUMMARY

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 =	7
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	7
	TOTAL	=	7

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMOE/OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02HC033	70 60	G	23	QR	D	FAF	MIMICO CREEK AT ISLINGTON		1

SUMMARY

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 =	1
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	1
	TOTAL	=	1

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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	UNITS	NO
02KC009	2380 00	G	52	QR		GAC	BONNECHERE RIVER NEAR CASTLEFORD		1
02KD004	5800 00	G	52	QR	M	GAC	MADAWASKA RIVER AT PALMER RAPIDS		2
04LM001	22900 00	G	43	QR	N L	GAC	MISSINAIBI R BELOW WABOOSE R		3
02KD002	837 00	G	52	QR		GAC	YORK RIVER NEAR BANCROFT		4

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 2 OPERATED BY FEDERAL (WSC) OMOE

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02ED007	177 00	G	13	QR		GAD	COLDWATER RIVER AT COLDWATER		1
02HB004	199 00	G	14	QR		GAD	EAST OAKVILLE CREEK NEAR OMAGH		2

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 2 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02FF007	466 00	G	34	QR	S	GAE	BAYFIELD RIVER NEAR VARNA MISC SED		1
02FB009	572 00	G	33	QR	SD	GAE	BEAVER RIVER NEAR CLARKSBURG MISC SED		2
02FB010	293 00	G	33	QR	SD	GAE	BIGHEAD RIVER NEAR MEAFORD MISC SED		3
02AB021	492 00	G	60	QR		GAE	CURRENT RIVER AT STEPSTONE		4
02LA007	559 00	G	51	QR	D	GAE	JOCK RIVER NEAR RICHMOND		5
02DD006	0 00	G	45	HR	DM	GAE	LAKE NIPISSING AT NORTH BAY		6
02EA005	321 00	G	41	QR	M	GAE	NORTH MAGNETAWAN RIVER NEAR BURKS FALLS		7

SUMMARY

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 =	1
		- DISCHARGE =	6
	SUB-TOTAL	- WATER LEVEL =	1
		- DISCHARGE =	6
	TOTAL	=	7

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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	2870 00	G	82	QM	L	GBC	FREDERICK HOUSE RIVER AT F H LAKE DAM		1
02JD011	1370 00	G	82	QM		GBC	LADY EVELYN RIVER AT LADY EVELYN LAKE DAM		2
02KD007	2720 00	G	82	QM		GBC	MADAWASKA RIVER AT BARK LAKE DAM		3
02DC008	2360 00	G	82	QM		GBC	TEMAGAMI RIVER AT RED CEDAR LAKE DAM		4
04MB003	238 00	G	82	QM		GBC	WATABEAG RIVER AT WATABEAG LAKE DAM		5
02JD012	1780 00	G	82	QM		GBC	WEST MONTREAL RIVER AT MISTINIKON LAKE DAM		6

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL/PROVINCIAL 3 OPERATED BY FEDERAL (WSC) OMOE

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
04DB001	7950 00	G	61	QR	N L	HAD	ASHEWEIG RIVER AT STRAIGHT LAKE		1
04GA002	5390 00	G	62	QR	N L	HAD	CAT RIVER BELOW WESLEYAN LAKE		2
04GB004	11200 00	G	61	QR	N	HAD	OGOKI RIVER ABOVE WHITECLAY LAKE		3
04FA001	9010 00	G	62	QR		HAD	OTOSKWIN RIVER BELOW BADESDAWA LAKE		4
04FA003	4900 00	G	61	QR	N L	HAD	PINEIMUTA RIVER AT EYES LAKE		5
04DA001	5960 00	G	62	QR	N L	HAD	PIPESTONE RIVER AT KARL LAKE		6
04CA003	619 00	G	62	QR	N L	HAD	ROSEBERRY R ABOVE ROSEBERRY LAKES		7
04CD002	4270 00	G	62	QR	N L	HAD	SACHIGO RIVER BELOW OUTLET OF SACHIGO LAKE		8
04CA002	36500 00	G	62	QR	N L	HAD	SEVERN RIVER AT OUTLET OF MUSKRAT DAM LAKE		9
04CB001	10800 00	G	62	QR	N L	HAD	WINDIGO RIVER ABOVE MUSKRAT DAM LAKE		10

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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	32400 00	G	41	QR	N L	IAC	ALBANY RIVER ABOVE NOTTIK ISLAND		1
04LD001	11900 00	G	41	QR	L	IAC	GROUNDHOG RIVER AT FAUQUIER		2
02JD009	4300 00	G	43	QR		IAC	MONTREAL RIVER AT MOUNTAIN CHUTES		3
04JC002	2410 00	G	41	QR		IAC	NAGAGAMI RIVER AT HIGHWAY NO 11		4
02KC005	0 00	G	52	HR		IAC	OTTAWA RIVER NEAR WESTMEATH		5
02AB009	2800 00	G	61	QR		IAC	SHEBANDOWAN RIVER AT SUNSHINE		6

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMOE

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02GA030	49 70	G	11	QR		IAD	ALDER CREEK NEAR NEW DUNDEE		1
02GD018	144 00	G	31	QR	D	IAD	AVON RIVER BELOW STRATFORD		2
02FC017	50 10	G	33	QR		IAD	BEATTY SAUGEEN RIVER NEAR HOLSTEIN		3
02EC011	282 00	G	22	QR		IAD	BEAVERTON RIVER NEAR BEAVERTON		4
02HB024	18 90	G	14	QR		IAD	BLACK CREEK BELOW ACTON		5
02EC008	274 00	G	22	QR		IAD	BLACK RIVER AT BALDWIN		6
02AD010	650 00	G	60	QR		IAD	BLACKWATER RIVER AT BEARDMORE		7
02HF004	21 80	G	22	QR		IAD	BOB CREEK NEAR MINDEN		8
02BB004	201 00	G	62	QR		IAD	CEDAR CREEK NEAR HEMLO		9
02HM005	155 00	G	51	QR		IAD	COLLINS CREEK NEAR KINGSTON		10
02DB007	59 00	G	45	QR		IAD	CONISTON CREEK ABOVE WANAPITEI RIVER		11
02LB012	76 70	G	53	QR		IAD	E BR SC R NR ST ISIDORE DE PRESCOTT MARI-DECI		12
02HD014	58 50	G	24	QM		IAD	FAREWELL CREEK AT OSHAWA		13
02AE001	616 00	G	60	QR	S	IAD	GRAVEL RIVER NEAR CAVERS MISC SED		14
02HD013	41 60	G	24	QR		IAD	HARMONY CREEK AT OSHAWA		15
02EC009	181 00	G	23	QR	S M	IAD	HOLLAND RIVER AT HOLLAND LANDING MISC SED		16
02CF012	207 00	G	42	QR		IAD	JUNCTION CREEK BELOW KELLEY LAKE		17
04FA002	1540 00	G	62	QR		IAD	KAWINOGANS RIVER NEAR PICKLE CROW		18
02LA006	409 00	G	53	QR	SD	IAD	KEMPTVILLE CREEK NEAR KEMPTVILLE MISC SED		19
02HM006	150 00	G	51	QR		IAD	MILLHAVEN CREEK NEAR MILLHAVEN		20
02CF013	40 60	G	45	QR		IAD	MOOSE CREEK AT LEVACK		21
02GD022	29 10	G	31	QR		IAD	MISSOURI CREEK NEAR EMBRO		22
02HJ003	282 00	G	22	QR		IAD	OUSE RIVER NEAR WESTWOOD		23
02FD001	154 00	G	34	QR	S	IAD	PINE RIVER AT LURGAN MISC SED		24
04MD004	401 00	G	43	QR		IAD	PORCUPINE RIVER AT HOYLE		25
02HC039	38 30	G	24	QR		IAD	REESOR CREEK ABOVE GREEN RIVER		26
02CD002	109 00	G	42	QR		IAD	SERPENT RIVER AT OUTLET OF DUNLOP LAKE		27
02CD004	567 00	G	42	QR		IAD	SERPENT RIVER BELOW PECORS LAKE		28
02CD006	157 00	G	42	QR		IAD	SERPENT RIVER ABOVE QUIRKE LAKE		29
02CD003	319 00	G	42	QR		IAD	SERPENT RIVER BELOW QUIRKE LAKE		30
02FA002	50 50	G	33	QR	S	IAD	STOKES RIVER NEAR FERNDALE MISC SED		31
02CF011	704 00	G	45	QR	D	IAD	VERMILION RIVER NEAR VAL CARON		32
02DD012	741 00	G	45	QR		IAD	VEUVE RIVER NEAR VERNER		33
02LB018	99 50	G	53	QR		IAD	W BR SC R NR ST ISIDORE DE PRESCOTT MARI-JUNI		34
02BA005	0 00	G	62	QR	S	IAD	WHITESAND R AB SCHREIBER AT MINOVA MINE(M SED)		35
02ED013	118 00	G	13	QR	S	IAD	WYE RIVER NEAR WYEVALE MISC SED		36

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMOE

SUMMARY

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 =	36
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	36
	TOTAL	=	36

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02JE019	1130 00	G	43	QR		IAE	AMABLE DU FOND R AT SAMUEL DE CHAMPLAIN P P		1
02HB021	9 14	G	15	QR	D	IAE	ANCASTER CREEK AT ANCASTER		2
02LB008	440 00	G	53	QR	D	IAE	BEAR BROOK NEAR BOURGET		3
02MC026	124 00	G	53	QR	D	IAE	BEAUDETTE RIVIERE NEAR GLEN NEVIS		4
02HK006	541 00	G	22	QR	D	IAE	BEAVER CREEK NEAR MARMORA		5
02GC006	363 00	G	12	QR		IAE	BIG CREEK NEAR DELHI		6
02BF004	51 50	G	44	QR		IAE	BIG CARP RIVER NEAR SAULT STE MARIE		7
02GC017	93 20	G	12	QR		IAE	BIG OTTER CREEK ABOVE OTTERVILLE		8
02GC010	342 00	G	12	QR	M	IAE	BIG OTTER CREEK AT TILLSONBURG		9
02HL003	401 00	G	52	QR	D	IAE	BLACK RIVER NEAR ACTINOLITE		10
02HE001	13 90	G	24	QR		IAE	BLOOMFIELD CREEK AT BLOOMFIELD		11
02GA031	44 50	G	15	QR		IAE	BLUE SPRINGS CREEK NEAR EDEN MILLS		12
02FE014	77 70	G	34	QR	D	IAE	BLYTH BROOK BELOW BLYTH		13
02HD006	82 90	G	24	QR	D	IAE	BOWMANVILLE CREEK AT BOWMANVILLE		14
02HB022	117 00	G	15	QR		IAE	BRONTE CREEK AT CARLISLE		15
02HK009	82 30	G	24	QR	D	IAE	BURNLEY CREEK ABOVE WARKWORTH		16
02GA023	118 00	G	11	QR		IAE	CANAGAGIGUE CREEK NEAR ELMIRA		17
02GH003	159 00	G	32	QR	S	IAE	CANARD RIVER NEAR LUKERVILLE MISC SED		18
02KF011	269 00	G	52	QR	D	IAE	CARP RIVER NEAR KINBURN		19
02FC011	163 00	G	33	QR		IAE	CARRICK CREEK NEAR CARLSRUHE		20
02LB006	433 00	G	53	QR		IAE	CASTOR RIVER AT RUSSELL		21
02GC030	120 00	G	12	QR	M	IAE	CATFISH CREEK AT ALYMER		22
02GD011	93 20	G	31	QR	D	IAE	CEDAR CREEK AT WOODSTOCK		23
02DD014	37 30	G	42	QR	D	IAE	CHIPPEWA CREEK AT NORTH BAY		24
02KF013	280 00	G	52	QR	D	IAE	CLYDE RIVER AT GORDON RAPIDS		25
02KF010	614 00	G	52	QR	D	IAE	CLYDE RIVER NEAR LANARK		26
02HC023	62 20	G	23	QR		IAE	COLD CREEK NEAR BOLTON		27
02HK007	159 00	G	24	QR	D	IAE	COLD CREEK AT ORLAND		28
02GA039	272 00	G	11	QR	S	IAE	CONESTOGO RIVER ABOVE DRAYTON MISC SED		29
02GA028	578 00	G	11	QR		IAE	CONESTOGO RIVER AT GLEN ALLAN		30
02HE002	114 00	G	24	QR		IAE	CONSECON CREEK AT ALLISONVILLE		31
02HB019	59 50	G	14	QR	D	IAE	CREDIT RIVER ALTON BRANCH ABOVE ALTON		32
02HB018	402 00	G	14	QR	D	IAE	CREDIT RIVER AT BOSTON MILLS		33
02HB001	205 00	G	14	QR	D	IAE	CREDIT RIVER NEAR CATARACT		34
02HB020	32 30	G	14	QR	D	IAE	CREDIT RIVER ERIN BRANCH ABOVE ERIN		35
02HB013	62 20	G	14	QR	D	IAE	CREDIT RIVER NEAR ORANGEVILLE		36
02HB008	127 00	G	14	QR	D	IAE	CREDIT RIVER WEST BRANCH AT NORVAL		37
02HK005	456 00	G	52	QR	D	IAE	CROWE RIVER NEAR GLEN ALDA		38
02MC028	85 40	G	53	QR	D	IAE	DELISLE RIVIERE NEAR ALEXANDRIA		39
02HM002	189 00	G	51	QR		IAE	DEPOT CREEK AT BELLROCK		40
02GE005	146 00	G	31	QM		IAE	DINGMAN CREEK BELOW LAMBETH		41
02HC005	88 10	G	23	QR	M	IAE	DON RIVER AT YORK MILLS		42
02HC019	93 50	G	24	QR	D	IAE	DUFFINS CREEK ABOVE PICKERING		43
02EB013	593 00	G	41	QR	D	IAE	EAST RIVER NEAR HUNTSVILLE		44
02HC032	94 80	G	23	QR		IAE	EAST HUMBER RIVER AT KING CREEK		45
02HC009	197 00	G	23	QR	M	IAE	EAST HUMBER RIVER NEAR PINE GROVE		46
02GA029	236 00	G	13	QR		IAE	ERAMOSIA RIVER ABOVE GUELPH		47
02HC017	63 20	G	23	QR		IAE	ETOBICOKE CREEK AT BRAMPTON		48
02KF014	277 00	G	52	QR		IAE	FALL RIVER NEAR FALLBROOK		49
02GD010	150 00	G	31	QR		IAE	FISH CREEK NEAR PROSPECT HILL		50

**CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
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PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02HD003	67 30	G	24	QR	D	IAE	GANARASKA RIVER NEAR OSACA		51
02GA003	3520 00	G	11	QR		IAE	GRAND RIVER AT GALT		52
02GA014	694 00	G	11	QR	S	IAE	GRAND RIVER NEAR MARSVILLE MISC SED		53
02GA016	800 00	G	11	QR		IAE	GRAND RIVER BELOW SHAND DAM		54
02GA034	1170 00	G	11	QR		IAE	GRAND RIVER AT WEST MONTROSE		55
02HB012	82 60	G	15	QR		IAE	GRINDSTONE CREEK NEAR ALDERSHOT		56
02GB006	150 00	G	12	QR		IAE	HORNER CREEK NEAR PRINCETON		57
02HC025	303 00	G	23	QR	S M	IAE	HUMBER RIVER AT ELDER MILLS SED OPEN WAT		58
02HC047	117 00	G	23	QR		IAE	HUMBER RIVER NEAR PALGRAVE		59
02KF012	203 00	G	52	QR	D	IAE	INDIAN RIVER NEAR BLAKENEY		60
02HJ001	110 00	G	22	QR	D	IAE	JACKSON CREEK AT PETERBOROUGH		61
02CF005	89 10	G	42	QR	D	IAE	JUNCTION CREEK AT SUDBURY		62
02GB009	91 90	G	12	QR		IAE	KENNY CREEK NEAR BURFORD		63
02GC029	135 00	G	12	QR	D	IAE	KETTLE CREEK ABOVE ST THOMAS		64
02JC010	256 00	G	43	QR	N L	IAE	LARDER RIVER ABOVE RAVEN LAKE		65
02GA024	59 60	G	11	QR		IAE	LAUREL CREEK AT WATERLOO		66
02DD013	70 40	G	42	QR	D	IAE	LA VASE RIVER AT NORTH BAY		67
02GH011	50 50	G	32	QR		IAE	LITTLE RIVER AT WINDSOR		68
02HC029	130 00	G	23	QR	D	IAE	LITTLE DON RIVER AT DON MILLS		69
02FE007	326 00	G	34	QR	D	IAE	LITTLE MAITLAND RIVER AT BLUEVALE		70
02GC015	104 00	G	12	QR	S M	IAE	LITTLE OTTER CRK NR STRAFFORDVILLE MISC SED		71
02FD002	54 90	G	34	QR	DM	IAE	LUCKNOW RIVER AT LUCKNOW		72
02GA033	64 70	G	15	QR		IAE	LUTTERAL CREEK NEAR OUSTIC		73
02MB006	0 00	G	51	QR	S	IAE	LYN CREEK NEAR LYN MISC SED		74
02HC018	106 00	G	24	QR	SD	IAE	LYNDE CREEK NEAR WHITBY MISC SED		75
02FE015	0 00	G	34	QR	D	IAE	MAITLAND RIVER AT BENMILLER		76
02FE011	112 00	G	34	QR	DT	IAE	MAITLAND RIVER NEAR HARRISTON		77
02FE005	528 00	G	34	QR	DM	IAE	MAITLAND RIVER ABOVE WINGHAM		78
02HG001	189 00	G	22	QR	D	IAE	MARIPOSA BROOK NEAR LITTLE BRITAIN		79
04LA002	5540 00	G	43	QR		IAE	MATTAGAMI RIVER NEAR TIMMINS		80
02JE020	909 00	G	43	QR		IAE	MATTAWA RIVER BELOW BOUILLON LAKE		81
02GE007	202 00	G	32	QR	SDM	IAE	MCGREGOR CREEK NEAR CHATHAM (SED MAR-DEC)		82
02AB020	90 00	G	61	QR	D	IAE	MCINTYRE RIVER ABOVE THUNDER BAY		83
02AB019	46 40	G	61	QR	D	IAE	MCVICAR CREEK AT THUNDER BAY		84
02GD008	200 00	G	31	QR	D	IAE	MEDWAY RIVER AT LONDON		85
02FE008	647 00	G	34	QR	D	IAE	MIDDLE MAITLAND RIVER NR BELGRAVE		86
02FE013	416 00	G	34	QR	D	IAE	MIDDLE MAITLAND RIVER ABOVE ETHEL		87
02FE003	77 70	G	34	QR	DM	IAE	MIDDLE MAITLAND RIVER NEAR LISTOWEL		88
02GD004	306 00	G	31	QR	D	IAE	MIDDLE THAMES RIVER AT THAMESFORD		89
02KF001	2620 00	G	51	QR	D	IAE	MISSISSIPPI RIVER AT FERGUSONS FALLS		90
02KF016	0 00	G	52	QR	D	IAE	MISSISSIPPI RIVER BELOW MARBLE LAKE		91
02HL005	308 00	G	22	QR	D	IAE	MOIRA RIVER NEAR DELORO		92
02GA010	1030 00	G	11	QR	S	IAE	NITH RIVER NEAR CANNING MISC SED		93
02GA018	552 00	G	11	QR		IAE	NITH RIVER AT NEW HAMBURG		94
02GA038	326 00	G	11	QR		IAE	NITH RIVER ABOVE NITHBURG		95
02CF009	21 50	G	42	QR	D	IAE	NOLIN CREEK AT SUDBURY		96
02EB004	1390 00	G	13	QR	D	IAE	NORTH BRANCH MUSKOKA RIVER AT PORT SYDNEY		97
02FC018	216 00	G	33	QR	D	IAE	NORTH SAUGEEN RIVER ABOVE CHESLEY		98
02GD003	1450 00	G	31	QR		IAE	NORTH THAMES RIVER BELOW FANSHAW DAM		99
02GD014	319 00	G	31	QR	D	IAE	NORTH THAMES RIVER NEAR MITCHELL		100

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
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DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02GD005	1080 00	G	31	QR	D	IAE	NORTH THAMES RIVER AT ST MARYS		101
02GD015	1340 00	G	31	QR	SD	IAE	NORTH THAMES RIVER NEAR THORNDALE MISC SED		102
02HD004	42 70	G	24	QR		IAE	NORTH WEST GANARASKA RIVER NEAR OSACA		103
02CF010	1570 00	G	45	QR		IAE	ONAPING RIVER NEAR LEVACK		104
02EB014	601 00	G	13	QR	D	IAE	OXTONGUE RIVER NEAR DWIGHT		105
02FF008	110 00	G	34	QR	S M	IAE	PARKHILL CRK AB PARKHILL RESERVOIR MISC SED		106
02HL006	205 00	G	52	QR	D	IAE	PARKS CREEK NEAR LATTA		107
02GC012	51 30	G	12	QR	M	IAE	PATTERSON CREEK NEAR SIMCOE		108
02MC027	129 00	G	53	QR	D	IAE	RAISIN RIVER AT BLACK RIVER FEB 15-MAY 15		109
02MC001	404 00	G	53	QR	SD	IAE	RAISIN RIVER NEAR WILLIAMSTOWN MISC SED		110
02HK008	86 70	G	52	QR	D	IAE	RAWDON CREEK NEAR WEST HUNTINGDON		111
02HA014	60 90	G	15	QR	S M	IAE	REDHILL CREEK AT HAMILTON MISC SED		112
02FC016	329 00	G	33	QR	DM	IAE	SAUGEEN RIVER ABOVE DURHAM		113
02FC002	2150 00	G	33	QR	DM	IAE	SAUGEEN RIVER NEAR WALKERTON		114
02GA037	25 10	G	11	QR		IAE	SCHNEIDER CREEK AT KITCHENER		115
02EC010	42 90	G	23	QR		IAE	SCHOMBERG RIVER NEAR SCHOMBERG		116
02HD010	64 70	G	24	QR		IAE	SHELTER VALLEY BROOK NEAR GRAFTON		117
02HL004	712 00	G	52	QR	D	IAE	SKOOTAMATTA RIVER NEAR ACTINOLITE		118
02DD009	316 00	G	43	QR		IAE	SOUTH RIVER AT SOUTH RIVER		119
02EB008	1390 00	G	13	QM		IAE	SOUTH BRANCH MUSKOKA RIVER AT BAYSVILLE		120
02LB020	189 00	G	53	QR		IAE	SOUTH CASTOR RIVER AT KENMORE		121
02LB013	2410 00	G	53	QR	D	IAE	SOUTH NATION R AT CASSELMAN		122
02LB009	1050 00	G	51	QR	M	IAE	SOUTH NATION RIVER AT CHESTERVILLE (MAR-MAY)		123
02LB007	246 00	G	51	QR	D	IAE	SOUTH NATION RIVER AT SPENCERVILLE		124
02FF004	41 40	G	34	QR	M	IAE	SOUTH PARKHILL CREEK NEAR PARKHILL		125
02MC030	25 80	G	53	QR	D	IAE	SOUTH RAISIN R NR CORNWALL (MAR-MAY)		126
02FC012	635 00	G	33	QR	D	IAE	SOUTH SAUGEEN RIVER NEAR HANOVER		127
02GA040	167 00	G	11	QR	S	IAE	SPEED RIVER NEAR ARMSTRONG MILLS MISC SED		128
02GA015	593 00	G	11	QR		IAE	SPEED RIVER BELOW GUELPH		129
02HB015	63 50	G	15	QR	M	IAE	SPENCER CREEK NEAR WESTOVER		130
02DC004	2980 00	G	44	QR	L	IAE	STURGEON RIVER NEAR GLEN APTON		131
02GH001	14 20	G	32	QR		IAE	STURGEON CREEK NEAR LEAMINGTON		132
02DC012	1200 00	G	44	QR	N L	IAE	STURGEON RIVER AT UPPER GOOSE FALLS		133
02GG002	730 00	G	32	QR	D	IAE	SYDENHAM RIVER NEAR ALVINSTON		134
02GG005	172 00	G	32	QR	M	IAE	SYDENHAM RIVER AT STRATHROY		135
02GG008	2680 00	G	32	HR	D	IAE	SYDENHAM RIVER AT WALLACEBURG		136
02FC015	663 00	G	33	QR	D	IAE	TEESWATER RIVER NEAR PAISLEY		137
02GE002	3110 00	G	31	QR	DM	IAE	THAMES RIVER AT BYRON		138
02GE004	4610 00	G	32	HR	M	IAE	THAMES RIVER AT CHATHAM		139
02GE006	3760 00	G	32	QR	M	IAE	THAMES RIVER NEAR DUTTON		140
02GD001	1340 00	G	31	QR	D	IAE	THAMES RIVER NEAR EALING		141
02GD016	518 00	G	31	QR	DT	IAE	THAMES RIVER AT INGERSOLL		142
02GD021	149 00	G	31	QR	SD	IAE	THAMES RIVER AT INNERKIP MISC SED		143
02GD012	254 00	G	31	QR		IAE	THAMES RIVER AT WOODSTOCK		144
02GD019	36 00	G	31	QR		IAE	TROUT CREEK NEAR FAIRVIEW		145
02GD009	140 00	G	31	QR		IAE	TROUT CREEK NEAR ST MARYS		146
02GH004	29 60	G	32	QR	D	IAE	TURKEY CREEK AT WINDSOR		147
02HA020	168 00	G	15	QR	D	IAE	TWENTY MILE CREEK ABOVE SMITHVILLE		148
02GC021	68 40	G	12	QR		IAE	VENISON CREEK NEAR WALSINGHAM		149
02GD020	108 00	G	31	QR	D	IAE	WAUBUNO CREEK NEAR DORCHESTER		150

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
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PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02HC038	52 00	G	24	QR	D	IAE	WEST DUFFINS CREEK ABOVE GREEN RIVER		151
02HC031	148 00	G	23	QR	D	IAE	WEST HUMBER RIVER AT HIGHWAY NO 7		152
02AB017	210 00	G	61	QR	L	IAE	WHITEFISH RIVER AT NOLALU		153
02GB008	383 00	G	12	QR		IAE	WHITEMANS CREEK NEAR MOUNT VERNON		154
02CF007	243 00	G	45	QR	D	IAE	WHITSON RIVER AT CHELMSFORD		155
02CF008	155 00	G	45	QR	D	IAE	WHITSON RIVER AT VAL CARON		156
02ED009	94 80	G	13	QR		IAE	WILLOW CREEK ABOVE LITTLE LAKE		157
02ED010	127 00	G	13	QR		IAE	WILLOW CREEK AT MIDHURST		158
02HD009	82 60	G	24	QR	D	IAE	WILMOT CREEK NEAR NEWCASTLE		159
02GD013	38 80	G	31	QR		IAE	WYE CREEK NEAR THORNDALE		160

SUMMARY

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 =	2
	CONVENTIONAL	- WATER LEVEL =	2
		- DISCHARGE =	156
	SUB-TOTAL	- WATER LEVEL =	2
		- DISCHARGE =	158
	TOTAL	=	160

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
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PROVINCIAL 1 OPERATED BY FEDERAL (WSC) OMOE/OMNR

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	QR	D	IAF	BEAR CREEK NEAR PETROLIA		1
02CG003	17 90	G	42	QR		IAF	BLUE JAY CREEK NEAR TEHKUMMAH		2
02EA006	650 00	G	41	QR		IAF	MAGNETAWAN RIVER NEAR BURKS FALLS		3
02AB014	112 00	G	60	QR		IAF	NORTH CURRENT RIVER NEAR THUNDER BAY		4
02EC018	332 00	G	22	QR	D	IAF	PEPPERLAW BROOK NEAR UDORA		5
02BA002	1190 00	G	62	QR	S	IAF	STEEL RIVER NEAR TERRACE BAY MISC SED		6

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 1 OPERATED BY FEDERAL (WSC) ONTARIO HYDRO/OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02CB003	1440 00	G	42	QR	TL	IAG	AUBINADONG RIVER ABOVE SESABIC CREEK		1
02CC005	1960 00	G	42	QR	M	IAG	LITTLE WHITE RIVER NEAR BELLINGHAM		2
02CC010	1190 00	G	42	QR	TL	IAG	LITTLE WHITE RIVER BELOW BOLAND RIVER		3

SUMMARY

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	- WATER LEVEL =	0
		- DISCHARGE =	3
	TOTAL	=	3

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

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PROVINCIAL 2 OPERATED BY FEDERAL (WSC) OMOE

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02FF009	113 00	G	34	QR	D	JAD	AUSABLE RIVER NEAR EXETER		1
02GA041	62 90	G	11	QR		JAD	GRAND RIVER NEAR DUNDALK		2
04LK001	1140 00	G	41	QR		JAD	MATTAWISHKWIA RIVER AT HEARST		3
02GA042	0 00	G		QR		JAD	MOOREFIELD CREEK NEAR ROTHSAY (NOV 1-MAR 1)		4
02GD023	34 20	G	31	QR		JAD	THAMES RIVER NEAR TAVISTOCK		5

SUMMARY

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 =	5
	TOTAL	=	5

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
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PROVINCIAL 2 OPERATED BY FEDERAL (WSC) OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02MB010	0 00	G	51	QR	S	JAE	BUELLS CREEK AT BROCKVILLE MISC SED		1
02HB025	0 00	G	14	QR	S	JAE	CREDIT RIVER AT NORVAL MISC SED		2
02GC031	0 00	G	12	QR	D	JAE	DODD CREEK BELOW PAYNES MILLS		3
02KF015	26 50	G	51	QR	D	JAE	GRAHAM CREEK AT NEPEAN (APR 1-DEC 15)		4
02BD005	0 00	G	62	HR	N	JAE	MAGPIE RIVER AT ESNAGI LAKE		5
02ED021	0 00	G	13	HR		JAE	MATCHEDASH BAY ABOVE HWY 69		6
02ED020	0 00	G	13	HR		JAE	MATCHEDASH BAY BELOW HWY 69		7
02ED022	0 00	G	13	HR		JAE	NORTH RIVER NEAR COLDWATER		8
02ED023	0 00	G	13	HM		JAE	NORTH RIVER NEAR LOVERING (MISC)		9
02ED024	0 00	G	13	QR		JAE	NORTH RIVER AT THE FALLS		10
02LB017	69 20	G	53	QR		JAE	NORTH BRANCH SOUTH NATION RIVER NEAR HECKSTON		11
02HA024	0 00	G	15	QR	D	JAE	OSWEGO CREEK AT CANBORO		12
02LB022	152 00	G	53	QR		JAE	PAYNE RIVER NEAR BERWICK		13
02HA023	0 00	G	15	QR	S	JAE	REDHILL CREEK AT ALBION FALLS MISC SED		14
02FA004	301 00	G	33	QR	D	JAE	SAUBLE RIVER AT ALLENFORD		15
02FA005	0 00	G	33	HR	D	JAE	SAUBLE RIVER ABOVE TARA		16
02HB023	132 00	G	15	QR	SD	JAE	SPENCER CREEK AT HWY NO 5 MISC SED		17
02HA022	0 00	G	15	QR	S	JAE	STONEY CREEK AT STONEY CREEK MISC SED		18
02HA021	0 00	G	15	HR	D	JAE	WELLAND RIVER NEAR BINBROOK		19
02HA025	0 00	G		HR	D	JAE	WELLAND RIVER AT WELLAND CANAL		20
02HM009	0 00	G	51	QR	S	JAE	WEST BR L CATARAQUI CRK AT KINGSTON(M SED)		21

SUMMARY

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 =	0
	CONVENTIONAL	- WATER LEVEL =	7
		- DISCHARGE =	13
	SUB-TOTAL	- WATER LEVEL =	8
		- DISCHARGE =	13
	TOTAL	=	21

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 2 OPERATED BY FEDERAL (WSC) OMCE/OMNR

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02ED014	195 00	G	33	QR	M	JAF	PINE RIVER NEAR EVERETT		1

SUMMARY

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 =	1
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	1
	TOTAL	=	1

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL 1 SEDIMENT 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
04ME003	27500 00	G	43	QR	NS L	SAA	ABITIBI RIVER AT ONAKAWANA MISC SED		1
04FC001	36000 00	G	41	QR	NS L	SAA	ATTAWAPISKAT R BELOW MUKETEI R MISC SED		2
02FF002	865 00	G	34	QR	SD	SAA	AUSABLE RIVER NEAR SPRINGBANK SED OPEN WAT		3
02BF001	1190 00	G	44	QR	S	SAA	BATCHAWANA RIVER NEAR BATCHAWANA MISC SED		4
02FF007	466 00	G	34	QR	S	SAA	BAYFIELD RIVER NEAR VARNA MISC SED		5
02GG009	533 00	G	32	QR	SD	SAA	BEAR CREEK BELOW BRIGDEN MISC SED		6
02FB009	572 00	G	33	QR	SD	SAA	BEAVER RIVER NEAR CLARKSBURG MISC SED		7
02FB010	293 00	G	33	QR	SD	SAA	BIGHEAD RIVER NEAR MEAFORD MISC SED		8
02GC026	676 00	G	12	QR	SD	SAA	BIG OTTER CREEK NEAR CALTON SED OPEN WAT		9
02BB002	1980 00	G	62	QR	S	SAA	BLACK RIVER NEAR MARATHON MISC SED		10
02AC002	2980 00	G	60	QR	S	SAA	BLACK STURGEON RIVER AT HWY NO 17 MISC SED		11
02MB010	0 00	G	51	QR	S	SAA	BUELLS CREEK AT BROCKVILLE MISC SED		12
02GH003	159 00	G	32	QR	S	SAA	CANARD RIVER NEAR LUKERVILLE MISC SED		13
02GC018	287 00	G	12	QR	SD	SAA	CATFISH CREEK NEAR SPARTA MISC SED		14
02GA039	272 00	G	11	QR	S	SAA	CONESTOGO RIVER ABOVE DRAYTON MISC SED		15
02ED019	0 00	G	13	QR	S	SAA	COPELAND CRK NR PENETANGUISHENE MISC SED		16
02HB002	795 00	G	14	QR	SD	SAA	CREDIT RIVER AT ERINDALE SED OPEN WAT		17
02HB025	0 00	G	14	QR	S	SAA	CREDIT RIVER AT NORVAL MISC SED		18
02HC024	316 00	G	23	QR	SD	SAA	DON RIVER AT TODMORDEN MISC SED		19
02HC006	249 00	G	24	QR	S M	SAA	DUFFINS CREEK AT PICKERING MISC SED		20
02HC030	204 00	G	23	QR	SD	SAA	ETOBICOKE CREEK BELOW Q E W MISC SED		21
02GB007	360 00	G	11	QR	S	SAA	FAIRCHILD CREEK NEAR BRANTFORD MISC SED		22
02DD010	13900 00	G	45	QR	SDM	SAA	FRENCH RIVER AT DRY PINE BAY MISC SED		23
02HD012	232 00	G	24	QR	SD	SAA	GANARASKA RIVER ABOVE DALE MISC SED		24
02BF002	1160 00	G	44	QR	S L	SAA	GOULAIS RIVER NEAR SEARCHMONT MISC SED		25
02GA014	694 00	G	11	QR	S	SAA	GRAND RIVER NEAR MARSVILLE MISC SED		26
02AE001	616 00	G	60	QR	S	SAA	GRAVEL RIVER NEAR CAVERS MISC SED		27
02HC013	88 10	G	23	QR	SD	SAA	HIGHLAND CREEK NEAR WEST HILL MISC SED		28
02ED017	0 00	G	13	QR	S	SAA	HOG CREEK NEAR VICTORIA HARBOUR MISC SED		29
02EC009	181 00	G	23	QR	S M	SAA	HOLLAND RIVER AT HOLLAND LANDING MISC SED		30
02LA006	409 00	G	53	QR	SD	SAA	KEMPTVILLE CREEK NEAR KEMPTVILLE MISC SED		31
02GC002	329 00	G	12	QR	SD	SAA	KETTLE CREEK AT ST THOMAS MISC SED		32
02GC015	104 00	G	12	QR	S M	SAA	LITTLE OTTER CRK NR STRAFFORDVILLE MISC SED		33
02BA003	1320 00	G	62	QR	S	SAA	LITTLE PIC RIVER NEAR COLDWELL MISC SED		34
02HC028	77 70	G	23	QR	S	SAA	LITTLE ROUGE CRK NR LOCUST HILL MISC SED		35
02MB006	0 00	G	51	QR	S	SAA	LYN CREEK NEAR LYN MISC SED		36
02HC018	106 00	G	24	QR	SD	SAA	LYNDE CREEK NEAR WHITBY MISC SED		37
02ED015	0 00	G	33	QR	S	SAA	MAD RIVER BELOW AVENING MISC SED		38
02BD003	1930 00	G	62	QR	S M	SAA	MAGPIE RIVER NEAR MICHIPICOTEN MISC SED		39
02GE007	202 00	G	32	QR	SDM	SAA	MCGREGOR CREEK NEAR CHATHAM (SED MAR-DEC)		40
02GB010	171 00	G	11	QR	S	SAA	MCKENZIE CREEK NEAR CALEDONIA MISC SED		41
02CC008	9300 00	G	44	QR	S	SAA	MISSISSAGI RIVER AT MISSISSAGI CHUTE MISC SED		42
02KF006	2900 00	G	51	QR	SD	SAA	MISSISSIPPI RIVER AT APPLETON MISC SED		43
02HL001	2620 00	G	52	QR	SD	SAA	MOIRA RIVER NEAR FOXBORO MISC SED		44
04LG004	60100 00	G	43	QR	NS L	SAA	MOOSE RIVER ABOVE MOOSE RIVER MISC SED		45
02GC022	181 00	G	12	QR	S	SAA	NANTICOKE CREEK AT NANTICOKE MISC SED		46
02HM007	694 00	G	51	QR	S M	SAA	NAPANEE RIVER AT CAMDEN EAST MISC SED		47
02AB008	187 00	G	61	QR	SD	SAA	NEEBING RIVER NEAR THUNDER BAY MISC SED		48
02GA010	1030 00	G	11	QR	S	SAA	NITH RIVER NEAR CANNING MISC SED		49
02GD015	1340 00	G	31	QR	SD	SAA	NORTH THAMES RIVER NEAR THORNDALE MISC SED		50

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

FEDERAL 1 SEDIMENT 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
02ED003	1180 00	G	33	QR	S M	SAA	NOTTAWASAGA RIVER NEAR BAXTER SED OPEN NAT		51
02FF008	110 00	G	34	QR	S M	SAA	PARKHILL CRK AB PARKHILL RESERVOIR MISC SED		52
02BB003	4270 00	G	62	QR	S	SAA	PIC RIVER NEAR MARATHON MISC SED		53
02AA001	1550 00	G	60	QR	S	SAA	PIGEON RIVER AT MIDDLE FALLS MISC SED	ENGLISH	54
02FD001	154 00	G	34	QR	S	SAA	PINE RIVER AT LURGAN MISC SED		55
02MC001	404 00	G	53	QR	SD	SAA	RAISIN RIVER NEAR WILLIAMSTOWN MISC SED		56
02HA023	0 00	G	15	QR	S	SAA	REDHILL CREEK AT ALBION FALLS MISC SED		57
02HA014	60 90	G	15	QR	S M	SAA	REDHILL CREEK AT HAMILTON MISC SED		58
02CA002	108 00	G	44	QR	S	SAA	ROOT RIVER AT SAULT STE MARIE MISC SED		59
02HC022	186 00	G	23	QR	S M	SAA	ROUGE RIVER NEAR MARKHAM MISC SED		60
02GH002	125 00	G	32	QR	S	SAA	RUSCOM RIVER NEAR RUSCOM STATION MISC SED		61
02HM003	891 00	G	52	QR	S	SAA	SALMON RIVER NEAR SHANNONVILLE MISC SED		62
02FE009	376 00	G	34	QR	SD	SAA	SOUTH MAITLAND R AT SUMMERHILL MISC SED		63
02LB005	3810 00	G	53	QR	SD	SAA	S NATION R NR PLANTAGENET SPRINGS MISC SED		64
02GA040	167 00	G	11	QR	S	SAA	SPEED RIVER NEAR ARMSTRONG MILLS MISC SED		65
02HB023	132 00	G	15	QR	SD	SAA	SPENCER CREEK AT HWY NO 5 MISC SED		66
02BA002	1190 00	G	62	QR	S	SAA	STEEL RIVER NEAR TERRACE BAY MISC SED		67
02FA002	50 50	G	33	QR	S	SAA	STOKES RIVER NEAR FERNDALE MISC SED		68
02HA022	0 00	G	15	QR	S	SAA	STONEY CREEK AT STONEY CREEK MISC SED		69
02ED018	0 00	G	13	QR	S	SAA	STURGEON RIVER AT STURGEON BAY MISC SED		70
02GG003	1160 00	G	32	QR	SD	SAA	SYDENHAM RIVER AT FLORENCE (SED FEB-DEC)		71
02FB007	181 00	G	33	QR	SD	SAA	SYDENHAM RIVER NEAR OWEN SOUND MISC SED		72
02GD021	149 00	G	31	QR	SD	SAA	THAMES RIVER AT INNERKIP MISC SED		73
02HK004	12000 00	G	22	QR	S M	SAA	TRENT RIVER AT GLEN ROSS MISC SED		74
02HA006	293 00	G	15	QR	S	SAA	TWENTY MILE CREEK AT BALLS FALLS MISC SED		75
02HM009	0 00	G	51	QR	S	SAA	WEST BR L CATARAQUI CRK AT KINGSTON(M SED)		76
02BA005	0 00	G	62	QR	S	SAA	WHITESAND R AB SCHREIBER AT MINOVA MINE(M SED)		77
04DC001	50000 00	G	62	QR	NS L	SAA	WINISK R BELOW ASHEWEIG R TRIB MISC SED		78
02ED013	118 00	G	13	QR	S	SAA	WYE RIVER NEAR WYVALE MISC SED		79

SUMMARY

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 =	4
	CONVENTIONAL	- WATER LEVEL =	0
		- DISCHARGE =	75
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	79
	TOTAL	=	79

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

PROVINCIAL 2 SEDIMENT PROGRAMS OPERATED BY FEDERAL (WSC) OMNR

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 SED OPEN WAT		1

SUMMARY

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 =	1
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	1
	TOTAL	=	1

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

CONTRIBUTED DATA OPERATED BY FEDERAL (WSC) MEDS/CHS

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02GH008	0 00	G	32	HR	D	RAT	DETROIT RIVER AT AMHERSTBURG		1
02GH007	0 00	G	32	HR		RAT	DETROIT RIVER AT LASALLE		2
02GH009	0 00	G	32	HR	D	RAT	LAKE ERIE AT BAR POINT		3
02GF002	0 00	G	32	HR		RAT	LAKE ERIE AT ERIEAU		4
02GH010	0 00	G	32	HR		RAT	LAKE ERIE AT KINGSVILLE		5
02HA017	0 00	G	15	HR	DM	RAT	LAKE ERIE AT PORT COLBORNE		6
02GC028	0 00	G	12	HR	D	RAT	LAKE ERIE AT PORT DOVER		7
02GC027	0 00	G	12	HR	D	RAT	LAKE ERIE AT PORT STANLEY		8
02ED012	0 00	G	33	HR	D	RAT	LAKE HURON AT COLLINGWOOD		9
02FE012	0 00	G	34	HR	D	RAT	LAKE HURON AT GODERICH		10
02CG002	0 00	G	42	HR		RAT	LAKE HURON AT LITTLE CURRENT		11
02EA014	0 00	G	45	HR	D	RAT	LAKE HURON AT PARRY SOUND		12
02CA006	0 00	G	44	HR	D	RAT	LAKE HURON AT THESSALON		13
02FA003	0 00	G	33	HR		RAT	LAKE HURON AT TOBERMORY		14
02HB017	0 00	G	15	HR	D	RAT	LAKE ONTARIO AT BURLINGTON		15
02HD015	0 00	G	24	HR	D	RAT	LAKE ONTARIO AT COBOURG		16
02HM008	0 00	G	51	HR	D	RAT	LAKE ONTARIO AT KINGSTON		17
02HA018	0 00	G	15	HR	DM	RAT	LAKE ONTARIO AT PORT WELLER		18
02HC048	0 00	G	23	HR	D	RAT	LAKE ONTARIO AT TORONTO		19
02GH005	0 00	G	32	HR	DM	RAT	LAKE ST CLAIR AT BELLE RIVER		20
02GH006	0 00	G	32	HR		RAT	LAKE ST CLAIR AT TECUMSEH		21
02BF010	0 00	G	44	HR		RAT	LAKE SUPERIOR AT GROS CAP		22
02BD004	0 00	G	62	HR	D	RAT	LAKE SUPERIOR AT MICHIPOTEN HARBOUR		23
02BA004	0 00	G	60	HR		RAT	LAKE SUPERIOR AT ROSSPORT		24
02AB018	0 00	G	61	HR	DM	RAT	LAKE SUPERIOR AT THUNDER BAY		25
02GG010	0 00	G	32	HR		RAT	ST CLAIR RIVER AT POINT EDWARD		26
02GG011	0 00	G	32	HR		RAT	ST CLAIR RIVER AT PORT LAMBTON		27
02MB007	0 00	G	51	HR	D	RAT	ST LAWRENCE RIVER AT BROCKVILLE		28
02MC022	0 00	G	53	HR		RAT	ST LAWRENCE R BELOW CORNWALL CANAL		29
02MB008	0 00	G	51	HR		RAT	ST LAWRENCE R AT IROQUOIS ISLAND (AB)		30
02MB009	0 00	G	51	HR		RAT	ST LAWRENCE R AT IROQUOIS ISLAND (BE)		31
02MC023	0 00	G	53	HR	M	RAT	ST LAWRENCE R AT SUMMERSTOWN		32
02BF011	0 00	G	44	HR	M	RAT	ST MARYS R AT S S MARIE (ABOVE)		33
02CA005	0 00	G	44	HR	M	RAT	ST MARYS R AT S S MARIE (BELOW)		34

SUMMARY

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 =	34
		- DISCHARGE =	0
	SUB-TOTAL	- WATER LEVEL =	34
		- DISCHARGE =	0
	TOTAL	=	34

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
 SCHEDULE A
 FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

CONTRIBUTED DATA 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
04ME002	22900 00	G	80	QP		RBC	ABITIBI RIVER AT ABITIBI CANYON		1
04ME004	23400 00	G	80	QP		RBC	ABITIBI RIVER AT OTTER RAPIDS		2
04MD003	2540 00	G	82	HM		RBC	FREDERICK HOUSE RIVER AT NIGHTHAWK LAKE		3
02AB012	174 00	G	83	QM		RBC	GREENWATER CREEK AT OUTLET OF GREENWATER LAKE		4
02AB004	3760 00	G	83	QP		RBC	KAMINISTIQUEA RIVER AT OUTLET OF DOG LAKE		5
02AB010	6710 00	G	83	QP		RBC	KAMINISTIQUEA RIVER AT KAKABEKA FALLS P H		6
02AB013	526 00	G	83	QM		RBC	KASHABOWIE RIVER AT OUTLET OF KASHABOWIE LAKE		7
04JD002	4270 00	G	82	QM		RBC	KENOGAMI RIVER AT KENOGAMI DAM		8
02AD007	0 00	G	82	HR	M	RBC	LAKE NIPIGON AT MACDIARMID		9
04GA001	0 00	G	83	QR	N	RBC	LAKE ST JOSEPH OUTFLOW TO ALBANY RIVER		10
04GA004	0 00	G	83	HR	N	RBC	LAKE ST JOSEPH ABOVE RAT RAPIDS DAM		11
04JD003	0 00	G	81	QR		RBC	LONG LAKE DIVERSION TO LAKE SUPERIOR		12
04JD001	0 00	G	82	HM		RBC	LONG LAKE AT LONGLAC		13
02KE005	8160 00	G	81	QP		RBC	MADAWASKA RIVER AT STEWARTVILLE		14
02JE021	749 00	G	82	QM	L	RBC	MATABITCHUAN RIVER AT RABBIT LAKE DAM		15
04LG003	34700 00	G	80	QP		RBC	MATTAGAMI RIVER AT LITTLE LONG RAPIDS		16
02CB001	4040 00	G	83	QP		RBC	MISSISSAGI RIVER BELOW AUBREY FALLS		17
02CC007	6840 00	G	83	QP		RBC	MISSISSAGI RIVER AT RAYNER GENERATING STATION		18
02CC009	9010 00	G	83	QP		RBC	MISSISSAGI RIVER AT RED ROCK FALLS		19
02CB002	2150 00	G	82	HM	L	RBC	MISSISSAGI RIVER AT ROCKY ISLAND LAKE		20
04GB003	0 00	G	81	HR		RBC	MOJIKIT LAKE RESERVOIR AT MOJIKIT LAKE		21
02JD010	6600 00	G	80	QP		RBC	MONTREAL RIVER AT LOWER NOTCH GENERATING STA		22
02AD008	24600 00	G	81	QP		RBC	NIPIGON RIVER AT PINE PORTAGE		23
02AD009	0 00	G	81	QR		RBC	OGOKI RIVER DIVERSION TO LAKE NIPIGON		24
04GB001	13600 00	G	82	QR		RBC	OGOKI RIVER AT WABOOSE FALLS DAM		25
02KF009	89600 00	G	81	QP		RBC	OTTAWA RIVER AT CHATS FALLS		26
02KA002	57500 00	G	81	QP		RBC	OTTAWA RIVER AT DES JOACHIMS		27
02JE012	47900 00	G	81	QP		RBC	OTTAWA RIVER AT LA CAVE RAPIDS		28
02KC013	0 00	G	82	HR	M	RBC	OTTAWA RIVER AT PEMBROKE		29
02KC016	0 00	G	81	HR		RBC	OTTAWA RIVER AT SANDPOINT		30
02AB011	0 00	G	83	QM		RBC	SHEBANDOWAN RIVER AT OUTLET OF SHEBANDOWAN L		31
02DC003	6660 00	G	80	QP		RBC	STURGEON RIVER AT CRYSTAL FALLS		32
02DC007	1360 00	G	82	QM		RBC	TEMAGAMI RIVER AT CROSS LAKE DAM		33
02DC010	0 00	G	82	HM		RBC	TEMAGAMI LAKE AT TEMAGAMI		34
02HK802	9090 00	G	22	QP		RBC	TRENT RIVER AT HEALEY FALLS (P P CONTR 82)		35
04GB002	0 00	G	83	HR		RBC	WABOOSE LAKE RESERVOIR AT WABOOSE DAM		36
02DA002	0 00	G	82	HM		RBC	WANAPITEI LAKE AT BOWLANDS BAY		37

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

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
GUELPH	REMOTE	- WATER LEVEL =	1
		- DISCHARGE =	1
	CONVENTIONAL	- WATER LEVEL =	10
		- DISCHARGE =	25
	SUB-TOTAL	- WATER LEVEL =	11
		- DISCHARGE =	26
TOTAL		=	37

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

CONTRIBUTED DATA OPERATED BY PROVINCE (OMNR)

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02ED100	86 00	G	84	QR		RBE	BEETON CREEK NEAR TOTTENHAM		1
02ED102	211 00	G	84	QR		RBE	BOYNE RIVER AT EARL ROWE PARK		2

SUMMARY

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

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

CONTRIBUTED DATA OPERATED BY PRIVATE AGENCY

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
04MC001	13300 00	G	90	QP		RDP	ABITIBI RIVER AT IROQUOIS FALLS		1
04MC002	9950 00	G	90	QP		RDP	ABITIBI RIVER AT TWIN FALLS		2
04LF001	6760 00	G	96	QP		RDP	KAPUSKASING RIVER AT KAPUSKASING		3
04LB001	10000 00	G	90	QP		RDP	MATTAGAMI RIVER AT SMOOTH ROCK FALLS	ENGLISH	4
02BD002	5130 00	G	97	QP		RDP	MICHIPICOTEN RIVER AT HIGH FALLS	ENGLISH	5
02BE002	2880 00	G	97	QP		RDP	MONTREAL RIVER NEAR MONTREAL RIVER HARBOUR	ENGLISH	6
02EC003	5850 00	G	13	QP		RDP	SEVERN RIVER AT SWIFT RAPIDS(CONTR 95)	ENGLISH	7
02CE001	11400 00	G	93	QP		RDP	SPANISH RIVER AT ESPANOLA	ENGLISH	8
02CE004	6800 00	G	98	QP		RDP	SPANISH RIVER AT HIGH FALLS	ENGLISH	9
02CF004	4190 00	G	98	QP		RDP	VERMILION RIVER AT LORNE FALLS	ENGLISH	10

SUMMARY

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 =	10
	SUB-TOTAL	- WATER LEVEL =	0
		- DISCHARGE =	10
	TOTAL	=	10

CANADA/ONTARIO COST-SHARING AGREEMENT ACTIVE STATION LIST
SCHEDULE A
FISCAL YEAR 1989/1990 (FINAL)

MAR 28 1989

CONTRIBUTED DATA OPERATED BY FEDERAL (OTHER)

DATA IS FROM GUELPH STATIONS ONLY

STA NO	DR AREA	DIST	RESP	GAUGE	DATA	FUND CD	STATION NAME	UNITS	NO
02GG012	579000 00	G	78	Q		REO	LAKE HURON OUTFLOW TO ST CLAIR RIVER		1
02DD021	0 00	G	45	HM		REO	LAKE NIPISSING AT FRENCH R OUTLET (CONTR 72)		2
02GH012	596000 00	G	78	Q		REO	LAKE ST CLAIR OUTFLOW TO DETROIT RIVER		3
02HA003	686000 00	G	78	QP		REO	NIAGARA RIVER AT QUEENSTON	ENGLISH	4
02MC002	780000 00	G	77	QP		REO	ST LAWRENCE RIVER AT CORNWALL	ENGLISH	5
02CA001	210000 00	G	76	QP		REO	ST MARYS RIVER AT SAULT STE MARIE		6
02EC016	0 00	G	13	QM		REO	TRENT CANAL LOCK 42 NEAR WASHAGO (CONTR 75)		7
02HA019	0 00	G	73	QM		REO	WELLAND CANAL DIVERSION FROM LAKE ERIE		8

SUMMARY

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 =	1
		- DISCHARGE =	7
	SUB-TOTAL	- WATER LEVEL =	1
		- DISCHARGE =	7
	TOTAL	=	8

APPENDIX B

SCHEDULE D

ANNUAL PAYMENT FOR

1989/1990

SCHEDULE D - 1989/90

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 provincial agencies involved in financing the water quantity survey program.

A ANNUAL PAYMENT for 1989/90 to be paid to Receiver General of Canada by Ontario Hydro

	<u>OPERATION</u>	<u>CONSTRUCTION</u>	<u>TOTAL</u>
a) Streamflow and water level installations (6 stations operated by and 4 stations cost shared with Water Survey of Canada and 3 stations cost shared with MNR)	\$ 43 320	\$ NIL	\$ 43 320
b) Specialized Equipment (operation of 4 DCPs 1 100% OH funded 2 cost shared with MNR and 1 cost shared with FED)	\$ 1 400	\$ NIL	\$ 1 400
		ANNUAL PAYMENT	\$ 44,720

B ANNUAL PAYMENT for 1989/90 to be paid to Ontario Hydro by Water Survey of Canada

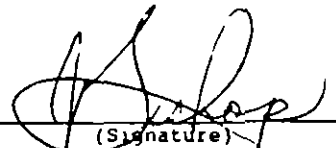
	<u>OPERATION</u>	<u>CONSTRUCTION</u>	<u>TOTAL</u>
Streamflow and water level (6 stations cost shared with OH)	\$ 7 450	\$ NIL	\$ 7 450
		ANNUAL PAYMENT	\$ 7,450

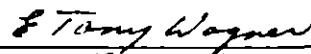
C ANNUAL PAYMENT for 1989/90 to be paid to Receiver General of Canada by Ontario Ministry of Environment


	<u>OPERATION</u>	<u>CONSTRUCTION</u>	<u>TOTAL</u>
a) Streamflow and water level installations (40 stations operated by and 21 stations cost shared with Water Survey of Canada and 7 stations cost shared with MNR or CAs and 1 FED/PROV station cost shared with MNR)	\$234 435	\$ 7 500	\$241 935
b) Specialized Equipment (operation of 10 DCPs with 9 stations funded FED/MOE and 1 funded 100% MOE)	\$ 3 000	\$ NIL	\$ 3 000
		ANNUAL PAYMENT	\$244,935

D ANNUAL PAYMENT for 1989/90 to be paid to Receiver General of Canada by Ontario Ministry of Natural Resources

	<u>OPERATION</u>	<u>CONSTRUCTION</u>	<u>TOTAL</u>
a) Streamflow and water level installations (160 stations operated by and 14 stations cost shared with Water Survey of Canada and 6 stations cost shared with MOE and 3 stations cost shared with OH and 1 FED/PROV station cost shared with MOE)	\$679 635	\$ NIL	\$679 635
b) Streamflow and water level installations for Conservation Authorities (15 stations operated by Water Survey of Canada and 1 station cost shared with MOE)	\$ 54 366 80	\$ 46 400	\$100 766 80
c) Sediment installations (1 station)	\$ 5 000	\$ NIL	\$ 5 000
d) Specialized Equipment (operation of 7 DCPs 2 cost shared with OH)	\$ 4 200	\$ NIL	\$ 4 200
		ANNUAL PAYMENT	\$789,601 80


 (Signature)
 Director Water Resources Branch
 Ontario Ministry of Environment


 (Signature)
 Regional Director
 Inland Waters Directorate


 (Signature)
 Director 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, 1989 to April 1, 1990

TABLE C 2 - Changes between Schedule A 1989/1990 and Schedule A 1990/1991

TABLE C 1
 CHANGES IN GAUGING NETWORK - APRIL 2, 1989 TO APRIL 1, 1990
 (Ontario Region Only)

A HYDROMETRIC STATIONS ADDED (WRB Operated)

02HA026	BIG FORKS CREEK NEAR WAINFLEET	QR	P2-MNR	DEC 89
02ED025	BLACK ASH CREEK AT COLLINGWOOD	QR	FP1-MOE	JUN 89
02HC049	DUFFINS CREEK AT AJAX	QR	FED-3	APR 89
02ED026	NOTTAWASAGA RIVER AT HOCKLEY	QR	P2-MNR	OCT 89
02BC005	PUKASKWA RIVER AT PUKASKWA NATIONAL PARK	NQR	FED-4	OCT 89
02GC034	SANDUSK CREEK NEAR HAGERSVILLE	QR	P1-MOE	MAR 90
02GC035	SANDUSK CREEK NEAR SELKIRK	QR	FP1-MOE	MAR 90
02LA017	TAY RIVER BELOW BOBS LAKE	QR	FED-1	OCT 89
02BD006	WAWA CREEK AT WAWA	QR	P2-MOE	OCT 89

B HYDROMETRIC STATIONS DISCONTINUED (WRB Operated)

02HC006	DUFFINS CREEK AT PICKERING	QR	FED-3	DEC 89
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C CHANGES IN FUNDING AND/OR CLASSIFICATION OF HYDROMETRIC STATIONS (WRB Oper d)

02FF009	AUSABLE RIVER NEAR EXETER	QR	FROM P2-MOE TO P2-MNR	APR 90
02BD006	WAWA CREEK AT WAWA	QR	FROM P2-MOE TO P1-MOE	APR 90

D OTHER CHANGES IN THE HYDROMETRIC NETWORK

02MB010	BUELLS CREEK AT BROCKVILLE	QR	P2-MNR	
	-Converted to Seasonal Operation (Feb 15 to May 15 and Sept 1 to Nov 30)			
02HM009	W BR LITTLE CATARAQUI CRK AT KINGSTON	QR	P2-MNR	
	-Converted to Seasonal Operation (Feb 15 to May 15 and Sept 1 to Nov 30)			

E SEDIMENT STATIONS ADDED

04HA001	ALBANY RIVER NEAR HAT ISLAND	(MISC)	FED-1-SED	JAN 90
02CE002	AUX SABLES RIVER AT MASSEY	(MISC)	FED-1-SED	JAN 90
02BF004	BIG CARP RIVER NEAR SAULT STE MARIE	(MISC)	FED-1-SED	JAN 90
02GC007	BIG CREEK NEAR WALSINGHAM	(MISC)	FED-1-SED	JAN 90
02HC027	BLACK CREEK NEAR WESTON	(MISC)	FED-1-SED	JAN 90
02HE001	BLOOMFIELD CREEK AT BLOOMFIELD	(MISC)	FED-1-SED	JAN 90
02HD006	BOWMANVILLE CREEK AT BOWMANVILLE	(MISC)	FED-1-SED	JAN 90
02HF003	BURNT RIVER NEAR BURNT RIVER	(MISC)	FED-1-SED	JAN 90
02GA023	CANAGAGIGUE CREEK NEAR ELMIRA	(MISC)	FED-1-SED	JAN 90
02DD014	CHIPPEWA CREEK AT NORTH BAY	(MISC)	FED-1-SED	JAN 90
02HM005	COLLINS CREEK NEAR KINGSTON	(MISC)	FED-1-SED	JAN 90
02HK003	CROWE RIVER AT MARMORA	(MISC)	FED-1-SED	JAN 90
02AB021	CURRENT RIVER AT STEPSTONE	(MISC)	FED-1-SED	JAN 90
02HB004	EAST OAKVILLE CREEK NEAR OMAGH	(MISC)	FED-1-SED	JAN 90
04EA001	EKWAN RIVER BELOW NORTH WASHAGAMI RIVER	(MISC)	FED-1-SED	JAN 90
02HD014	FAREWELL CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02GB001	GRAND RIVER AT BRANTFORD	(MISC)	FED-1-SED	JAN 90
02HB012	GRINDSTONE CREEK NEAR ALDERSHOT	(MISC)	FED-1-SED	JAN 90
02HD013	HARMONY CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02HC003	HUMBER RIVER AT WESTON	(MISC)	FED-1-SED	JAN 90
02FD002	LUCKNOW RIVER AT LUCKNOW	(MISC)	FED-1-SED	JAN 90

TABLE C 1 (continued)
 CHANGES IN GAUGING NETWORK - APRIL 2, 1989 TO APRIL 1, 1990
 (Ontario Region Only)

02GC008	LYNN RIVER AT SIMCOE	(MISC)	FED-1-SED	JAN 90
02AB020	MCINTYRE RIVER ABOVE THUNDER BAY	(MISC)	FED-1-SED	JAN 90
02HM006	MILLHAVEN CREEK NEAR MILLHAVEN	(MISC)	FED-1-SED	JAN 90
02HC033	MIMICO CREEK AT ISLINGTON	(MISC)	FED-1-SED	JAN 90
02EB011	MOON RIVER AT HIGHWAY NO 69	(MISC)	FED-1-SED	JAN 90
02CF009	NOLIN CREEK AT SUDBURY	(MISC)	FED-1-SED	JAN 90
04MF001	NORTH FRENCH RIVER NEAR THE MOUTH	(MISC)	FED-1-SED	JAN 90
02EA010	NORTH MAGNETAWAN RIVER ABOVE PICKEREL LAKE	(MISC)	FED-1-SED	JAN 90
02HD008	OSHAWA CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02KB001	PETAWAWA RIVER NEAR PETAWAWA	(MISC)	FED-1-SED	JAN 90
02BC005	PUKASKWA RIVER AT PUKASKWA NATIONAL PARK	(MISC)	FED-1-SED	JAN 90
02FC001	SAUGEEN RIVER NEAR PORT ELGIN	(MISC)	FED-1-SED	JAN 90
02CD001	SERPENT RIVER AT HIGHWAY NO 17	(MISC)	FED-1-SED	JAN 90
04CC001	SEVERN RIVER AT LIMESTONE RAPIDS	(MISC)	FED-1-SED	JAN 90
04DC002	SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE	(MISC)	FED-1-SED	JAN 90
02HD010	SHELTER VALLEY BROOK NEAR GRAFTON	(MISC)	FED-1-SED	JAN 90
02GH001	STURGEON CREEK NEAR LEAMINGTON	(MISC)	FED-1-SED	JAN 90
02GD016	THAMES RIVER AT INGERSOLL	(MISC)	FED-1-SED	JAN 90
02GE003	THAMES RIVER AT THAMESVILLE	(MISC)	FED-1-SED	JAN 90
02GH004	TURKEY CREEK AT WINDSOR	(MISC)	FED-1-SED	JAN 90
02CF011	VERMILION RIVER NEAR VAL CARON	(MISC)	FED-1-SED	JAN 90
02HC038	WEST DUFFINS CREEK ABOVE GREEN RIVER	(MISC)	FED-1-SED	JAN 90
02BC004	WHITE RIVER BELOW WHITE LAKE	(MISC)	FED-1-SED	JAN 90
02AB017	WHITEFISH RIVER AT NOLALU	(MISC)	FED-1-SED	JAN 90
02HD009	WILMOT CREEK NEAR NEWCASTLE	(MISC)	FED-1-SED	JAN 90
02HM004	WILTON CREEK NEAR NAPANEE	(MISC)	FED-1-SED	JAN 90
02AC001	WOLF RIVER AT HIGHWAY NO 17	(MISC)	FED-1-SED	JAN 90

F SEDIMENT STATIONS DISCONTINUED

02HC006	DUFFINS CREEK AT PICKERING	(MISC)	FED-1-SED	DEC 89
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G CHANGES TO FUNDING AND/OR CLASSIFICATION OF SEDIMENT STATIONS

-- NIL --

H OTHER CHANGES IN THE SEDIMENT NETWORK

02HB002	CREDIT RIVER AT ERINDALE	(MISC)	FED-1-SED	JAN 90
	-Converted to Miscellaneous operation			
02ED003	NOTTAWASAGA RIVER NEAR BAXTER	(MISC)	FED-1-SED	JAN 90
	-Converted to Miscellaneous operation			

I CONTRIBUTED STATIONS (HYDROMETRIC) ADDED

-- NIL --

J CONTRIBUTED STATIONS (HYDROMETRIC) DISCONTINUED

-- NIL --

K CHANGES IN CONTRIBUTOR CLASSIFICATION

-- NIL --

TABLE C 2
CHANGES BETWEEN SCHEDULE A - 1989/1990 AND SCHEDULE A - 1990/1991
(Ontario Region Only)

FEDERAL CATEGORIES - HYDROMETRIC

A FEDERAL 1 Net Change = +1

02LA017 TAY RIVER BELOW BOBS LAKE QR REACTIVATE OCT 89

B FEDERAL 3 Net Change = 0

02HC006 DUFFINS CREEK AT PICKERING DISC DEC 89
02HC049 DUFFINS CREEK AT AJAX NEW APR 89

C FEDERAL 4 Net Change = +1

02BC005 PUKASKWA RIVER AT PUKASKWA NATIONAL PARK NQR NEW OCT 89

D OTHER FEDERAL CATEGORIES Net Change = 0

-- NIL --

FEDERAL-PROVINCIAL CATEGORIES - HYDROMETRIC

A FEDERAL-PROVINCIAL 1 - OMOE Net Change = +2

02ED025 BLACK ASH CREEK AT COLLINGWOOD QR NEW JUN 89
02GC035 SANDUSK CREEK NEAR SELKIRK QR NEW MAR 90

B OTHER FEDERAL-PROVINCIAL CATEGORIES Net Change = 0

-- NIL --

PROVINCIAL CATEGORIES - HYDROMETRIC

A PROVINCIAL 1 - OMOE Net Change = +2

02BD006 WAWA CREEK AT WAWA QR FROM P2-MOE APR 90
02GC034 SANDUSK CREEK NEAR HAGERSVILLE QR NEW MAR 90

B PROVINCIAL 2 - OMOE Net Change = -1

02BD006 WAWA CREEK AT WAWA QR NEW OCT 89
02BD006 WAWA CREEK AT WAWA QR TO P1-MOE APR 90
02FF009 AUSABLE RIVER NEAR EXETER QR TO P2-MNR APR 90

C PROVINCIAL 2 - OMNR Net Change = +3

02FF009 AUSABLE RIVER NEAR EXETER QR FROM P2-MOE APR 90
02HA026 BIG FORKS CREEK NEAR WAINFLEET QR NEW DEC 89
02ED026 NOTTAWASAGA RIVER AT HOCKLEY QR NEW OCT 89

D OTHER PROVINCIAL CATEGORIES Net Change = 0

-- NIL --

SEDIMENT DATA CATEGORIES

A FEDERAL 1 - SEDIMENT Net Change = +47

04HA001 ALBANY RIVER NEAR HAT ISLAND (MISC) FED-1-SED JAN 90
02CE002 AUX SABLES RIVER AT MASSEY (MISC) FED-1-SED JAN 90
02BF004 BIG CARP RIVER NEAR SAULT STE MARIE (MISC) FED-1-SED JAN 90
02GC007 BIG CREEK NEAR WALSINGHAM (MISC) FED-1-SED JAN 90
02HC027 BLACK CREEK NEAR WESTON (MISC) FED-1-SED JAN 90

TABLE C 2 (continued)
CHANGES BETWEEN SCHEDULE A - 1989/1990 AND SCHEDULE A - 1990/1991
(Ontario Region Only)

02HE001	BLOOMFIELD CREEK AT BLOOMFIELD	(MISC)	FED-1-SED	JAN 90
02HD006	BOWMANVILLE CREEK AT BOWMANVILLE	(MISC)	FED-1-SED	JAN 90
02HF003	BURNT RIVER NEAR BURNT RIVER	(MISC)	FED-1-SED	JAN 90
02GA023	CANAGAGIGUE CREEK NEAR ELMIRA	(MISC)	FED-1-SED	JAN 90
02DD014	CHIPPEWA CREEK AT NORTH BAY	(MISC)	FED-1-SED	JAN 90
02HM005	COLLINS CREEK NEAR KINGSTON	(MISC)	FED-1-SED	JAN 90
02HK003	CROWE RIVER AT MARMORA	(MISC)	FED-1-SED	JAN 90
02AB021	CURRENT RIVER AT STEPSTONE	(MISC)	FED-1-SED	JAN 90
02HC006	DUFFINS CREEK AT PICKERING		DISC	DEC 89
02HB004	EAST OAKVILLE CREEK NEAR OMAGH	(MISC)	FED-1-SED	JAN 90
04EA001	EKWAN RIVER BELOW NORTH WASHAGAMI RIVER	(MISC)	FED-1-SED	JAN 90
02HD014	FAREWELL CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02GB001	GRAND RIVER AT BRANTFORD	(MISC)	FED-1-SED	JAN 90
02HB012	GRINDSTONE CREEK NEAR ALDERSHOT	(MISC)	FED-1-SED	JAN 90
02HD013	HARMONY CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02HC003	HUMBER RIVER AT WESTON	(MISC)	FED-1-SED	JAN 90
02FD002	LUCKNOW RIVER AT LUCKNOW	(MISC)	FED-1-SED	JAN 90
02GC008	LYNN RIVER AT SIMCOE	(MISC)	FED-1-SED	JAN 90
02AB020	MCINTYRE RIVER ABOVE THUNDER BAY	(MISC)	FED-1-SED	JAN 90
02HM006	MILLHAVEN CREEK NEAR MILLHAVEN	(MISC)	FED-1-SED	JAN 90
02HC033	MIMICO CREEK AT ISLINGTON	(MISC)	FED-1-SED	JAN 90
02EB011	MOON RIVER AT HIGHWAY NO 69	(MISC)	FED-1-SED	JAN 90
02CF009	NOLIN CREEK AT SUDBURY	(MISC)	FED-1-SED	JAN 90
04MF001	NORTH FRENCH RIVER NEAR THE MOUTH	(MISC)	FED-1-SED	JAN 90
02EA010	NORTH MAGNETAWAN RIVER ABOVE PICKEREL LAKE	(MISC)	FED-1-SED	JAN 90
02HD008	OSHAWA CREEK AT OSHAWA	(MISC)	FED-1-SED	JAN 90
02KB001	PETAWAWA RIVER NEAR PETAWAWA	(MISC)	FED-1-SED	JAN 90
02BC005	PUKASKWA RIVER AT PUKASKWA NATIONAL PARK	(MISC)	FED-1-SED	JAN 90
02FC001	SAUGEEN RIVER NEAR PORT ELGIN	(MISC)	FED-1-SED	JAN 90
02CD001	SERPENT RIVER AT HIGHWAY NO 17	(MISC)	FED-1-SED	JAN 90
04CC001	SEVERN RIVER AT LIMESTONE RAPIDS	(MISC)	FED-1-SED	JAN 90
04DC002	SHAMATTAWA RIVER AT OUTLET OF SHAMATTAWA LAKE	(MISC)	FED-1-SED	JAN 90
02HD010	SHELTER VALLEY BROOK NEAR GRAFTON	(MISC)	FED-1-SED	JAN 90
02GH001	STURGEON CREEK NEAR LEAMINGTON	(MISC)	FED-1-SED	JAN 90
02GD016	THAMES RIVER AT INGERSOLL	(MISC)	FED-1-SED	JAN 90
02GE003	THAMES RIVER AT THAMESVILLE	(MISC)	FED-1-SED	JAN 90
02GH004	TURKEY CREEK AT WINDSOR	(MISC)	FED-1-SED	JAN 90
02CF011	VERMILION RIVER NEAR VAL CARON	(MISC)	FED-1-SED	JAN 90
02HC038	WEST DUFFINS CREEK ABOVE GREEN RIVER	(MISC)	FED-1-SED	JAN 90
02BC004	WHITE RIVER BELOW WHITE LAKE	(MISC)	FED-1-SED	JAN 90
02AB017	WHITEFISH RIVER AT NOLALU	(MISC)	FED-1-SED	JAN 90
02HD009	WILMOT CREEK NEAR NEWCASTLE	(MISC)	FED-1-SED	JAN 90
02HM004	WILTON CREEK NEAR NAPANEE	(MISC)	FED-1-SED	JAN 90
02AC001	WOLF RIVER AT HIGHWAY NO 17	(MISC)	FED-1-SED	JAN 90

B OTHER SEDIMENT CATEGORIES Net Change = 0

-- NIL --

CONTRIBUTED DATA CATEGORIES

A CONTRIBUTED DATA CATEGORIES Net Change = 0

-- NIL --

APPENDIX D

DERIVATION OF ACTUAL COSTS 1989/1990

- TABLE D 1 - Salaries and Operating & Maintenance (O&M) Costs for Hydro-metric Network Operated by WRB, Ontario Region, 1989/1990
- TABLE D 2 - Derivation of Actual Operating Costs for Stations Operated by WRB Ontario Region, By Funding Classification, April 1, 1989 - March 31, 1990
- TABLE D 3 - Summary of Shareable Operating Costs by for Hydrometric Stations Operated by WRB, Ontario Region, 1989/1990
- TABLE D 4 - Actual Expenditures - Sediment Program, 1989/1990
- TABLE D 5 - Summary of Construction Program Costs, 1989/1990

TABLE D 1
SALARIES AND OPERATING & MAINTENANCE (O&M) COSTS FOR
HYDROMETRIC NETWORK OPERATED BY WRB, ONTARIO REGION
1989/1990

<u>Salaries</u>			
Hydrometric Supervisors			\$ 247,507
Hydrometric Technicians			753,111
Other - Students, part-time, field help, construction (minor maintenance) etc			51,039
			<u>\$1,051,657</u>
Less Salary for Sediment Network			- 19,015
Less Overtime for Environmental Emergencies & Special Projects			<u>- 10,000</u>
Net Salaries for Hydrometric Network			<u>\$1,022,642</u>
<u>Operating & Maintenance (O&M)</u>			
	<u>Common</u>	<u>Conventional</u>	<u>Remote</u>
Transportation & Communications	\$139,952		
Professional & Special Services	12,403	\$ 13,434	
Rentals	24,457		\$154,776
Purchased Repairs & Upkeep	62,352		
Utilities, Materials & Supplies	76,896	112,515	28,879
EDP Shareable Costs ¹	23,016		
Repair & Replacement Costs for ² Current Meters	6,518		
Vehicle Depreciation	51,890		
Equipment Depreciation	<u>30,287</u>		
TOTAL	\$427,771	\$125,949	\$183,655

NOTE 1 Based on 1988/89 costs plus 3.51% (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 MRB ONTARIO REGION BY FUNDING CLASSIFICATION
 APRIL 1 1989 TO MARCH 31 1990

Classification	# Flow Stations Operated		# W/L Stations Operated		Equivalent Station Years of Record (Fiscal) ¹		Total Cost	
	Remote	Conventional	Remote	Conventional	Remote	Conventional	Remote	Conventional
Federal 1-4	18	99 ^a	1 ^b	14	18 20	102 82	\$173 482	\$ 420 637
Fed-Prov 1 (MOE)	0	11 ^c	0	0	0	9 91	-	40 542
Fed-Prov 1 (MNR)	0	7	0	0	0	7 00	-	28 637
Fed-Prov 1 (MOE/MNR)	0	1	0	0	0	1 00	-	4 091
Fed-Prov 2 (OH)	1	3	0	0	1 00	3 00	9 532	12 273
Fed-Prov 2 (MOE)	0	2	0	0	0	2 00	-	8 182
Fed-Prov 2 (MNR)	0	6	0	1	0	6 50	-	26 591
Fed-Prov 3 (MOE)	9	1	0	0	9 00	1 00	85 788	4 091
Prov 1 (OH)	1	4	0	1	1 00	4 50	9 532	18 410
Prov 1 (MOE)	0	37 ^d	0	0	0	35 08	-	143 512
Prov 1 (MNR)	2	156 ^e	0	2	2 00	151 49	19 064	619 746
Prov 1 (MOE/MNR)	0	6	0	0	0	6 00	-	24 546
Prov 1 (OH/MNR)	0	3	0	0	0	3 00	-	12 273
Prov 2 (MOE)	0	6 ^f	0	0	0	5 33	-	21 805
Prov 2 (MNR)	0	15 ^g	1	7 ^h	50	16 66	4 766	68 156
Prov 2 (MOE/MNR)	0	1	0	0	0	1 00	-	4 091
TOTALS	31	349	2	25	31 70	356 29	\$302 164	\$1 457 583

NOTES

- a Includes 93 @12 months 1 @10 months 1 @9 months 2 @7 months 1 @1 month 1 @0 months
- b Includes 1 @5 months
- c Includes 9 @12 months 1 @10 months 1 @1 month
- d Includes 34 @12 months 1 @9 months 1 @3 months 1 @1 month
- e Includes 147 @12 months 1 @8 months 3 @7 months 1 @4 months 2 @3 months 1 @2 months 1 @1 month
- f Includes 5 @12 months 1 @4 months
- g Includes 12 @12 months 1 @8 months 2 @6 months
- h Includes 6 @12 months 1 @0 months
- 1 Weighting factors used in calculating equivalent station years of record
 - 1 00 for 12 months flow record
 - 0 50 for 12 months water level record
 - for less than 12 months divide months of data by 12 and multiply by appropriate weighting factor

$$\text{Conv Unit Cost} = \text{Salary} + \text{O\&M(Common)} + \text{O\&M(Conv)} = \frac{\$1\,022\,642}{387\,99} + \frac{\$427\,771}{387\,99} + \frac{\$125\,949}{356\,29} = \$2\,636 + \$1\,102 + \$353 = \$4\,091$$

$$\text{Remote Unit Cost} = \text{Salary} + \text{O\&M(Common)} + \text{O\&M(Remote)} = \frac{\$1\,022\,642}{387\,99} + \frac{\$427\,771}{387\,99} + \frac{\$183\,655}{31\,70} = \$2\,636 + \$1\,102 + \$5\,794 = \$9\,532$$

TABLE D 3
SUMMARY OF SHAREABLE OPERATING COSTS FOR HYDROMETRIC
STATIONS OPERATED BY WRB, ONTARIO REGION, 1989/1990

<u>Ministry of Natural Resources</u>		<u>MNR</u> <u>Share</u>	<u>Equiv</u> <u>Total</u>	<u>Stat-Yrs</u> <u>MNR Share</u>	<u>Unit</u> <u>Cost</u>	<u>MNR</u> <u>Cost</u>
Conventional	Prov 1 (MNR)	100%	151 49	151 49	4,091	\$619,746
	Prov 1 (MOE/MNR)	50%	6 00	3 00	4,091	12,273
	Prov 1 (OH/MNR)	50%	3 00	1 50	4,091	6,136
	Prov 2 (MNR)	100%	16 66	16 66	4,091	68,156
	Prov 2 (MOE/MNR)	50%	1 00	0 50	4,091	2,045
	Fed/Prov 1 (MNR)	50%	7 00	3 50	4,091	14,319
	Fed/Prov 1 (MOE/MNR)	25%	1 00	0 25	4,091	1,023
	Fed/Prov 2 (MNR)	50%	6 50	3 25	4,091	13,296
Remote	Prov 1 (MNR)	100%	2 00	2 00	9,532	19,064
	Prov 2 (MNR)	100%	0 50	0 50	9,532	4,766
MNR TOTAL				182 65		\$760,824
<u>Ministry of the Environment</u>		<u>MOE</u> <u>Share</u>	<u>Equiv</u> <u>Total</u>	<u>Stat-Yrs</u> <u>MOE Share</u>	<u>Unit</u> <u>Cost</u>	<u>MOE</u> <u>Cost</u>
Conventional	Prov 1 (MOE)	100%	35 08	35 08	4,091	\$143,512
	Prov 1 (MOE/MNR)	50%	6 00	4 00	4,091	12,273
	Prov 2 (MOE)	100%	5 33	5 33	4,091	21,805
	Prov 2 (MOE/MNR)	50%	1 00	0 50	4,091	2,045
	Fed/Prov 1 (MOE)	50%	9 91	4 95	4,091	20,250
	Fed/Prov 1 (MOE/MNR)	25%	1 00	0 25	4,091	1,023
	Fed/Prov 2 (MOE)	50%	2 00	1 00	4,091	4,091
	Fed/Prov 3 (MOE)	50%	1 00	0 50	4,091	2,045
Remote	Fed/Prov 3 (MOE)	50%	9 00	4 50	9,532	42,894
MOE TOTAL				55 11		\$249,938
<u>Ontario Hydro</u>		<u>OH</u> <u>Share</u>	<u>Equiv</u> <u>Total</u>	<u>Stat-Yrs</u> <u>OH Share</u>	<u>Unit</u> <u>Cost</u>	<u>OH</u> <u>Cost</u>
Conventional	Prov 1 (OH)	100%	4 50	4 50	4,091	\$ 18,410
	Prov 1 (OH/MNR)	50%	3 00	1 50	4,091	6,137
	Fed/Prov 2 (OH)	50%	3 00	1 50	4,091	6,137
Remote	Prov 1 (OH)	100%	1 00	1 00	9,532	9,532
	Fed/Prov 2 (OH)	50%	1 00	0 50	9,532	4,766
OH TOTAL				9 00		\$ 44,982
PROVINCIAL TOTAL				246 26		\$1,055,744
<u>Federal</u>		<u>FED</u> <u>Share</u>	<u>Equiv</u> <u>Total</u>	<u>Stat-Yrs</u> <u>FED Share</u>	<u>Unit</u> <u>Cost</u>	<u>FED</u> <u>Cost</u>
Conventional	Fed 1-4	100%	102 82	102 82	4,091	\$420,637
	Fed/Prov 1 (MOE)	50%	9 91	4 96	4,091	20,291
	Fed/Prov 1 (MNR)	50%	7 00	3 50	4,091	14,319
	Fed/Prov 1 (MOE/MNR)	50%	1 00	0 50	4,091	2,046
	Fed/Prov 2 (OH)	50%	3 00	1 50	4,091	6,135
	Fed/Prov 2 (MOE)	50%	2 00	1 00	4,091	4,091
	Fed/Prov 2 (MNR)	50%	6 50	3 25	4,091	13,296
	Fed/Prov 3 (MOE)	50%	1 00	0 50	4,091	2,045
Remote	Fed 1-4	100%	18 20	18 20	9,532	173,482
	Fed/Prov 2 (OH)	50%	1 00	0 50	9,532	4,766
	Fed/Prov 3 (MOE)	50%	9 00	4 50	9,532	42,894
FEDERAL TOTAL				141 23		\$704,004
TOTAL PROVINCIAL AND FEDERAL				387 99		\$1,759,747

TABLE D 4
ONTARIO REGION SEDIMENT NETWORK
ACTUAL EXPENDITURES
1989/1990

<u>Total Ontario Region Program</u>	<u>Federal</u>	<u>Provincial</u>	<u>Total</u>
Continuous	2	1	3
Seasonal	2	0	1
Miscellaneous	76	0	76
Total	<u>79</u>	<u>1</u>	<u>80</u>
(Full Time Equivalents)	7	1	8
a <u>Salary</u>			
1) Sediment Network (50% EG-ESS-6)	\$16,638 13	\$ 2,376 87	\$19,015 00
2) Network Evaluation (50% EG-ESS-7)	<u>\$21,076 00</u>	<u> --</u>	<u>\$21,076 00</u>
Sub Total	\$37,714 13	\$ 2,376 87	\$40,091 00
b <u>Operation & Maintenance (O&M)</u>			
Transportation & Communications	\$ 552 50	\$ 25 50	\$ 578 00
Professional & Special Services	635 80	136 00	771 80
Purchase, Repair & Upkeep*	110 00	164 00	274 00
Utilities, Materials & Supplies	685 00	--	685 00
Publications	194 00	--	194 00
Capital Equipment Purchases	<u>2,695 00</u>	<u> --</u>	<u>2,695 00</u>
Subtotal	\$ 4,872 30	\$ 325 50	\$ 5,197 80
(* includes \$164 00 depreciation cost of sampler)			
c <u>Laboratory Costs (Provincial Station)</u>			
<u>Humber River at Elder Mills</u>	<u>Cost/Sample</u>	<u># Samples</u>	<u>Total Cost</u>
Bottom Withdrawal	\$53 92	2	\$ 107 84
Filtration	17 38	59	1,025 42
Dissolved Solids	2 80	12	33 60
Total Provincial Laboratory Costs			<u>\$ 1,166 86</u>

TABLE D 4 (continued)

d Laboratory Costs (Federal Stations)

<u>Ausable River near Springbank</u>	<u>Cost/Sample</u>	<u># Samples</u>	<u>Total Cost</u>
Filtration	\$ 17 38	49	\$ 851 62
Dissolved Solids	2 80	6	16 80
Total Cost			<u>\$ 868 42</u>
<u>Big Otter Creek near Calton</u>			
Bottom Withdrawal	\$ 53 92	1	\$ 53 92
Filtration	17 38	47	816 86
Dissolved Solids	2 80	12	33 60
Total Cost			<u>\$ 904 38</u>
<u>Credit River at Erindale</u>			
Bottom Withdrawal	\$ 53 92	1	\$ 53 92
Filtration	17 38	107	1,859 66
Dissolved Solids	2 80	15	42 00
Total Cost			<u>\$ 1,955 88</u>
<u>Nottawasaga River at Baxter</u>			
Bottom Withdrawal	53 92	1	\$ 53 92
Filtration	17 38	16	278 08
Dissolved Solids	2 80	9	25 20
Total Cost			<u>\$ 357 20</u>
<u>Miscellaneous Sub Offices</u>			
Filtration	\$17 38	65	\$ 1,129 70
Dissolved Solids	2 80	63	176 40
Total Cost			<u>\$ 1 306 10</u>
<u>Miscellaneous Regional</u>			
Bottom Withdrawal	53 92	26	\$ 1,401 92
Filtration	17 38	176	3,058 88
Dissolved Solids	2 80	152	425 60
Total Cost			<u>\$ 4,886 40</u>
Total Federal Laboratory Costs			<u>\$10,278 08</u>

TABLE D 4 (continued)

f Summary of Provincial Sediment Costs

Salary	\$ 2,376 87
O&M	325 50
Laboratory	<u>1,166 86</u>
	<u>\$ 3,869 23</u>

g Summary of Federal Sediment Costs

Salary	\$37,714 13
O&M	4,872 30
Laboratory	<u>10,278 08</u>
	<u>\$52,864 51</u>

h Total Sediment Program Costs (Provincial and Federal)

Salary	\$40,091 00
O&M	5,197 80
Laboratory	<u>11,444 94</u>
	<u>\$56,733 74</u>

TABLE D 5
SUMMARY OF CONSTRUCTION PROGRAM COSTS
1989/1990

Direct Cost to Agencies

	No of Projects			Federal			Provincial			Totals			
	F	F/P	P	Salaries	O&M	Capital	Salaries	O&M	Capital	Salaries	O&M	Capital	Total
New Stations	3	2	7	10 837 38	-	23 373 68	8 480 15	-	26 438 44	19 317 53	-	48 812 12	68 129 65
Relocations	1	-	-	1 794 65	532 78	2 214 05	-	-	-	1 794 65	532 78	2 214 05	4 541 48
Upgrading	9	-	3	17 587 98	7 798 66	24 564 04	2 269 52	-	6 370 38	19 857 50	7 798 66	30 934 42	58 590 58
Major Maintenance	9	-	3	3 236 45	3 525 52	4 096 80	1 138 46	-	2 230 08	4 374 91	3 525 53	6 326 88	14 227 32
TOTAL	22	2	13	11 856 97	11 856 97	53 248 57	11 888 13	-	35 038 90	45 344 59	11 856 97	88 287 47	145 489 03

NOTE Above costs include

- 1) Field investigations
- 2) Only expenditures incurred by WRB
- 3) New stations (Provincial) — includes materials only for two projects Installation was carried out by the Province

Other Costs

	Totals			
	Salaries	O&M	Capital	Total
Minor Maintenance (included in station unit cost)	10 845 46	23 225 34	8 944 50	43 015 30
Field Investigations	2 065 59	922 32	-	2 987 91
Instrumentation (Basic Recorder)	-	-	26 276 88	26 276 88
Tides and Water Level Stations	2 128 17	2 579 67	-	4 707 84
TOTAL	15 039 22	26 727 33	35 221 38	76 987 93
		(other costs)		
TOTAL CONSTRUCTION PROGRAM COST	60 383 81	38 584 30	123 508 85	222 476 96

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 1989/1990
- TABLE E 2 - Water Quantity Surveys Comparative Gauging Station Data,
April 1, 1975 to April 1, 1989
- TABLE E 3 - Water Quantity Surveys Detailed Gauging Station Data, 1989/90
- TABLE E 4 - Water Quantity Surveys Total Program Costs and Shareable
Costs for 1989/1990
- TABLE E 5 - Water Quantity Surveys Summary of Schedule D / F , 1989/1990
- TABLE E 6 - Water Quantity Surveys Comparison - Scheduled and Actual
Costs for 1989/1990

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 1989/1990⁵

Number of Stations ^{1 3 4}			Change During ² April 2 1989 to April 1 1990		Station Designation April 1 1989			
April 1 1988	April 1 1989	Change	Added	Discontinued	Federal	Federal/Provincial	Provincial	Contributed
479	504	+25	9	1	129 (79)	46 (0)	238 (1)	91 (0)

TABLE E 2
WATER QUANTITY SURVEYS
COMPARATIVE GAUGING STATION DATA APRIL 1 1975 TO APRIL 1 1989

Federal Stations			Federal/Provincial Stations ³			Provincial Stations			Total Stations		
Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg
142	129 ⁴	-13	48	46	-2	152	238	+86	342	413	+71

TABLE E 3
WATER QUANTITY SURVEYS
DETAILED GAUGING STATION DATA 1989/1990⁵

F-1	F-2	F-3	TOTAL F	F/P-1	F/P-2	F/P-3	TOTAL F/P	P-1	P-2	TOTAL P	CONTRIBUTED	TOTAL-ALL
59 ⁴ (79)	0	50	129 (79)	17	19	10	46 (0)	211 (0)	27 (1)	238 (1)	91 (0)	504 (80)

NOTES

- 1 Includes contributed data stations
- 2 Stations operated by Water Resources Branch
- 3 Includes 6 stations operated by OH for Federal use
- 4 Includes 8 stations operated in Quebec for DPW
- 5 Numbers in parentheses indicate sediment stations

TABLE E 4
WATER QUANTITY SURVEYS
TOTAL PROGRAM COSTS AND SHAREABLE COSTS FOR 1989/1990
(X \$1 000)

Total Program Costs					Shareable Costs						
<u>P/Years</u>	<u>Salaries</u>	<u>Operating</u>	<u>Capital</u>	<u>Total</u>	<u>P/Years</u>	<u>Salaries</u>	<u>Operating</u>	<u>Construction</u>	<u>Total</u>	<u>F Share</u>	<u>P Share</u>
50 0	2 046 4	1 055 2	349 6	3 451 2	27 6	1 146 6	762 0	114 6 ¹	2 023 2	923 4	1 099 8

TABLE E 5
WATER QUANTITY SURVEYS
SUMMARY OF SCHEDULES D / F - 1989/1990
(Dollars)

<u>Streamflow and Water Level</u>		<u>Sediment</u>		<u>Total</u>
<u>Operation</u>	<u>Construction</u>	<u>Operation</u>	<u>Construction</u>	
1 027 807	53 900	5 000	0	1 086 707

TABLE E 6
WATER QUANTITY SURVEYS
COMPARISON - SCHEDULED AND ACTUAL COSTS FOR 1989/1990
(Dollars)

<u>Salary and Operations</u>		<u>Construction</u>		<u>Total</u>		<u>Sch D/F</u> <u>Minus</u> <u>Actual</u>	<u>Annual</u> <u>Payment</u> <u>Received</u>	<u>Received</u> <u>Minus</u> <u>Actual</u>
<u>Sch D/F</u>	<u>Actual Cost</u>	<u>Sch D/F</u>	<u>Actual Cost</u>	<u>Sch D/F</u>	<u>Actual Cost</u> ²			
1 032 807	1 072 372	53 900	34 860	1 086 707	1 107 232	- 20 525	1 064 376	- 42 856

NOTES

1 Includes \$26 3K for recorders

2 Includes \$7 450 paid by WRB to OH for operation of 6 stations (included in Schedule D)

APPENDIX F

**NATIONAL REPORT TABLES
FOR THE PROVINCE OF ONTARIO**

- TABLE F 1 - Water Quantity Surveys Gauging Station Data for 1989/1990
- TABLE F 2 - Water Quantity Surveys Comparative Gauging Station Data
April 1, 1975 to April 1, 1989
- TABLE F 3 - Water Quantity Surveys Detailed Gauging Station Data 1989/90
- TABLE F 4 - Water Quantity Surveys Total Program Costs and Shareable
Costs for 1989/1990
- TABLE F 5 - Water Quantity Surveys Summary of Schedule D / F , 1989/1990
- TABLE F 6 - Water Quantity Surveys Comparison - Scheduled and Actual
Costs for 1989/1990

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 1989/1990⁵

Number of Stations ^{1 3 4}			Changes During ²		Station Designation April 1 1989			
April 1 1988	April 1 1989	Change	April 2 1989 to April 1 1990 Added	Discontinued	Federal	Federal/Provincial	Provincial	Contributed
561	587	+26	10	1	177 ⁴ (79)	46 (0)	238 (1)	126 (0)

TABLE F 2
 WATER QUANTITY SURVEYS
 COMPARATIVE GAUGING STATION DATA APRIL 1 1975 TO APRIL 1 1989

Federal Stations			Federal/Provincial Stations ³			Provincial Stations			Total Stations		
Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg	Apr 1/75	Apr 1/89	Chg
202	177 ⁴	-25	57	46	-11	155	238	+83	414	461	+47

TABLE F 3
 WATER QUANTITY SURVEYS
 DETAILED GAUGING STATION DATA 1989/1990⁵

F-1	F-2	F-3	TOTAL F	F/P-1	F/P-2	F/P-3	TOTAL F/P	P-1	P-2	TOTAL P	Contributed	Total-All
77 ⁴ (79)	1	76	177 (79)	17	19	10	46 (0)	211	27 (1)	238 (1)	126 (0)	587 (80)

NOTES

- 1 Includes contributed data stations
- 2 Stations operated by Water Resources Branch
- 3 Includes 6 stations operated by OH for Federal use
- 4 Includes 8 stations operated in Quebec for DPW
- 5 Numbers in parentheses indicate sediment stations

TABLE F 4
WATER QUANTITY SURVEYS
TOTAL PROGRAM COSTS AND SHAREABLE COSTS FOR 1989/1990
(X \$1 000)

<u>Total Program Costs</u>					<u>Shareable Costs</u>						
<u>P/Years</u>	<u>Salaries</u>	<u>Operating</u>	<u>Capital</u>	<u>Total</u>	<u>P/Years</u>	<u>Salaries</u>	<u>Operating</u>	<u>Construction</u>	<u>Total</u>	<u>F Share</u>	<u>P Share</u>
53 0	2 170 1	1 117 8	367 8	3 655 7	30 6	1 266 7	833 1	140 3	2 240 1	1 140 3	1 099 8

TABLE F 5
WATER QUANTITY SURVEYS
SUMMARY OF SCHEDULES D / F - 1989/1990
(Dollars)

<u>Streamflow and Water Level</u>		<u>Sediment</u>		<u>Total</u>
<u>Operation</u>	<u>Construction</u>	<u>Operation</u>	<u>Construction</u>	
1 027 807	53 900	5 000	0	1 086 707

TABLE F 6
WATER QUANTITY SURVEYS
COMPARISON - SCHEDULED AND ACTUAL COSTS FOR 1989/1990
(Dollars)

<u>Salary and Operations</u>		<u>Construction</u>		<u>Total</u>		<u>Sch D/F</u>	<u>Annual</u>	<u>Received</u>
<u>Sch D/F</u>	<u>Actual Cost</u>	<u>Sch D/F</u>	<u>Actual Cost</u>	<u>Sch D/F</u>	<u>Actual Cost</u> ²	<u>Minus</u>	<u>Payment</u>	<u>Minus</u>
						<u>Actual</u>	<u>Received</u>	<u>Actual</u>
1 032 807	1 072 372	53 900	34 860	1 086 707	1 107 232	- 20 525	1 064 376	-42 856

NOTES

- 1 Includes \$44.5K for recorders and other instrumentation
- 2 Includes \$7,450 paid by WRB to OH for operation of 6 stations (included in Schedule D)

