



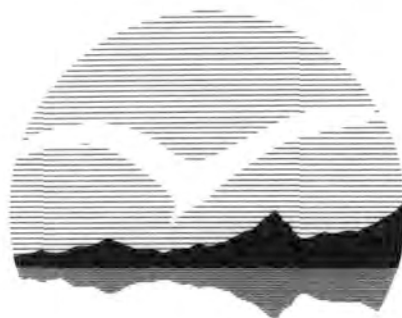
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WATER  
RESOURCES  
BRANCH

SASKATCHEWAN DISTRICT

CANADA - SASKATCHEWAN  
MEMORANDUM OF AGREEMENT  
FOR  
WATER QUANTITY SURVEYS  
ANNUAL REPORT 1990-1991



CANADA - SASKATCHEWAN  
MEMORANDUM OF AGREEMENT  
FOR  
WATER QUANTITY SURVEYS  
ANNUAL REPORT 1990-1991



Water Resources Branch  
Saskatchewan District

July, 1992

TO: Mr. W.L. Dybvig  
Administrator for Saskatchewan

Mr. R.A. Halliday  
Administrator for Canada

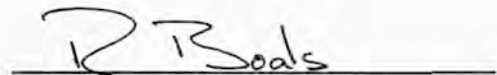
In accordance with Article XII of the Memorandum of Agreement for Water Quantity Surveys in the Province of Saskatchewan, signed February 18, 1975, we submit herewith the annual report for the fiscal year 1990-91.

Saskatchewan

Canada



A. B. Banga  
Saskatchewan Water Corporation



R.G. Boals  
Environment Canada

Members  
Saskatchewan Co-ordinating Committee

July, 1992

Regina, Saskatchewan

## EXECUTIVE SUMMARY

The Canada-Saskatchewan Co-ordinating Committee met twice during the report year to discuss program activities. The items discussed included: financial status and outlook; hydrometric and sediment program activities; hydrometric network planning; the hydrometric construction program; and the special construction of stations to monitor the Rafferty/Alameda project.

Drought conditions carried through from 1989 to 1990 for many areas of Saskatchewan. Spring runoff volumes in 1990 were below normal throughout southern Saskatchewan and generally normal to below normal in central and northern areas. Rainfall through late spring and early summer increased soil moisture levels in the agricultural areas and produced small amounts of localized runoff. Data computations and hydrometric field work were completed on schedule. Additional field coverage was required to monitor high flows on the South Saskatchewan, North Saskatchewan and Battle rivers.

A Hydraulic and Morphologic survey was completed at Qu'Appelle River near Welby. One site was monitored as part of the Winter Measurement Project. The Hydrometric Supervisors were trained in instructional methods for the Hydrometric Technician Career Development Program. Additional staff training was provided in the use of fire extinguishers, supervisory methods, the use of standard computer software, and the Workplace Hazardous Materials Information System.

No stations were added to the hydrometric network in fiscal year 1990-91. Hydrometric and sediment network planning activities continued during the year.



One station was constructed and maintenance and upgrading was completed at 69 locations. Construction expenditures during 1990-91 were \$85 464 (federal) and \$28 458 (provincial).

The federal share of the 1990-91 program was \$1 107 448; the provincial share was \$539 973. A provincial surplus carry-over of \$439 from 1990-91 and a 1990-91 payment of \$561 000 results in a provincial surplus of \$21 446 for 1990-91 operations. The Schedule D costs for the 1991-92 fiscal year are estimated at \$561 000.

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This is the sixteenth annual report summarizing the activities of the Canada-Saskatchewan Coordinating Committee established by the Memorandum of Agreement for Water Quantity Surveys in 1975. The Agreement, along with Schedules A, B, C and D which detail operational, administrative and cost-sharing arrangements, is included as Appendix D. The report contains brief summaries of the two Coordinating Committee meetings convened during the fiscal year ending March 31, 1991 as well as a summary of surface water conditions, hydrometric operations, construction activities and hydrometric network changes.

The federal share of 1990-91 program costs was \$1 017 448; the provincial share was \$539 973. A provincial surplus carry-over of \$439 from 1989-90, and a 1990-91 payment of \$561 000 result in a provincial surplus of \$21 466 for 1990-91 operations. The costs for the 1991-92 fiscal year are estimated at \$561 000.

Details of the cost-sharing arrangements for 1990-91 are provided in the report.

## 2.1 CANADA-SASKATCHEWAN COORDINATING COMMITTEE MEETINGS

The Canada-Saskatchewan Coordinating Committee met twice during the report year, on November 23, 1990 and on March 19, 1991 to discuss issues of mutual interest. The highlights are summarized in the following sections.

2.1.1 Coordinators' Meeting - November 23, 1990

The meeting was attended by Mr. A.B. Banga, the member for Saskatchewan, Mr. R.G. Boals the member for Canada, Mr. D. Euteneier, Saskatchewan Water Corporation (Sask Water), and Mr. D. Truelove, Sask Water.

The financial status for 1990-91 and the outlook for the next fiscal year were discussed at this meeting. It was estimated that Schedule D for 1991-92 would be \$561 000.

The 1990-91 sediment and hydrometric program activities were highlighted. These included monitoring requirements for the Rafferty/Alameda project and the Meadow Lake pulp mill, the Hydraulic and Morphologic (H&M) survey on the Qu'Appelle River near Welby, and the province's suggestions for future H&M survey sites.

Network planning activities were discussed with reference to the completion of profiles for provincially operated stations, the current status of Water Resources Branch (WRB) integrated network evaluation studies on the Red Deer and Assiniboine rivers, and the development of a GIS database for the Souris River basin.

At the time of the meeting the only change to Schedule A for 1991-92 was the redesignation of Cutarm Creek near Spyhill (05JM015) from FP3 to F2 to reflect its use for Qu'appelle River natural flow computations. The province presented a preliminary list of stations that could potentially be discontinued or taken over for operation by the province.

#### 2.1.2 Coordinators' Meeting - March 19, 1991

The meeting was attended by Mr. A.B. Banga, the member for Saskatchewan, Mr. R.G. Boals, the member for Canada, Mr. D. Euteneier, Sask Water, Mr. D. Truelove, Sask Water, Mr. M. Renouf, WRB and Mr. B.N. Johnson, WRB.

The 1990-91 construction program was reviewed and priorities were assigned to the 1991-92 construction program. Initial approval was given for expenditure of \$10 700 for maintenance of the provincial network in 1991-92.

The construction of stations to monitor the Rafferty/Alameda project were discussed. Agreement was reached on the type of



installation and equipment required for each site. It was also agreed that the construction of these stations would be considered as a special project and would not be accounted for under Schedule D.

A review of all federal-provincial and provincial stations in Schedule A was undertaken. It was agreed that as of June 1, 1991 the province would take over the operation of five P1 seasonal water level stations and that one P1 annual water level station would be discontinued. It was also agreed that one P1 seasonal water level station would be discontinued as of March 31, 1992. Decisions on the operation and designation of 4 federal-provincial and one provincial station were set aside to allow more in-depth analysis of the data requirements and uses for these sites.

As of April 1, 1991 the following changes would be made to Schedule A: redesignate Cutarm Creek near Spyhill (05JM015) from FP-3 to F-2; discontinue operation of South Saskatchewan River below Gardner Dam (05HF004); and as of June 1, 1991 indicate Saskatchewan Water Corporation as the operator of Fife Lake near Lesieux (11AE016), Kenosee Lake near Carlyle (05ND009), White Bear Lake near Carlyle (05ND008), Lac Pelletier near Vesper (05HD028), and Russell Creek Reservoir (05JB006). At the March 19, 1992 meeting, it had been agreed that Sask Water would also take over the operation of Candle Lake at Candle Lake



(05KE008) on June 1, 1991, however, this decision later was reassessed and reversed.

Schedule D for 1991-92 was estimated at \$526 500 for operations (including \$1 000 for the sediment program) and \$30 000 for construction. Schedule D was not finalized at this meeting.

## 2.2 OPERATIONAL CONSIDERATIONS

### 2.2.1 Surface Water Conditions

Spring runoff volumes in 1990 were below normal throughout southern Saskatchewan and generally normal to below normal in central and northern areas. Southern streams peaked in late March and early April.

Drought conditions carried through from 1989 into 1990 for many areas of Saskatchewan and most prairie streams went to zero flow by mid-June. Rainfall through late spring and early summer increased soil moisture levels in the agricultural areas and produced small amounts of localized runoff. Flows on the South Saskatchewan, North Saskatchewan and Battle rivers remained high throughout the summer as a result of heavy rainfall in Alberta.

### 2.2.2 Hydrometric Operations

Data computations and hydrometric field work were completed as scheduled during the year, except that two remote field area trips were delayed because of extreme forest fire conditions during August. Additional field coverage was required to monitor high flows on the South Saskatchewan, North Saskatchewan and Battle rivers, and runoff from localized heavy thunderstorms.

The Hydrometric Supervisors were given training in the instructional techniques and administrative requirements of the Hydrometric Technician Career Development Program. Additional staff training was provided in the use of fire extinguishers, supervisory methods, the Workplace Hazardous Materials Information System (WHMIS), and introductory level courses for standard commercial computer software packages.

### 2.2.3 Construction Activities

Seventy construction projects were completed during the fiscal year. The majority of these projects involved maintenance and upgrading activities designed to improve record quality and to maintain safety and operational standards. Maintenance was carried out at 57 stations while station upgrading occurred at an additional 12 sites. One new station was constructed.

The total cost of the 1990-91 construction program was \$113 922. The provincial share of the cost was \$28 458 and the federal

share was \$85 464. Details of the construction program are documented in the 1990-91 Saskatchewan Construction, Upgrading and Maintenance Annual Report.

#### 2.2.4 Data Requests

During the 1990-91 fiscal year the Water Resources Branch answered 204 formal requests for data and information, and approximately the same number of informal requests were handled by the hydrometric staff but were not logged into the reporting system. The requests were made by a wide range of clientele including federal and provincial government departments and agencies, private agencies, crown corporations, engineering and environmental consultants, universities, technical institutes, schools, municipal governments, the media, and private citizens.

In recent years there has been a general decline in the number of requests for historical information because data users have migrated to computerized methods of data handling. However, requests for current and real-time data and miscellaneous information such as cross section profiles, velocity profiles and benchmark histories have increased over the same time frame. In 1990-91 a particularly large number of requests were received regarding the status of flow apportionment on interjurisdictional streams.

Data collection platforms (DCP's) were operated at 44 stations and telephone telemetry was in place at 6 stations. Spring runoff reporting was handled by updating a file on the mini-computer on a daily basis. This service was extended through the summer for a reduced number of high-priority stations. Microfiche copies of the historic streamflow and water level database for Saskatchewan were distributed to 6 agencies and, in addition to the standard distribution list for publications, another 46 publications were provided to 18 agencies and individuals. A new version of the HYDAT CD-ROM was not distributed due to technical problems in production.

## 2.3 NETWORK DEVELOPMENT

### 2.3.1 Network Changes for 1990-91

Schedule A of the Memorandum of Agreement identifies the operational and financial responsibility for hydrometric stations that comprise the water quantity network as of April 1 of each year. The Schedule also shows the type of data collected (flow, water level, sediment) and the period of operation (seasonal or annual). Decisions regarding changes to the Schedule are made by the Coordinating Committee with reference to the national designation guidelines for station classification. The only change to Schedule A as of April 1, 1990 was to change the operation of Churchill River above Maple Leaf Rapids (06AE010)

from annual streamflow (12Q) to an annual water level gauge (12L).

### 2.3.2 Network Development in Saskatchewan

The historical development of the Saskatchewan hydrometric network and the annual increase in the streamflow database are shown in Figures 1 to 3. These figures illustrate the rapid increase in the acquisition of hydrometric data since the 1950s and the relative stability of the network during the last twenty years.

FIGURE 1:  
HYDROMETRIC NETWORK DEVELOPMENT  
IN SASKATCHEWAN

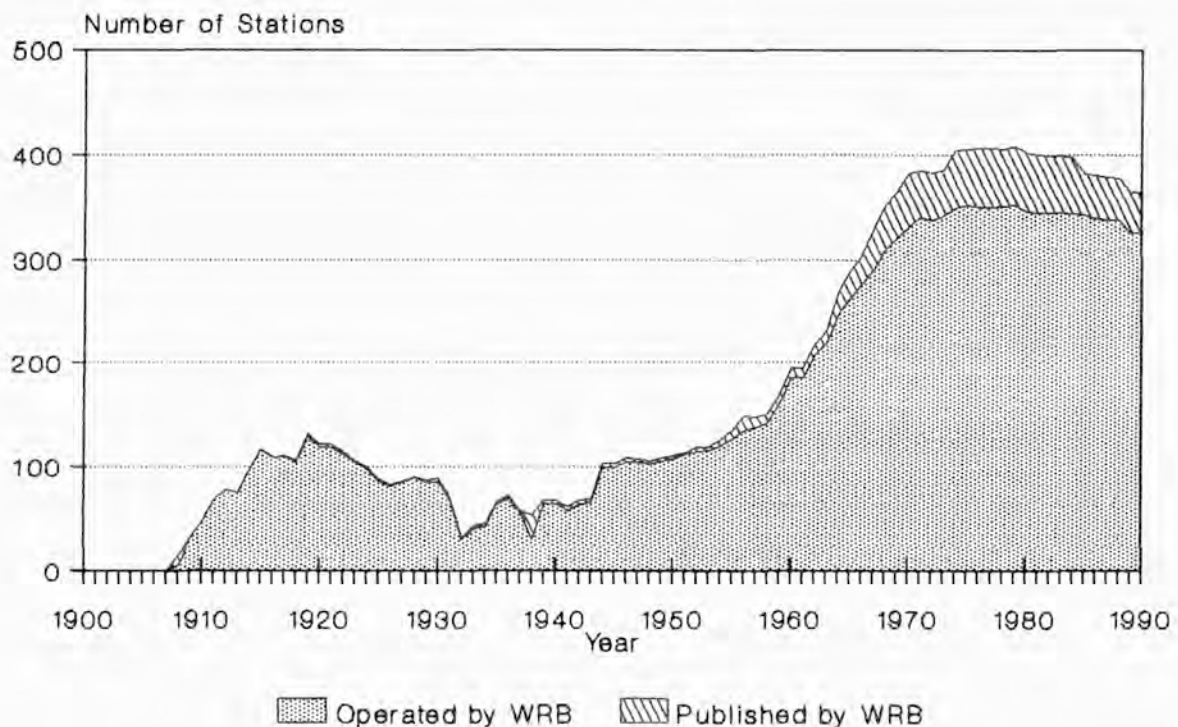


FIGURE 2:  
DEVELOPMENT OF THE HYDROMETRIC NETWORK  
OPERATED BY WRB IN SASKATCHEWAN

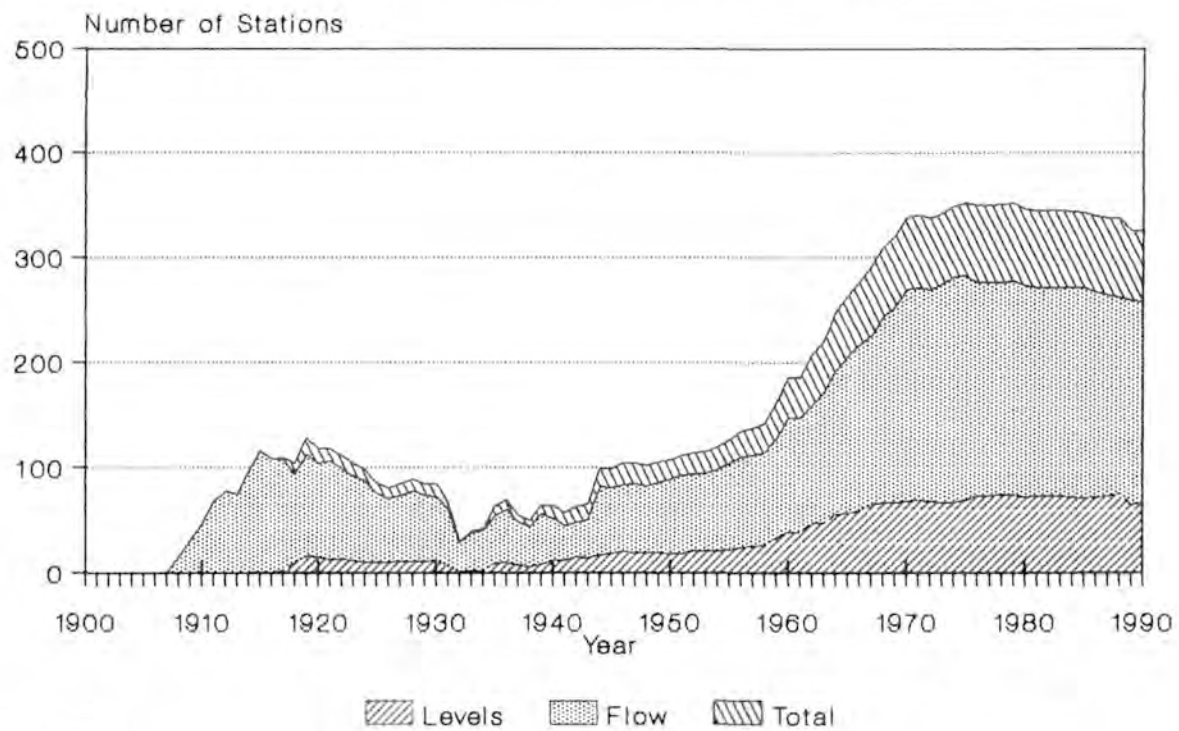
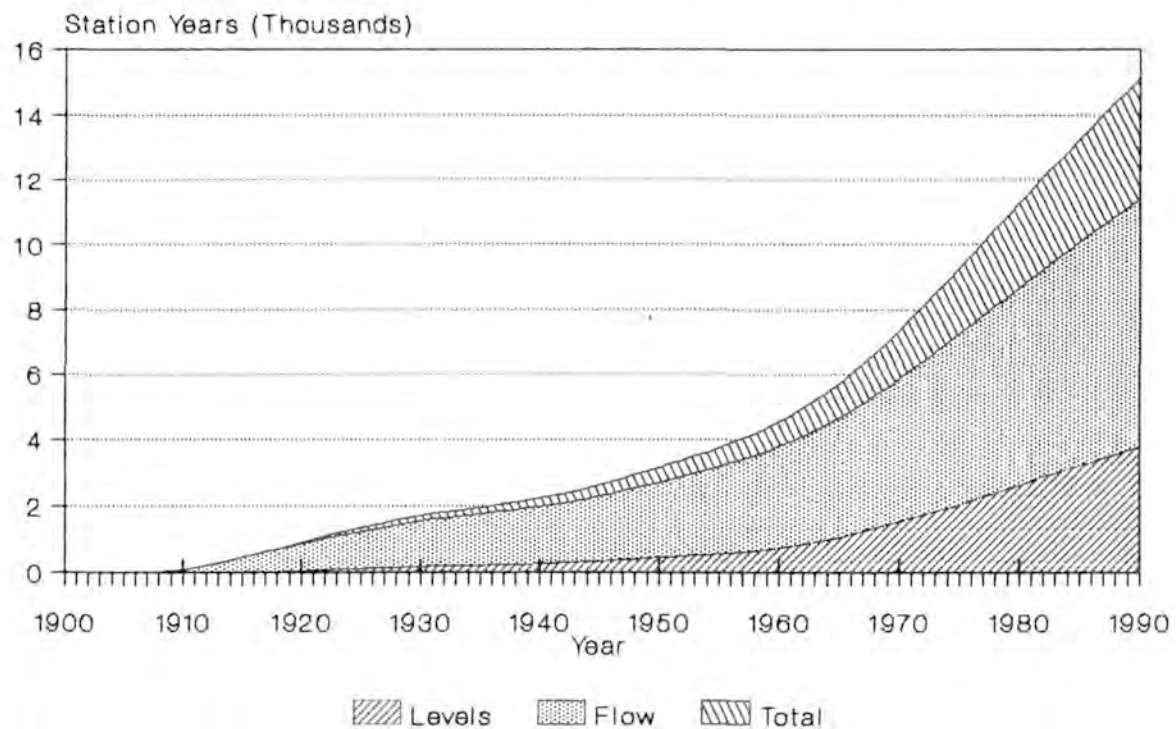


FIGURE 3:  
CUMULATIVE STATION YEARS  
OF HYDROMETRIC DATA IN SASKATCHEWAN





The number of hydrometric stations operated within Saskatchewan since 1975 has been relatively constant. Changes to the network from the inception of the cost-sharing agreement are illustrated in the following:

| <u>Year</u> | <u>Stations Added*</u> | <u>Stations Deleted*</u> |
|-------------|------------------------|--------------------------|
| 1975-76     | 52                     | 6                        |
| 1976-77     | 11                     | 4                        |
| 1977-78     | 6                      | 8                        |
| 1978-79     | 10                     | 3                        |
| 1979-80     | 0                      | 1                        |
| 1980-81     | 3                      | 11                       |
| 1981-82     | 2                      | 2                        |
| 1982-83     | 1                      | 3                        |
| 1983-84     | 22                     | 1                        |
| 1984-85     | 0                      | 0                        |
| 1985-86     | 2                      | 0                        |
| 1986-87     | 2                      | 8                        |
| 1987-88     | 3                      | 10                       |
| 1988-89     | 0                      | 4                        |
| 1989-90     | 8                      | 0                        |
| 1990-91     | <u>0</u>               | <u>0</u>                 |
| Total       | 122                    | 64                       |

\* Includes all stations from Schedule A other than contributed data.

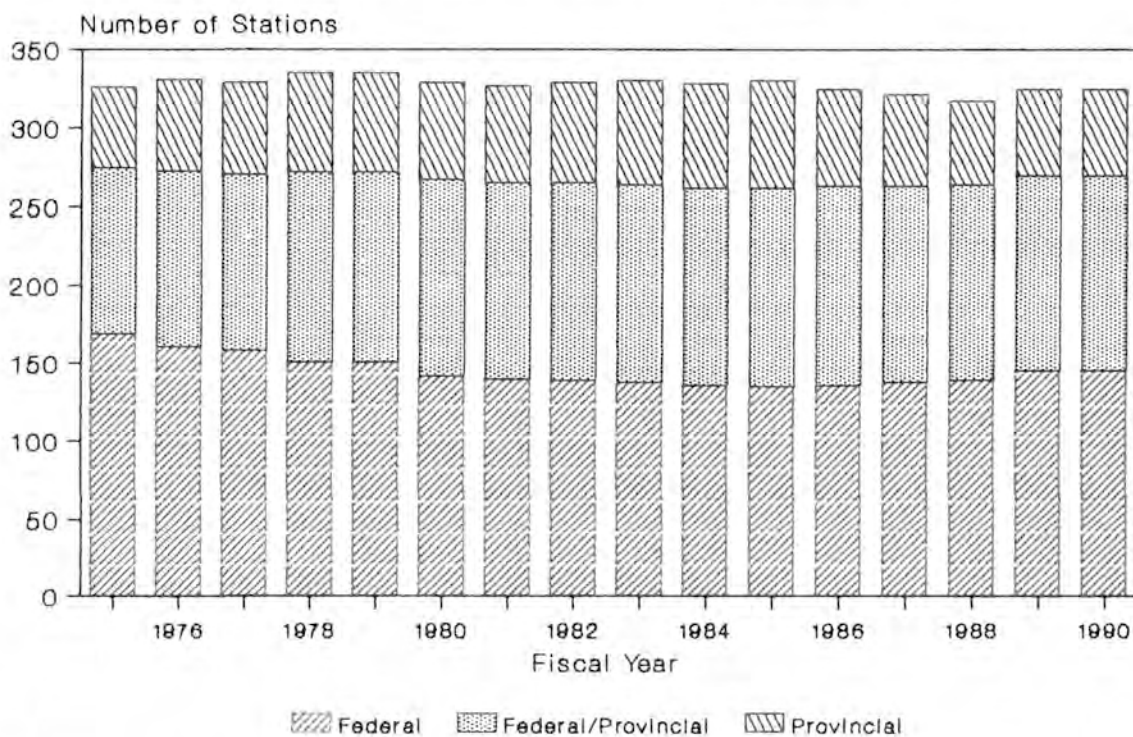
The stations added to Schedule A over this period represent approximately 38% of the hydrometric network operated by WRB and Sask Water as of April 1, 1990, and the stations deleted from the Schedule represent 20% of the network.

In addition to the 186 stations which have been added to or deleted from the network, many station designation changes have also occurred during the period. In general, there has been a decrease in the number of federal stations and an almost equal increase in federal-provincial stations. The federal stations represented 52% of the total network in 1975-76 and 45% in

1990-91 while the federal-provincial category represented 32% in 1975-76 and 38% in 1990-91. The provincial stations represented 16% of the network in 1975-76 and 17% in 1990-91. The provincial portion of the network was at its peak at 21% in 1985-86.

Figure 4 illustrates the changing nature of designated responsibility of the hydrometric network operated by WRB since the inception of the cost-sharing agreement.

FIGURE 4:  
HYDROMETRIC STATIONS OPERATED BY  
WRB IN SASKATCHEWAN SINCE 1975





## 3.1 DERIVATION OF STATION UNITS

The calculation of station units (Table 1) is derived from Schedule A of the Memorandum of Agreement which lists the hydrometric network stations as of April 1, 1990. Provincial stations operated by Sask Water and published by WRB are not considered because these stations are not included for costing purposes (Memorandum of Agreement, Article V (b)).

Total operational costs of hydrometric stations vary significantly with the period of operation (seasonal or annual) and with the type of data produced (water level only or water level and flow). Weighting factors to account for these differences and to convert stations to station units have been assigned as follows:

8 month water level station (8L) = 0.25

12 month water level station (12L) = 0.40

8 month flow station (8Q) = 0.75

12 month flow station (12Q) = 1.00

These factors apply to normal, remote and international stations and are used by the four WRB offices within the Inland Waters Directorate, Western & Northern Region.

TABLE 1  
SASKATCHEWAN WATER QUANTITY PROGRAM  
STATION CLASSIFICATION - TYPE - UNITS SUMMARY  
1990-91

| DESIGNATION               | TYPE* | NO. OF STATIONS** | CONVERSION | STATION UNITS |
|---------------------------|-------|-------------------|------------|---------------|
| <u>Federal</u>            |       |                   |            |               |
| Remote Access             | 8L    | 0                 | 0.25       | 0.00          |
|                           | 12L   | 3                 | 0.40       | 1.20          |
|                           | 8Q    | 0                 | 0.75       | 0.00          |
|                           | 12Q   | <u>13</u>         | 1.00       | <u>13.00</u>  |
|                           |       | 16                |            | 14.20         |
| Normal Access             | 8L    | 11                | 0.25       | 2.75          |
|                           | 12L   | 11                | 0.40       | 4.40          |
|                           | 8Q    | 18                | 0.75       | 13.50         |
|                           | 12Q   | <u>23</u>         | 1.00       | <u>23.00</u>  |
|                           |       | 63                |            | 43.65         |
| International             | 8L    | 15                | 0.25       | 3.75          |
|                           | 12L   | 4                 | 0.40       | 1.60          |
|                           | 8Q    | 39                | 0.75       | 29.25         |
|                           | 12Q   | <u>8</u>          | 1.00       | <u>8.00</u>   |
|                           |       | 66                |            | 42.60         |
| Total                     |       | 145               |            | 100.45        |
| DESIGNATION               | TYPE* | NO. OF STATIONS** | CONVERSION | STATION UNITS |
| <u>Federal-Provincial</u> |       |                   |            |               |
| Remote Access             | 8L    | 0                 | 0.25       | 0.00          |
|                           | 12L   | 3                 | 0.40       | 1.20          |
|                           | 8Q    | 0                 | 0.75       | 0.00          |
|                           | 12Q   | <u>15</u>         | 1.00       | <u>15.00</u>  |
|                           |       | 18                |            | 16.20         |
| Normal Access             | 8L    | 2                 | 0.25       | 0.50          |
|                           | 12L   | 5                 | 0.40       | 2.00          |
|                           | 8Q    | 85                | 0.75       | 63.75         |
|                           | 12Q   | <u>15</u>         | 1.00       | <u>15.00</u>  |
|                           |       | 107               |            | 81.25         |
| Total                     |       | 125               |            | 97.45         |

continued ...

TABLE 1 (concluded)

Page #2

| DESIGNATION       | TYPE* | NO. OF STATIONS** | CONVERSION | STATION UNITS |
|-------------------|-------|-------------------|------------|---------------|
| <u>Provincial</u> |       |                   |            |               |
| Remote Access     | 8L    | 0                 | 0.25       | 0.00          |
|                   | 12L   | 1                 | 0.40       | 0.40          |
|                   | 8Q    | 0                 | 0.75       | 0.00          |
|                   | 12Q   | <u>3</u>          | 1.00       | <u>3.00</u>   |
|                   |       | 4                 |            | 3.40          |
| Normal Access     | 8L    | 10                | 0.25       | 2.50          |
|                   | 12L   | 2                 | 0.40       | 0.80          |
|                   | 8Q    | 38                | 0.75       | 28.50         |
|                   | 12Q   | <u>1</u>          | 1.00       | <u>1.00</u>   |
|                   |       | 51                |            | 32.80         |
| Total             |       | 55                |            | 36.20         |
| Grand Total       |       | 325               |            | 234.1         |

\* 8L - 8 month water level station

8Q - 8 month flow station

\* 12L - 12 month water level station

12Q - 12 month flow station

\*\* From Schedule A

### 3.2 COST OF OPERATION: 1990-91

Station unit costs and total network costs for salary, operations and maintenance, and capital for 1990-91 are derived from the detailed program costs incorporated in Appendix A and are summarized in Table 2 and detailed in Section 4.

TABLE 2  
SASKATCHEWAN WATER QUANTITY PROGRAM  
COST SUMMARY 1990-91

Unit Cost Summary

| STATION<br>CLASSIFICATION | UNIT | SALARY<br>\$ | OPERATIONS<br>\$ | CAPITAL<br>\$ | TOTAL<br>\$ |
|---------------------------|------|--------------|------------------|---------------|-------------|
| Normal Access             |      |              |                  |               |             |
| - Non-International       | 1.0  | 3 465        | 1 581            | 400           | 5 446       |
| - International           | 1.0  | 4 331        | 1 336            | 400           | 6 067       |
| Remote Access             | 1.0  | 3 465        | 5 759            | 400           | 9 624       |

Total Cost Summary

| STATION<br>CLASSIFICATION | NO. OF<br>STATIONS | UNITS | SALARY<br>\$ | OPERATIONS<br>\$ | CAPITAL<br>\$ | TOTAL<br>\$    |
|---------------------------|--------------------|-------|--------------|------------------|---------------|----------------|
| <u>Federal</u>            |                    |       |              |                  |               |                |
| Remote                    | 16                 | 14.20 | 49 198       | 81 778           | 5 680         | 136 656        |
| Normal                    |                    |       |              |                  |               |                |
| - Non-International       | 63                 | 43.65 | 151 232      | 69 010           | 17 460        | 237 702        |
| - International           | 66                 | 42.60 | 184 492      | 56 914           | 17 040        | 258 446        |
|                           |                    |       |              |                  |               | <u>632 804</u> |
| <u>Federal-Provincial</u> |                    |       |              |                  |               |                |
| Remote                    | 18                 | 16.20 | 56 127       | 93 296           | 6 480         | 155 903        |
| Normal                    | 107                | 81.25 | 281 501      | 128 456          | 32 500        | 442 457        |
|                           |                    |       |              |                  |               | <u>598 360</u> |
| <u>Provincial</u>         |                    |       |              |                  |               |                |
| Remote                    | 4                  | 3.40  | 11 778       | 19 581           | 1 360         | 32 719         |
| Normal                    | 51                 | 32.80 | 113 640      | 51 856           | 13 120        | 178 616        |
|                           |                    |       |              |                  |               | <u>211 335</u> |
| Grand Total               | 325                | 234.1 | 847 968      | 500 891          | 93 640        | 1 442 499      |

Overall the person-year utilization for cost shared hydrometric surveys was slightly higher in 1990-91 than in the previous year with a total salary cost increase of 19 percent. Individual salary increases, when viewed on a per person-year basis, amounted to 12 percent. These significant salary increases came as the result of a new contract settlement with the hydrometric staff. Incremental back-pay for the period that the hydrometric staff was without a contract was paid separately and was not included within the cost-sharing agreement.

The most significant unit cost increase in 1990-91 was 16.7 percent for international stations. Salary increases accounted for 82 percent of the increase while operations and maintenance (O&M) costs accounted for the rest. Normal access and remote station unit costs increased by 11.8 and 9.6 percent respectively over the previous fiscal year. The difference in increase between normal and remote access stations is primarily the result of salary costs having less influence on the unit cost for remote access stations.

Total shareable program O&M costs were 3.6 percent higher in 1990-91 compared to the previous year. A significant increase in vehicle operating costs was offset by an equally large decrease in expenditures on parts and consumable tools. The second largest operational cost increase was incurred for the purchase of materials to restock the WRB warehouse. This type of a expense is not incurred on a year-to-year basis.

Table 3 and Figure 5 summarize the shared costs for 1990-91. The federal share was \$1 017 448 while the provincial share was \$539 534. The provincial surplus from 1989-90 of \$439 and the provincial payment for 1990-91 of \$561 000 result in a provincial surplus of \$21 466 for 1990-91 operations.

TABLE 3  
SASKATCHEWAN WATER QUANTITY PROGRAM  
SHARED COST SUMMARY 1990-91  
(From Table 2 & Construction Report)

|  |                  |             |
|--|------------------|-------------|
| FEDERAL SHARE = $\$632\,804 + \frac{\$598\,360}{2}$  | \$931 984        |             |
| FEDERAL CONSTRUCTION SHARE                           | <u>\$ 85 464</u> |             |
| TOTAL FEDERAL SHARE                                  |                  | \$1 107 448 |
| PROVINCIAL SHARE = $\$211\,335 + \frac{598\,360}{2}$ | \$510 515        |             |
| PROVINCIAL CONSTRUCTION SHARE                        | \$ 28 458        |             |
| SEDIMENT ANALYSIS                                    | <u>\$ 1 000</u>  |             |
| TOTAL PROVINCIAL SHARE                               |                  | \$539 973   |
| PROVINCIAL SURPLUS (FROM 1989-1990)                  |                  | \$ (439)    |
| TOTAL OF OTHER PROVINCIAL COSTS                      |                  | -           |
| TOTAL PROVINCIAL SHARE                               |                  | \$539 534   |
| PROVINCIAL PAYMENT                                   |                  | (\$561 000) |
| PROVINCIAL SURPLUS                                   |                  | \$21 466    |

FIGURE 5:  
HYDROMETRIC SURVEY PROGRAM  
SHARED COST SUMMARY (1990-91)

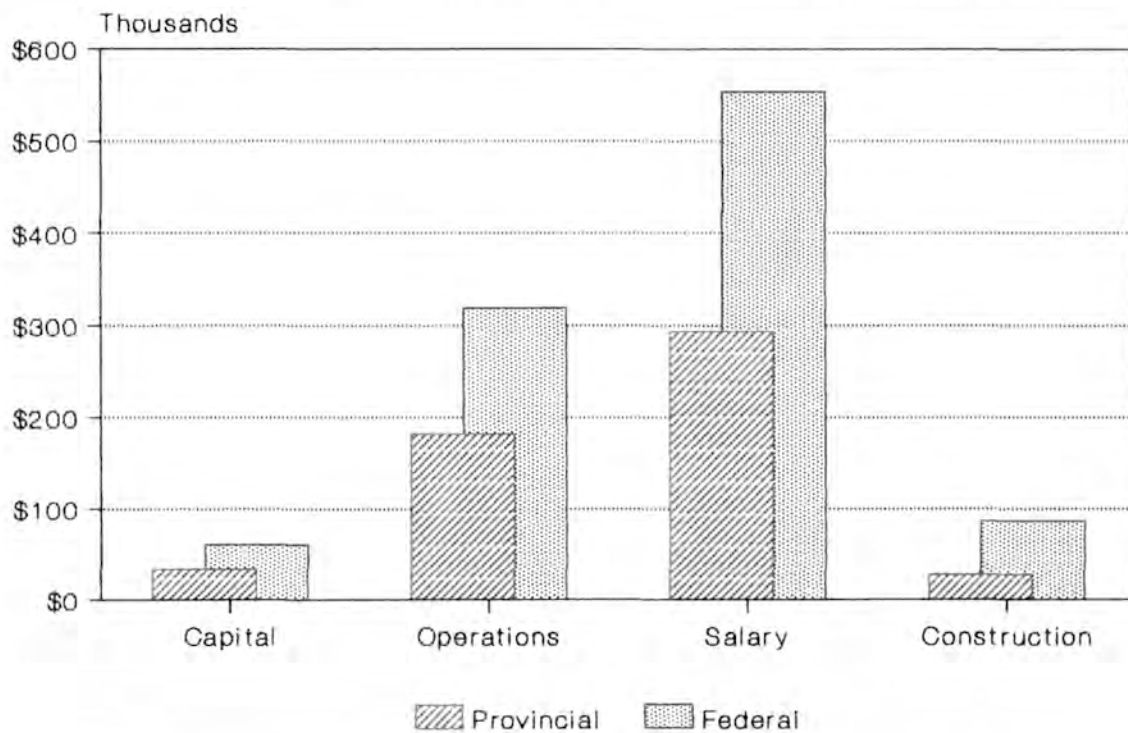


Table 4 and Figures 6 to 8 show the changes in station-unit costs since the implementation of the cost sharing agreement in 1975.

### 3.3 COST ESTIMATES: 1991-92

Changes affecting the 1991-92 Schedule A and the computation of the 1990-91 Schedule D, estimated at \$561 000, are contained in Appendix C.



TABLE 4  
SASKATCHEWAN WATER QUANTITY PROGRAM  
HISTORICAL SUMMARY OF STATION UNIT COSTS

| FISCAL<br>YEAR | NORMAL  |         | INTERNATIONAL |         | REMOTE  |        |
|----------------|---------|---------|---------------|---------|---------|--------|
|                | COST    | CHANGE* | COST          | CHANGE* | COST    | CHANGE |
| 1975-76        | \$1 583 | -       | \$1 810       | -       | \$3 643 | -      |
| 1976-77        | \$1 721 | 8.7%    | \$1 971       | 8.9%    | \$3 949 | 8.4%   |
| 1977-78        | \$1 928 | 12.0%   | \$2 220       | 12.6%   | \$4 213 | 6.7%   |
| 1978-79        | \$2 106 | 9.2%    | \$2 434       | 9.6%    | \$4 501 | 6.8%   |
| 1979-80        | \$2 200 | 4.5%    | \$2 791       | 14.7%   | \$4 631 | 2.9%   |
| 1980-81        | \$2 415 | 9.8%    | \$3 055       | 9.5%    | \$5 894 | 27.3%  |
| 1981-82        | \$3 067 | 27.0%   | \$3 852       | 26.1%   | \$5 993 | 1.6%   |
| 1982-83        | \$3 297 | 7.5%    | \$4 170       | 8.3%    | \$7 003 | 1.7%   |
| 1983-84**      | \$3 615 | 9.6%    | \$4 375       | 4.9%    | \$6 872 | -1.9%  |
| 1984-85        | \$3 741 | 3.5%    | \$4 473       | 2.2%    | \$7 244 | 5.4%   |
| 1985-86        | \$4 063 | 8.6%    | \$4 808       | 7.5%    | \$7 277 | 0.5%   |
| 1986-87        | \$4 379 | 7.8%    | \$5 185       | 7.8%    | \$8 604 | 18.2%  |
| 1987-88        | \$4 435 | 1.3%    | \$5 141       | -0.8%   | \$8 352 | -2.9%  |
| 1988-89***     | \$4 612 | 4.0%    | \$4 783       | -7.0%   | \$8 216 | -1.6%  |
| 1989-90        | \$4 871 | 5.6%    | \$5 199       | 8.7%    | \$8 784 | 6.9%   |
| 1990-91        | \$5 446 | 11.8%   | \$6 067       | 16.7%   | \$9 624 | 9.6%   |
| 1975-89        | -       | 244.0%  | -             | 235.2%  | -       | 164.2% |

Average percent increase for all stations since 1975-76 = 200.4%

\* % =  $100 \times (\text{year 2} - \text{year 1}) / \text{year 1}$

\*\* Method of calculation of station unit costs was modified from 1983-84 until 1987-88, so values may not be directly comparable.

\*\*\* Method of station unit costs was modified this year.



FIGURE 6:  
CONVENTIONAL HYDROMETRIC STATION  
ANNUAL UNIT COSTS

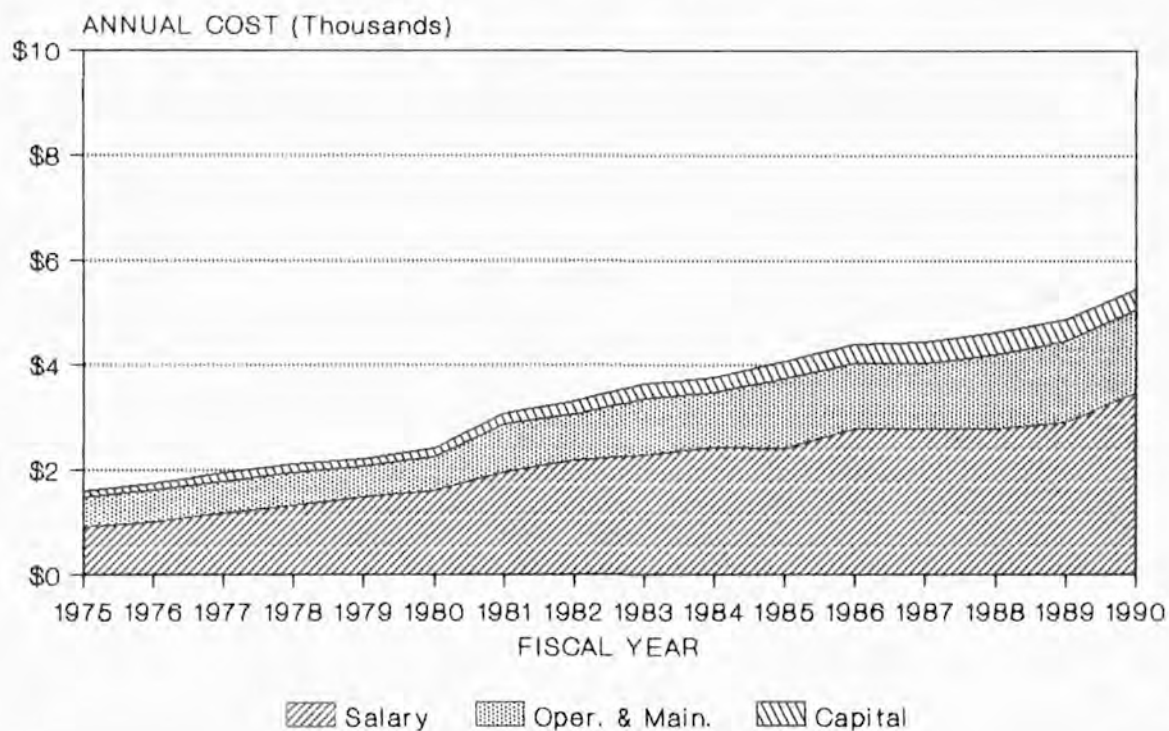


FIGURE 7:  
REMOTE HYDROMETRIC STATION  
ANNUAL UNIT COSTS

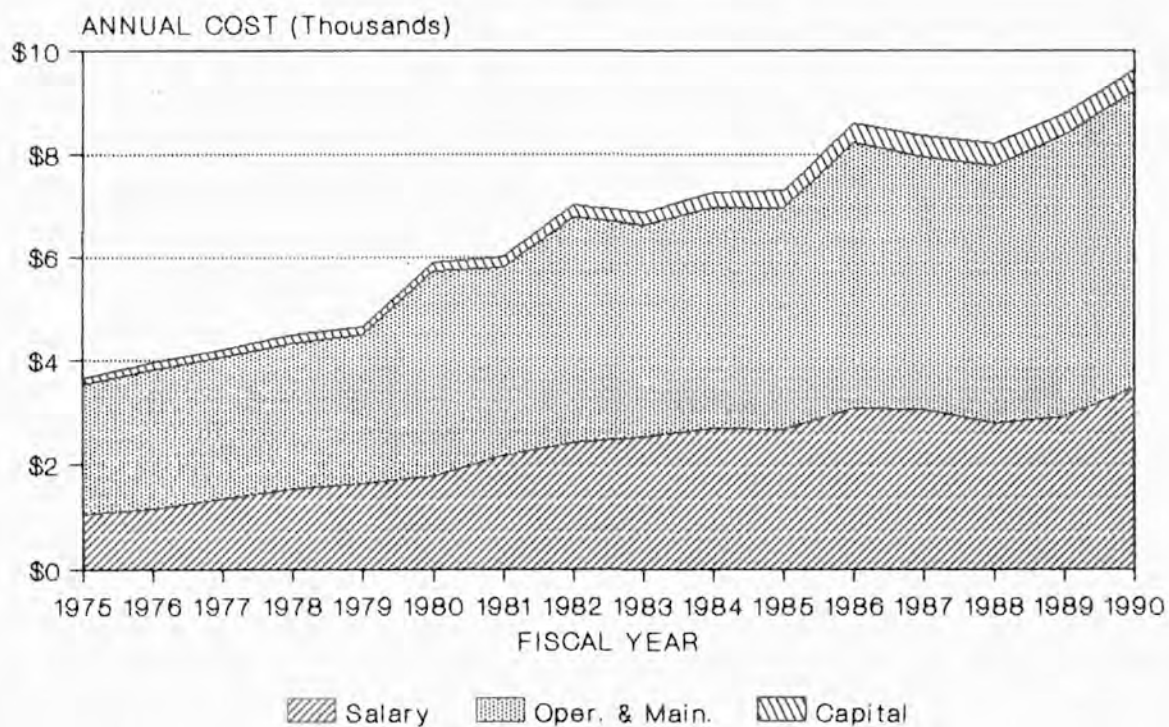
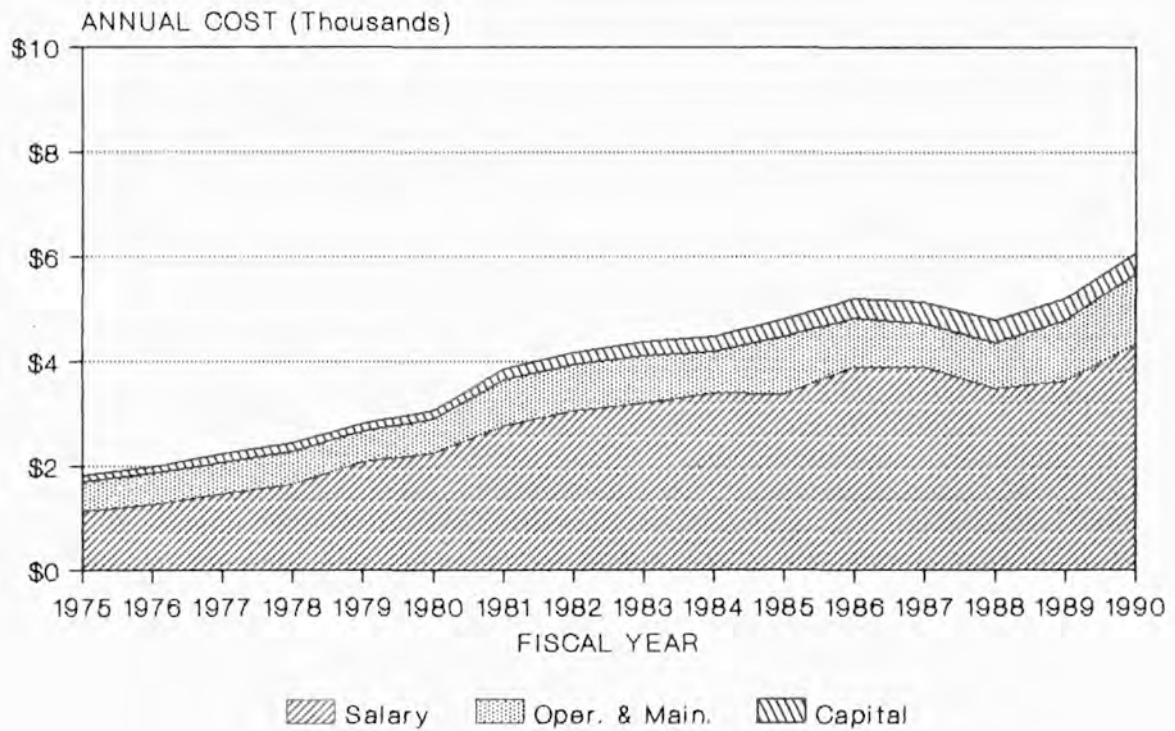


FIGURE 8:  
INTERNATIONAL HYDROMETRIC STATION  
ANNUAL UNIT COSTS



Appendix A contains Tables 5 to 10 which provide details of expenditures under the Memorandum of Agreement. Expenditures were extracted from various departmental financial systems such as payroll, materiel and fleet management. Operations expenditures were obtained from Supply and Services Canada detailed transaction listings. A record of individual expenditures is further supported by various purchase/pay documents which, under the federal records management system, are retained for a period of five years.

#### 4.1 SALARY COSTS

Salaries of staff with full time hydrometric duties are shared under the program. Salaries of staff with partial hydrometric duties or those seconded to the program for brief periods are shared proportionately. The calculation of station-unit salary costs is shown in Table 5. A factor of 1.25 was applied to the salary costs for remote and international gauging stations for the first four years of the Agreement (1975-1979) to account for the greater effort needed to operate these types of stations. Based on an analysis of 1978-79 salary costs, these factors were revised to 1.10 for remote stations and 1.40 for international stations and were used until 1987-88. Based on a 1988 review of salary costs, a factor of 1.25 has been used in this report for international gauging stations and 1.0 for normal and remote stations. These factors will be used until 1992-93 unless revisions are justified during this five-year period.

TABLE 5  
SASKATCHEWAN WATER QUANTITY PROGRAM  
SALARY COST 1990-1991

| <u>Position No.</u>            | <u>Position Title</u>        | <u>Salary</u>    |
|--------------------------------|------------------------------|------------------|
| 1. 2411-00006                  | Hydrometric Supervisor       | \$ 46 634        |
| 2. 2411-00025                  | Hydrometric Technologist     | \$ 37 750        |
| 3. 2411-00016                  | Hydrometric Technologist     | \$ 41 991        |
| 4. 2411-00032                  | Hydrometric Technologist     | \$ 41 991        |
| 5. 2411-00018                  | Hydrometric Supervisor       | \$ 45 966        |
| 6. 2411-00022                  | Hydrometric Technologist     | \$ 41 991        |
| 7. 2411-00026                  | Hydrometric Technologist     | \$ 41 991        |
| 8. 2411-00007                  | Hydrometric Supervisor       | \$ 44 040        |
| 9. 2411-00024                  | Hydrometric Technologist     | \$ 40 762        |
| 10. 2411-00009                 | Hydrometric Supervisor       | \$ 45 966        |
| 11. 2411-00017                 | Hydrometric Technologist     | \$ 41 991        |
| 12. 2411-00033                 | Hydrometric Technologist     | \$ 41 991        |
| 13. 2411-00034                 | Hydrometric Technologist     | \$ 41 991        |
| 14. 2411-00023                 | Hydrometric Technologist     | \$ 41 991        |
| 15. 2411-00027                 | Hydrometric Technologist     | \$ 39 755        |
| 16. 2411-00021                 | Hydrometric Technologist     | \$ 41 991        |
| 17. 2411-00020                 | Hydrometric Technologist     | \$ 41 991        |
| 18. 2411-00019 (x0.85)         | Hydrometric Technologist     | \$ 36 060        |
| 19. 2411-00008 (x0.25)         | Hydrometric Supervisor       | \$ 15 661        |
| 20. 2411-00030 (x0.08)         | Construction Supervisor      | \$ 3 077         |
| 21. 2411-09008 (x0.33)         | Hydrometric Assistant        | \$ 11 165        |
| 22. 2411-00012 (x0.025)        | Computations Technician      | \$ 1 811         |
| 23. 2411-09009 (x0.33)         | Hydrometric Assistant        | \$ 10 134        |
| 24. 2411-00013 (x0.05)         | Studies and Systems Engineer | \$ 2 801         |
| 25. 2411-09004 (x0.75)         | Hydrometric Technician       | \$ 19 932        |
| 26. 2411-00014 (x0.04)         | Water Resource Engineer      | \$ 1 936         |
| 27. COSEP (x0.5)               | Hydrometric Assistant        | \$ 11 049        |
| 28. Overtime                   | All Positions                | \$ 24 548        |
| 29. H&M Survey (less 0.25 p-y) | All Positions                | <u>\$ 11 000</u> |
| TOTAL                          | (19.96 P-Ys)                 | \$847 968        |

CALCULATION OF STATION UNIT SALARY COST

|                |              |
|----------------|--------------|
| Station Units: |              |
| Remote Access  | 33.80        |
| Normal Access  | 157.70       |
| International  | <u>42.60</u> |
| TOTAL          | 234.10       |

|                                |              |
|--------------------------------|--------------|
| Salary-weighted Station-Units: |              |
| Remote Access                  | 33.80        |
| Normal Access                  | 157.70       |
| International x 1.25           | <u>53.25</u> |
| TOTAL                          | 244.75       |

$$\text{Unit Salary Cost} = \frac{\text{Total Salary Cost}}{\text{Salary-weighted Station Units}} = \frac{\$847,968}{244.75} = \$3,465$$

|   |          |
|---|----------|
| Unit Salary Cost Normal =                         | \$ 3 465 |
| Unit Salary Cost Remote =                         | \$ 3 465 |
| Unit Salary Cost International = \$3 465 x 1.25 = | \$ 4 331 |

#### 4.2 OPERATIONAL COSTS

The derivation of station unit operating costs is shown in Table 6. A record of each expenditure is shown in Table 7 while vehicle operating costs are listed in Table 8. A breakdown of 1990-91 operating costs indicates that the operating cost for a remote hydrometric station in Saskatchewan was 3.6 times greater than a normal access station. This reflects high air charter costs and the generally greater cost of operating in northern areas.

#### 4.3 CAPITAL DEPRECIATION COSTS

Capital depreciation is charged for hydrometric survey and construction vehicles and equipment as shown in Tables 9 and 10. Consumables such as small tools and clothing are charged to the program at the time of purchase as are certain other items such as metering boats that are part of the inventory of a specific station. All stage recording instruments are excluded.

The annual rate of depreciation for survey equipment is 10 percent. The actual calculation of inventory value is based on the mean of the value at the beginning and end of the fiscal year. This procedure reflects purchasing activity throughout the year.

The depreciation data for vehicles is provided by the Fleet Management Information System which assumes a 60-month service period for station wagons and a 72-month service period for multi-purpose vehicles and trucks.

TABLE 6

SASKATCHEWAN WATER QUANTITY NETWORK  
OPERATIONS COST SUMMARY 1990-91

|   | 305           | COST CODE*<br>306 | 307          | TOTAL         |
|---|---------------|-------------------|--------------|---------------|
| Travel  | 56 715        | 10 127            | 7 889        | 74 731        |
| Transportation and Postage                          | 643           | 517               | 503          | 1 663         |
| Telephones  | 6 614         | 2 008             | 5 327        | 13 949        |
| Advertising and Printing Services                   | 419           | 73                | 255          | 747           |
| Professional and Special Services                   | 3 665         | 0                 | 7            | 3 662         |
| Building & Structures Repairs                       | 141           | 0                 | 0            | 141           |
| Other Services                                      | 2 396         | 5 639             | 0            | 8 035         |
| Rentals   | 3 044         | 149 611           | 571          | 153 226       |
| Purchased Repairs<br>(other than vehicles)          | 3 367         | 1 071             | 2 522        | 6 910         |
| Public Utility Services                             | 43 263        | 35                | 4 248        | 47 546        |
| Purchased Materials<br>(other than capital)         | 12 915        | 5 908             | 2 273        | 21 096        |
| Parts and Consumable Tools<br>(other than vehicles) | 28 073        | 5 682             | 10 650       | 44 405        |
| Other Expenditures                                  | <u>176</u>    | <u>0</u>          | <u>0</u>     | <u>176</u>    |
| Sub-Total   | 161 421       | 180 671           | 34 245       | 376 337       |
| Current Meter Maintenance                           | 2 676         | 572               | 723          | 3 971         |
| Minicomputer Costs**                                | 48 818        | 10 644            | 13 452       | 73 914        |
| Vehicle Operating Costs<br>(Table 8)                | <u>35 435</u> | <u>2 777</u>      | <u>8 502</u> | <u>46 714</u> |
| Total Operating Costs                               | 249 350       | 194 664           | 56 922       | 500 936       |
| Station Units                                       | 157.70        | 33.80             | 42.60        | 234.10        |
| Unit Operations Cost                                | 1 581         | 5 759             | 1 336        | 2 140         |

\* 305 - conventional  
306 - remote  
307 - international

\*\* See Appendix B for details



TABLE 7

## COST ACTIVITY SUMMARY

1990 - 1991

| LINE OBJECT NAME             | LO#  | TOTAL   | 001    | 110 | 303   | 304 | 305    | 306    | 307   | 308   | 310    | 313    | 316   | 317   |
|------------------------------|------|---------|--------|-----|-------|-----|--------|--------|-------|-------|--------|--------|-------|-------|
| TRAVEL                       |      |         |        |     |       |     |        |        |       |       |        |        |       |       |
| Travel Expenses              | 0401 | 144 595 | 42 706 |     | 191   | 220 | 55 967 | 10 127 | 7 604 | 2 691 | 18 333 | 207    | 3 322 | 3 227 |
| Non Gov't Confs Canada       | 0421 | 1 299   |        |     |       |     |        |        |       |       |        |        | 1 299 |       |
| Travel Training              | 0444 | 9 085   | 5 890  |     |       |     | 714    |        | 285   |       |        |        | 1 058 | 1 137 |
| Tavel Non--Public Service    | 0450 | 1 940   | 133    |     |       | 534 | 34     |        |       |       |        |        | 1 239 |       |
| Sub Total                    |      | 156 919 | 48 729 | 0   | 191   | 754 | 56 715 | 10 127 | 7 889 | 2 691 | 18 333 | 207    | 6 919 | 4 365 |
| ACCOMODATIONS                |      |         |        |     |       |     |        |        |       |       |        |        |       |       |
| Sale Purch Residence         | 0562 | 7 910   | 7 910  |     |       |     |        |        |       |       |        |        |       |       |
| Sub Total                    |      | 7 910   | 7 910  | 0   | 0     | 0   | 0      | 0      | 0     | 0     | 0      | 0      | 0     | 0     |
| TRANSPORTATION AND POSTAGE   |      |         |        |     |       |     |        |        |       |       |        |        |       |       |
| Air                          | 0601 | 2 543   | 165    |     | 963   |     | 13     | 48     | 115   |       | 53     | 1 145  |       | 41    |
| Other Postal                 | 0652 | 472     | 279    |     |       |     | 92     | 6      | 94    |       |        |        |       |       |
| Courrier Service             | 0653 | 1 806   |        |     | 404   |     | 250    | 182    | 401   | 68    |        | 227    | 205   | 68    |
| Central Freight              | 0654 | 1 021   | 19     |     | 542   |     | 40     | 420    |       |       |        |        |       |       |
| Sub Total                    |      | 5 842   | 463    | 0   | 1 909 | 0   | 396    | 656    | 611   | 68    | 53     | 1 372  | 205   | 109   |
| TELEPHONES                   |      |         |        |     |       |     |        |        |       |       |        |        |       |       |
| Telephones (GTA)             | 0701 | 1 529   | 493    |     |       |     |        |        | 1 036 |       |        |        |       |       |
| Gov't Inter City Net Chg GTA | 0703 | 9 855   | 9 855  |     |       |     |        |        |       |       |        |        |       |       |
| Local Serv Chgs Comm Carr    | 0706 | 13 327  | 8 387  |     |       |     | 2 402  | 364    | 1 650 |       | -38    | 562    |       |       |
| Non Recurr Chgs Comm Carr    | 0707 | 2 603   | 2 303  |     |       |     | 300    |        |       |       |        |        |       |       |
| Directory Assist Comm Carr   | 0708 | 7       | 1      |     |       |     | 1      |        | 5     |       |        |        |       |       |
| Long Dist Dial D Comm Carr   | 0709 | 1 808   | 404    |     |       |     | 535    | 9      | 661   |       | 99     | 50     | 50    |       |
| Sales Tax Communications     | 0710 | 739     | 367    |     |       |     | 226    | 32     | 101   |       |        | 13     |       |       |
| L Dist Op Assist Comm Carr   | 0711 | 822     | 42     |     |       |     | 683    | 48     |       |       | 35     |        | 14    |       |
| Inwats 800 Serv Comm Carr    | 0712 | 1 015   |        |     |       |     | 1 015  |        |       |       |        |        |       |       |
| Other Bas Voi Sr Comm Car    | 0717 | 319     | 319    |     |       |     |        |        |       |       |        |        |       |       |
| Directory Chgs GTA           | 0719 | 75      | 75     |     |       |     |        |        |       |       |        |        |       |       |
| Authorization Codes (GTA)    | 0720 | 983     | 983    |     |       |     |        |        |       |       |        |        |       |       |
| Term/Eq Chgs Comm Carr       | 0801 | 5 097   |        |     |       |     | 42     |        |       |       |        | 5 023  | 32    |       |
| Recur Bas Loc Sv Comm Carr   | 0802 | 7 151   | 29     |     |       |     |        |        |       |       |        | 7 094  | 29    |       |
| N--Rec Bas Loc Sv Comm Car   | 0803 | 480     |        |     |       |     |        |        |       |       |        | 480    |       |       |
| Data Pac Comm Lines C & P    | 0804 | 301     |        |     |       |     |        |        |       |       |        | 301    |       |       |
| Message and Data (non GTA)   | 0806 | 7 513   |        |     |       |     | 34     | 947    | 1 875 |       |        | 4 657  |       |       |
| Other Comm. Services         | 0810 | 54      |        |     |       |     |        |        |       |       |        | 54     |       |       |
| Radio Licenses               | 0822 | 1 493   |        |     |       |     | 1 376  | 117    |       |       |        |        |       |       |
| Sales Tax Communications     | 0850 | 693     |        |     |       |     |        |        |       |       |        | 687    | 6     |       |
| Sub Total                    |      | 55 864  | 23 256 | 0   | 0     | 0   | 6 614  | 1 517  | 5 327 | 0     | 97     | 18 921 | 131   | 0     |

### COST ACTIVITY SUMMARY

| LINE OBJECT NAME                           | LO#  | TOTAL         | 001          | 110      | 303          | 304        | 305          | 306       | 307        | 308        | 310      | 313      | 316          | 317        |
|--|------|---------------|--------------|----------|--------------|------------|--------------|-----------|------------|------------|----------|----------|--------------|------------|
| <b>ADVERTISING</b>                         |      |               |              |          |              |            |              |           |            |            |          |          |              |            |
| Advertising Placement N G                  | 0902 | 392           | 175          |          |              |            | 173          |           | 44         |            |          |          |              |            |
| Pub DSS Other Costs                        | 1043 | 120           | 120          |          |              |            |              |           |            |            |          |          |              |            |
| Publications DSS Dist Cent                 | 1045 | 19            | 19           |          |              |            |              |           |            |            |          |          |              |            |
| Competition Posters                        | 1063 | 38            | 38           |          |              |            |              |           |            |            |          |          |              |            |
| Other Printing Services DSS                | 1064 | 2 179         | 697          |          |              |            |              |           |            |            |          |          | 1 482        |            |
| Print Service Outside Resl                 | 1070 | 4 750         | 630          |          |              |            |              |           |            | 590        |          |          | 3 530        |            |
| Other Print Service Outside                | 1073 | 3 109         | 1 130        |          | 145          |            | 41           | 10        | 212        | 230        |          |          | 1 341        |            |
| Visual Service Acq. Outside                | 1083 | 27            | 18           |          |              |            | 10           |           |            |            |          |          |              |            |
| Photog Services Photos                     | 1093 | 336           | 52           |          |              | 10         | 195          | 62        |            |            |          |          | 17           |            |
| <b>Sub Total</b>                           |      | <b>10 970</b> | <b>2 878</b> | <b>0</b> | <b>145</b>   | <b>10</b>  | <b>419</b>   | <b>73</b> | <b>255</b> | <b>820</b> | <b>0</b> | <b>0</b> | <b>6 370</b> | <b>0</b>   |
| <b>PROFESSIONAL &amp; SPECIAL SERVICES</b> |      |               |              |          |              |            |              |           |            |            |          |          |              |            |
| Legal Services                             | 1105 | 684           | 684          |          |              |            |              |           |            |            |          |          |              |            |
| Surveys Consul                             | 1111 | 415           |              |          |              |            |              |           |            | 415        |          |          |              |            |
| Draft Blue-Print                           | 1145 | 48            | 7            |          |              |            |              |           |            | 41         |          |          |              |            |
| Lab Test Analysis                          | 1170 | 660           |              |          |              | 660        |              |           |            |            |          |          |              |            |
| Gauge Attendants                           | 1171 | 3 655         |              |          |              |            | 3 655        |           |            |            |          |          |              |            |
| Mngt Cons Exc DSS                          | 1181 | 1 550         |              |          |              |            |              |           |            |            |          |          | 1 550        |            |
| Purch Tr Pack Cr                           | 1217 | 195           | 195          |          |              |            |              |           |            |            |          |          |              |            |
| Stf Dev Tr Psc Ex Lgtr                     | 1220 | 785           | 785          |          |              |            |              |           |            |            |          |          |              |            |
| Tui Fees Univ&Coll                         | 1221 | 520           | 520          |          |              |            |              |           |            |            |          |          |              |            |
| Tr Ps Other                                | 1222 | 934           | 705          |          |              |            |              |           |            |            |          |          | 30           | 199        |
| <b>Sub Total</b>                           |      | <b>9 446</b>  | <b>2 896</b> | <b>0</b> | <b>0</b>     | <b>660</b> | <b>3 655</b> | <b>0</b>  | <b>0</b>   | <b>456</b> | <b>0</b> | <b>0</b> | <b>1 580</b> | <b>199</b> |
| <b>TEMPORARY HELP SERVICE</b>              |      |               |              |          |              |            |              |           |            |            |          |          |              |            |
| Contract Steno                             | 1301 | 7 213         | 7 213        |          |              |            |              |           |            |            |          |          |              |            |
| Cntrct Clerical Serv                       | 1302 | 404           | 404          |          |              |            |              |           |            |            |          |          |              |            |
| Other Temporary Help                       | 1303 | 1 364         | 280          |          | 1 084        |            |              |           |            |            |          |          |              |            |
| <b>Sub Total</b>                           |      | <b>8 981</b>  | <b>7 897</b> | <b>0</b> | <b>1 084</b> | <b>0</b>   | <b>0</b>     | <b>0</b>  | <b>0</b>   | <b>0</b>   | <b>0</b> | <b>0</b> | <b>0</b>     | <b>0</b>   |
| <b>OTHER SERVICES</b>                      |      |               |              |          |              |            |              |           |            |            |          |          |              |            |
| Laundry Dry Cleaning                       | 1501 | 339           | 109          |          | 27           |            | 131          |           |            |            | 73       |          |              |            |
| EDP Purchases Software                     | 1510 | 10 585        |              |          |              |            | 1 234        |           |            |            |          | 3 963    | 69           | 5 318      |
| Contract Admin. DSS                        | 1525 | 14 991        | 6 308        |          | 951          |            | 240          | 5 639     |            |            | 130      | 1 572    |              | 150        |
| Promotion Enviroment Week                  | 1535 | 512           | 512          |          |              |            |              |           |            |            |          |          |              |            |
| Inter-Intra Off Mov                        | 1540 | 287           | 185          |          | 102          |            |              |           |            |            |          |          |              |            |
| Brokerage Fees                             | 1554 | 827           |              |          |              |            | 791          |           |            |            |          | 36       |              |            |
| Storage Warehouse                          | 1560 | 3 043         | 8            |          |              |            |              |           |            |            |          | 95       |              | 2 940      |
| Garbage Collection                         | 1566 | 421           | 414          |          |              |            |              |           |            |            |          |          |              |            |
| Regist Seminars Workshop                   | 1573 | 1 633         | 1 345        |          |              |            |              |           |            |            | 7        |          | 288          |            |



TABLE 7

## COST ACTIVITY SUMMARY

1990 - 1991

| LINE OBJECT NAME              | LO#  | TOTAL   | 001    | 110 | 303   | 304 | 305   | 306     | 307   | 308   | 310   | 313    | 316 | 317   |
|-------------------------------|------|---------|--------|-----|-------|-----|-------|---------|-------|-------|-------|--------|-----|-------|
| Conference Fee                | 1574 | 519     |        |     |       |     |       |         |       |       |       |        | 519 |       |
| Snow and Ice Removal          | 1581 | 520     | 520    |     |       |     |       |         |       |       |       |        |     |       |
| Oth Serv Cntrct Not Spec      | 1586 | 1 000   | 1 000  |     |       |     |       |         |       |       |       |        |     |       |
| Petty Cash Purchase           | 1589 | 49      | 36     |     |       |     |       |         |       |       | 13    |        |     |       |
| Microfilm of Documents        | 1590 | 441     |        |     |       |     |       |         |       |       |       |        |     | 441   |
| Miscellaneous Services        | 1597 | 198     | 198    |     |       |     |       |         |       |       |       |        |     |       |
| Sub Total                     |      | 35 365  | 10 634 | 0   | 1 080 | 0   | 2 396 | 5 639   | 0     | 0     | 223   | 5 667  | 876 | 8 849 |
| RENTALS                       |      |         |        |     |       |     |       |         |       |       |       |        |     |       |
| Photo Printing Equipment      | 1621 | 2 552   | 2 552  |     |       |     |       |         |       |       |       |        |     |       |
| Machine Equipment             | 1625 | 4 691   |        |     |       |     | 68    |         |       |       | 4 623 |        |     |       |
| Aircraft External Supplies    | 1635 | 151 726 |        |     |       |     |       | 148 814 |       | 2 912 |       |        |     |       |
| Building Rental               | 1640 | 1 495   | 650    |     |       |     |       |         |       |       | 170   |        | 266 | 410   |
| Gas Cylinders (Rental)        | 1650 | 4 118   |        |     |       |     | 2 976 | 571     | 571   |       |       |        |     |       |
| Rent Equip N E S              | 1651 | 539     | 129    |     | 300   |     |       |         |       |       | 110   |        |     |       |
| Lease Purchase Other          | 1652 | 226     |        |     |       |     |       | 226     |       |       |       |        |     |       |
| Sub Total                     |      | 165 347 | 3 331  | 0   | 300   | 0   | 3 044 | 149 611 | 571   | 2 912 | 4 903 | 0      | 266 | 410   |
| PURCHASED REPAIR              |      |         |        |     |       |     |       |         |       |       |       |        |     |       |
| Gen Purp Ind Machine          | 1701 | 300     |        |     |       |     |       |         |       |       | 300   |        |     |       |
| Air Cond. Refrig Equip        | 1711 | 2 981   | 104    |     | 1 663 |     |       |         |       |       |       | 1 214  |     |       |
| Elec Light Distr Cent Equip   | 1713 | 1 636   |        |     | 285   |     |       |         |       |       | 1 262 | 90     |     |       |
| Oth Elec Equip Appl           | 1714 | 185     | 185    |     |       |     |       |         |       |       |       |        |     |       |
| Mea Cont Lab Inst Excxcray    | 1718 | 4 101   |        |     | 570   |     | 2 292 | 626     | 413   |       |       | 200    |     |       |
| Ser Ind Equip Vend M/C        | 1721 | 1 376   | 461    |     |       |     | 254   |         | 40    |       | 620   |        |     |       |
| Furniture Fixture             | 1722 | 35      |        |     | 35    |     |       |         |       |       |       |        |     |       |
| Other Equipment               | 1728 | 1 106   |        |     | 925   |     | 181   |         |       |       |       |        |     |       |
| EDP Equipment                 | 1735 | 44 990  | 17 010 |     |       |     |       | 344     |       |       |       | 27 486 |     | 150   |
| Off M/C Equip Exc Furn        | 1736 | 2 354   | 379    |     |       |     |       |         | 1 975 |       |       |        |     |       |
| Other non-elec Office Equip   | 1737 | 23      |        |     |       |     | 23    |         |       |       |       |        |     |       |
| Ships Boats                   | 1740 | 175     |        |     |       |     | 129   | 46      |       |       |       |        |     |       |
| Road Motor Vehicles           | 1746 | 5 907   | 4 951  |     |       |     | 318   | 8       | 12    |       | 618   |        |     |       |
| Misc. Vehicles                | 1747 | 1 535   | 1 360  |     |       |     | 175   |         |       |       |       |        |     |       |
| Sub Total                     |      | 66 704  | 24 451 | 0   | 3 478 | 0   | 3 372 | 1 024   | 2 440 | 0     | 2 800 | 28 989 | 0   | 150   |
| BUILDING & STRUCTURES REPAIR  |      |         |        |     |       |     |       |         |       |       |       |        |     |       |
| Sewage Syst Connect           | 1816 | 175     |        |     | 175   |     |       |         |       |       |       |        |     |       |
| Power Transmission Dist Lines | 1825 | 407     |        |     |       |     | 141   |         |       |       | 267   |        |     |       |
| Office Bldg                   | 1845 | 108     |        |     |       |     |       |         |       |       |       | 108    |     |       |
| Wrhous Strhous etc.           | 1850 | 75      | 75     |     |       |     |       |         |       |       |       |        |     |       |
| Sub Total                     |      | 765     | 75     | 0   | 175   | 0   | 141   | 0       | 0     | 0     | 267   | 108    | 0   | 0     |

### COST ACTIVITY SUMMARY

| LINE                      | OBJECT NAME | LO#    | TOTAL  | 001 | 110 | 303 | 304 | 305    | 306   | 307   | 308 | 310   | 313   | 316 | 317 |
|---------------------------|-------------|--------|--------|-----|-----|-----|-----|--------|-------|-------|-----|-------|-------|-----|-----|
| PUBLIC UTILITY SERVICES   |             |        |        |     |     |     |     |        |       |       |     |       |       |     |     |
| Eletrical Consumption     | 1901        | 47 570 | 23     |     |     |     |     | 43 263 | 35    | 4 248 |     |       |       |     |     |
| Sub Total                 |             | 47 570 | 23     | 0   | 0   | 0   | 0   | 43 263 | 35    | 4 248 | 0   | 0     | 0     | 0   | 0   |
| PURCHASED MATERIALS       |             |        |        |     |     |     |     |        |       |       |     |       |       |     |     |
| Topsoil, Sand & Gravel    | 2006        | 7 867  |        |     |     |     |     |        |       |       |     | 7 867 |       |     |     |
| Propane                   | 2013        | 1 542  |        |     |     |     |     | 542    | 1 000 |       |     |       |       |     |     |
| Automotive Gas            | 2014        | 42 072 | 40 424 |     |     |     |     | 1 386  | 54    | 118   |     | 90    |       |     |     |
| Jet Fuel                  | 2016        | 694    |        |     |     |     |     |        | 694   |       |     |       |       |     |     |
| Other Petro Products      | 2018        | 1 822  | 1 584  |     |     |     |     | 203    | 8     |       |     | 26    |       |     |     |
| Wood Fabric Materials     | 2020        | 462    |        |     |     |     |     | 32     |       |       |     | 429   |       |     |     |
| Paper, Paper Board        | 2021        | 2 688  | 887    |     |     | 249 |     |        | 36    |       |     | 4     | 913   |     | 600 |
| Textile Fabric Materials  | 2022        | 2 814  | 46     |     |     |     |     |        | 91    |       |     | 2 677 |       |     |     |
| Chem & Related Materials  | 2023        | 1 070  | 585    |     |     | 24  |     | 191    | 31    | 188   |     | 51    |       |     |     |
| Plastic, Bag/Sheet        | 2025        | 29     |        |     |     |     |     | 29     |       |       |     |       |       |     |     |
| Chlorine, Oxyg, Acetyl    | 2027        | 2 968  |        |     |     |     |     | 2 632  |       | 161   |     | 175   |       |     |     |
| Iron, Steel               | 2028        | 8 573  | 74     |     |     |     |     | 528    | 3 004 |       |     | 4 968 |       |     |     |
| Metal Fabricated Prod.    | 2030        | 3 452  |        |     |     |     |     | 411    | 9     |       |     | 3 031 |       |     |     |
| Cement                    | 2031        | 376    |        |     |     |     |     |        |       |       |     | 376   |       |     |     |
| De-Icing Salt             | 2032        | 11     |        |     |     |     |     | 11     |       |       |     |       |       |     |     |
| Roofing Materials         | 2033        | 43     |        |     |     |     |     |        |       |       |     | 43    |       |     |     |
| Glass                     | 2034        | 484    | 396    |     |     |     |     | 88     |       |       |     |       |       |     |     |
| Insulation                | 2035        | 345    |        |     |     |     |     |        |       |       |     | 345   |       |     |     |
| Protective Clothing       | 2040        | 1 918  |        |     |     |     |     | 853    | 467   | 599   |     |       |       |     |     |
| Footwear, Apparel & Acces | 2041        | 3 306  |        |     |     |     |     | 3 037  | 9     | 74    |     | 187   |       |     |     |
| Toiletries                | 2042        | 79     | 69     |     |     |     |     | 10     |       |       |     |       |       |     |     |
| House Furnishing          | 2044        | 355    | 355    |     |     |     |     |        |       |       |     |       |       |     |     |
| Stocked Items -- DSS      | 2048        | 2 650  | 2 197  |     |     |     |     |        |       |       |     |       | 453   |     |     |
| Library Stock             | 2051        | 1 559  | 1 356  |     |     |     |     | 32     |       |       |     | 171   |       |     |     |
| Maps, Charts, etc         | 2052        | 470    | 37     |     |     |     |     | 433    |       |       |     |       |       |     |     |
| Station Off Supplies      | 2054        | 4 089  | 2 690  |     |     |     |     | 668    |       | 622   | 20  |       |       |     | 89  |
| Drafting Supplies         | 2055        | 280    | 51     |     |     |     |     |        |       |       |     |       |       |     | 126 |
| Data Processing Supplies  | 2059        | 3 285  | 85     |     |     |     |     |        |       |       |     |       | 3 138 | 103 | 62  |
| Photographic Goods        | 2060        | 177    | 50     |     |     |     |     | 64     | 39    |       |     | 24    |       |     |     |
| Med Pharmac Prod          | 2061        | 27     |        |     |     |     |     | 27     |       |       |     |       |       |     |     |
| Contain CLS Return        | 2063        | 329    | 77     |     |     |     |     | 45     | 14    |       |     | 134   | 60    |     |     |
| Camera aUDIO --vis        | 2065        | 55     | 55     |     |     |     |     |        |       |       |     |       |       |     |     |
| Paint                     | 2068        | 706    | 94     |     |     |     |     | 142    |       |       |     | 470   |       |     |     |
| MiSc Prod AV blb          | 2070        | 220    | 156    |     |     |     |     | 31     | 23    | 11    |     |       |       |     |     |
| Hardware                  | 2071        | 490    | 199    |     |     |     |     | 216    |       | 74    |     |       |       |     |     |
| Works of Art Col Items AR | 2074        | 611    | 611    |     |     |     |     |        |       |       |     |       |       |     |     |
| Subscriptions             | 2082        | 210    | 146    |     |     | 42  |     |        |       |       |     |       | 23    |     |     |
| Purch P Cash Inc Tax      | 2083        | 437    | 351    |     |     | 55  |     |        |       |       |     | 16    | 14    |     |     |
| Construction Materials    | 2084        | 8 285  | 1 525  |     |     |     |     | 947    | 176   |       |     | 5 6   |       |     |     |

1990 - 1991

[illegible]

TABLE 7

## COST ACTIVITY SUMMARY

1990 - 1991

| LINE OBJECT NAME            | LO#  | TOTAL   | 001     | 110 | 303    | 304   | 305     | 306     | 307    | 308   | 310    | 313    | 316    | 317    |
|-----------------------------|------|---------|---------|-----|--------|-------|---------|---------|--------|-------|--------|--------|--------|--------|
| Furn, Fixt DSS              | 2334 | 7 436   | 7 436   |     |        |       |         |         |        |       |        |        |        |        |
| Other EDP Equip             | 2357 | 44 389  | 16 219  |     |        |       |         |         |        |       |        | 28 170 |        |        |
| EDP Software                | 2361 | 1 783   |         |     |        |       |         |         |        |       |        | 1 783  |        |        |
| Rd Motor Vehicles           | 2371 | 41 620  |         |     |        |       | 41 620  |         |        |       |        |        |        |        |
| <hr/>                       |      |         |         |     |        |       |         |         |        |       |        |        |        |        |
| EQUIPMENT ACQUISITION TOTAL |      | 183 253 | 77 816  | 0   | 12 054 | 0     | 52 878  | 455     | 0      | 0     | 7 917  | 29 953 | 0      | 2 181  |
| GRAND TOTAL                 |      | 943 226 | 282 124 | 0   | 21 482 | 1 424 | 213 854 | 179 965 | 32 829 | 6 967 | 70 222 | 99 732 | 16 450 | 18 177 |

TABLE 8  
VEHICLE OPERATING COSTS 1990-91\*

| Vehicle Type  | Hydrometric Costs |               |              |                      | Construction<br>310 | Total<br>Costs | Usage<br>Vehicle-months | Average<br>Cost/Month |
|---------------|-------------------|---------------|--------------|----------------------|---------------------|----------------|-------------------------|-----------------------|
|               | Normal<br>305     | Remote<br>306 | Int'l<br>307 | Total<br>Hydrometric |                     |                |                         |                       |
| Multi-purpose | \$28 829          | \$1 174       | \$6 676      | \$36 679             | \$ 4 568            | \$41 247       | 205                     | \$201.20              |
| Light Truck   | \$ 6 606          | \$1 603       | \$1 826      | \$10 035             | -                   | \$10 035       | 60                      | \$167.25              |
| Med. Truck    | -                 | -             | -            | -                    | \$ 5 758            | \$ 5 758       | 12                      | \$479.83              |
| Heavy Truck   | -                 | -             | -            | -                    | \$ 5 579            | \$ 5 579       | 12                      | \$464.92              |
| TOTAL         | \$35 435          | \$2 777       | \$8 502      | \$46 714             | \$15 905            | \$62 619       | 289                     | -                     |

\* Data extracted from F.M.I.S. Cost Summary Report

TABLE 9

SASKATCHEWAN WATER QUANTITY PROGRAM  
CAPITAL DEPRECIATION COSTS 1990-91

|  |                   |          |
|--|-------------------|----------|
| 1. VEHICLE DEPRECIATION (Table 10)                                 |                   | \$63 449 |
| 2. EQUIPMENT DEPRECIATION*   |                   |          |
| - Field Equipment  | \$119 509         |          |
| - Marine Equipment   | \$ 5 639          |          |
| - Scientific Equipment   | \$ 13 046         |          |
| - Transportation Equipment   | \$ 23 538         |          |
| - Shop & Construction Equipment                                    | \$ 29 121         |          |
| - Accountable Items  | <u>\$ 2 286</u>   |          |
| Total Inventory Value<br>March 31, 1991                            | \$193 139         |          |
| Total Inventory Value<br>March 31, 1990                            | \$410 120         |          |
| Average Inventory Value<br>for 1989-90                             | \$301 630         |          |
| Capital Depreciation<br>of Equipment @ 10%                         | \$301 630 x 10% = | \$30 163 |
| 3. TOTAL CAPITAL DEPRECIATION                                      |                   | \$93 612 |
| 4. UNIT CAPITAL DEPRECIATION                                       |                   |          |
| Total Capital Depreciation/Total Station Units = \$93 612/234.10 = |                   | \$ 400   |

\* Departmental Equipment-In-Use Material Management System

TABLE 10

SASKATCHEWAN WATER QUANTITY PROGRAM  
VEHICLE DEPRECIATION COSTS 1990-91

## Multi-Purpose Vehicles and Trucks - Lifetime 72 Months

| VEHICLE<br>NUMBER | ORIGINAL<br>CAPITAL<br>COST \$ | DEPR<br>PER MONTH<br>\$ | TIME<br>IN USE | ANNUAL<br>DEPR<br>\$ | REMARKS                           |
|-------------------|--------------------------------|-------------------------|----------------|----------------------|-----------------------------------|
| 83-149            | 14 395                         | 200                     | 12             | -                    | Fully Depreciated<br>Construction |
| 84-126            | 21 549                         | 299                     | 12             | 3 588                |                                   |
| 85-087            | 13 506                         | 188                     | 12             | 2 256                | CADC* July/90                     |
| 85-089            | 8 478                          | 118                     | 12             | 1 416                |                                   |
| 85-090            | 13 506                         | 188                     | 12             | 2 256                | CADC* July/90                     |
| 85-091            | 11 140                         | 155                     | 3              | 465                  |                                   |
| 86-046            | 16 174                         | 225                     | 12             | 2 700                | CADC* July/90                     |
| 86-047            | 15 400                         | 214                     | 3              | 642                  |                                   |
| 86-048            | 15 400                         | 214                     | 12             | 2 568                | Construction                      |
| 86-049            | 13 056                         | 181                     | 12             | 2 172                |                                   |
| 86-050            | 11 641                         | 162                     | 12             | 1 944                | Construction                      |
| 86-051            | 14 611                         | 203                     | 12             | 2 436                |                                   |
| 87-085            | 16 691                         | 232                     | 12             | 2 784                | Construction                      |
| 87-086            | 16 691                         | 232                     | 12             | 2 784                |                                   |
| 87-087            | 18 449                         | 256                     | 12             | 3 072                | Construction                      |
| 87-088            | 16 691                         | 232                     | 12             | 2 784                |                                   |
| 87-089            | 16 691                         | 232                     | 12             | 2 784                | Construction                      |
| 88-045            | 14 224                         | 198                     | 12             | 2 376                |                                   |
| 88-046            | 18 673                         | 259                     | 12             | 3 108                | Construction                      |
| 88-047            | 18 673                         | 259                     | 12             | 3 108                |                                   |
| 89-171            | 21 125                         | 293                     | 12             | 3 516                | Construction                      |
| 89-172            | 21 125                         | 293                     | 12             | 3 516                |                                   |
| 89-173            | 21 126                         | 293                     | 12             | 3 516                | Construction                      |
| 89-174            | 15 760                         | 219                     | 12             | 2 628                |                                   |
| 90-186            | 20 809                         | 289                     | 10             | 2 890                | Construction                      |
| 90-187            | 15 399                         | 214                     | 10             | 2 140                |                                   |
|                   |                                |                         |                | <u>\$63 449</u>      |                                   |

Capital Cost of Vehicles Purchased in 1990-91 = \$36208

Vehicle depreciation = \$63 449

\* Crown Assets Disposal Corporation



The Total (Shareable) Annual Computing Cost (TACC) equals the imputed rental charges (IRC) plus the annual operating cost (AOC) plus the annual maintenance cost (AMC). However, the TACC for any year cannot exceed the 1983-84 TACC multiplied by the annual Government price index for each year since 1983-84. The product of the Government price indices for the period 1983-84 to 1990-91 is 1.294.

a) Imputed Rental Charge (IRC):

$$\frac{\text{Initial Capital}}{10} + \frac{\text{New Capital}}{9} + \frac{\text{New Capital}}{8} + \dots$$

Year 1                      Year 2                      Year 3

|                      |                                |
|----------------------|--------------------------------|
| Initial capital      | = \$182 800                    |
| year 1               | = \$ 18 280                    |
| New Capital (year 2) | = \$ 29 624                    |
| year 2               | = \$ 18 280 + (\$29 624 x 1/9) |
|                      | = \$ 21 572                    |
| New Capital (year 3) | = \$ 68 168                    |
| year 3               | = \$ 21 572 + (\$68 168 x 1/8) |
|                      | = \$ 30 093                    |
| New Capital (year 4) | = \$ 3 575                     |
| year 4               | = \$ 30 093 + (\$3 575 x 1/7)  |
|                      | = \$ 30 604                    |

|                      |                                |
|----------------------|--------------------------------|
| New Capital (year 5) | = \$ 21 660                    |
| year 5               | = \$ 30 604 + (\$21 660 x 1/6) |
|                      | = \$ 34 214                    |
| New Capital (year 6) | = \$ 10 753                    |
| year 6               | = \$ 34 214 + (\$10 753 x 1/5) |
|                      | = \$ 36 365                    |
| New Capital (year 7) | = \$ 15 139                    |
| year 7               | = \$ 36 365 + (\$15 139 x 1/4) |
|                      | = \$ 40 150                    |

b) Annual Operating Cost (AOC)

|                                   |                    |
|-----------------------------------|--------------------|
| Host computer                     | \$ 3 000.66        |
| Storage of backup disks           | \$ 941.69          |
| Telecommunication charges, rental | \$ 17 735.29       |
| Supplies - paper, ribbons, cables | <u>\$ 6 344.27</u> |
|                                   | \$ 28 021.91       |

c) Annual Maintenance Cost (AMC)

|   |                  |
|---|------------------|
| PDP 11/44 computer                        | \$ 14 408.64     |
| MicroVax II (Prince Albert)               | \$ 4 005.60      |
| Fire protection, power, air conditioning  | \$ 2 078.00      |
| Plotter                                   |                  |
| Digitizer                                 | \$ 270.00        |
| CITOH printer                             | \$ 804.00        |
| LA120 printers (Prince Albert, Shaunavon) | \$ 1 062.00      |
| Terminal repairs                          | <u>\$ 695.00</u> |
|   | \$ 23 323.24     |

d) Total Shareable Computing Cost (TACC)

|      |  |
|------|--|
| TACC | = IRC + AOC + AMC  |
|      | = \$40 150 + \$28 021.91 + \$23 323.24 = <u>\$ 91 495.15</u> |

e) Annual Computing Cost Ceiling

1983-84 to 1990-91 Inflation Index  
(Based on Government Current Expenditures  
on Goods and Services.)

= 1.294

1983-84 Shareable Cost

= \$ 54 802

Ceiling

= \$ 54 802 x 1.294

= \$ 70 914

Therefore the Total Annual Computing Cost for fiscal year 1990-91 equals the computing cost ceiling of \$70 914.

APPENDIX A

STATION AND COST SUMMARY DATA  
FOR INCLUSION IN  
NATIONAL ANNUAL REPORT

Province/Territory: Saskatchewan

**TABLE 1**  
**WATER QUANTITY SURVEYS**  
**GAUGING STATION DATA FOR 1990-1991**

| No. of Stations   |                   |        | Changes during <u>1990-91</u> |              | Sta. Designation April 1, <u>1990</u> |          |         |         |
|-------------------|-------------------|--------|-------------------------------|--------------|---------------------------------------|----------|---------|---------|
| April 1 <u>89</u> | April 1 <u>90</u> | Change | Added                         | Discontinued | Fed                                   | F P      | Prov    | Contrib |
| 364               | 364               | 0      | 0                             | 0            | * (1)<br>145                          | *<br>125 | *<br>93 | <br>1   |

\* Bracket Sediment Stations

**TABLE 2**  
**WATER QUANTITY SURVEYS**  
**COMPARATIVE GAUGING STATION DATA April 1/75 to April 1, 1990**

| Federal Stations |                   |      | F P Stations |                   |      | Provincial Stations |                   |      | Total Stations |                   |      |
|------------------|-------------------|------|--------------|-------------------|------|---------------------|-------------------|------|----------------|-------------------|------|
| April 1 75       | April 1 <u>90</u> | Chge | April 1 75   | April 1 <u>90</u> | Chge | April 1 75          | April 1 <u>90</u> | Chge | April 1 75     | April 1 <u>90</u> | Chge |
| 173              | 145               | -28  | 106          | 125               | +19  | 51                  | 93                | +42  | 330            | 364               | +33  |

**TABLE 3**  
**WATER QUANTITY SURVEYS**  
**DETAILED GAUGING STATION DATA 1990-91**

| F-1 | F-2 | F-3 | F-4       | Total F | FP-1 | FP-2 | FP-3 | Total F P | P-1 | P-2 | Total P | Contributed | Total-All |
|-----|-----|-----|-----------|---------|------|------|------|-----------|-----|-----|---------|-------------|-----------|
|     | 43  | 66  | (1)<br>21 | 145     | 0    | 22   | 103  | 125       | 79  | 14  | 93      | 1           | 364       |

Bracket Sediment Stations in all categories

Province: SASKATCHEWAN

TABLE 4  
WATER QUANTITY SURVEYS  
TOTAL PROGRAM COSTS & SHAREABLE COSTS FOR 1990-91  
(× \$1000)

| Total Program Costs |         |       |       |         | Shareable Costs |       |        |        |         |         |         |
|---------------------|---------|-------|-------|---------|-----------------|-------|--------|--------|---------|---------|---------|
| P/Yrs               | Sal.    | Oper. | Cap.  | Total   | P/Yrs           | Sal.  | Oper.  | Const. | Total   | F Share | P Share |
| 33.7                | 1 694.9 | 762.2 | 183.3 | 2 640.3 | 20.0            | 848.0 | 594.5* | 113.9  | 1 557.4 | 1 017.4 | 540.0   |

TABLE 5  
WATER QUANTITY SURVEYS  
SUMMARY OF SCHEDULES D/F - 1990-91

| Streamflow & Water Level |              | Sediment  |              | Total   |
|--------------------------|--------------|-----------|--------------|---------|
| Operation                | Construction | Operation | Construction | 531 000 |
| 500 000                  | 30 000       | 1 000.00  | 0            |         |

TABLE 6  
WATER QUANTITY SURVEYS  
COMPARISON - SCHEDULED & ACTUAL COSTS FOR 1990-91  
(Dollars)

| Salary & Operations |             | Construction |             | Total    |             |            | Annual Payment Received | Received Minus Actual |
|---------------------|-------------|--------------|-------------|----------|-------------|------------|-------------------------|-----------------------|
| Sch. D/F            | Actual Cost | Sch. D/F     | Actual Cost | Sch. D/F | Actual Cost | Difference |                         |                       |
| 501 000             | 511 515     | 30 000       | 28 458      | 531 000  | 539 973     | +8 973     | 561 439**               | 21 466                |

\*\* Surplus for 1989-90 = \$439. Therefore Annual Payment Received = \$561 000 + \$439 = \$561 439

APPENDIX B

MEMORANDUM OF AGREEMENT



MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT made this eighteenth day of February,  
1975,

BETWEEN:

The Government of Canada, hereinafter called "Canada", represented by  
the Minister of the Environment

OF THE FIRST PART

-and-

The Government of the Province of Saskatchewan, hereinafter called the  
"Province", represented by the Minister of Environment

OF THE SECOND PART.

WHEREAS co-operative water quantity surveys have been carried on for many years under various informal federal-provincial agreements in the Provinces of Canada by the Water Survey of Canada of the Department of the Environment, for the purpose of securing coordinated and standardized basic data to facilitate resource planning and management in general and the design and implementation of projects related to navigation, hydro-electric development, irrigation, drainage, flood control, recreation, domestic and industrial water supply and other purposes;

AND WHEREAS the Governor-in-Council has by Order-in-Council No. PC 1975-1/172 dated January 28, 1975, authorized the Minister of Environment to execute this agreement on behalf of Canada, subject to funds being voted by the Parliament of Canada;

AND WHEREAS the Lieutenant Governor in Council has, by Order-in-Council No. O.C. 282/75 dated February 11, 1975, authorized the Minister of Environment to execute this agreement on behalf of the Province subject to funds being voted by the Legislative Assembly.

NOW THEREFORE this agreement witnesseth that water quantity surveys in the Province and the financing thereof shall be continued and maintained upon the following basis:-

## INTRODUCTION

### DEFINITIONS

- a) ANNUAL PAYMENT - a sum, agreed to by both parties in advance of the fiscal year, which shall represent the costs of operation and construction of water quantity survey stations.
- b) CONSTRUCTION - includes the construction of new water quantity survey stations and the maintenance, repair and reconstruction of existing water quantity survey stations.
- c) CONSTRUCTION PERSONNEL - includes foremen and labourers on full time duty as well as engineering and technical staff on part time supervisory duty or reconnaissance assignment.
- d) FIELD PERSONNEL - includes hydrometric supervisors and field technicians on full time duty as well as engineering and technical staff on temporary assignment.
- e) NETWORKS - an organized system of gauging stations for collection of water quantity survey data.
- f) OPERATING PARTY - either party to this agreement which operates water quantity survey stations.
- g) PUBLISHED DATA - includes streamflow, water level and sediment data. The data is to be available in publications and computer compatible data files.
- h) SEDIMENT STATIONS - any location where surveys are undertaken to collect data on suspended sediment or bed material or bed load data singly or in combination. Water temperature data is to be collected.
- i) WATER QUANTITY SURVEY STATIONS - any location where surveys are undertaken to collect streamflow or water level or suspended sediment or bed material or bed load data singly or in combination. Water temperature data may be collected.

## ARTICLE I

Each water quantity survey station presently in operation has been identified according to the designation federal, federal-provincial or provincial. The current designation is given in Schedule A, hereto attached. Schedule A may be revised to include a change in the designation of a station, the addition of new stations or the deletion of stations as agreed by the Co-ordinating Committee (Article XII) and approved by the officials named in Article XIII.

## OPERATIONAL CONSIDERATIONS

### ARTICLE II

Canada will construct and operate and pay the cost of construction and the annual cost of operation of water quantity survey stations which have been designated as federal. Where Canada deems it desirable in the interest of efficiency of operation, the Province may be requested to construct and operate some federal water quantity survey stations. If the Province agrees to such agreements, Canada would in such cases reimburse the Province for the cost of construction and annual cost of operation in accordance with Article VI.

### ARTICLE III

Where Canada constructs and operates water quantity survey stations designated as federal-provincial, the Province will reimburse Canada for 50% of the construction costs and 50% of the annual cost of operation. Where the Province constructs and operates these stations, Canada will reimburse the Province for 50% of the construction costs and 50% of the annual cost of operation in accordance with Article VI.

### ARTICLE IV

If requested by the Province, Canada will construct and operate water quantity survey stations designated as provincial provided the Province reimburses Canada for the construction cost and annual cost of operation. If the Province constructs and operates these stations the Province will assume the cost of construction and operation in accordance with Article VI.

### ARTICLE V

- a) The operating party shall provide the staff to meet its responsibilities under this agreement.
- b) Canada will at its own expense publish data from stations that it operates. Canada will on request at its own expense, publish data from stations operated by the Province providing the data meet national standards.

- c) Water quantity surveys under this agreement shall be carried out to national standards in field procedures, equipment and instrumentation, data compilation and will use national guidelines for station designations. Such standards and guidelines shall be developed and maintained by Canada in consultation with all of the Provinces.
- d) Canada and the Province shall work together to take advantage of technological advancements which improve the quality of data and the efficiency of standard procedures and to develop methods and techniques to assist in planning water quantity survey networks.
- e) Canada at its own expense will provide calibration service for water quantity survey velocity instruments for both parties.

### FINANCIAL CONSIDERATIONS

#### ARTICLE VI

- a) Procedures for computing the annual payment are given in Schedule C.
- b) The annual payment for 1975-76 is set out in Schedule D. The annual payment for subsequent years shall be determined according to the terms of this agreement and the procedures as set out in Schedule C.
- c) Annual operation costs, except for sediment stations, will be computed using average annual water quantity survey station costs and the number of stations to be operated. The average annual water quantity survey station costs shall be recomputed annually according to the items listed in Schedule B.
- d) Annual construction costs, except for sediment stations, will be the cost of constructing new water quantity survey stations plus repairs to and major reconstruction of existing water quantity survey stations.
- e) The annual operation costs for sediment stations will be the summation of the individual station operation costs.
- f) The annual construction costs of sediment stations will be the cost of constructing new sediment stations plus repairs to and major reconstruction of existing stations.

## ARTICLE VII

- a) The party operating the water quantity survey stations in accordance with Articles II, III and IV, will be responsible for providing and paying the total cost of the water level recording equipment.
- b) All costs associated with the purchase, installation and operation of specialized water quantity survey equipment will be paid for by the party or parties requiring the service.

## ARTICLE VIII

Canada or the Province, depending on the operating responsibilities, shall submit invoices for one-quarter of the annual payment on July 1st, October 1st, January 1st and March 1st of each fiscal year in accordance with the annual payment set out in Schedule D. Payment is to be made as soon as possible after receipt of each quarterly claim but in no case later than March 31st of each year.

## ARTICLE IX

Except as agreed by the parties hereto where both parties have an interest, either operational or financial, the annual net change in the total number of water quantity survey stations, including federal, federal-provincial and provincial, as set out in Schedule A, is not to exceed 7% in any year.

## ARTICLE X

Each party constructing or operating a water quantity survey station or stations shall keep complete records of all shareable expenditures made pursuant to this agreement and shall support such expenditures with proper documentation. Canada and the Province upon request shall make these records and documents available to auditors appointed by each other.

## CO-OPERATION

## ARTICLE XI

There shall be a free exchange of water quantity survey data between Canada and the Province. The party operating the water quantity survey station shall retain originals or a microfilm copy of observations, measurements, recorder charts and computations and these are to be available to the other party on request.



## ARTICLE XII

The officials named in Article XIII shall establish a Co-ordinating Committee representing each of the parties affected by this agreement. The Co-ordinating Committee shall be responsible for:

- a) Planning and the continuing review of water quantity survey networks, including addition and deletion of all stations within Provincial boundaries.
- b) Determining and reviewing the designation of water quantity survey stations using national guidelines which may from time to time be changed, subject to ratification by Canada and all of the Provinces.
- c) Assuring the maintenance of standards in procedures, data compilation and instrumentation.
- d) Reviewing annual operating costs and establishing average annual station costs, as per Article VI, for revision of Schedule D.
- e) Preparation annually of new Schedule A and D which with the approval of the officials named in Article XIII would apply for the second and each subsequent year of the agreement.

The committee shall meet at least once a year and shall report to the officials named in Article XIII.

## ADMINISTRATIVE ARRANGEMENTS

### ARTICLE XIII

This agreement is to be administrated for Canada by the Regional Director of the Inland Waters Directorate located at Regina, Saskatchewan, and for the Province by the Chief, Water Management Service, Saskatchewan Department of Environment, located at Regina, Saskatchewan.

## IMPLEMENTATION

### ARTICLE XIV

The parties hereto agree that water quantity surveys will be carried out as indicated in Articles I to XIII inclusive and the Schedules attached hereto.

PERIOD OF AGREEMENT

ARTICLE XV

This agreement shall become effective and binding on the parties upon the first day of April, 1975.

The agreement may be terminated by Canada, or the Province on March 31st of any year provided that eighteen (18) months notice in writing is given. The agreement may be revised with the consent of the Governor-in-Council and the Lieutenant Governor-in-Council.

IN WITNESS WHEREOF the Honourable Jeanne Sauve, Minister of Environment has hereunto set her hand on behalf of Canada, and the Honourable Neil E. Byers, Minister of Environment has hereunto set his hand on behalf of the Province of Saskatchewan.

Signed on behalf of Canada  
by the Honourable Jeanne Sauve,  
Minister of Environment

IN THE PRESENCE OF

Signed on behalf of the Province of  
Saskatchewan by the Honourable  
Neil E. Byers, Minister of  
Environment

IN THE PRESENCE OF



#### SCHEDULE A: APRIL 1, 1990

Schedule A of the Memorandum of Agreement identifies the operational and financial responsibility for hydrometric stations that comprise the water quantity network and are active on April 1 of each year. The Schedule also shows the type of data collected (flow, water level, sediment) and the period of operation (seasonal or annual). Decisions regarding changes to the Schedule are made by the Co-ordinating Committee with reference to the national designation guidelines for station classification. The Saskatchewan hydrometric network existing as of April 1, 1990 is documented in this section.

APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F1 - FEDERAL DEPARTMENTAL PROGRAMS

| ITEM STATION<br>NO. NUMBER | STATION NAME                             | OPERATING<br>AGENCY | RECORD OBTAINED |          |        | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|-----------------|----------|--------|----------------------|
|                            |  |                     | HYDROMETRIC     | SEDIMENT | ACCESS |                      |
| 1. 05GG005                 | ANGLIN LAKE RESERVOIR                    | WSC                 | 12L             |          |        | PRINCE ALBERT        |
| 2. 06CA008                 | CREAN LAKE AT THE WARDEN STATION         | WSC                 | 8L              |          |        | PRINCE ALBERT        |
| 3. 05HA070                 | DOWNIE LAKE INFLOW CANAL                 | WSC                 | 8Q              |          |        | REGINA               |
| 4. 05HA064                 | DOWNIE LAKE RESERVOIR NEAR MAPLE CREEK   | WSC                 | 8L              |          |        | REGINA               |
| 5. 05JF008                 | FAHLMAN CREEK NEAR DAVIN                 | WSC                 | 8Q              |          |        | REGINA               |
| 6. 05HA069                 | GAP CREEK BELOW DOWNIE LAKE DIVERSION    | WSC                 | 8Q              |          |        | REGINA               |
| 7. 05HA074                 | HARRIS RESERVOIR NEAR MAPLE CREEK        | WSC                 | 8L              |          |        | REGINA               |
| 8. 05HA063                 | JUNCTION RESERVOIR NEAR MAPLE CREEK      | WSC                 | 8L              |          |        | REGINA               |
| 9. 06CA007                 | KINGSMERE LAKE AT THE OUTLET STRUCTURE   | WSC                 | 8L              |          |        | PRINCE ALBERT        |
| 10. 07MC003                | LAKE ATHABASCA NEAR CRACKINGSTONE POINT  | WSC                 | 12L             |          | REMOTE | PRINCE ALBERT        |
| 11. 05HA076                | MAPLE CREEK BELOW JUNCTION RESERVOIR     | WSC                 | 8Q              |          |        | REGINA               |
| 12. 05JC004                | RUSHLAKE CREEK ABOVE HIGHFIELD RESERVOIR | WSC                 | 8Q              |          |        | REGINA               |
| 13. 05GG007                | SPRUCE RIVER BELOW ANGLIN LAKE RESERVOIR | WSC                 | 12Q             |          |        | PRINCE ALBERT        |
| 14. 05GG006                | SPRUCE RIVER DIVERSION TO ENNA LAKE      | WSC                 | 8Q              |          |        | PRINCE ALBERT        |
| 15. 06CA002                | WASKESIU LAKE AT WASKESIU LAKE           | WSC                 | 8L              |          |        | PRINCE ALBERT        |

APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
F1 - FEDERAL DEPARTMENTAL PROGRAMS  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 1                  |            | 0.40  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 6                  | 0.25       | 1.50  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 6                  | 0.75       | 4.50  |
|                   | 12Q  | 1                  | 1.00       | 1.00  |
| TOTAL             |      | 14                 |            | 7.40  |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 15                 |            | 7.80  |

APRIL 01 1990

## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F2 - INTERPROVINCIAL WATERS

| ITEM STATION<br>NO. NUMBER | STATION NAME  | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---|---------------------|--|----------------------|
| 1. 05MD004                 | ASSINIBOINE RIVER AT KAMSACK                          | WSC                 | 12Q  | REGINA               |
| 2. 05JE010                 | AVONLEA INDEX RESERVOIR                               | WSC                 | 8L   | REGINA               |
| 3. 05JE007                 | AVONLEA RESERVOIR NEAR AVONLEA                        | WSC                 | 8L   | REGINA               |
| 4. 11AB117                 | BATTLE CREEK AT ALBERTA BOUNDARY                      | WSC                 | 8Q   | REGINA               |
| 5. 05JF006                 | BOGGY CREEK NEAR LUMSDEN                              | WSC                 | 8Q   | REGINA               |
| 6. 05AH001                 | BOXELDER CREEK NEAR WALSH                             | WSC                 | 8Q   | CALGARY              |
| 7. 05HF007                 | BRODERICK IRRIGATION MAIN CANAL BELOW PUMPING STATION | WSC                 | 8Q   | REGINA               |
| 8. 05JG009                 | BUFFALO POUND LAKE AT PUMPING STATION                 | WSC                 | 12L  | REGINA               |
| 9. 05KH007                 | CARROT RIVER NEAR TURNBERRY                           | WSC                 | 12Q  | WINNIPEG             |
| 10. 06EA002                | CHURCHILL RIVER AT SANDY BAY                          | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 11. 05JM006                | CROOKED LAKE NEAR GRAYSON                             | WSC                 | 12L  | REGINA               |
| 12. 05KH011                | DRAGLINE CHANNEL NEAR SQUAW RAPIDS                    | WSC                 | 12Q  | PRINCE ALBERT        |
| 13. 05JK005                | ECHO LAKE AT FISH HATCHERY                            | WSC                 | 12L  | REGINA               |
| 14. 05JM010                | EKAPO CREEK NEAR MARIEVAL                             | WSC                 | 8Q   | REGINA               |
| 15. 05JG006                | ELBOW DIVERSION CANAL AT DROP STRUCTURE               | WSC                 | 12Q  | REGINA               |
| 16. 05JL002                | INDIANHEAD CREEK NEAR INDIAN HEAD                     | WSC                 | 8Q X   | REGINA               |
| 17. 05JL004                | KATEPWA LAKE AT KATEPWA BEACH                         | WSC                 | 12L  | REGINA               |
| 18. 05HF003                | LAKE DIEFENBAKER AT GARDINER DAM                      | WSC                 | 12L  | REGINA               |
| 19. 05JH004                | LAST MOUNTAIN LAKE AT ROWAN'S RAVINE                  | WSC                 | 12L  | REGINA               |
| 20. 11AB082                | LODGE CREEK AT ALBERTA BOUNDARY                       | WSC                 | 8Q   | REGINA               |
| 21. 05JF013                | LUMSDEN INDEX RESERVOIR                               | WSC                 | 8L   | REGINA               |
| 22. 05JE006                | MOOSE JAW RIVER NEAR BURDICK                          | WSC                 | 12Q X  | REGINA               |
| 23. 05EF001                | NORTH SASKATCHEWAN RIVER NEAR DEER CREEK              | WSC                 | 12Q  | PRINCE ALBERT        |
| 24. 05NE003                | PIPESTONE CREEK ABOVE MOOSOMIN LAKE                   | WSC                 | 8Q   | REGINA               |
| 25. 05JG004                | QU'APPELLE RIVER ABOVE BUFFALO POUND LAKE             | WSC                 | 12Q  | REGINA               |

APRIL 01 1990

## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F2 - INTERPROVINCIAL WATERS

| ITEM STATION<br>NO. NUMBER | STATION NAME                           | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 26. 05JM013                | QU'APPELLE RIVER AT HYDE               | WSC                 | 8Q   | REGINA               |
| 27. 05JK002                | QU'APPELLE RIVER BELOW CRAVEN DAM      | WSC                 | 12Q  | REGINA               |
| 28. 05JL001                | QU'APPELLE RIVER BELOW KATEPWA LAKE    | WSC                 | 12Q  | REGINA               |
| 29. 05JK007                | QU'APPELLE RIVER BELOW LOOM CREEK      | WSC                 | 12Q X  | REGINA               |
| 30. 05JG007                | QU'APPELLE RIVER BELOW MOOSE JAW RIVER | WSC                 | 12Q  | REGINA               |
| 31. 05JF001                | QU'APPELLE RIVER NEAR LUMSDEN          | WSC                 | 12Q  | REGINA               |
| 32. 05JM001                | QU'APPELLE RIVER NEAR WELBY            | WSC                 | 12Q X  | REGINA               |
| 33. 05LC001                | RED DEER RIVER NEAR ERWOOD             | WSC                 | 12Q X  | PRINCE ALBERT        |
| 34. 05HD033                | REID LAKE NEAR DUNCAIRN                | WSC                 | 12L  | REGINA               |
| 35. 06DD002                | REINDEER RIVER ABOVE DEVIL RAPIDS      | WSC                 | 12Q REMOTE                                     | PRINCE ALBERT        |
| 36. 05JG013                | RIDGE CREEK NEAR BRIDGEFORD            | WSC                 | 8Q   | REGINA               |
| 37. 05JM007                | ROUND LAKE NEAR WHITEWOOD              | WSC                 | 12L  | REGINA               |
| 38. 05KD003                | SASKATCHEWAN RIVER BELOW TOBIN LAKE    | WSC                 | 12Q  | PRINCE ALBERT        |
| 39. 05JH007                | SILTON INDEX RESERVOIR                 | WSC                 | 8L   | REGINA               |
| 40. 05JM019                | STOCKHOLM INDEX RESERVOIR              | WSC                 | 8L   | REGINA               |
| 41. 05HD034                | SWIFT CURRENT CANAL AT SWIFT CURRENT   | WSC                 | 8Q   | REGINA               |
| 42. 05KD004                | TOBIN LAKE AT THE SPILLWAY             | WSC                 | 12L  | PRINCE ALBERT        |
| 43. 05JF005                | WASCANA CREEK NEAR LUMSDEN             | WSC                 | 12Q  | REGINA               |

APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
F2 - INTERPROVINCIAL WATERS  
UNIT SUMMARY

|               | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|---------------|------|--------------------|------------|-------|
| REMOTE ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 2                  | 1.00       | 2.00  |
| TOTAL         |      | 2                  |            | 2.00  |
| NORMAL ACCESS |      |                    |            |       |
|               | 8L   | 5                  | 0.25       | 1.25  |
|               | 12L  | 9                  | 0.40       | 3.60  |
|               | 8Q   | 11                 | 0.75       | 8.25  |
|               | 12Q  | 16                 | 1.00       | 16.00 |
| TOTAL         |      | 41                 |            | 29.10 |
| INTERNATIONAL |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| GRAND TOTAL   |      | 43                 |            | 31.10 |



APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F3 - INTERNATIONAL WATERS

| ITEM STATION<br>NO. NUMBER | STATION NAME                                | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---|---------------------|--|----------------------|
| 1. 11AB095                 | ADAMS LAKE                                  | WSC                 | 8L   | REGINA               |
| 2. 11AB089                 | ALTAWAN RESERVOIR NEAR GOVENLOCK            | WSC                 | 8L   | REGINA               |
| 3. 05NC006                 | ARCOLA INDEX RESERVOIR                      | WSC                 | 8L   | REGINA               |
| 4. 11AB027                 | BATTLE CREEK AT INTERNATIONAL BOUNDARY      | WSC                 | 8Q   | REGINA               |
| 5. 11AB101                 | BATTLE CREEK BELOW NASHLYN PROJECT          | WSC                 | 8Q   | REGINA               |
| 6. 11AB118                 | BATTLE CREEK BELOW WILSONS WEIR             | WSC                 | 8Q   | REGINA               |
| 7. 11AB096                 | BATTLE CREEK NEAR CONSUL                    | WSC                 | 8Q   | REGINA               |
| 8. 11AF005                 | BEAVER CREEK NEAR INTERNATIONAL BOUNDARY    | WSC                 | 12Q  | REGINA               |
| 9. 11AC064                 | BELANGER CREEK DIVERSION TO CYPRESS LAKE    | WSC                 | 8Q   | REGINA               |
| 10. 05NB012                | BOUNDARY RESERVOIR NEAR ESTEVAN             | WSC                 | 12L  | REGINA               |
| 11. 11AE013                | COOKSON RESERVOIR NEAR CORONACH             | WSC                 | 12L  | REGINA               |
| 12. 11AC037                | CYPRESS LAKE                                | WSC                 | 8L   | REGINA               |
| 13. 11AC060                | CYPRESS LAKE EAST OUTFLOW CANAL             | WSC                 | 8Q   | REGINA               |
| 14. 11AB078                | CYPRESS LAKE WEST INFLOW CANAL              | WSC                 | 8Q   | REGINA               |
| 15. 11AB085                | CYPRESS LAKE WEST INFLOW CANAL DRAIN        | WSC                 | 8Q   | REGINA               |
| 16. 11AB077                | CYPRESS LAKE WEST OUTFLOW CANAL             | WSC                 | 8Q   | REGINA               |
| 17. 05NB029                | DEAD LAKE PROJECT - SOURIS RIVER CHANNEL    | WSC                 | 8L   | REGINA               |
| 18. 05NB022                | DEAD LAKE RESERVOIR NEAR MIDALE             | WSC                 | 8L   | REGINA               |
| 19. 11AC073                | DENNIEL CREEK EAST TRIBUTARY NEAR VAL MARIE | WSC                 | 8Q   | REGINA               |
| 20. 11AC025                | DENNIEL CREEK NEAR VAL MARIE                | WSC                 | 8Q   | REGINA               |
| 21. 11AE003                | EAST POPLAR RIVER AT INTERNATIONAL BOUNDARY | WSC                 | 12Q  | REGINA               |
| 22. 11AC052                | EASTEND CANAL                               | WSC                 | 8Q   | REGINA               |
| 23. 11AC055                | EASTEND RESERVOIR                           | WSC                 | 8L   | REGINA               |
| 24. 11AC023                | FRENCHMAN RIVER AT 50-MILE                  | WSC                 | 8Q   | REGINA               |
| 25. 11AC041                | FRENCHMAN RIVER AT INTERNATIONAL BOUNDARY   | WSC                 | 8Q X   | REGINA               |

APRIL 01 1990

## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F3 - INTERNATIONAL WATERS

| ITEM STATION<br>NO. NUMBER | STATION NAME   | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 26. 11AC001                | FRENCHMAN RIVER BELOW EASTEND RESERVOIR                  | WSC                 | BQ   | REGINA               |
| 27. 11AC062                | FRENCHMAN RIVER BELOW NEWTON LAKE                        | WSC                 | BQ   | REGINA               |
| 28. 11AC051                | FRENCHMAN RIVER BELOW VAL MARIE                          | WSC                 | BQ   | REGINA               |
| 29. 05ND006                | FROBISHER INDEX RESERVOIR                                | WSC                 | BL   | REGINA               |
| 30. 11AB102                | GAFF DITCH NEAR MERRYFLAT                                | WSC                 | BQ   | REGINA               |
| 31. 11AC063                | HUFF LAKE  | WSC                 | BL   | REGINA               |
| 32. 11AC065                | HUFF LAKE GRAVITY CANAL                                  | WSC                 | BQ   | REGINA               |
| 33. 11AC066                | HUFF LAKE PUMPING CANAL                                  | WSC                 | BQ   | REGINA               |
| 34. 05NA006                | LARSEN RESERVOIR NEAR RADVILLE                           | WSC                 | BL   | REGINA               |
| 35. 11AB083                | LODGE CREEK BELOW MCRAE CREEK AT INTERNATIONAL BOUNDARY  | WSC                 | BQ   | REGINA               |
| 36. 05NA003                | LONG CREEK AT WESTERN CROSSING OF INTERNATIONAL BOUNDARY | WSC                 | 12Q  | REGINA               |
| 37. 05NB001                | LONG CREEK NEAR ESTEVAN                                  | WSC                 | 12Q  | REGINA               |
| 38. 05NB027                | LONG CREEK NEAR NOONAN                                   | WSC                 | 12Q  | REGINA               |
| 39. 11AB075                | LYONS CREEK AT INTERNATIONAL BOUNDARY                    | WSC                 | BQ   | REGINA               |
| 40. 11AB044                | MCKINNON DITCH NEAR CONSUL                               | WSC                 | BQ   | REGINA               |
| 41. 11AB008                | MIDDLE CREEK ABOVE LODGE CREEK                           | WSC                 | BQ   | REGINA               |
| 42. 11AB001                | MIDDLE CREEK BELOW MIDDLE CREEK RESERVOIR                | WSC                 | BQ   | REGINA               |
| 43. 11AB108                | MIDDLE CREEK NEAR GOVENLOCK                              | WSC                 | BQ   | REGINA               |
| 44. 11AB080                | MIDDLE CREEK RESERVOIR                                   | WSC                 | BL   | REGINA               |
| 45. 11AB114                | MIDDLE CREEK RESERVOIR BEDFORD OUTLET                    | WSC                 | BQ   | REGINA               |
| 46. 11AB115                | MIDDLE CREEK RESERVOIR FLOOD SPILLWAY                    | WSC                 | BQ   | REGINA               |
| 47. 05NC002                | MOOSE MOUNTAIN LAKE (RESERVOIR) NEAR CORNING             | WSC                 | 12L  | REGINA               |
| 48. 11AB018                | NASHLYN CANAL NEAR CONSUL                                | WSC                 | BQ   | REGINA               |
| 49. 11AC056                | NEWTON LAKE  | WSC                 | BL   | REGINA               |
| 50. 11AC054                | NEWTON LAKE MAIN CANAL                                   | WSC                 | BQ   | REGINA               |

APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F3 - INTERNATIONAL WATERS

| ITEM STATION<br>NO. NUMBER | STATION NAME                           | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 51. 05NB020                | NICKLE LAKE NEAR WEYBURN               | WSC                 | 12L  | REGINA               |
| 52. 11AE008                | POPLAR RIVER AT INTERNATIONAL BOUNDARY | WSC                 | 8Q   | REGINA               |
| 53. 05NA009                | RADVILL INDEX RESERVOIR                | WSC                 | 8L   | REGINA               |
| 54. 11AB058                | RICHARDSON DITCH NEAR CONSUL           | WSC                 | 8Q   | REGINA               |
| 55. 05NB016                | ROUGHBAK RESERVOIR NEAR WEYBURN        | WSC                 | 8L   | REGINA               |
| 56. 11AB020                | SHEPHERD DITCH NEAR CONSUL             | WSC                 | 8Q   | REGINA               |
| 57. 05NB021                | SHORT CREEK NEAR ROCHE PERCEE          | WSC                 | 12Q  | REGINA               |
| 58. 05ND001                | SOURIS RIVER NEAR GLEN EWEN            | WSC                 | 12Q X  | REGINA               |
| 59. 05ND007                | SOURIS RIVER NEAR SHERWOOD             | WSC                 | 12Q  | REGINA               |
| 60. 11AB060                | SPANGLER DITCH NEAR GOVENLOCK          | WSC                 | 8Q   | REGINA               |
| 61. 11AB103                | SQUAW COULEE NEAR WILLOW CREEK         | WSC                 | 8Q   | REGINA               |
| 62. 05NB018                | TATAGWA LAKE DRAIN NEAR WEYBURN        | WSC                 | 8Q   | REGINA               |
| 63. 11AC068                | VAL MARIE PUMP NO. 1                   | WSC                 | 8Q   | REGINA               |
| 64. 11AB084                | VIDORA DITCH NEAR CONSUL               | WSC                 | 8Q   | REGINA               |
| 65. 05NB024                | WEYBURN INDEX RESERVOIR                | WSC                 | 8L   | REGINA               |
| 66. 05NB011                | YELLOW GRASS DITCH NEAR YELLOW GRASS   | WSC                 | 8Q   | REGINA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91

F3 - INTERNATIONAL WATERS  
UNIT SUMMARY

|               | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|---------------|------|--------------------|------------|-------|
| REMOTE ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| NORMAL ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| INTERNATIONAL |      |                    |            |       |
|               | 8L   | 15                 | 0.25       | 3.75  |
|               | 12L  | 4                  | 0.40       | 1.60  |
|               | 8Q   | 39                 | 0.75       | 29.25 |
|               | 12Q  | 8                  | 1.00       | 8.00  |
| TOTAL         |      | 66                 |            | 42.60 |
| GRAND TOTAL   |      | 66                 |            | 42.60 |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
F4 - NATIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                              | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT | ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---|---------------------|---|--------|----------------------|
| 1. 06CA004                 | BIGSTONE LAKE NEAR LA RONGE               | WSC                 | 12L                                     |        | PRINCE ALBERT        |
| 2. 05KC001                 | CARROT RIVER NEAR SMOKY BURN              | WSC                 | 12Q                                     |        | PRINCE ALBERT        |
| 3. 07LC002                 | CHIPMAN RIVER ABOVE BLACK LAKE            | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 4. 06CD002                 | CHURCHILL RIVER ABOVE OTTER RAPIDS        | WSC                 | 12Q                                     |        | PRINCE ALBERT        |
| 5. 06BB003                 | CHURCHILL RIVER NEAR PATUANAK             | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 6. 07CD006                 | CLEARWATER RIVER AT OUTLET OF LLOYD LAKE  | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 7. 07LD001                 | CREE LAKE AT CABLE BAY                    | WSC                 | 12L                                     | REMOTE | PRINCE ALBERT        |
| 8. 07LD002                 | CREE RIVER AT OUTLET OF WAPATA LAKE       | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 9. 06BA002                 | DILLON RIVER BELOW DILLON LAKE            | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 10. 07LE002                | FOND DU LAC RIVER AT OUTLET OF BLACK LAKE | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 11. 06DA004                | GEIKIE RIVER BELOW WHEELER RIVER          | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 12. 07LE003                | GREASE RIVER BELOW FONTAINE LAKE          | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 13. 06BD001                | HAULTAIN RIVER ABOVE NORBERT RIVER        | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 14. 07MB001                | MACFARLANE RIVER AT OUTLET OF DAVY LAKE   | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 15. 06CA001                | MONTREAL RIVER AT OUTLET OF BIGSTONE LAKE | WSC                 | 12Q                                     |        | PRINCE ALBERT        |
| 16. 05GG001                | NORTH SASKATCHEWAN RIVER AT PRINCE ALBERT | WSC                 | 12Q                                     | X      | PRINCE ALBERT        |
| 17. 05KJ014                | PASQUIA RIVER AT HIGHWAY NO. 9            | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 18. 07LC003                | PORCUPINE RIVER AT OUTLET OF GROVE LAKE   | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 19. 05HH001                | SOUTH SASKATCHEWAN RIVER AT ST. LOUIS     | WSC                 | 12Q                                     |        | PRINCE ALBERT        |
| 20. 05HD036                | SWIFT CURRENT CREEK BELOW ROCK CREEK      | WSC                 | 12Q                                     |        | REGINA               |
| 21. 06DA001                | WOLLASTON LAKE AT ROSS CHANNEL            | WSC                 | 12L                                     | REMOTE | PRINCE ALBERT        |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
FA - NATIONAL WATER QUANTITY INVENTORY  
UNIT SUMMARY

|               | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|---------------|------|--------------------|------------|-------|
| REMOTE ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 2                  | 0.40       | 0.80  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 11                 | 1.00       | 11.00 |
| TOTAL         |      | 13                 |            | 11.80 |
| NORMAL ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 1                  | 0.40       | 0.40  |
|               | 8Q   | 1                  | 0.75       | 0.75  |
|               | 12Q  | 6                  | 1.00       | 6.00  |
| TOTAL         |      | 8                  |            | 7.15  |
| INTERNATIONAL |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| GRAND TOTAL   |      | 21                 |            | 18.95 |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
FPI - FEDERAL-PROVINCIAL AGREEMENTS  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 0                  |            | 0.00  |



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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP2 - RIVER BASIN MANAGEMENT

| ITEM STATION<br>NO. NUMBER | STATION NAME                                   | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 1. 05KG003                 | AMISK LAKE NEAR FLIN FLOW                      | WSC                 | 12L  | PRINCE ALBERT        |
| 2. 05JE005                 | AVONLEA CREEK NEAR ROULEAU                     | WSC                 | 8Q   | REGINA               |
| 3. 05KH002                 | CUMBERLAND LAKE NEAR CUMBERLAND HOUSE          | WSC                 | 12L  | PRINCE ALBERT        |
| 4. 05JG015                 | KNOX COULEE NEAR TUXFORD                       | WSC                 | 8Q   | REGINA               |
| 5. 06CB001                 | LAC LA RONGE AT LA RONGE                       | WSC                 | 12L  | PRINCE ALBERT        |
| 6. 06CA006                 | MONTREAL LAKE NEAR WEYAKWIN                    | WSC                 | 12L  | PRINCE ALBERT        |
| 7. 06CA003                 | MONTREAL RIVER AT HIGHWAY NO. 2                | WSC                 | 12Q  | PRINCE ALBERT        |
| 8. 05JE004                 | MOOSE JAW RIVER NEAR ROULEAU                   | WSC                 | 8Q   | REGINA               |
| 9. 05NC001                 | MOOSE MOUNTAIN CREEK BELOW MOOSE MOUNTAIN LAKE | WSC                 | 8Q   | REGINA               |
| 10. 05NE002                | MOOSOMIN LAKE NEAR MOOSOMIN                    | WSC                 | 8L   | REGINA               |
| 11. 05JB001                | NOTUKEU CREEK NEAR VANGUARD                    | WSC                 | 8Q   | REGINA               |
| 12. 05NE001                | PIPESTONE CREEK NEAR MOOSOMIN                  | WSC                 | 8Q   | REGINA               |
| 13. 05KH009                | SASKATCHEWAN RIVER OLD CHANNEL                 | WSC                 | 12Q  | PRINCE ALBERT        |
| 14. 05NB009                | SOURIS RIVER NEAR ROCHE PERCEE                 | WSC                 | 8Q   | REGINA               |
| 15. 05HG001                | SOUTH SASKATCHEWAN RIVER AT SASKATOON          | WSC                 | 12Q  | PRINCE ALBERT        |
| 16. 05KG007                | STURGEON-WEIR RIVER AT LEAF RAPIDS             | WSC                 | 12Q  | PRINCE ALBERT        |
| 17. 05HD041                | SWIFT CURRENT CREEK BELOW REID LAKE            | WSC                 | 12Q  | REGINA               |
| 18. 07QC002                | TAZIN LAKE NEAR OUTLET                         | WSC                 | 12L  | REMOTE PRINCE ALBERT |
| 19. 05MB009                | THEODORE RESERVOIR NEAR THEODORE               | WSC                 | 8L   | REGINA               |
| 20. 05JF012                | WASCANA CREEK BELOW KRONAU MARSH               | WSC                 | 8Q   | REGINA               |
| 21. 05JF015                | WASCANA LAKE AT MARINA                         | WSC                 | 12L  | REGINA               |
| 22. 05MB008                | WHITESAND RIVER NEAR SPRINGSIDE                | WSC                 | 8Q   | REGINA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
FP2 - RIVER BASIN MANAGEMENT  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 1                  |            | 0.40  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 2                  | 0.25       | 0.50  |
|                   | 12L  | 5                  | 0.40       | 2.00  |
|                   | 8Q   | 9                  | 0.75       | 6.75  |
|                   | 12Q  | 5                  | 1.00       | 5.00  |
| TOTAL             |      | 21                 |            | 14.25 |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 22                 |            | 14.65 |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                          | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---------------------------------------|---------------------|--|----------------------|
| 1. 06AD011                 | ALCOTT CREEK ABOVE MEADOW LAKE        | WSC                 | BQ   | PRINCE ALBERT        |
| 2. 05HC005                 | ANTELOPE CREEK NEAR CABRI             | WSC                 | BQ   | REGINA               |
| 3. 05NF010                 | ANTLER RIVER NEAR WAUCHOPE            | WSC                 | BQ X   | REGINA               |
| 4. 05JH001                 | ARM RIVER NEAR BETHUNE                | WSC                 | BQ   | REGINA               |
| 5. 05MC001                 | ASSINIBOINE RIVER AT STURGIS          | WSC                 | BQ   | REGINA               |
| 6. 05KF001                 | BALLANTYNE RIVER ABOVE BALLANTYNE BAY | WSC                 | 12Q  | PRINCE ALBERT        |
| 7. 05FF001                 | BATTLE RIVER AT BATTLEFORD            | WSC                 | BQ X   | PRINCE ALBERT        |
| 8. 05HA003                 | BEAR CREEK NEAR PIAPOT                | WSC                 | BQ   | REGINA               |
| 9. 06AG001                 | BEAVER RIVER BELOW WATERHEN RIVER     | WSC                 | 12Q  | PRINCE ALBERT        |
| 10. 06AD001                | BEAVER RIVER NEAR DORINTOSH           | WSC                 | 12Q X  | PRINCE ALBERT        |
| 11. 05EF005                | BIG GULLY CREEK NEAR MAIDSTONE        | WSC                 | BQ X   | PRINCE ALBERT        |
| 12. 05MA011                | BIRCH CREEK NEAR ELFROS               | WSC                 | BQ   | PRINCE ALBERT        |
| 13. 05EG006                | BIRLING CREEK NEAR PAYNTON            | WSC                 | BQ   | PRINCE ALBERT        |
| 14. 05HA015                | BRIDGE CREEK AT GULL LAKE             | WSC                 | BQ   | REGINA               |
| 15. 05HG002                | BRIGHTWATER CREEK NEAR KENASTON       | WSC                 | BQ   | REGINA               |
| 16. 05KB005                | BURNTOUT BROOK NEAR ARBORFIELD        | WSC                 | BQ X   | PRINCE ALBERT        |
| 17. 06BB005                | CANOE RIVER NEAR BEAUVAIL             | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 18. 05KB003                | CARROT RIVER NEAR ARMLEY              | WSC                 | BQ X   | PRINCE ALBERT        |
| 19. 06BA001                | CHURCHILL LAKE AT BUFFALO NARROWS     | WSC                 | 12L  | REMOTE PRINCE ALBERT |
| 20. 05JF011                | COTTONWOOD CREEK NEAR LUMSDEN         | WSC                 | BQ X   | REGINA               |
| 21. 05HF014                | CREIGHTON TRIBUTARY NEAR TOTNES       | WSC                 | BQ   | REGINA               |
| 22. 05HH002                | CROMARTY CREEK NEAR BIRCH HILLS       | WSC                 | BQ   | PRINCE ALBERT        |
| 23. 05MB006                | CROOKED HILL CREEK NEAR CANORA        | WSC                 | BQ   | REGINA               |
| 24. 05EG004                | CRYSTAL CREEK NEAR IFFLEY             | WSC                 | BQ   | PRINCE ALBERT        |
| 25. 05JM015                | CUTARM CREEK NEAR SPY HILL            | WSC                 | BQ   | REGINA               |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                          | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT | ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---------------------------------------|---------------------|---|--------|----------------------|
| 26. 07CD007                | DESCHARME RIVER BELOW DUPRE LAKE      | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 27. 06AG002                | DORE RIVER NEAR THE MOUTH             | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 28. 07MA003                | DOUGLAS RIVER NEAR CLUFF LAKE         | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 29. 05GC006                | EAGLE CREEK NEAR ENVIRON              | WSC                 | 8Q X                                    |        | PRINCE ALBERT        |
| 30. 05LB002                | ETOMAMI RIVER NEAR BERTWELL           | WSC                 | 8Q X                                    |        | PRINCE ALBERT        |
| 31. 05GA007                | EVEHILL CREEK NEAR MACKLIN            | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 32. 05LB007                | FIR RIVER NEAR HUDSON BAY             | WSC                 | 12Q                                     |        | PRINCE ALBERT        |
| 33. 06CE001                | FOSTER RIVER ABOVE CHURCHILL RIVER    | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 34. 05NF013                | GAINSBOROUGH CREEK NEAR STORTHOAKS    | WSC                 | 8Q                                      |        | REGINA               |
| 35. 05GG010                | GARDEN RIVER NEAR HENRIBOURG          | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 36. 05NA005                | GIBSON CREEK NEAR RADVILLE            | WSC                 | 8Q                                      |        | REGINA               |
| 37. 05KA009                | GOOSEHUNTING CREEK NEAR BEATTY        | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 38. 11AE010                | HAY MEADOW CREEK NEAR LISIEUX         | WSC                 | 8Q                                      |        | REGINA               |
| 39. 05MA012                | IRONSPRING CREEK NEAR WATSON          | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 40. 05JG014                | ISKWAO CREEK NEAR CRAIK               | WSC                 | 8Q                                      |        | REGINA               |
| 41. 05NB014                | JEWEL CREEK NEAR GOODWATER            | WSC                 | 8Q                                      |        | REGINA               |
| 42. 05JK004                | JUMPING DEER CREEK NEAR LIPTON        | WSC                 | 8Q                                      |        | REGINA               |
| 43. 06BB004                | KEELEY RIVER AT OUTLET OF KEELEY LAKE | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 44. 05HH003                | KOHLESCHMIDT CREEK NEAR ROSTHERN      | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 45. 05JD004                | LAKE OF THE RIVERS WEST INFLOW        | WSC                 | 8Q                                      |        | REGINA               |
| 46. 05JJ003                | LANIGAN CREEK ABOVE BOULDER LAKE      | WSC                 | 8Q                                      |        | REGINA               |
| 47. 05KB006                | LEATHER RIVER NEAR STAR CITY          | WSC                 | 8Q                                      |        | PRINCE ALBERT        |
| 48. 05JH005                | LEWIS CREEK NEAR IMPERIAL             | WSC                 | 8Q                                      |        | REGINA               |
| 49. 05NF006                | LIGHTNING CREEK NEAR CARNOUFF         | WSC                 | 8Q                                      |        | REGINA               |
| 50. 05MC003                | LILIAN RIVER NEAR LADY LAKE           | WSC                 | 8Q                                      |        | REGINA               |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                               | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 51. 05LB004                | LOISELLE CREEK NEAR HUDSON BAY             | WSC                 | 8Q   | PRINCE ALBERT        |
| 52. 05NA004                | LONG CREEK NEAR MAXIM                      | WSC                 | 8Q   | REGINA               |
| 53. 05HF005                | MACDONALD CREEK NEAR BOUNTY                | WSC                 | 8Q   | REGINA               |
| 54. 05MA021                | MAGNUSSON CREEK NEAR WYNARD                | WSC                 | 8Q   | PRINCE ALBERT        |
| 55. 06AD007                | MAKWA RIVER AT RAPID VIEW                  | WSC                 | 8Q   | PRINCE ALBERT        |
| 56. 05LE011                | MALONECK CREEK NEAR PELLY                  | WSC                 | 8Q   | REGINA               |
| 57. 05JA003                | MCDONALD CREEK NEAR MCCORD                 | WSC                 | 8Q X   | REGINA               |
| 58. 05HF015                | MCDONALD TRIBUTARY NEAR TOTNES             | WSC                 | 8Q   | REGINA               |
| 59. 05EF004                | MONNERY RIVER NEAR PARADISE HILL           | WSC                 | 8Q   | PRINCE ALBERT        |
| 60. 05JE001                | MOOSE JAW RIVER ABOVE THUNDER CREEK        | WSC                 | 8Q   | REGINA               |
| 61. 05ND004                | MOOSE MOUNTAIN CREEK NEAR OXBOW            | WSC                 | 8Q X   | REGINA               |
| 62. 05JB007                | MOSQUITO CREEK NEAR PAMBRUN                | WSC                 | 8Q   | REGINA               |
| 63. 06BC001                | MUDJATIK RIVER NEAR FORCIER LAKE           | WSC                 | 12Q REMOTE                                     | PRINCE ALBERT        |
| 64. 05JB004                | NOTUKEU CREEK ABOVE ADMIRAL RESERVOIR      | WSC                 | 8Q   | REGINA               |
| 65. 05GD002                | OSCAR CREEK NEAR KRYDOR                    | WSC                 | 8Q   | PRINCE ALBERT        |
| 66. 07LE004                | OTHERSIDE RIVER AT OUTLET OF MERCREDI LAKE | WSC                 | 12Q REMOTE                                     | PRINCE ALBERT        |
| 67. 06EA007                | PAGATO RIVER AT OUTLET OF PAGATO LAKE      | WSC                 | 12Q REMOTE                                     | PRINCE ALBERT        |
| 68. 05JL005                | PHEASANT CREEK NEAR ABERNETHY              | WSC                 | 8Q X   | REGINA               |
| 69. 05JA004                | PINTO CREEK NEAR WOODROW                   | WSC                 | 8Q   | REGINA               |
| 70. 07LD003                | PIPESTONE RIVER BELOW ROTARIU LAKE         | WSC                 | 12Q REMOTE                                     | PRINCE ALBERT        |
| 71. 05MA020                | QUILL CREEK NEAR QUILL LAKE                | WSC                 | 8Q   | PRINCE ALBERT        |
| 72. 05MA025                | RANCH CREEK ABOVE RANCH LAKE               | WSC                 | 8Q   | PRINCE ALBERT        |
| 73. 05LB005                | RED DEER RIVER NEAR STEEN                  | WSC                 | 8Q   | PRINCE ALBERT        |
| 74. 05JJ009                | SALINE CREEK NEAR NOKOMIS                  | WSC                 | 8Q   | REGINA               |
| 75. 05LB006                | SHAND CREEK NEAR DILLABOUGH                | WSC                 | 8Q   | PRINCE ALBERT        |

APRIL 01 1990

## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                                | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---|---------------------|--|----------------------|
| 76. 05GF001                | SHELL BROOK NEAR SHELLBROOK                 | WSC                 | 8Q   | PRINCE ALBERT        |
| 77. 05ME007                | SMITH CREEK NEAR MARCHWELL                  | WSC                 | 8Q   | REGINA               |
| 78. 06CC001                | SMOOTHSTONE RIVER BELOW EMMELINE LAKE       | WSC                 | 12Q  | PRINCE ALBERT        |
| 79. 05HE001                | SNAKEBITE CREEK NEAR BEECHY                 | WSC                 | 8Q   | REGINA               |
| 80. 05NB017                | SOURIS RIVER NEAR HALBRITE                  | WSC                 | 8Q X   | REGINA               |
| 81. 05MB007                | SPIRIT CREEK NEAR BUCHANAN                  | WSC                 | 8Q   | REGINA               |
| 82. 05MD010                | STONY CREEK NEAR KAMSACK                    | WSC                 | 8Q   | REGINA               |
| 83. 05MC002                | STONY CREEK NEAR STENEN                     | WSC                 | 8Q   | REGINA               |
| 84. 05GF002                | STURGEON RIVER NEAR PRINCE ALBERT           | WSC                 | 8Q X   | PRINCE ALBERT        |
| 85. 05KG002                | STURGEON-WEIR RIVER AT OUTLET OF AMISK LAKE | WSC                 | 12Q  | PRINCE ALBERT        |
| 86. 05LE008                | SWAN RIVER NEAR NORQUAY                     | WSC                 | 12Q X  | REGINA               |
| 87. 05HD039                | SWIFT CURRENT CREEK NEAR LEINAM             | WSC                 | 12Q X  | REGINA               |
| 88. 05JG012                | THUNDER CREEK NEAR DARMODY                  | WSC                 | 8Q   | REGINA               |
| 89. 06D8003                | THYME HILL RIVER BELOW MACKENZIE LAKE       | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 90. 05KE002                | TORCH RIVER NEAR LOVE                       | WSC                 | 12Q  | PRINCE ALBERT        |
| 91. 05EG005                | TURTLELAKE RIVER NEAR TURTLEFORD            | WSC                 | 8Q   | PRINCE ALBERT        |
| 92. 05JF004                | WASCANA CREEK NEAR SEDLEY                   | WSC                 | 8Q   | REGINA               |
| 93. 07LB001                | WATERBURY LAKE AT CREW CABIN                | WSC                 | 12L  | REMOTE PRINCE ALBERT |
| 94. 07LB002                | WATERFOUND RIVER BELOW UNKNOWN LAKE         | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 95. 06AF005                | WATERHEN RIVER NEAR GOOSOIL                 | WSC                 | 12Q  | PRINCE ALBERT        |
| 96. 06DC001                | WATHAMAN RIVER BELOW WATHAMAN LAKE          | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 97. 06DA005                | WHEELER RIVER BELOW RUSSELL LAKE            | WSC                 | 12Q  | REMOTE PRINCE ALBERT |
| 98. 05KE005                | WHITE FOX RIVER NEAR GARRICK                | WSC                 | 8Q   | PRINCE ALBERT        |
| 99. 05MB003                | WHITESAND RIVER NEAR CANORA                 | WSC                 | 8Q   | REGINA               |
| 100. 07MA004               | WILLIAM RIVER ABOVE CARSWELL RIVER          | WSC                 | 12Q  | REMOTE PRINCE ALBERT |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY

| ITEM STATION<br>NO. NUMBER | STATION NAME                | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|-----------------------------|---------------------|--|----------------------|
| 101. 05MB005               | WILLOW BROOK AT WILLOWBROOK | WSC                 | BQ   | REGINA               |
| 102. 05JA002               | WOOD RIVER NEAR LAFLECHE    | WSC                 | BQ X   | REGINA               |
| 103. 05MB001               | YORKTON CREEK NEAR EBENEZER | WSC                 | BQ   | REGINA               |



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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
FP3 - REGIONAL WATER QUANTITY INVENTORY  
UNIT SUMMARY

|               | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|---------------|------|--------------------|------------|-------|
| REMOTE ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 2                  | 0.40       | 0.80  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 15                 | 1.00       | 15.00 |
| TOTAL         |      | 17                 |            | 15.80 |
| NORMAL ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 76                 | 0.75       | 57.00 |
|               | 12Q  | 10                 | 1.00       | 10.00 |
| TOTAL         |      | 86                 |            | 67.00 |
| INTERNATIONAL |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| GRAND TOTAL   |      | 103                |            | 82.80 |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91

P1 - PROVINCIAL DEPARTMENTAL PROGRAMS

| ITEM STATION<br>NO. NUMBER | STATION NAME                               | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 1. 05MA010                 | BIG QUILL LAKE NEAR KANDAHAR               | SWC                 | 8L   | REGINA               |
| 2. 05KF004                 | BIG SANDY LAKE ON THE HANSON LAKE ROAD     | SWC                 | 8L   | REGINA               |
| 3. 05EG010                 | BRIGHTSAND LAKE NEAR ST WALBURG            | SWC                 | 8L   | REGINA               |
| 4. 05JE009                 | BROKENSHELL CREEK NEAR TROSSACHS           | WSC                 | 8Q   | REGINA               |
| 5. 05KE008                 | CANDLE LAKE AT CANDLE LAKE                 | WSC                 | 8L   | PRINCE ALBERT        |
| 6. 05KA001                 | CARROT RIVER NEAR KINISTINO                | WSC                 | 8Q   | PRINCE ALBERT        |
| 7. 06AD012                 | CHITEK LAKE AT CHITEK VILLAGE              | SWC                 | 8L   | REGINA               |
| 8. 05GG009                 | CHRISTOPHER LAKE NEAR CHRISTOPHER LAKE     | SWC                 | 8L   | REGINA               |
| 9. 05MC004                 | CONJURING CREEK NEAR PREECEVILLE           | WSC                 | 8Q   | REGINA               |
| 10. 06AE002                | COWAN LAKE NEAR HONEYMOON POINT            | SWC                 | 8L   | REGINA               |
| 11. 05FF003                | CUTKNIFE CREEK NEAR CUTKNIFE               | WSC                 | 8Q   | PRINCE ALBERT        |
| 12. 06AE004                | DELARONDE LAKE NEAR BIG RIVER              | SWC                 | 8L   | REGINA               |
| 13. 05KF003                | DESCHAMBAULT LAKE ON THE HANSON LAKE ROAD  | SWC                 | 8L   | REGINA               |
| 14. 05KB011                | DOGHIDE RIVER NEAR RUNCIMAN                | WSC                 | 8Q X   | PRINCE ALBERT        |
| 15. 06AG003                | DORE LAKE AT DORE LAKE                     | SWC                 | 8L   | REGINA               |
| 16. 05LA003                | DUCK CREEK NEAR KELVINGTON                 | WSC                 | 8Q   | PRINCE ALBERT        |
| 17. 05GC002                | EAGLE CREEK NEAR ANGLIA                    | WSC                 | 8Q   | REGINA               |
| 18. 05JK008                | ECHO CREEK AT FORT QU'APPELLE              | WSC                 | 8Q   | REGINA               |
| 19. 05GG008                | EMMA LAKE NEAR TWEEDSMUIR                  | SWC                 | 8L   | REGINA               |
| 20. 05EF006                | ENGLISHMAN RIVER NEAR SPRUCE LAKE          | WSC                 | 8Q   | PRINCE ALBERT        |
| 21. 11AE016                | FIFE LAKE NEAR LISIEUX                     | WSC                 | 8L   | REGINA               |
| 22. 05MB013                | FISHING LAKE NEAR WADENA                   | SWC                 | 8L   | REGINA               |
| 23. 05JC007                | FLOWING WELL WEST INFLOW NEAR FLOWING WELL | WSC                 | 8Q X   | REGINA               |
| 24. 05MB010                | GOOD SPIRIT LAKE NEAR CANORA               | SWC                 | 8L   | REGINA               |
| 25. 05LB011                | GREENWATER LAKE NEAR CHELAM                | SWC                 | 8L   | REGINA               |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
P1 - PROVINCIAL DEPARTMENTAL PROGRAMS

| ITEM STATION<br>NO. NUMBER | STATION NAME                               | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 26. 06AF010                | GREIG LAKE NEAR DORINTOSH                  | SWC                 | BL   | REGINA               |
| 27. 05JF014                | HUNTER CREEK NEAR RICHARDSON               | WSC                 | BQ   | REGINA               |
| 28. 05HG021                | INVERNESS CREEK NEAR BRODERICK             | WSC                 | BQ   | REGINA               |
| 29. 05EG003                | JACKFISH LAKE NEAR COCHIN                  | WSC                 | BL   | PRINCE ALBERT        |
| 30. 05KG010                | JAN LAKE NEAR THE HANSON LAKE ROAD         | SWC                 | BL   | REGINA               |
| 31. 05KE007                | KELSEY CREEK NEAR GARRICK                  | WSC                 | BQ   | PRINCE ALBERT        |
| 32. 05ND009                | KENOSEE LAKE NEAR CARLYLE                  | WSC                 | BL   | REGINA               |
| 33. 05LA007                | KIPABISKAU LAKE NEAR MCKAGUE               | SWC                 | BL   | REGINA               |
| 34. 06AF009                | LAC DES ILES NEAR GOODSOIL                 | SWC                 | BL   | REGINA               |
| 35. 05HD028                | LAC PELLETIER NEAR VESPER                  | WSC                 | BL   | REGINA               |
| 36. 05HC004                | LAKE DIEFENBAKER AT SASKATCHEWAN LANDING   | WSC                 | BL   | REGINA               |
| 37. 05KA011                | LENORE LAKE NEAR MIDDLE LAKE               | SWC                 | BL   | REGINA               |
| 38. 05KF002                | LITTLE BEAR LAKE ON THE HANSON LAKE ROAD   | SWC                 | BL   | REGINA               |
| 39. 05KB008                | LITTLE BRIDGE CREEK NEAR ARMLEY            | WSC                 | BQ   | PRINCE ALBERT        |
| 40. 05MA002                | LITTLE QUILL LAKE NEAR WYNYARD             | SWC                 | BL   | REGINA               |
| 41. 05KE009                | LOWER FISHING LAKE ON THE HANSON LAKE ROAD | SWC                 | BL   | REGINA               |
| 42. 05LB008                | MACNAB CREEK NEAR SOMME                    | WSC                 | BQ   | PRINCE ALBERT        |
| 43. 05LE012                | MADGE LAKE NEAR KAMSACK                    | SWC                 | BL   | REGINA               |
| 44. 06AD014                | MAKWA LAKE NEAR LOON LAKE                  | SWC                 | BL   | REGINA               |
| 45. 06AD009                | MAKWA RIVER AT OUTLET OF MAKWA LAKE        | WSC                 | BQ   | PRINCE ALBERT        |
| 46. 05GA006                | MANITO LAKE NEAR MARSDEN                   | SWC                 | BL   | REGINA               |
| 47. 05LB012                | MAREAN LAKE NEAR CHELAN                    | SWC                 | BL   | REGINA               |
| 48. 06AD010                | MEADOW RIVER BELOW MEADOW LAKE             | WSC                 | 12Q  | PRINCE ALBERT        |
| 49. 05MA023                | MILLIGAN CREEK NEAR WADENA                 | WSC                 | BQ   | PRINCE ALBERT        |
| 50. 05JE002                | MOOSE JAW RIVER NEAR LANG                  | WSC                 | BQ   | REGINA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
P1 - PROVINCIAL DEPARTMENTAL PROGRAMS

| ITEM STATION<br>NO. NUMBER | STATION NAME                                | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|---|---------------------|--|----------------------|
| 51. 06AD008                | MORIN CREEK NEAR MEADOW LAKE                | WSC                 | BQ   | PRINCE ALBERT        |
| 52. 06AE003                | MORIN LAKE NEAR VICTOIRE                    | SWC                 | BL   | REGINA               |
| 53. 05GB004                | MUDDY LAKE INFLOW NEAR REVENUE              | WSC                 | BQ   | PRINCE ALBERT        |
| 54. 06CB003                | NEMEIBEN LAKE NEAR LA RONGE                 | SWC                 | BL   | REGINA               |
| 55. 06AE001                | NORBURY CREEK NEAR SPIRITWOOD               | WSC                 | BQ   | PRINCE ALBERT        |
| 56. 05GC007                | OPUNTIA LAKE WEST INFLOW                    | WSC                 | BQ   | REGINA               |
| 57. 05LD003                | OVERFLOWING RIVER NEAR HUDSON BAY           | WSC                 | BQ   | PRINCE ALBERT        |
| 58. 05KG009                | PELICAN LAKE AT PELICAN NARROWS             | SWC                 | BL   | REGINA               |
| 59. 05LA004                | PIPESTONE CREEK NEAR ROSE VALLEY            | WSC                 | BQ   | PRINCE ALBERT        |
| 60. 05LB010                | PRAIRIE RIVER NEAR PRAIRIE RIVER            | WSC                 | BQ   | PRINCE ALBERT        |
| 61. 05MA024                | RANCH LAKE NEAR ST JAMES                    | SWC                 | BL   | REGINA               |
| 62. 05LA005                | RED DEER RIVER NEAR ARCHERWILL              | WSC                 | BQ   | PRINCE ALBERT        |
| 63. 05GD003                | REDBERRY LAKE NEAR KRYDOR                   | SWC                 | BL   | REGINA               |
| 64. 05MA016                | ROMANCE CREEK NEAR WATSON                   | WSC                 | BQ   | PRINCE ALBERT        |
| 65. 05JG001                | SANDY CREEK NEAR CARON                      | WSC                 | BQ   | REGINA               |
| 66. 05GF004                | SHELL LAKE NEAR SHELL LAKE                  | SWC                 | BL   | REGINA               |
| 67. 05HC003                | SNIPE LAKE NORTH INFLOW                     | WSC                 | BQ   | REGINA               |
| 68. 05NB031                | SOURIS RIVER NEAR BECHARD                   | WSC                 | BQ   | REGINA               |
| 69. 05NB030                | SOURIS RIVER NEAR MCTAGGART                 | WSC                 | BQ   | REGINA               |
| 70. 05HF004                | SOUTH SASKATCHEWAN RIVER BELOW GARDINER DAM | WSC                 | 12L  | REGINA               |
| 71. 05GF003                | STURGEON LAKE NEAR PRINCE ALBERT            | SWC                 | BL   | REGINA               |
| 72. 05EG009                | TURTLE LAKE NEAR GLASLYN                    | SWC                 | BL   | REGINA               |
| 73. 05HF022                | UNNAMED CREEK NEAR CUTBANK                  | WSC                 | BQ   | REGINA               |
| 74. 05KA012                | WAKAW LAKE NEAR WAKAW                       | SWC                 | BL   | REGINA               |
| 75. 05KA010                | WALDSEA LAKE NEAR HUMBOLDT                  | SWC                 | BL   | REGINA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
P1 - PROVINCIAL DEPARTMENTAL PROGRAMS

| ITEM STATION<br>NO. NUMBER | STATION NAME                           | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 76. 06AF007                | WATERHEN LAKE NEAR DORINTOSH           | SWC                 | BL   | REGINA               |
| 77. 05ND008                | WHITE BEAR (CARLYLE) LAKE NEAR CARLYLE | WSC                 | BL   | REGINA               |
| 78. 05JC006                | WIWA CREEK NEAR ST. BOSWELLS           | WSC                 | BQ   | REGINA               |
| 79. 05MB014                | YORK LAKE NEAR YORKTON                 | SWC                 | BL   | REGINA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
P1 - PROVINCIAL DEPARTMENTAL PROGRAMS  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 7                  | 0.25       | 1.75  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 33                 | 0.75       | 24.75 |
|                   | 12Q  | 1                  | 1.00       | 1.00  |
| TOTAL             |      | 42                 |            | 27.90 |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 42                 |            | 27.90 |

APRIL 01 1990

SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
P2 - SPECIFIC PURPOSE MONITORING

| ITEM STATION<br>NO. NUMBER | STATION NAME                                       | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT | ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|---|--------|----------------------|
| 1. 07QC005                 | ABITAU RIVER ABOVE CUMING LAKE                     | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 2. 05HG006                 | BRIGHTWATER RESERVOIR AT RIPARIAN OUTLET           | WSC                 | 8L                                      |        | REGINA               |
| 3. 05HF017                 | BRODERICK RESERVOIR AT WEST EMBANKMENT             | WSC                 | 8L                                      |        | REGINA               |
| 4. 06EA010                 | CHURCHILL RIVER ABOVE MAPLE LEAF RAPIDS            | WSC                 | 12L                                     | REMOTE | PRINCE ALBERT        |
| 5. 06EA011                 | CHURCHILL RIVER ABOVE WINGEGO RAPIDS               | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 6. 05KD006                 | CODETTE RESERVOIR ABOVE THE SPILLWAY               | WSC                 | 12L                                     |        | PRINCE ALBERT        |
| 7. 11AE014                 | EAST POPLAR RIVER ABOVE COOKSON RESERVOIR          | WSC                 | 8Q                                      |        | REGINA               |
| 8. 11AE015                 | GIRARD CREEK NEAR CORONACH                         | WSC                 | 8Q                                      |        | REGINA               |
| 9. 05HG003                 | PIKE LAKE NEAR SASKATOON                           | SWC                 | 8L                                      |        | REGINA               |
| 10. 05JB006                | RUSSELL CREEK RESERVOIR                            | WSC                 | 8L                                      |        | REGINA               |
| 11. 05HG019                | S.S.E.P. EAST MAIN CANAL BELOW BRODERICK RESERVOIR | WSC                 | 8Q                                      |        | REGINA               |
| 12. 07QC006                | TAZIN RIVER ABOVE TAZIN LAKE                       | WSC                 | 12Q                                     | REMOTE | PRINCE ALBERT        |
| 13. 05JE008                | WILCOX MAIN DITCH NEAR WILCOX                      | WSC                 | 8Q                                      |        | REGINA               |
| 14. 05JC005                | WOOD RIVER DIVERSION TO CHAPLIN LAKE               | WSC                 | 8Q                                      |        | REGINA               |



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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
P2 - SPECIFIC PURPOSE MONITORING  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 3                  | 1.00       | 3.00  |
| TOTAL             |      | 4                  |            | 3.40  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 3                  | 0.25       | 0.75  |
|                   | 12L  | 1                  | 0.40       | 0.40  |
|                   | 8Q   | 5                  | 0.75       | 3.75  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 9                  |            | 4.90  |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 13                 |            | 8.30  |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
DATA CONTRIBUTED BY SASKATCHEWAN  
UNIT SUMMARY

|                   | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|-------------------|------|--------------------|------------|-------|
| REMOTE ACCESS     |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>NORMAL ACCESS |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>INTERNATIONAL |      |                    |            |       |
|                   | 8L   | 0                  | 0.25       | 0.00  |
|                   | 12L  | 0                  | 0.40       | 0.00  |
|                   | 8Q   | 0                  | 0.75       | 0.00  |
|                   | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL             |      | 0                  |            | 0.00  |
| <br>GRAND TOTAL   |      | 0                  |            | 0.00  |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
1990-91  
DATA CONTRIBUTED BY OTHER AGENCY

| ITEM STATION<br>NO. NUMBER | STATION NAME   | OPERATING<br>AGENCY | RECORD OBTAINED<br>HYDROMETRIC SEDIMENT ACCESS | OPERATIONS<br>CENTER |
|----------------------------|--|---------------------|--|----------------------|
| 1. 11AE009                 | ROCK CREEK BELOW HORSE CREEK NEAR INTERNATIONAL BOUNDARY | USGS                | 12Q  | HELENA               |

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SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
1990-91  
DATA CONTRIBUTED BY OTHER AGENCY  
UNIT SUMMARY

|               | TYPE | NO. OF<br>STATIONS | CONVERSION | UNITS |
|---------------|------|--------------------|------------|-------|
| REMOTE ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| NORMAL ACCESS |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| INTERNATIONAL |      |                    |            |       |
|               | 8L   | 0                  | 0.25       | 0.00  |
|               | 12L  | 0                  | 0.40       | 0.00  |
|               | 8Q   | 0                  | 0.75       | 0.00  |
|               | 12Q  | 0                  | 1.00       | 0.00  |
| TOTAL         |      | 0                  |            | 0.00  |
| GRAND TOTAL   |      | 0                  |            | 0.00  |

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## SCHEDULE A

SASKATCHEWAN WATER QUANTITY STATIONS  
STATIONS OPERATED BY WATER SURVEY OF CANADA  
STATION CLASSIFICATION - TYPE - UNITS SUMMARY  
1990-91

| CLASSIFICATION     | TYPE | NO. OF STATIONS | CONVERSION | UNITS  |
|--------------------|------|-----------------|------------|--------|
| FEDERAL            |      |                 |            |        |
| REMOTE ACCESS      | 8L   | 0               | 0.25       | 0.00   |
|                    | 12L  | 3               | 0.40       | 1.20   |
|                    | 8Q   | 0               | 0.75       | 0.00   |
|                    | 12Q  | 13              | 1.00       | 13.00  |
|                    |      | 16              |            | 14.20  |
| NORMAL ACCESS      | 8L   | 11              | 0.25       | 2.75   |
|                    | 12L  | 11              | 0.40       | 4.40   |
|                    | 8Q   | 18              | 0.75       | 13.50  |
|                    | 12Q  | 23              | 1.00       | 23.00  |
|                    |      | 63              |            | 43.65  |
| INTERNATIONAL      | 8L   | 15              | 0.25       | 3.75   |
|                    | 12L  | 4               | 0.40       | 1.60   |
|                    | 8Q   | 39              | 0.75       | 29.25  |
|                    | 12Q  | 8               | 1.00       | 8.00   |
|                    |      | 66              |            | 42.60  |
| TOTAL              |      | 145             |            | 100.45 |
| FEDERAL-PROVINCIAL |      |                 |            |        |
| REMOTE ACCESS      | 8L   | 0               | 0.25       | 0.00   |
|                    | 12L  | 3               | 0.40       | 1.20   |
|                    | 8Q   | 0               | 0.75       | 0.00   |
|                    | 12Q  | 15              | 1.00       | 15.00  |
|                    |      | 18              |            | 16.20  |
| NORMAL ACCESS      | 8L   | 2               | 0.25       | 0.50   |
|                    | 12L  | 5               | 0.40       | 2.00   |
|                    | 8Q   | 85              | 0.75       | 63.75  |
|                    | 12Q  | 15              | 1.00       | 15.00  |
|                    |      | 107             |            | 81.25  |
| TOTAL              |      | 125             |            | 97.45  |
| PROVINCIAL         |      |                 |            |        |
| REMOTE ACCESS      | 8L   | 0               | 0.25       | 0.00   |
|                    | 12L  | 1               | 0.40       | 0.40   |
|                    | 8Q   | 0               | 0.75       | 0.00   |
|                    | 12Q  | 3               | 1.00       | 3.00   |
|                    |      | 4               |            | 3.40   |
| NORMAL ACCESS      | 8L   | 10              | 0.25       | 2.50   |
|                    | 12L  | 2               | 0.40       | 0.80   |
|                    | 8Q   | 38              | 0.75       | 28.50  |
|                    | 12Q  | 1               | 1.00       | 1.00   |
|                    |      | 51              |            | 32.80  |
| TOTAL              |      | 55              |            | 36.20  |
| GRAND TOTAL        |      | 325             |            | 234.10 |

## SCHEDULE B: ANNUAL PAYMENTS - ITEMS TO BE INCLUDED

The items to be included in computing the annual payments of water quantity survey stations are:

### I Operational Cost Water Quantity Survey Stations Excluding Sediment

- a) Salaries and overtime of field personnel and casual labour;
- b) Field travel expenses, board and lodging costs for field personnel;
- c) The computer costs associated with computing daily mean hydrometric data;
- d) Observer pay;
- e) Depreciation, operation and maintenance of vehicles and boats
- f) Maintenance of gauging station structures including material and labour for minor repairs;
- g) Maintenance and depreciation of all field equipment and instruments (except as noted in Article VII of this agreement);
- h) Fuels such as propane for heating recorder installations and gas such as nitrogen for operating pressure sensing equipment, electricity charges;
- i) Rental of aircraft, vehicles, boats, etc. supplied by either party or chartered;
- j) The annual cost of land leases;
- k) Services, e.g. cost of establishing gas caches, operation of line cabins, etc.

### II Operational Cost Sediment Stations

All items in I OPERATIONAL COST plus:

- l) The computer costs associated with computing daily mean sediment data;
- m) Cost of analysis of sediment samples.

III New Construction, Repair And Major Reconstruction Costs For Water  
Quantity Survey Stations;

- a) Salaries and overtime of construction personnel
- b) Field travel expenses, board and lodging costs of construction personnel;
- c) Depreciation, operation and maintenance of vehicles;
- d) Construction materials;
- e) Maintenance, depreciation and operation of construction equipment;'
- f) Rental of aircraft, vehicles, boats, construction equipment, etc. supplied by either party or chartered;
- g) Land acquisition costs including legal survey costs;
- h) Construction contract payments.



#### SCHEDULE C: PROCEDURES FOR PREPARATION OF ANNUAL PAYMENTS

- a) The annual payment is composed of two parts; the annual operating costs and the costs of construction for streamflow and water level installations and sediment installations.
- b) The annual payment shall be computed for each year the agreement is in effect.
- c) Cost data to be used as a basis for computing each annual payment will be the cost data from the latest available full fiscal year.
- d) A cost index factor is to be used in computing the annual payment for the year in question commensurate with sound engineering practice.
- e) The average annual unit costs for operating water quantity survey stations listed in Schedule A but not including sediment stations will be determined from the cost data of c) above and where necessary, because of significant differences in transportation costs, these average annual unit costs will be computed for more than one area or condition of operation.
- f) The total annual operation cost of the water quantity survey station listed in Schedule A but not including sediment stations will be the summation of the appropriate average annual unit cost for each station multiplied by the cost index factor as determined in item d) above.
- g) The total annual operation cost of the sediment stations listed in Schedule A will be the summation of the annual operating cost for each station multiplied by the cost index factor as determined in item d) above.
- h) The construction cost to be apportioned in accordance with Articles II, III and IV will be the summation of the construction cost for each new, or reconstructed water quantity survey station. The entire cost of construction is to be included in the annual payment. Construction costs are to be determined using data from reconnaissance surveys, standard plans, etc. and incorporating and cost index factor from item d) above.
- i) In cases where there is a significant deviation between the cost determined in f), g) and h) and actual costs because of the cost index factor used, or changes in the construction program due to unforeseen circumstances such as flooding, an adjustment may be made in the final quarterly payment (March 1st) or the next fiscal year to more accurately reflect the cost shares of the parties to this agreement.

#### SCHEDULE D: 1990-91

Schedule D to the Memorandum of Agreement is determined jointly by the Coordinating Committee Members for Saskatchewan and Canada and signed prior to April 1 of each year by the Administrators for Saskatchewan and Canada. This Schedule provides a summary of the annual payment to be made by the province and is included in this section.

SCHEDULE D - MEMORANDUM OF AGREEMENT

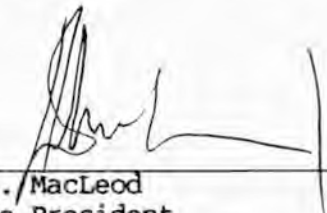
SASKATCHEWAN HYDROMETRIC SURVEYS

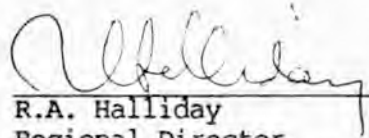
1990-91

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

ANNUAL PAYMENT FOR 1990-91 TO BE PAID TO CANADA BY SASKATCHEWAN

|   | <u>Operation</u> | <u>Construction</u> | <u>Total</u> |
|---|------------------|---------------------|--------------|
| a) Streamflow and water level installations | 500 000          | 30 000              | 530 000      |
| b) Sediment installations                   | <u>1 000</u>     | <u>-</u>            | <u>1 000</u> |
| Total                                       | 501 000          | 30 000              | 531 000      |

  
\_\_\_\_\_  
D.L. MacLeod  
Vice President  
Resource Management  
Saskatchewan Water Corporation  
Administrator for Saskatchewan

  
\_\_\_\_\_  
R.A. Halliday  
Regional Director  
Inland Waters Directorate  
Administrator for Canada

APPENDIX C

ESTIMATED COSTS OF SCHEDULE D: 1991-92

# ESTIMATED COST OF SCHEDULE D - SASKATCHEWAN: 1990-91

## A Hydrometric

|                    | <u>No. of<br/>Stations</u> | <u>No. of<br/>Units</u> | <u>Unit*<br/>Cost</u> | <u>Approx<br/>Total Cost</u> | <u>Provincial<br/>Share</u> |
|--------------------|----------------------------|-------------------------|-----------------------|------------------------------|-----------------------------|
| Federal            |                            |                         |                       |                              |                             |
| Normal Access      | 63                         | 43.65                   | 5 900                 | 257 535                      | -                           |
| Remote Access      | 16                         | 14.20                   | 9 800                 | 139 160                      | -                           |
| International      | 66                         | 42.60                   | 6 450                 | 274 770                      | -                           |
| Sub Total          | 145                        | 100.45                  |                       | 671 465                      |                             |
| Federal-Provincial |                            |                         |                       |                              |                             |
| Normal Access      | 107                        | 81.25                   | 5 900                 | 479 375                      | 239 688                     |
| Remote Access      | 18                         | 16.20                   | 9 800                 | 158 760                      | 79 380                      |
| Sub Total          | 125                        | 97.45                   |                       | 638 135                      | 319 068                     |
| Provincial         |                            |                         |                       |                              |                             |
| Normal Access      | 51                         | 32.80                   | 5 900                 | 193 520                      | 193 520                     |
| Remote Access      | 4                          | 4.00                    | 9 800                 | 39 200                       | 39 200                      |
| Sub Total          | 55                         | 36.80                   |                       | 232 720                      | 232 720                     |
| Total              | 325                        | 234.70                  |                       | 1 542 320                    | 551 788                     |

\*Unit cost estimates were determined considering operational plans and salary costs for 1990-91.

## B Construction

- a) Streamflow and water level stations                      Sask Water 30 000

## C Sediment

The 1990 sediment program consists of 1 seasonal station, 6 miscellaneous stations and 24 special event stations.

The provincial share of the program is for laboratory analysis only as the field costs are absorbed by the hydrometric program. The provincial share is \$1000.00

## D Provincial Share

- a) Operating  
     Hydrometric                      551 788  
     Sediment                         1 000  
     Total                              551 788 or 552 000
- b) Construction  
     Sask Water Corp                30 000

APPENDIX D

NATIONAL GUIDELINES FOR DESIGNATION  
OF FEDERAL AND PROVINCIAL RESPONSIBILITY  
FOR WATER QUANTITY SURVEY STATIONS

NATIONAL GUIDELINES FOR DESIGNATING  
WATER QUANTITY SURVEY STATIONS

These national guidelines of the Federal-Provincial Memoranda of Agreement for Water Quantity Surveys have been prepared by Canada in consultation with the Provinces for the purpose of designating federal, federal-provincial and provincial water quantity survey stations. In compliance with the agreements, the assignment and review of station designations is the responsibility of each Coordinating Committee.

The intent of these guidelines is to provide a uniform and consistent manner for designating water quantity survey stations throughout Canada. In these guidelines, "water quantity survey stations" have the same definition as in the Memoranda of Agreement and include water level, streamflow and sediment survey stations. The word "stations" in these guidelines means "water quantity survey stations". Where not otherwise specified, the word "Province" means "Province" or "Territory". The designation of each sediment station can be considered separately from the corresponding water quantity survey station designation.

FEDERAL STATIONS

These are stations that support programs of primary interest to the Government of Canada. These stations are funded 100 per cent by Canada in accordance with Article II and the procedures described in Schedules B, C and D (F for the Yukon) (and Schedules E, D, and F for Quebec) of the Memoranda of Agreement.



1. Federal Departmental Programs

These are stations required under statutory obligations that have developed in response to federal legislation and priorities, and as a result of programs of various federal government departments or agencies to provide quantity information on inland waters. These include stations operated in support of specific federal works, benchmark basins, studies or investigations, research projects, and to meet navigational requirements and management responsibilities. A station may be so designated where Canada has formally accepted responsibility for the continued operation of the station under an implementation agreement.

2. Interprovincial Waters

These are stations required for monitoring of waters flowing across or forming part of provincial or territorial boundaries where federal responsibility has been established by an agreement or where justified by an inter-jurisdictional concern.

3. International Waters

These are stations associated with federal responsibilities arising from international agreements, treaties, orders or studies. These include:

- (a) Stations specifically named under the Boundary Waters Treaty and those approved officially as "International Gauging Stations".
- (b) Stations specifically stipulated under IJC orders, or required to support such orders; to provide for control of waters crossing or forming part of the international boundary and for IJC related study, surveillance, flow regulation or apportionment purposes.

Such stations may also be required for similar studies carried out under unilateral or bilateral mechanism and undertaken in anticipation of the need for formal orders.

- (c) Stations related to international treaties and agreements which involve waters crossing or forming part of the international boundary and which specifically stipulate the reaches of streams required to be monitored or special arrangements that need to be made to meet water quantity survey needs.
- (d) Stations on streams flowing across or forming part of the international boundary for which Canada has determined that monitoring is required for water management purposes.

#### 4. National Water Quantity Inventory

These are stations that provide information for a national inventory of surface waters. They consist of those stations required to determine water quantity trends in the major drainage basins in Canada that serve to provide an assessment of the total surface water resources and to measure significant discharge to the oceans.

## FEDERAL-PROVINCIAL AND/OR FEDERAL-TERRITORIAL STATIONS

These are stations that support program of joint interest to Canada and the Province. The construction and operation of these stations are funded in accordance with Article III and procedures described in Schedules B, C and D (F for the Yukon) (and Schedules E, D and F for Quebec) of the Memoranda of Agreement.

### 1. Federal-Provincial Agreements

These are stations where joint federal and provincial (or territorial) responsibility is established under the terms and conditions of an agreement between Canada and one or more Provinces or Territories.

The joint funding arrangements for any particular agreement must be taken into consideration before designating a station in order to ensure the intended division of financial responsibility. Following the completion of a federal-provincial water study, a station may be designated in this category only if its continuation would be in the joint interest of Canada and the Province.

### 2. River Basin Management

These are stations where both Canada and the Province have stated an interest in the need for information to support the management of the water resources of a river basin.

3. Regional Water Quantity Inventory

These are stations that provide an assessment of the quantity of water resources available in distinct hydrologic zones within each Province through representative sampling taking into consideration climatic variability, geographic and geologic differences, levels of population and development, basin size, streamflow regime, relationship to major ground water resources and length of record.

PROVINCIAL AND/OR TERRITORIAL STATIONS

These are stations that support programs of primary interest to a Province. They are funded 100 per cent by the Province in accordance with Article IV and procedures described in Schedules B, C and D (F for the Yukon) (and Schedules E, D, and F for Quebec) of the Memoranda of Agreement.

1. Provincial Departmental Programs

These are stations required strictly for provincial programs where water quantity information on inland waters is needed.

2. Specific Purpose Monitoring Requirements

These are stations established as a result of specific requests of provincial/territorial agencies, municipalities, or non-government organizations. All such requests shall be referred to the Province for screening and funding arrangements before being presented to the applicable Coordinating Committee.

3. Regional Water Quantity Inventory

These are stations that provide an assessment of the quantity of water resources available in distinct hydrologic zones within each Province through representative sampling taking into consideration climatic variability, geographic and geologic differences, levels of population and development, basin size, streamflow regime, relationship to major ground water resources and length of record.

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These are stations that support programs of primary interest to a Province. They are funded 100 per cent by the Province in accordance with Article IV and procedures described in Schedules B, C and D (F for the Yukon) (and Schedules E, D, and F for Quebec) of the Memoranda of Agreement.

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