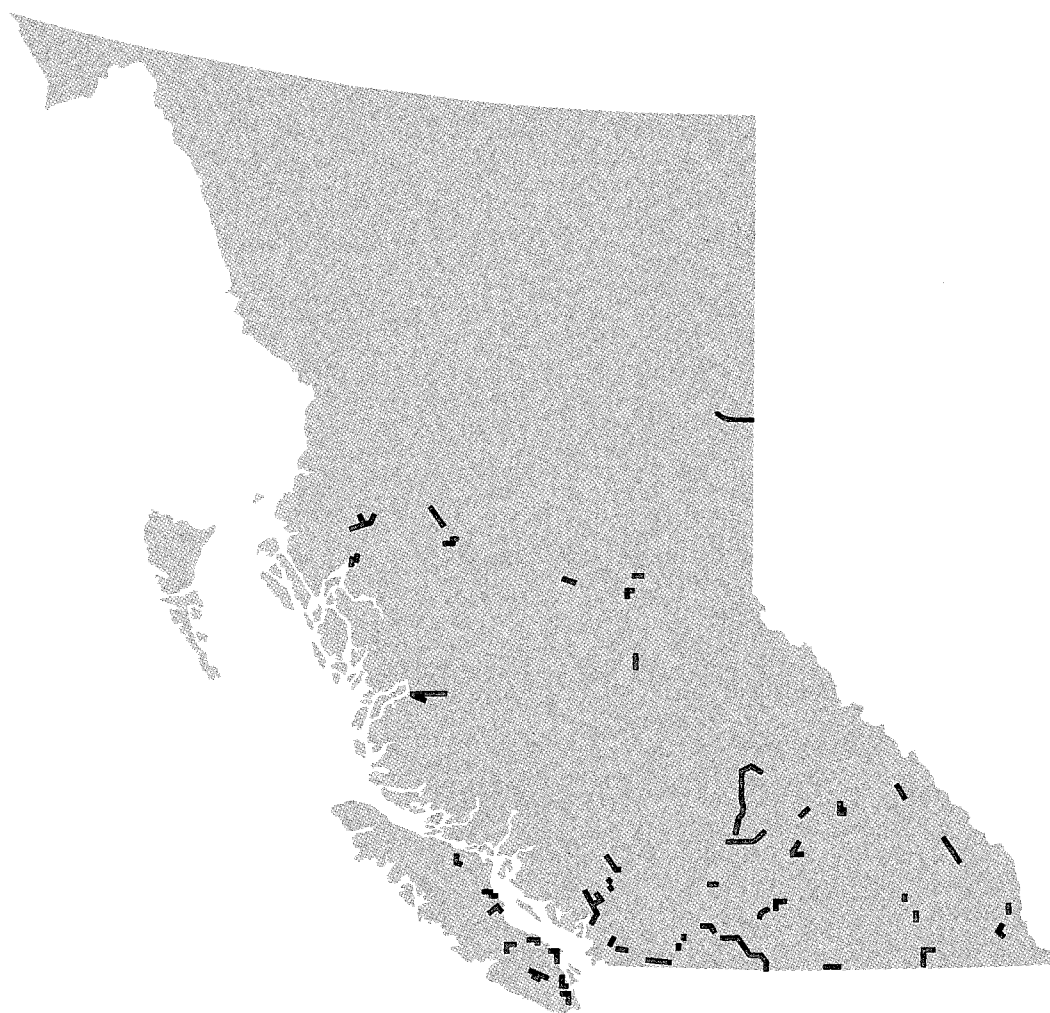


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STEERING COMMITTEE
CANADA - BRITISH COLUMBIA AGREEMENT
RESPECTING FLOODPLAIN MAPPING

Canada
C.H. Pharo

British Columbia
J.S. Mattison
R.W. Balser

Dear Mr. Minister:

The Steering Committee responsible for the administration of the Agreement Respecting Floodplain Mapping in the Province of British Columbia herewith submits its 9th Annual Report for the year ending March 31, 1997, in accordance with the requirements of the Agreement signed December 3, 1987.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'J.S. Mattison', written over a circular stamp.

J.S. Mattison, Chair
Steering Committee





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1.0 INTRODUCTION

The 10-year Canada-British Columbia Agreement Respecting Floodplain Mapping was signed on December 3, 1987, to provide information on the extent of floodplain areas within British Columbia.

The agreement provides for the designation or interim designation by the Minister of the Environment for Canada and the Minister of Environment, Lands and Parks for British Columbia of the mapped floodplains. The agreement also provides for the preparation and distribution of information about the floodplains to zoning authorities, government agencies, and to the general public.

The first five years of cost sharing under the agreement came to an end in March 1993. The Parties recognized the need to ensure the continued effectiveness of the floodplain mapping program and to contribute towards integrated water resource management by extending the term of the 1987 agreement. An amending agreement to provide an additional five years of cost shared funding to March, 1998 was signed by the Ministers on August 2, 1994. The amendment provides for the gradual phasing down of the program in British Columbia and for the review of existing projects to maintain their usefulness. The designation powers of the Ministers remain in effect until termination of the Agreement on March 31, 2003.

This report summarizes the progress made during the ninth year of the agreement. Up to March 31, 1997, expenditures under the program amounted to \$7,119,095. A total of eighty areas have been designated



or interim designated by the Ministers under the terms of the agreement. A portion of the technical work under the agreement has been assigned to the private sector under contract.

2.0 ORGANIZATION

Under the terms of the agreement, a four-member steering committee was established to be responsible for its general administration and to provide overall coordination and direction of the floodplain mapping program. A technical coordinator and secretary to the steering committee was also appointed. The steering committee reports through its chair to the Minister of Environment, Lands and Parks for British Columbia and to the Minister of the Environment for Canada.

Engineering study contracts are managed by the Resources Inventory Branch, Ministry of Environment, Lands and Parks. The steering committee assigned coordination between the Parties of the public information program under the agreement to selected staff members.

Figure 1 is an illustration of the organization under the agreement.



3.0 STEERING COMMITTEE MEMBERSHIP

The steering committee consists of two federal and two provincial members. The steering committee, which met on April 12, 1996, consists of the following:

Canada

C.H. Pharo, Manager

Canadian Wildlife Service

Environmental Conservation

Pacific and Yukon Region

Environment Canada

North Vancouver, B.C.

British Columbia

J.S. Mattison (Chair)

Director, Resources Inventory Branch

Ministry of Environment, Lands and Parks

Victoria, B.C.

Position Vacant

R.W. Balser

TOPO/GIS Section Manager

Surveys and Resource Mapping Branch

Ministry of Environment, Lands and Parks

Victoria, B.C.

R.W. Nichols, P.Eng., Resources Inventory Branch, Ministry of Environment, Lands and Parks, was appointed by the Ministers as technical coordinator and secretary to the steering committee.



4.0 1996/97 PROGRAM

4.1 Highlights

A total of three projects were designated or interim designated by the Ministers during 1996/97.

An additional six projects were proposed for recommendation by the steering committee to the Ministers for designation or interim designation by September 1997.

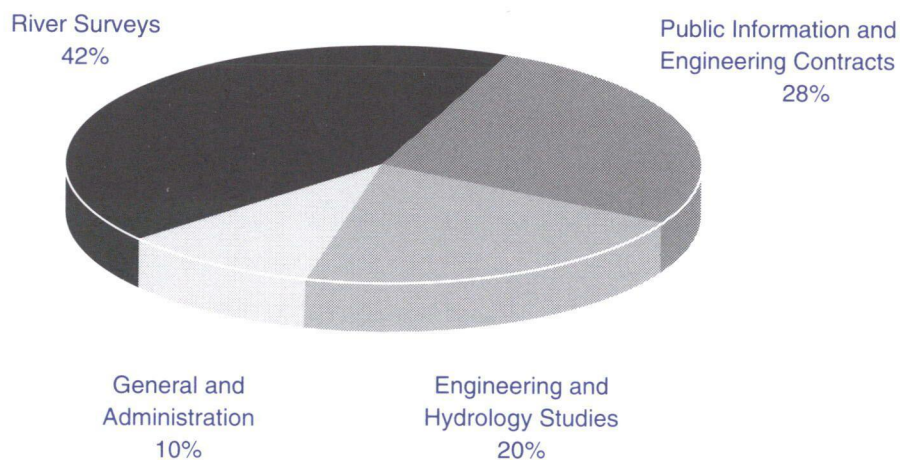
Engineering project studies or reviews were completed or underway in seven project areas.

River surveys were completed or under way in two project areas. High water marks were obtained in one other project area. The information contained in the Floodplain Mapping Key Plan Binder is now available for access on the World Wide Web. The internet address is: <http://www.env.gov.bc.ca/wat/fpm/fpmhome.html>.

At this location there is background information regarding the program, definitions, key elements, uses and limitations and a variety of methods of identifying a floodplain area of interest. Also included are links to other Water Programs, related information and other interesting areas.

4.2 Expenditures

Total expenditures for the 1996/97 fiscal year amounted to \$527,998. The federal share of these expenditures was \$263,999. Appendix 1 shows the 1996/97 expenditures by projects. Documentation and records of the expenditures have been examined by auditors in accordance with requirements of the agreement. The 1996/97 expenditures under the program were distributed as follows:





4.3 Public Information

Public information has been ongoing since 1974 as regards the Provincial Floodplain Mapping Program. Federal and provincial ministries, agencies and municipalities affected by the September 1996 designations or interim designations were so informed.

A total of 910 floodplain mapping sheets were distributed based on 104 requests to Crown Publications Inc. and issuance of maps to government agencies and municipalities as a result of designations. Copies of the "Users Guide to Floodplain Maps In British Columbia" pamphlet were issued with map distribution orders during 1996/97. In addition, numerous "over-the-counter" enquiries related to the Floodplain Mapping Program were processed in federal, provincial and municipal offices throughout the Province.

The Floodplain Mapping Homepage on the internet was updated to reflect the September 1996 designations and the 1996/97 program activities.



4.4 Engineering Studies

Six projects were proposed to the steering committee for designation or interim designation by the Ministers in September 1997 as follows:

Project	
A.3.67	Chilako River*
A.3.12	Cowichan River
A.3.13/92	Fraser and Nechako Rivers
A.3.38	Kettle River
A.3.56	Little Qualicum River
A.3.58	Somass River

*interim designation

A hydrology study for the Nakusp Area, Project A.3.23, was completed in March 1997 and a HEC-2 model was commenced. The project will be completed in 1997/98.

The Vancouver Island digitising project was held in abeyance pending training/availability of Water Inventory Section staff.

The One-D Arc/Info GIS software development project to develop techniques to capture dynamic flood images for communication of flood hazard information to a public audience commenced in early June was completed by March 31, 1997.



4.5 River Surveys

Office preparation of the three river survey projects and the high water field surveys (Tulameen River/Similkameen River/East Kootenay Area) undertaken in 1995/96 was completed.

High water marks were identified and surveyed on the Salmon River from Shuswap Lake to Falkland. The data was obtained in June at the request of the Regional Manager in Kamloops due to significant flood levels which occurred in the 1996 freshet in this area.

Field work in 1996/97 for Project A.3.76, Bulkley River, was completed by the end of June. Office preparation for this project was completed by March 31, 1997.

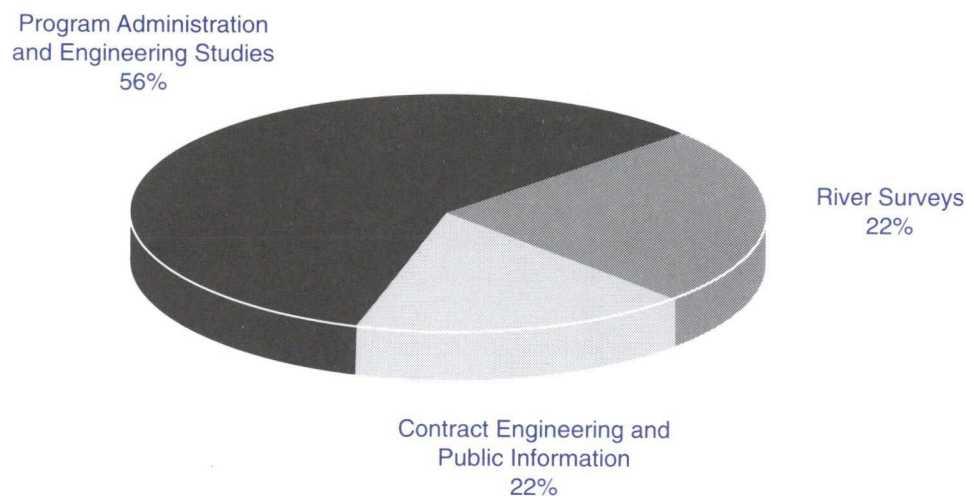
Field work for the Shuswap River, Project A.3.63, commenced in mid-September. Office preparation of this river survey project is scheduled for completion in May 1997.

5.0 DESIGNATIONS

Appendix 2 is a list of the eighty floodplain areas designated or interim designated by the Ministers by March 31, 1997. Three of these areas, involving eleven mapping sheets, were designated during 1996/97 as indicated in Appendix 2.

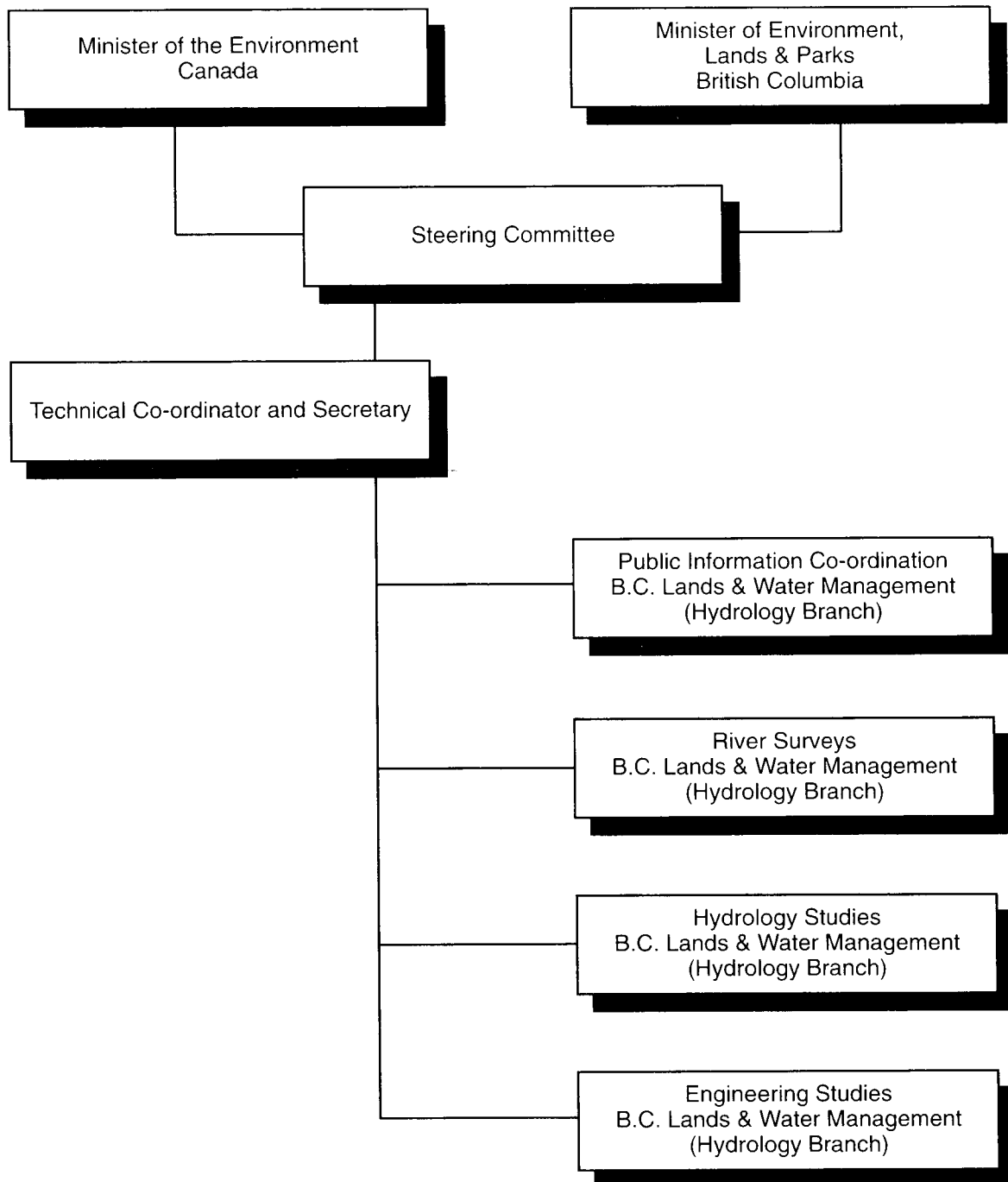
6.0 1997/98 PROGRAM APPROVAL

The steering committee approved a program of work and budget for the 1997/98 fiscal year. The 1997/98 program is summarized below:
Total \$350,000.



Appendices 3 and 4 list the areas identified in schedules A.2 and A.3 of the agreement along with the activities completed and proposed for the 1997/98 program.

Figure 1
ORGANIZATION
CANADA - BRITISH COLUMBIA FLOODPLAIN MAPPING AGREEMENT



Appendix 1
EXPENDITURE SUMMARY 1996/97

PROJECT NO.	PROJECT NAME	TOTAL EXPENDITURE (\$)
A.1.20	Tulameen R.	663.71
A.1.29	Nechako R. @ Vanderhoof	63.56
A.3.8	Salmon R.	22,341.86
A.3.12	Cowichan R.	37,106.13
A.3.23	Nakusp Area	1,149.74
A.3.31	Bonaparte R.	142.09
A.3.38	Kettle R.	67,218.64
A.3.56	Little Qualicum R.	30,455.83
A.3.58	Somas R.	19,195.69
A.3.63	Shuswap R.	96,813.75
A.3.67	Chilako R.	7,081.78
A.3.69	Naver Cr.	157.54
A.3.76	Bulkley R.	74,609.43
A.3.84	Duncan/Lardeau R.	246.72
A.3.85	Columbia R.	55.64
A.89/90	Elk R./Michel Cr.	3,021.61
A.3.13/92	Nechako & Fraser R.	91,670.10
Total Project		451,993.82
General & Administration		76,081.20
Total Expenditures		528,075.02

Appendix 2 (Page 1 of 3)
DESIGNATED FLOODPLAIN AREAS IN THE PROVINCE OF BRITISH COLUMBIA

DESIGNATED AREA (December 3, 1978) (From Schedule A.1 of the Agreement)		Issue Date
A.1.1	Chilliwack: Vedder River to Slesse Creek	81-02
A.1.2	Columbia River: Columbia-Windermere Lakes	80-10
A.1.3	Columbia River at Golden	79-02
A.1.4	Columbia River: Windermere Lake-Radium	82-04
A.1.5	Coquitlam River: Coquitlam Lake-Fraser River	76-10
A.1.6	Courtenay River	79-07
A.1.7	Cowichan Lake	84-06
A.1.8	Cowichan & Koksilah Rivers at Duncan	81-05
A.1.9	Eagle River	79-01
A.1.10	Elk River at Fernie	79-05
A.1.11	Elk River at Sparwood	80-03
A.1.12	Kitimat River	82-03
A.1.13	Kootenay River: Kootenay Lake-U.S. Border	81-08
A.1.14	North Thompson River: Kamloops-Vavenby	82-12
A.1.15	Salmon & White Rivers	80-12 (1)
A.1.16	Shuswap River: Mara Lake to Mabel Lake	80-06
A.1.17	Skeena River: Lakelse-Terrace-Usk	82-10
A.1.18	South Thompson River: Kamloops-Chase	76-06
A.1.19	Thompson River: Kamloops Area	76-06
A.1.20	Tulameen River: Coalmont-Tulameen	81-04
A.1.21	Okanagan Lake: Westbank to Peachland	82-09
A.1.22	Columbia River at Revelstoke	83-11
A.1.23	Fraser and Nechako Rivers: Prince George	83-09
A.1.24	Kaslo River at Kaslo	84-03
A.1.25	Squamish River	83-10
A.1.26	Goat River	84-09
A.1.27	Mission Creek	84-09
A.1.28	Nanaimo River	84-05
A.1.29	Nechako River at Vanderhoof	84-07
A.1.30	Bulkley and Telkwa Rivers	84-12
A.1.31	Bulkley River at Houston	85-10
A.1.32	Cheakamus River	86-04
A.1.33	Zymoetz (Copper) River	85-06
A.1.34	Englishman River	85-04
A.1.35	Vedder River (Vedder Canal to Vedder Crossing)	85-12

(1) Reviewed 1994/95

Appendix 2 (Page 2 of 3)
DESIGNATED FLOODPLAIN AREAS IN THE PROVINCE OF BRITISH COLUMBIA

DESIGNATED AREA (SEPTEMBER 30, 1988) (From Schedule A.2 of the Agreement)		Issue Date
A.2.1	Fraser and Quesnel Rivers at Quesnel*	87-05
A.2.5	Shawnigan Lake*	79-09
A.2.7	Coquihalla River at Hope*	85-06
A.2.8	Oyster River*	84-05
A.2.10	Salmon River near Prince George*	86-01
A.2.11	Peace River*	85-12
A.2.12	Fraser River near Hope*	87-07
A.2.13	Crawford Creek	87-06
A.2.15	Bulkley River: Quick Area*	86-11
DESIGNATED AREA		Designation (Issue) Date
A.3.1	Bella Coola River*	89-09
A.3.3	Nicola River - Spences Bridge to Canford*	89-09
	- Canford to Nicola Lake	89-09
A.3.6	Elk River near Elkford*	89-09
A.3.2	Beaver Creek*	90-04
A.3.5	Slocan River	90-04
A.3.10	Campbell/Quinsam Rivers	90-04
A.2.16	Lillooet River	90-09 (1)
A.3.48	Williams Lake*	90-09
A.3.29	Lakelse River and Lake	90-09
A.3.51	Courtenay, Puntledge and Tsolum Rivers	91-09
A.3.54	Chemainus River	91-09
A.3.49	Seymour River at Seymour Arm	91-09
A.2.9	Alouette and North Alouette Rivers	91-09
A.3.62	Christina Lake*	91-09
A.3.7	Stuart River*	91-09
A.3.39	Salmo River	91-09
A.3.83	Kootenay River-Columbia Lake	91-09
A.3.8	Salmon River (Salmon Arm - Spa Creek)	91-09

* Interim Designation
(1) Reviewed 1994/95

Appendix 2 (Page 3 of 3)
DESIGNATED FLOODPLAIN AREAS IN THE PROVINCE OF BRITISH COLUMBIA

DESIGNATED AREA		Designation (Issue) Date
A.3.40	Tahsis River	92-09
A.2.3	Kettle and Granby Rivers	92-09
A.3.8	Salmon River (Spa Creek to Falkland)	92-09
A.3.21	Zeballos River*	92-09
A.3.87	Fraser and Quesnel Rivers at Quesnel*	92-09
A.3.9	Okanagan River*	93-09
A.3.50	Whistler Area*	93-09
A.3.46	Bear River at Stewart*	93-09
A.3.28	Skeena River at Hazelton	94-09
A.3.11	Quatse River at Port Hardy*	94-09
A.3.47	Serpentine-Nicomekl Rivers	94-09
A.2.6	Similkameen River (Princeton/Keremeos)	95-09
A.3.45	Seymour River	95-09
A.3.55	Sooke River*	95-09
A.3.89/90	Elk River and Michel Creek near Sparwood*	95-09
A.3.31	Bonaparte River (Cache Creek)	96-09
A.3.84	Duncan and Lardeau Rivers	96-09
A.3.69	Naver and Hixon Creeks at Hixon*	96-09

* Interim Designation

**Appendix 3
SCHEDULE A.2**

Area to be Remapped		Activity				
		Mapping			River Surveys	Engineering Studies
		Air Photo	Field Control	Base Mapping		
A.2.2	Fitzsimmons Creek (Whistler area)	1988/89	1988/89	(see Appendix 4 - A.3.50)		
A.2.3	Kettle and Granby Rivers (Grand Forks)			1989/90	1990/91	1991/92-D
A.2.4	Nicola and Coldwater Rivers (Merritt)			(see Appendix 4 - A.3.3)		
A.2.6	Similkameen River (Princeton/Keremeos)	1988/89	1989/90	1991/92	1992/93	1994/95-D
A.2.9	Alouette River	C	C	1988/89	C	1990/91-D
A.2.14	Bella Coola	(see Appendix 4 - A.3.1)				
A.2.16	Lillooet River	C	C	C	C	1989/90-D

C = Completed Prior to the Agreement
D = Designated or Interim Designated

Appendix 4 (Page 1 of 4)
SCHEDULE A.3

Area	Activity				
	Mapping			River Surveys	Engineering Studies
	Air Photo	Field Control	Base Mapping		
1. Bella Coola River	C	C	C	C	1988/89-D
2. Beaver Creek near Fruitvale	C	C	C	C	1988/89-D
3. Nicola River	C	C	C	C	1988/89-D
4. Coldstream Creek near Vernon	-	-	-	-	-
5. Slocan River	C	C	C	C	1988/89-D
6. Elk River (ext. of existing mapping)	C	C	C	C	1988/89-D
7. Stuart River	C	C	C	1989/90	1990/91-D
8. Salmon River					
(Salmon Arm to Spa Creek)	C	C	C	C	1990/91-D
(Spa Creek to Falkland)	C	C	C	C	1991/92-D
9. Okanagan River	C	C	C	C	1992/93-D
10. Campbell and Quinsam Rivers - Vancouver Island	C	C	C	C	1988/89-D
11. Quatse River - Vancouver Island	C	C	C	1988/89	1993/94-D
12. Cowichan River					
(ext. of existing mapping)	1989/90	1989/90	1990/91	1993/94	1996/97
13. Nechako River					
(ext. of existing mapping)	C	C	C	1995/96	1996/97
14. Kelowna Creek	-	-	-	-	-
15. Fortune and Deep Creeks near Vernon	-	-	-	-	-
16. Chilliwack River					
(ext. of existing mapping)	-	-	-	-	-
17. Duhamel Creek	C	C	1988/89	-	-
18. Shuttleworth Creek near Penticton	-	-	-	-	-
19. Silverton Creek - Slocan Lake	C	C	1988/89	-	-
20. Carpenter Creek - Slocan Lake	-	-	-	-	-
21. Zeballos River - Vancouver Island	C	C	1988/89	1990/91	1991/92-D
22. Bridge Creek	-	-	-	-	-
23. Nakusp Creek	C	C	C	1994/95	(1997/98)

C = Completed Prior to the Agreement
D = Designated or Interim Designated

Appendix 4 (Page 2 of 4)
SCHEDULE A.3

Area	Activity				
	Mapping			River Surveys	Engineering Studies
	Air Photo	Field Control	Base Mapping		
24. Bessette Creek	-	-	-	-	-
25. Gold River - Vancouver Island	-	-	-	-	-
26. Chilanko River - Cariboo	-	-	-	-	-
27. Dawson Creek	-	-	-	-	-
28. Skeena River - Hazelton	C	C	C	1991/92	1993/94-D
29. Lakelse Lake near Kitimat	C	C	C	1988/89	1989/90-D
30. Thompson River at Ashcroft	-	-	-	-	-
31. Bonaparte River at Cache Creek	1991/92	1991/92	1993/94	1994/95	1995/96-D
32. Centurion Creek at Chetwynd	-	-	-	-	-
33. Clinton Creek at Clinton	-	-	-	-	-
34. Harrison Lake	-	-	-	-	-
35. Fraser River at Lillooet	-	-	-	-	-
36. Fraser River at Lytton	-	-	-	-	-
37. Fraser River at McBride	-	-	-	-	-
38. Kettle River at Midway	1991/92	1991/92	1992/93	1995/96	1996/97
39. Salmo River	C	1988/89	1989/90	1988/89	1990/91-D
40. Tahsis River - Vancouver Island	C	C	1988/89	1990/91	1991/92-D
41. Swift Creek at Valemont	-	-	-	-	-
42. Boundary Creek at Greenwood	-	-	-	-	-
43. Nicomekl River at Langley	-	-	-	-	-
44. Mark Creek at Kimberley	C	C	C	-	-
45. Seymour River	1990/91	1990/91	1992/93	1992/93	1994/95-D
46. Bear River at Stewart	1989/90	1989/90	1990/91	1991/92	1992/93-D
47. Serpentine-Nicomekl Rivers	1988/89	1988/89	1989/90	1991/92	1993/94-D
48. San Jose River at Williams Lake	C	C	C	C	1989/90-D
49. Seymour River at Seymour Arm	C	C	C	C	1989/90-D
50. Whistler Area	C	C	C	1988/89	1992/93-D
51. Tsolum River - Vancouver Island	C	C	1988/89	1988/89	1989/90-D
52. Vernon Creek	-	-	-	-	-

C = Completed Prior to the Agreement
D = Designated or Interim Designated

Appendix 4 (Page 3 of 4)
SCHEDULE A.3

Area	Activity				
	Mapping			River Surveys	Engineering Studies
	Air Photo	Field Control	Base Mapping		
53. Okanagan Lake (ext. of existing mapping)	-	-	-	-	-
54. Chemainus River	C	C	C	C	1989/90-D
55. Sooke River	C	C	C	1992/93	1994/95-D
56. Little Qualicum River	1990/91	1990/91	1992/93	1995/96	1996/97
57. French Creek	-	-	-	-	-
58. Somass River	1990/91	1990/91	1991/92	1993/94	1996/97
59. Kanaka, Wilson and Chapman Creeks	C	C	C	-	-
60. Hatzic Lake	C	C	C	C	-
61. Stawamus River	C	C	C	C	-
62. Christina Lake	C	C	C	N/A	1990/91-D
63. Shuswap River (Mara to Sugar Lake)	1990/91	1992/93	1994/95	1996/97	(1997/98)
64. Heffley Creek	-	-	-	-	-
65. Barriere River	-	-	-	-	-
66. North Thompson River (ext. to Vavenby)	-	-	-	C	-
67. Chilako River (near Prince George)	1990/91	1990/91	1991/92	1993/94	1996/97
68. Kitsumkalum River (near Terrace)	-	-	-	-	-
69. Naver Creek (near Hixon)	1989/90	1990/91	1992/93	1993/94	1995/96-D
70. Silverdale Creek	-	-	-	-	-
71. Fraser River	-	-	-	-	-
72. Nechako River	C	-	-	-	-
73. Endako River	-	-	-	-	-
74. Willow River	-	-	-	-	-
75. Crooked River	-	-	-	-	-
76. Bulkley River (Quick to Houston)	C	C	C	1996/97	(1997/98)
77. Pine River	-	-	-	-	-
78. Muskwa and Prophet Rivers	-	-	-	-	-

C = Completed Prior to the Agreement
D = Designated or Interim Designated

Appendix 4 (Page 4 of 4)
SCHEDULE A.3

Area	Activity				
	Mapping			River Surveys	Engineering Studies
	Air Photo	Field Control	Base Mapping		
79. McLennan River	-	-	-	-	-
80. Halfway River	-	-	-	-	-
81. Columbia River (U.S. border to Trail)	C	-	-	-	-
82. Kootenay River (Columbia R. to Kootenay L.)	-	-	-	-	-
83. Kootenay River (Canal Flats to Ft. Steele)	C	C	C	1989/90	1990/91-D
84. Duncan and Lardeau Rivers	1988/89	1988/89	1991/92	1994/95	1995/96-D
85. Columbia River (Donald Station to Radium)	1992/93	1992/93	C	(1997/98)	-
86. Fraser River (Tidewater to Hope)	-	-	-	-	-
87. Fraser and Quesnel Rivers (at Quesnel)	C	C	C	1989/90	1991/92-D
88. Goat River and Kitchener Creek	-	-	-	-	-
89. Elk River near Sparwood	C	C	C	1991/92	1994/95-D
90. Michel Creek near Sparwood	C	C	C	1991/92	1994/95-D
91. Moyie River near Yahk	-	-	-	-	-
92. Fraser River at Prince George	C	C	C	1995/96	1996/97

C = Completed Prior to the Agreement
D = Designated or Interim Designated