FINAL REPORT

COLDWATER RIVER STORAGE FEASIBILITY STUDY

Prepared for:

PACIFIC SALMON FOUNDATION

Project Funded by:

PACIFIC SALMON ENDOWMENT FUND SOCIETY

Prepared by:

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Project 511-01.01

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December 20, 2002

Reference: **511-01.01**

Mr. Rich Chapple
Program Manager
Pacific Salmon Foundation
#300 – 1682 West 7th Ave.
Vancouver, B.C.
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Dear Mr. Chapple:

Re: Coldwater River Storage Feasibility Study: Final Report

Summit Environmental Consultants Limited is pleased to provide you with two copies of the final report on the above noted study. The final report incorporates comments received on two interim reports issued in February and May 2002.

The report identifies and evaluates sites within the Coldwater River watershed that have the potential to create or increase water storage for the purpose of enhancing fisheries habitat for three target fish species (coho, chinook, and steelhead) during low flow periods in the Coldwater River. A total of 21 potential sites are prioritized, leaving eight sites at which further investigation appears warranted.

Please call if you have any questions.

Yours truly,

Summit Environmental Consultants Ltd.

Brian. T. Guy, Ph.D., P.Geo., P.H.
Senior Geoscientist

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1.0 INTRODUCTION

1.1 BACKGROUND

The Pacific Salmon Fund Endowment Society is developing and implementing strategies to assist in the recovery of salmon populations in the Coldwater River, a major tributary of the Nicola River. The work is being managed by the Pacific Salmon Foundation (PSF), and guided by the Coldwater River Local Advisory Committee, a multi-party group, each of which has an interest in the Coldwater watershed.

The Coldwater River is one of the most important streams in the Nicola River watershed for coho and chinook salmon and steelhead trout (LGL, 2001). Fish habitat within the mainstem river has been impacted by a number of anthropogenic activities over the past several years, and despite significant efforts to mitigate impacts, habitat remains significantly impacted. A recovery plan has been developed for the watershed (LGL, 2001), which lists several prioritized activities intended to help achieve recovery objectives. Several of these initiatives are currently underway.

In late 2001 Summit Environmental Consultants Ltd. (Summit) was retained by PSF to assess the feasibility of developing additional water storage within the Coldwater River watershed. The intent of the water storage evaluation project is to identify and assess opportunities for increasing storage at existing facilities, and/or to develop storage at new sites, in order to benefit fish habitat in the mainstem of the Coldwater River by providing increased streamflow during low-flow periods of the year. Coho and chinook salmon and steelhead trout are the three target fish species. To complete the project, Summit was joined by Mr. Bill Hodge, P.Eng from Phoenix Engineering Ltd.

This is the final report of the water storage feasibility study. Two interim reports (Summit, 2002a and 2002b), which summarized the status of information obtained for potential storage sites to those dates, have preceded this report. This report outlines the methods used for the

selection and evaluation of potential storage sites, provides details regarding each site, prioritizes the sites, and makes recommendations for further investigative work.

1.2 COLDWATER RIVER HYDROLOGY

A comprehensive assessment of the hydrologic regime of the Coldwater River watershed was provided by Harding, Kellerhals and Miles (1981). The Coldwater River drains a watershed approximately 914 km^2 in size, and runs northward to meet the Nicola River near Merritt, B.C. The physiography of the watershed is a combination of wet high-elevation terrain on the eastern slopes of the Cascade Mountains, and dry rolling topography of the Thompson Plateau (Holland, 1976). The river has an annual hydrograph with a snowmelt-related peak in May and a recession through to September. Fall and winter rainstorms (often falling onto an early season snowpack) typically produce a secondary hydrograph peak between November and January. The fall/winter peaks are of much shorter duration that the annual spring snowmelt peak. Water Survey of Canada has records of stream discharge at two locations:

- Coldwater River at Merritt (Station 08LG010): drainage area 914 km^2; period of record 1913-21, 1961-95 (44 years); and
- Coldwater River near Brookmere (Station 08LG048); drainage area 316 km^2; period of record 1965-98 (34 years).

Mean monthly discharge of the Coldwater River (as represented by the Merritt data) ranges from 1.3 m^3/s in September to approximately 30 m^3/s in May (Table 1.1 and Figure 1.1) (Environment Canada, 1999). The 2-year return period annual maximum daily discharge at the mouth is estimated to be 66 m^3/s (Table 1.2). (The 2-year return period value is approximately equal to the mean annual maximum daily discharge.) The 100-year return period annual maximum daily discharge is estimated to be 130 m^3/s. The highest daily discharge on record was a fall/winter event on December 20, 1980 (122 m^3/s) (Environment Canada, 1999).

The lowest flows of the year typically occur in August and September, and winter flows are often low as well. The 2-year return period 7-day minimum daily discharge at the mouth is estimated to be 0.55 m^3/s (Table 1.3). The 100-year return period 7-day minimum daily discharge is estimated to be 0.09 m^3/s. These numbers are based on data measured at the mouth of the river in Merritt, and therefore include the effects of irrigation and other withdrawals upstream.

Table 1.1. Mean Monthly Discharge for Coldwater River at Merritt

Month	**Discharge (m^3/s)**		
	Mean	**Minimum**	**Maximum**
January	3.13	0.485	22.0
February	3.50	0.850	15.5
March	4.36	1.13	11.8
April	11.0	2.52	21.1
May	29.9	10.2	60.3
June	27.5	6.65	55.7
July	9.02	1.93	24.4
August	1.78	0.388	6.90
September	1.26	0.173	4.12
October	2.62	0.357	15.2
November	3.97	0.520	23.8
December	3.51	0.398	18.0

Period of record: 1913-21 and 1961-95.

Table 1.2. Maximum daily discharge of Coldwater River at Merritt (08LG010).

Return Period	Maximum Daily Discharge (m^3/s)
2-year	66.1
5-year	84.9
10-year	96.7
25-year	110
50-year	120
100-year	130
200-year	139

Notes:

- Drainage area = 914 km^2
- Data cover the period 1913-1921 and 1961-1995
- Return period estimates are the average of four probability distributions: Pearson Type III, Log-Pearson Type III, Log-Normal, and Gumbel.
- Data are not separated into fall/winter and spring populations

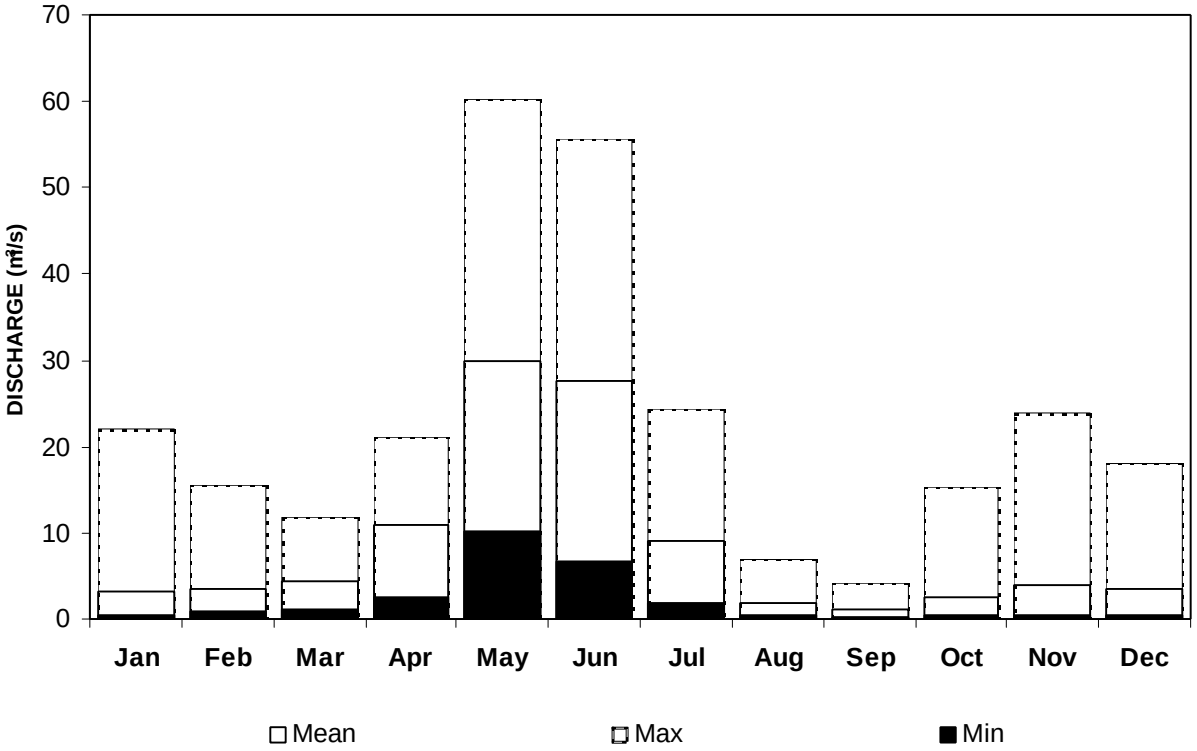

Figure 1.1. Mean, maximum, and minimum monthly discharge of the Coldwater River at Merritt (08LG010) for the period 1913-1921 and 1961-1995.

Table 1.3. 7-day minimum daily discharge of Coldwater River at Merritt (08LG010).

Return Period	7-day Minimum Daily Discharge (m^3/s)
2-year	0.55
5-year	0.32
10-year	0.24
25-year	0.16
50-year	0.12
100-year	0.09
200-year	0.07

Notes:

- Drainage area = 914 km^2
- Data cover the period 1913-1921 and 1961-1995.
- Return period estimates are the average of three probability distributions: Pearson Type III, Log-Pearson Type III, and Log-Normal.

1.3 WATER USE

Water use within the Coldwater River watershed is extensive, and 65% of the total licenced quantity is used in support of irrigation. A complete list of the water licences is presented in Appendix C. Most of the irrigation licences are supported by storage. The storage licences are listed in Appendix D. Storage facilities are refilled each spring during the annual snowmelt freshet, and water is released over the course of the summer to provide water to downstream intakes. The degree of agreement between actual and licensed amounts is not known. Nevertheless, concerns have been raised about the impacts of water withdrawals from tributaries and the mainstem Coldwater River during the summer low flow period (Figure 1.1).

1.4 FISHERIES SETTING

The Coldwater River Recovery Plan (LGL, 2001) presents a comprehensive discussion of the fish and fish habitat of the Coldwater River. That report addresses fish populations, habitat assessments, productive capacity, and stock condition; and sets out recovery objectives, targets, strategies, and options to achieve the objectives. The Recovery Plan identifies three target fish species within the mainstem Coldwater River: chinook, coho, and steelhead. In

addition to these three species, the mainstem Coldwater River supports populations of bull trout, Rocky Mountain whitefish, longnose dace, bridgeslip sucker, slimy sculpin, prickly sculpin, and rainbow trout.

Table 1 of LGL (2001) presents the life history timing for the three target fish species in the mainstem Coldwater. Coho migrate into the river from mid-September through December, and spawn throughout the river. The eggs remain in the gravel until late April or early May. Rearing occurs year-round, and the smolts migrate out in May and June. Chinook migrate and spawn from May through September, and spawning occurs throughout the river, but primarily near the mouth, near Kingsvale, and near Brodie. Rearing occurs year-round, and smolts out-migrate from May to July. Steelhead spawn in April, May, and June, and spawning is concentrated downstream of Brodie. As for the other two target species, rearing occurs year-round, and smolts migrate between March and June. Summer rearing for all three species occurs throughout the river. The spatial distribution of over-wintering habitat is unknown, so for the purposes of this our analysis, we have assumed that it is similar to that of summer rearing habitat, except that it is concentrated in pools and off-channel ponds.

LGL (2001) has identified several potential factors limiting production for each of the three target species. That report concludes that coho and steelhead production is not likely spawning-limited. On the other hand, summer rearing habitat is considered one of the major limiting factors. One of the potential contributors to this limiting factor is low streamflow during the summer rearing period when irrigation is occurring. A second potential contributing factor during summer is high water temperature. Water temperatures in the mainstem river have been recorded up to 29^0C, whereas the lethal limit for Coldwater salmonids is about 24^0C. In addition, during abnormally high or low flow winters, winter rearing habitat may become limiting to these species (through either flushing or dewatering).

1.5 PROJECT OBJECTIVES

The general objective of this study is to identify sites with potential for enhancing water storage capacity in order to supplement streamflows in the mainstem Coldwater River at low flow times of the year to relieve factors that potentially limit fish production. Specific objectives included:

- Identify existing dams and natural waterbodies with some potential to store runoff within the Coldwater River watershed;
- Estimate potential increases in water storage that can be achieved at each of the existing dams, and any storage opportunities that are currently undeveloped;
- Inspect each identified site in the field;
- Prioritize the opportunities for storage enhancement, considering approximate construction and operational costs and benefits to the fisheries resource; and
- Recommend additional investigative work at sites most likely to provide a fisheries benefit.

In late December 2001 and early winter 2002, existing storage sites were identified and mapped, and their characteristics were summarized. Potential new sites were identified by review of previous reports, maps, and aerial photos. Hydrologic analysis was used to determine the likely spring inflow volumes to each potential site. These new sites were also mapped and a field plan was developed to visit each one. The interim results of the analyses completed to date were presented at a workshop in Merritt on January 17, 2002. Through office analyses and workshop input, a total of 17 potential sites for field visits were confirmed. An interim report dated February 27, 2002 summarized the work completed to date.

Because of snowcover, the field visit had to wait until spring 2002, and because of a need for timely information, Pacific Salmon Foundation requested that two field visits occur – one in spring once snow had melted from the low and middle elevation sites, and one later in summer to visit the high elevation sites that remained snowcovered through the spring. Following completion of the spring 2002 field inspection, a second interim report (May 29, 2002) was prepared.

The summer field visit was delayed pending a second presentation at a meeting of the Coldwater River Local Advisory Committee in Merritt on September 24, 2002. The second field visit occurred in early October 2002. As a result of all of the above-noted processes and inputs, a total of 21 potential storage sites was identified, and 18 of these were inspected in the field. On the basis of office and field analyses (Section 3.2.2), the sites were categorized into high, medium, and low priority for storage development.

2.0 STUDY TASKS AND METHODS

2.1 REVIEW OF EXISTING INFORMATION

Existing information was assembled and reviewed to provide information regarding the existing condition of the Coldwater River watershed, water use information, history of development, existing dam structures, existing road access, extent of private land, hydrological and channel characteristics, previous restoration activities, and information on fish habitat.

The following information was reviewed:

- 1996 colour aerial photographs;
- 2000 colour aerial photographs (covering the mainstem only);
- Hydat CD-Rom containing streamflow data up to 1998;
- Memo regarding storage possibilities in Coldwater River Basin (Doughty-Davies, 1960);
- Hydrology and Fisheries Study (Harding, Kellerhals, and Miles, 1981);
- Coldwater River Watershed Recovery Plan – 2nd Draft Report (LGL, 2001);
- Water License Database maintained by the Ministry of Sustainable Resource Management (MSRM, 2001); and
- 1:50,000 scale NTS topographic maps of the entire watershed.

In addition, personal communication with the following individuals provided site details and information regarding existing structures:

- Mr. Ron Smith, Water Inventory and Planning Specialist, MSRM;
- Mr. George Smith, Dam Safety Officer, MWLAP;
- Mr. Carl Pentilchuck, Ducks Unlimited Canada;
- Mr. Gordon Antoine, Chief, Coldwater Indian Band;
- Mr. Bob Bocking, Vice-President, LGL Limited;
- Mr. Lou Cooke, local stakeholder; and
- Mr. Bill Strande, local stakeholder.

2.2 SITE SELECTION

Sites for potential storage development were initially selected based on available information and existing reports, aerial photos, and conversations with local stakeholders and agency officials. None of the selected sites were eliminated prior to field investigation.

The initial identification of sites was done by collecting information on existing licenses for water storage within the watershed. Those located on existing bodies of water were flagged for field inspection. Ducks Unlimited Canada was contacted to provide input on existing water bodies where they have either done enhancement works or have identified sites with the potential for future development. Local stakeholders were consulted at project meetings and identified additional sites which were felt to have potential for water storage. Mr. George Smith (MWLAP) provided comments about each existing dam structure based on personal knowledge and file notes. Mr. Ron Smith (MSRM) completed a hydrologic analysis of the Voght Creek tributary system, to investigate the availability of water above the present licensed quantity. The results of this investigation were not provided to Summit, however Mr. Smith stated that based on the 1 in 5 year drought conditions, the Voght Creek system had adequate water to support additional licensing (Smith, pers. comm., 2001).

2.3 FIELD ASSESSMENTS

Reconnaissance field visits were made in May and October 2002 to 18 of the 21 locations identified as having the potential for increased storage capacity (Appendix A and Map 1).

These visits were made over three days by Brian Guy (Summit), Bill Hodge (Phoenix Engineering), and Lesley Kalmakoff (Summit). Site 14 (Little Douglas Lake) is not accessible by road, and therefore could not be visited, so the assessment for this site is based largely on analysis of aerial photos. Site 3 (Howarth Marsh #2) was not clearly identifiable in the field, and site 10 (Murray Lake) was eliminated as a result of instructions received at the January 2002 workshop – it naturally drains into the adjacent Spius Creek watershed.

In the field, lakes with steeper sidewalls were favourably viewed, both because of a good volume-to-area ratio, and because adjacent wetlands are minimized in these circumstances. Similarly, lakes with a narrow discharge channel (to limit the dam length) were also preferred, however, valleys that are too narrow and steep may not have the potential for significant storage.

At all but two sites, it appeared that about 1.5 m of water could be retained or added. However, at site 7 (Midday Creek) and site 19 (Seymour Lake) structures of 5.0 m and 1.0 m, respectively, were considered because of site conditions. Existing dams were assessed for present condition and the potential to increase storage. Undeveloped sites were assessed through consideration of channel and potential reservoir characteristics, proposed dam type, required construction material, soil characteristics, and access considerations. In addition, an estimate was made of the potential volume of water that an undeveloped site could store. Site details are included in Appendix A, and photographs of the sites considered high and medium priority (Section 3.0) are provided in Appendix B.

3.0 RESULTS

3.1 HYDROLOGIC ANALYSIS

Streamflow information is available from eight hydrometric stations within the Coldwater River watershed, beginning in 1913 at a station near Merritt. Station records cover various periods up to the present (the most recent data that is available is from 1998, from a station near Brookmere (Environment Canada, 1999). Table 3.1 presents a summary of information for each station.

The records that provide the most useful information for hydrologic analysis of the Coldwater River are 08LG010, located near the mouth, and 08LG048, located about half way up the watershed near the confluence of Brook Creek (Map 1). These stations provide lengthy records of continuous data that can be used to characterize the behavior of the river in both the headwater region (using 08LG048) and in the overall watershed (using 08LG010). This provides important information since the physiography of the watershed is a combination of wet high-elevation terrain on the east side of the coastal mountains, and drier rolling topography of the interior plateau in the middle and lower elevations.

Table 3.1. Summary of information for hydrometric stations within the Coldwater River watershed.

Station Number	Station Name	Period of Record	Number of Years of Record	Mean Annual Discharge (m^3/s)	Drainage Area (km^2)	Record Type[1]
08LG010	Coldwater River at Merritt	1913-1995	44	8.21	914	Regulated. Seasonal to 1930; Continuous from 1961 to present.
08LG048	Coldwater River near Brookmere	1965-1998	34	6.86	316	Natural. Seasonal to 1967; Continuous from 1968 to present.
08LG025	Howarth Creek near Merritt	1928-1930	3	N/A	13.0	Natural. Seasonal.
08LG026	Howarth Creek (west fork) near Merritt	1928-1930	3	N/A	3.89	Natural. Seasonal.
08LG027	Kwinshatin Creek near Merritt	1928	1	N/A	18.9	Unknown if regulated. Seasonal.
08LG057	Midday Creek above Diversions	1970	1	N/A	34.4	Natural. Seasonal.
08LG058	Midday Creek near the Mouth	1970-1971	2	N/A	87.5	Regulated. Seasonal.
08LG059	Midday Creek above 800 m contour	1971	1	N/A	44.0	Natural. Seasonal.

1: Records are identified by Environment Canada as either Natural or Regulated by storage structures. Records are either Seasonal (only a portion of the year is recorded) or Continuous (the entire year is recorded).

An approximate hydrologic model was constructed for the watershed, making use primarily of data from these two stations. Values of specific discharge (discharge per unit area) for the snowmelt period March through June was estimated for the portions of the watershed upstream and downstream of Gauge 08LG048. This analysis was done for an average year, and for a dry year with a return period of 1 in 10 years. The specific discharges for these months are 491 dam^3/km^2 and 61 dam^3/km^2, respectively (over the 4-month period) for an average year, and 342 dam^3/km^2 and 17 dam^3/km^2, respectively, for a 1 in 10 dry year. This indicates that the higher elevations of the watershed provide significantly more runoff during spring than do the lower drier slopes.

The lower value may underestimate natural spring runoff from the lower portion of the watershed, as a result of two factors:

1. Existing water storage facilities are being refilled during the March through June period, which affects the lower portion of the river more significantly than the upper portion; and
2. Some runoff may infiltrate into the alluvial fan of the Coldwater River prior to reaching the gauge site.

The potential volume of water that drains to each potential storage site in spring was estimated by multiplying the appropriate specific discharge by the drainage area that contributes runoff to the site. The results of these calculations are provided in Appendix A.

3.2 SITES WITH POTENTIAL FOR STORAGE DEVELOPMENT

3.2.1 Number and Location of Potential Sites

Twenty-one sites were identified as having potential for creating or increasing storage capacity within the Coldwater River watershed (Map 1 and Appendix A). Sites 1-9 and 16-21 are located in the middle to lower elevations of the watershed, in areas with a calculated specific discharge in spring of 61 dam^3/km^2 in an average year. Sites 10-15 are located in the upper elevations of the watershed, where the specific discharge was calculated as 491 dam^3/km^2 in an average year.

3.2.2 Criteria Used to Rank Sites

On the basis of office and field information, we ranked each of the sites in terms of its potential to contribute to provide increased storage and increased streamflows in the low flow period of the year. The following criteria were initially considered:

- Potential low flow augmentation provided by the facility;
- Expected reliability of the low flow augmentation;
- Length of mainstem affected by potential flow augmentation;
- Fish species and life stages affected by potential flow augmentation;
- Water temperature of the released water;
- Potential to negatively impact users of existing facilities;

- Potential environmental and land use conflicts; and
- Other site concerns such as access difficulties and structural problems.

Initially, it was considered that the temperature of the released water would be a factor in this decision. However, discussions at the January 2002 workshop led to the conclusion that differentiation of facilities on the basis of the likely water temperature of the source would not be possible based on existing data and information readily available. Therefore, no prioritization on the basis of likely water temperature of the released water was done.

Low flow augmentation was assessed by calculating the storage volume that could be captured at each facility. A measure of flow reliability was provided by a comparison of the March to June water yield at each site with an estimate of the potential storage volume that could be provided by a dam at the site. Sites at which the water yield far exceeds the potential storage volume were assigned a high ranking, whereas sites at which the average annual yield is less than the potential storage volume were assigned a low ranking. At the upper and middle elevation sites, high flows in the fall could likely be relied upon to refill storage depleted during the summer, if it was deemed desirable to augment winter rearing flows as well as summer rearing flows. However, for the preliminary analyses done for this report, this potential was not accounted for.

The length of mainstem affected was determined by measuring the length of the river downstream of the confluence of the tributary on which each potential storage facility is located.

The potential benefits to the three target fish species in the mainstem Coldwater River were considered carefully. If the stored water was released during the months of July through September, all of the potential storage sites would provide a benefit to each of the three target fish species (coho, chinook, and steelhead), because of the ubiquitous distribution of these three species in the mainstem (Section 1.4). Similarly, if the stored water was released during January and February, all of the potential storage sites would benefit all three target species. Therefore, none of the potential facilities would benefit only some species and/or life stages,

and facility location exerts only a small influence on the species and the life stages that will benefit. Therefore, estimation of the benefit to the fisheries resource for the relatively crude purposes of this project was simplified to consideration of the length of stream that would benefit from flow augmentation.

On the basis of the above discussion, the ranking criteria were then reduced to a group of four:

- Potential low flow augmentation provided by the facility;
- Expected reliability of the low flow augmentation;
- Fish benefit (expressed as length of mainstem affected); and
- Other considerations (including construction issues, impacts on existing infrastructure and on private land, potential environmental concerns)

3.2.3 Priorities for Further Assessment and Development

Each facility listed in Appendix A was subjectively ranked according to the four criteria identified above, by assigning a value of High, Medium, or Low to each individual criterion. The overall ranking was determined approximately as an equally-weighted average of all four rankings, and is shown in Table 3.1. It is important to note that the priorities were assigned based on reconnaissance field investigations and general knowledge about each site. This project is intended to identify sites worthy of further investigation. Additional site information is needed before designs could be completed at any of the sites. Therefore these priorities are intended only to guide further storage-related investigations within the watershed.

After completing the ranking exercise, the approximate facility design and construction costs were estimated for the Medium and High Priority sites (Table 3.2). These costs are broken down into several categories in Table 3.3. In Table 3.3, the cost estimates for Nilsson Meadow, Little Douglas Lake, and Brook Lake have not been broken down because there is insufficient information available for this purpose.

As a result of the ranking exercise, eight of the sites appear worthy of further consideration. Most of the sites identified as High and Medium priority would be suitable for low earthdam construction. The sidewalls of the Midday Creek site (site 7) could likely provide rock support to a small concrete dam without excessive excavation. Material for the construction of embankment dams of a modified homogeneous type are plentiful locally and construction access will require only short lengths of road improvement to all sites. Concrete for the Midday Creek site would need to be hauled in from Merritt.

The estimated capital cost of the 8 recommended sites ranges from $100,000 to $500,000, and totals 1.65 million dollars. Individually, only Nilsson Meadow and Midday Creek would provide a flow to the river that exceeds 5% of the current average August-September flow at Merritt (see Appendix A). These two sites combined would add 22% to the average August-September flow, and the 8 recommended sites together would add about 38% to the average August-September flow at Merritt.

Table 3.2. Twenty-one identified sites with potential for increased storage.

Site Number (1)	Site Name	Priority for Further Assessment and Development	Estimated Design and Construction Cost for Medium and High Priority Sites (2)
1	Fig Lake	**High**	$150,000
2	Gillis Lake	**High**	$250,000
3	Howarth Marsh #2	Low	-
4	Nilsson Meadow	**Medium**	$250,000
5	Lost Lake	Low	-
6	Lily Lake	Low	-
7	Midday Creek (east fork)	**Medium**	$200,000
8	Gwen Lake	**Medium**	$500,000
9	Edna Lake	Low	-
10	Murray Lake	None	-
11	Brook Lake	**Medium**	$100,000
12	Bottletop Creek	Low	-
13	July Creek	Low	-
14	Little Douglas Lake	**Medium**	$100,000
15	Juliet Creek	Low	-

Table 3.2. Twenty-one identified sites with potential for increased storage, continued

Site Number (1)	Site Name	Priority for Further Assessment and Development	Estimated Design and Construction Cost for Medium and High Priority Sites (2)
16	Kwinshatin Creek	Low	-
17	Midday Creek (Paul's Basin)	Low	-
18	Menzies Lake	Low	-
19	Seymour Lake	**Medium**	$100,000
20	Harrison Lake	Low	-
21	Englishman Lake	Low	-

Notes:
1. Site numbers are referenced on Map 1. See Appendix A for further details on each site.
2. See Table 3.3 for cost breakdown.

Table 3.3. Breakdown of estimated design and construction costs for Medium and High Priority Sites.

Item/Activity	**Gwen Lake**	**Fig Lake**	**Gillis Lake**	**Seymour Lake**	**Midday Creek**
Access Road Upgrade	$5,000	$0	$10,000	$10,000	$5,000
Foundation Excavations	$3,125	$1,375	$2,250	$500	$12,500
Earthfill/Concrete	$312,500	$68,750	$112,500	$25,000	$87,500
Hauling Imports	$0	$0	$0	$0	$6,500
Spillway	$3,000	$6,875	$11,250	$2,500	$0
Low Level Outlet	$10,000	$10,000	$10,000	$10,000	$10,000
Approach & Discharge Channels	$0	$0	$0	$0	$0
Log Boom	$5,000	$5,000	$5,000	$5,000	$5,000
Stream Diversion	$5,000	$5,000	$5,000	$5,000	$10,000
Contingency 20%	$68,725	$19,400	$31,200	$11,600	$27,300
Design & supervision 30%	$103,088	$29,100	$46,800	$17,400	$40,950
Total	**$515,438**	**$145,500**	**$234,000**	**$87,000**	**$204,750**
Rounded estimate	**$500,000**	**$150,000**	**$250,000**	**$100,000**	**$200,000**
Approximate annual maintenance costs	$25,000	$7,500	$12,500	$5,000	$10,000

Notes:
1. Annual maintenance is estimated as 5% of the capital costs

2. Insufficient information was obtained from Nilsson Meadow, Brook Lake, and Little Douglas Lake to provide cost breakdowns

4.0 CONCLUSIONS

The objectives of the study have been met. A total of 21 sites at which storage could be developed or enhanced have been identified. These sites were assessed in the field and prioritized for further evaluation on the basis of site hydrology and physical factors, potential benefits to the fishery resource, and other factors. Eight of these sites warrant further investigation.

5.0 RECOMMENDATIONS

The following recommendations provide guidance for the next steps that should be followed in pursuing storage development in the Coldwater watershed:

- Additional fisheries analysis should be done to determine whether and to what extent the total potential flow augmentation identified in this study is sufficient to mitigate previously identified factors limiting production of the three target fish species in the mainstem Coldwater River. If the total is insufficient for this purpose, little further analysis would be justified.

The following steps assume that the potential flow augmentation identified in this report would help remove factor(s) limiting production:

- Additional work to determine the minimum flow augmentation that is required for this purpose should be done, and the specific fisheries benefit that can be provided by each site should be examined in greater detail than done in this report.
- A field visit should be made to Little Douglas Lake to confirm the suitability of that site, since the information presented in this report has been based on office analyses only.
- Further work should be done to refine the rankings to focus future planning efforts. This investigation should consist of preliminary discussions with any affected landowners or other parties to confirm the potential to proceed at sites where other parties have an

existing interest (details are found in Appendix A). Discussions should also be held with relevant regulatory agencies (such as Ministry of Water, Land, and Air Protection and Department of Fisheries and Oceans) to gain an understanding of agency concerns that could affect the potential to proceed with any of the sites.

- Once the priority sites have been ordered, water licence applications should be prepared for some or all of the sites, on the basis of the information presented in this report, and additional information obtained subsequently. The agency referral process that will likely occur during adjudication of the water licence applications could trigger a requirement for additional environmental assessment at some or all sites.
- Following successful licence applications, additional site work will be needed before facility designs can be completed, including a contour survey of the lake bottom, shoreline, and potentially flooded area; exploratory work to confirm foundation conditions; and confirmation of the availability, location, suitability, and cost of material required for access roads and earth dams.
- Following completion of the above steps, facility designs can be completed and construction can follow.

6.0 REFERENCES

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Appendix A

DETAILS ON SITES CONSIDERED FOR STORAGE DEVELOPMENT

Appendix A: Details on sites considered for storage development.

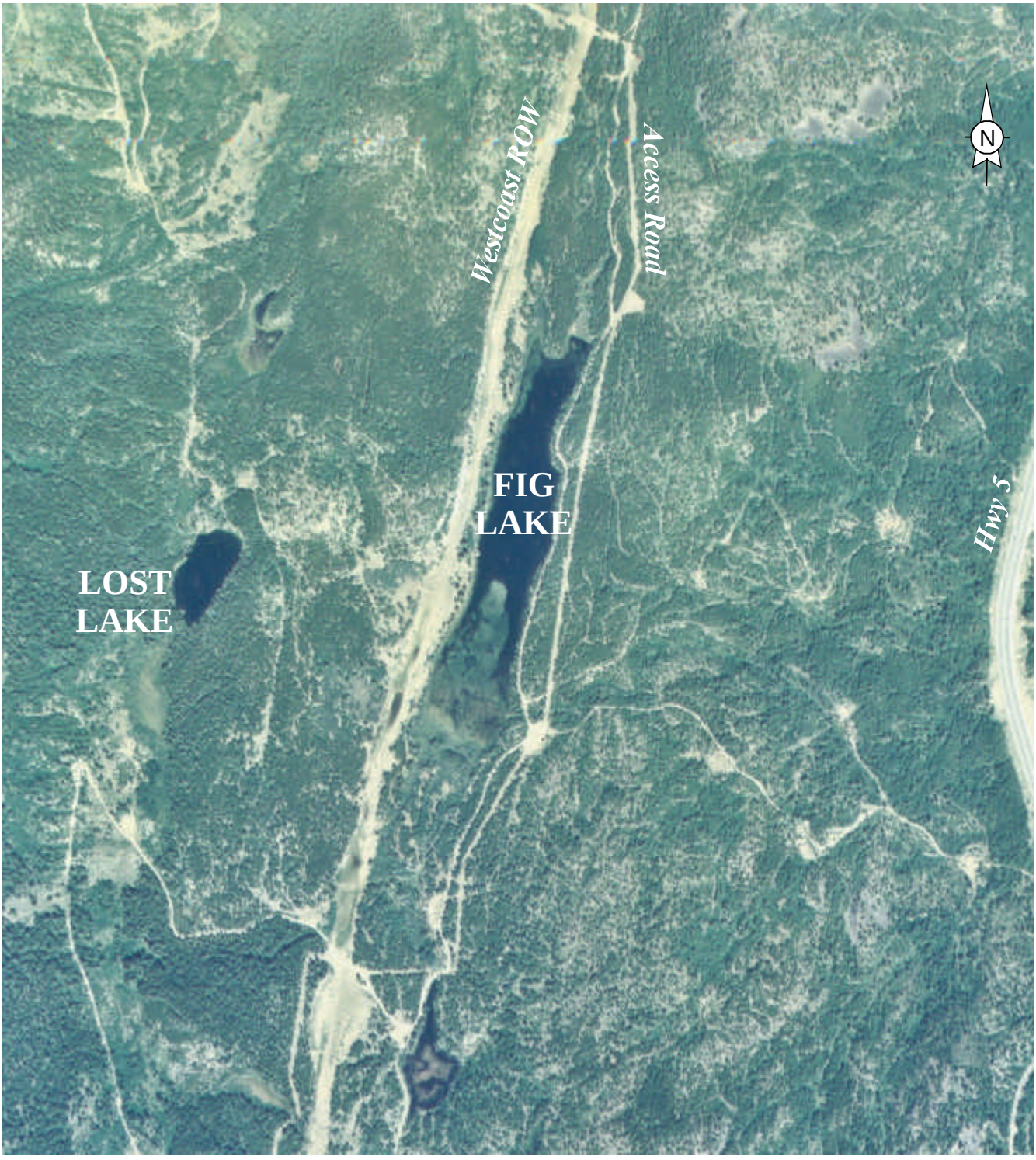
Site No.	Site Name (note 1)	Drainage Area (km^2)	March to June Water Yield in an Average Year (dam^3)	March to June Water Yield in a 1 in 10 Dry Year (dam^3)	Reservoir Surface Area (m^2)	Storage Volume with a 1.5 m dam (dam^3)	Approximate 2 Month Flow Augmentation (L/s) (note 3)	Percentage Increase in Average August-September Flow at Merritt (%) (note 4)	Length of Mainstem that would Benefit (km) (note 8)	Probable Cost of Construction (Class 3) ($) (notes 5,6)	Comments and Structural Considerations	Priority for Further Investigation (note 7)
1	Fig Lake	3.2	194	53	98,722	148	29	2	35	$150,000	Use earthfill embankment at north end of lake.	**High**
2	Gillis Lake	4.8	292	80	208,324	312	60	4	32	$250,000	Lot 1827 is located on the shoreline. Use earthfill embankment at south end of lake.	**High**
3	Howarth Marsh #2	3.0	183	50	112,500	169	33	2	33		Site was investigated by Ducks Unlimited, but not yet developed. Could not be clearly identified in the field.	Low
4	Nilsson Meadow	18.4	1,119	306	718,750	1078	208	14	33	$250,000	Potential development issues related to extensive wetlands to the east, and private land - site and potential impoundment are located on Lot 692 (Nicola Stock Farms).	**Medium**
5	Lost Lake	0.4	27	7	30,000	45	9	1	35	-	Potential to divert this flow into Fig Lake, but only useful if a dam higher than 1.5 m at Fig Lake proved feasible.	Low
6	Lily Lake	1.6	99	27	97,216	146	28	2	24	-	Site is currently used as a recreational fishing campground, and wetlands would be affected by storage development.	Low
7	Midday Creek (east fork)	20.1	1,226	335	125,000	625	121	8	24	$200,000	Based on 5.0 m dam (note 2). 5.0 m storage possible with dam at point where channel passes through narrow gorge. Concrete gravity dam would be suitable. Site is within Lot 1323.	**Medium**
8	Gwen Lake	3.0	183	50	222,505	334	64	4	33	$500,000	Use earthfill embankment at south end of lake. Some dyking will be necessary at the north end to prevent flooding of Gwen Lake I.R. #3. Lots 3764, 3239, and 3241 are located along the shoreline of the lake.	**Medium**
9	Edna Lake	9.5	579	158	109,013	164	32	2	33	-	Cultivated land would be inundated. Site is located on Lot 3765.	Low
10	Murray Lake	12.8	6,259	4371	lake is outside watershed				0		Murray Lake drains north into the Spius Creek watershed. Per instructions from the project committee, it was not considered an option for flow augmentation within the Coldwater River.	None
11	Brook Lake	9.6	4,727	3279	134,570	202	39	3	42	$100,000	Possible low earthfill dam at point of stream discharge.	**Medium**
12	Bottletop Creek	2.9	1,443	990	180,000	270	52	3	54	-	Would require a rockfill dam as high as 35 m at channel restriction. Design and construction cost too dependent on required height to enable cost estimate	Low
13	July Creek	20.1	9,882	6865	approx 240	0.2	0.03	0.002	56	-	Storage capacity based on channel slope of 4%, and dam height 1.5 m. However, July Creek does not provide a site suitable for a reservoir because of steep stream gradient and narrow channel.	Low
14	Little Douglas Lake	3.2	1,571	1093	113,767	171	33	2	71	$100,000	Evaluated from aerial photographs. Cost estimate is approximate.	**Medium**
15	Juliet Creek	14.9	7,334	5089	approx. 344	0.3	0.05	0.003	56	-	Storage capacity based on channel slope of 4%, and dam height 1.5 m. However, Juliet Creek does not provide a site suitable for a reservoir because of steep stream gradient and narrow channel.	Low
16	Kwinshatin Creek	28.4	1,728	473	approx. 1032	0.8	0.1	0.01	15	-	Storage capacity based on channel slope of 4%, and dam height 1.5 m. Not suitable for large reservoir because of steep stream gradient and narrow channel.	Low
17	Midday Creek (Paul's Basin)	65.8	4,007	1096	9,600	14	3	0.2	24	-	Existing dam at this location is being used.with small reservoir and electric pump station, apparently used for watering cattle and local farm irrigation. Midday Creek and reservoir were both dry at time of visit.	Low

Site No.	Site Name (note 1)	Drainage Area (km^2)	March to June Water Yield in an Average Year (dam^3)	March to June Water Yield in a 1 in 10 Dry Year (dam^3)	Reservoir Surface Area (m^2)	Storage Volume with a 1.5 m dam (dam^3)	Approximate 2 Month Flow Augmentation (L/s) (note 3)	Percentage Increase in Average August-September Flow at Merritt (%) (note 4)	Length of Mainstem that would Benefit (km) (note 8)	Probable Cost of Construction (Class 3) ($) (notes 5,6)	Comments and Structural Considerations	Priority for Further Investigation (note 7)
18	Menzies Lake	1.6	97	27	32,289	48	9	1	33	-	New dam is in place and lake is used as fisheries experimental site. Site is located within Lot 4401.	Low
19	Seymour Lake	0.7	44	12	93,057	93	18	1	33	$100,000	Based on 1.0 m dam (see Note 2). Site is located within Lots 646A and 647. Use earthfill embankment at site of damaged existing dam.	**Medium**
20	Harrison Lake	45.5	2,771	758	133,470	200	39	3	33	-	Existing embankment dam is in place; increasing the lake level would inundate 350 m of Kanevale Road along the shore. Lots 2906, 3224, and 2395 are located along the lakeshore. About 300 m of saddle dams would be needed to contain the reservoir south of the existing discharge point.	Low
21	Englishman Lake	38.9	2,367	648	31,891	48	9	1	33	-	Ducks Unlimited has a dam in place and presumably selected the lake level to meet particular objectives. Site is located within Lot 2396.	Low

Notes:
1. Site numbers refer to Map 1.
2. It is assumed that each site can accommodate a structure 1.5 m high; except sites 7 (Midday Creek), where a 5.0 m high structure is feasible, and 19 (Seymour Lake), where only 1.0 m can be utilizled.
3. This is the increase in discharge of the Coldwater River at Merritt if the storage was released continuously over a 2-month period.
4. August and September are the months with the lowest mean monthly flows. Average flow over these two months is 1.52 m^3/s. This calculation is shown as an example of what the flow augmentation could achieve. It could be provided at any time of year.
5. Costs are provided for sites with Medium and High Priority.
6. Cost estimates do not include mitigation or compensation for losses to wetlands or other aquatic habitat, environmental impact assessments, or compensation for losses to private or Crown property. Where appropriate, these should be added to the design and construction cost estimates.
7. Priority for Further Investigation is based on ranking criteria outlined in report text.
8. If the stored water was released during the months of July through September, all three target fish species (coho, chinook, and steelhead) would benefit FOR ALL SITES, as follows: coho - summer rearing and late September spawning, chinook - summer rearing and spawning/egg development, and steelhead - summer rearing and egg development.
9. If the stored water was released during January and February, all three target species would benefit FOR ALL SITES, as follows: coho - winter rearing and egg development, chinook - winter rearing and egg development, and steelhead - winter rearing.

Appendix B

PHOTOGRAPHS

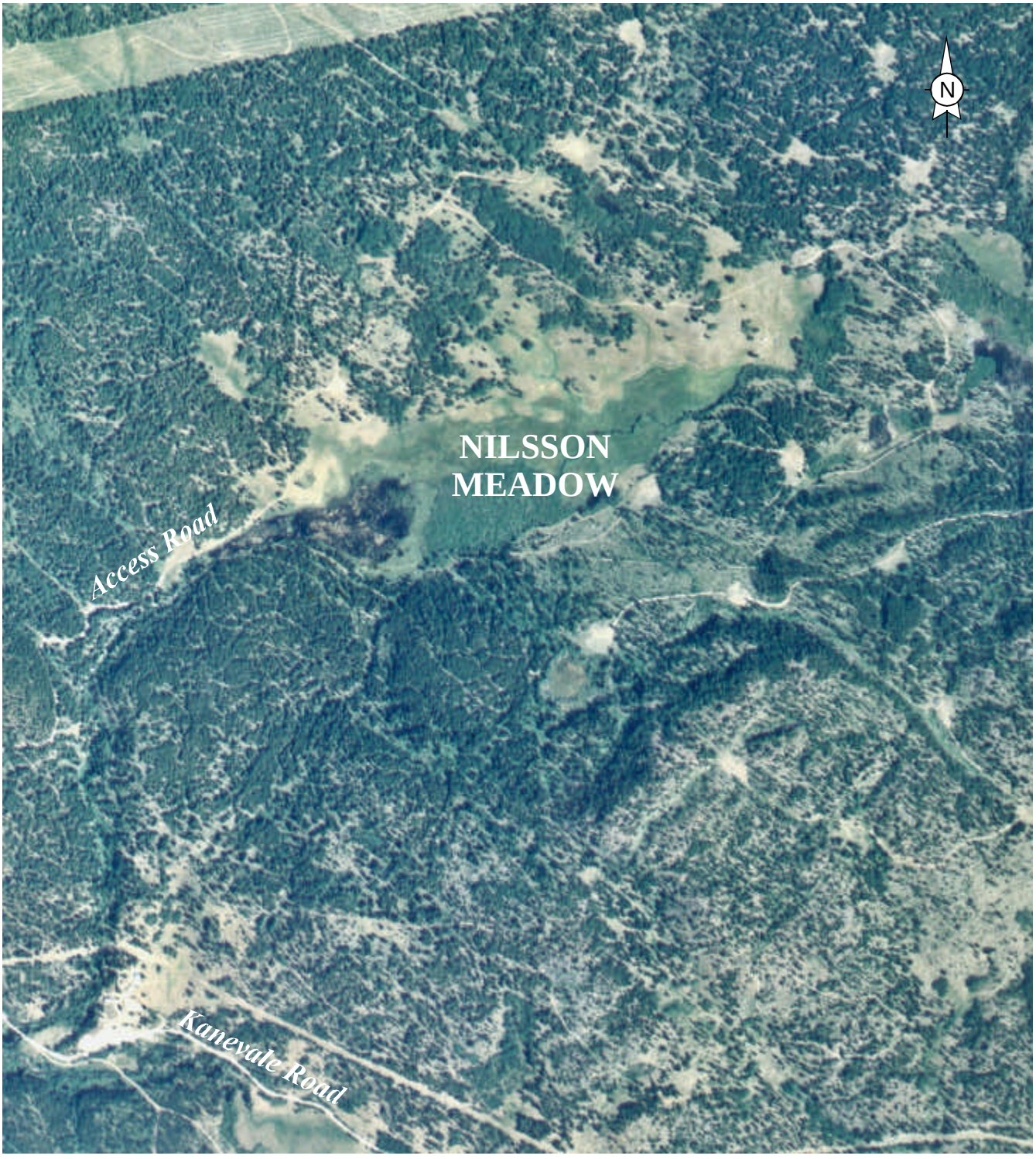


Aerial Photograph of Fig Lake.

Site: Fig Lake (Site 1) Date: May 14, 2002
Comments: View south from existing dam.

Site: Fig Lake (Site 1) Date: May 14, 2002
Comments: View northeast across lake.

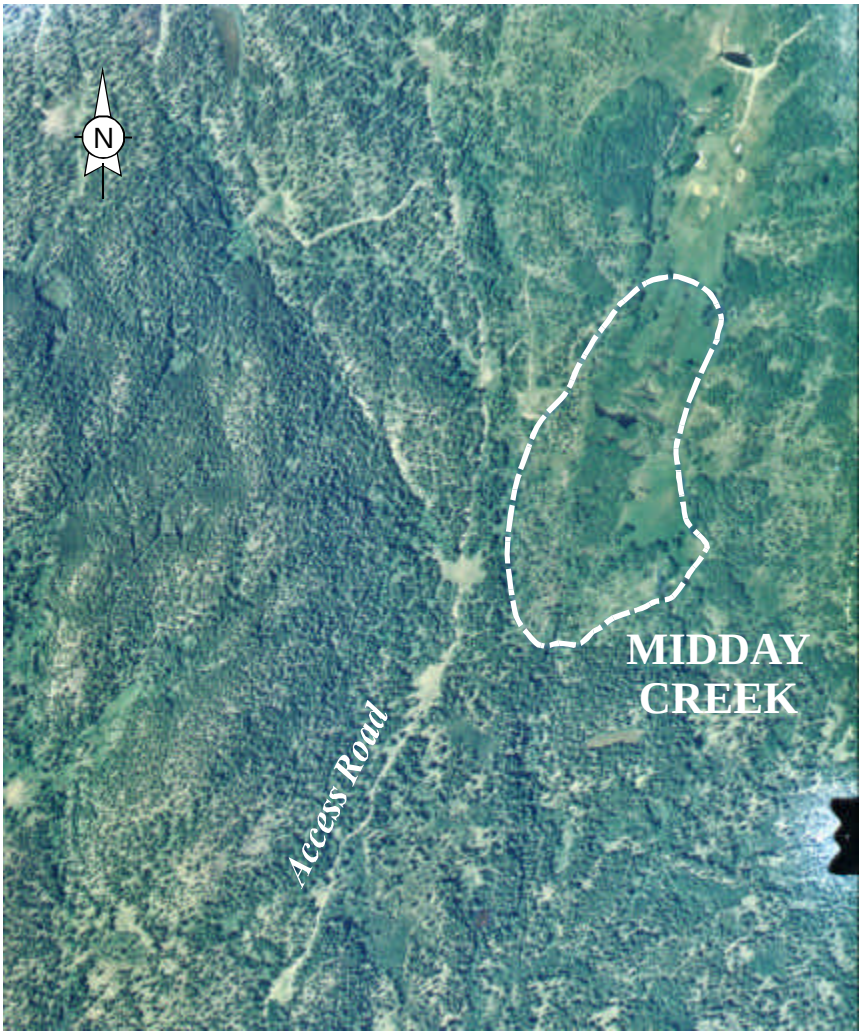
Aerial Photograph of Gillis Lake.



Aerial Photograph of Nilsson Meadow.

Site: Nilsson Meadow (Site 4) Date: Oct. 11, 2002
Comments: View east across lake to field and wetland.

Site: Nilsson Meadow (Site 4) Date: Oct. 11, 2002
Comments: View southwest across existing dam at lake outlet.



Aerial Photograph of Midday Creek.

Site: Midday Creek (Site 7) Date: May 14, 2002
Comments: View upstream into existing reservoir.

Site: Midday Creek (Site 7) Date: May 14, 2002
Comments: View upstream into existing reservoir, pump house is located right of photo.

Aerial Photograph of Gwen Lake.

Site: Gwen Lake (Site 8) Date: May 14, 2002
Comments: View north across lake from outlet.

Site: Gwen Lake (Site 8) Date: May 14, 2002
Comments: View southwest across lake.

Aerial Photograph of Brook Lake.

Site: Brook Lake (Site 11) Date: Oct. 11, 2002
Comments: View south towards lake from potential dam site.

Site: Brook Lake (Site 11) Date: Oct. 11, 2002
Comments: View south towards lake from lake outlet.

Aerial Photograph of Seymour Lake.

Site: Seymour Lake (Site 19) Date: May 14, 2002
Comments: Old dam at outlet of lake.

Site: Seymour Lake (Site 19) Date: May 14, 2002
Comments: View south across lake.

Aerial Photograph of Little Douglas Lake.

Appendix C

EXISTING WATER LICENCES WITHIN THE COLDWATER RIVER WATERSHED

Appendix C: Existing Water Licences within the Coldwater River Watershed

Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
C011780	C	110500	75 AC OF L 774 KDYD 1858 YDYD &304 YDYD	Nilsson Creek	PD53550	92.H.096 FF (PD53550)	N	03B	IRRIGATION	150	AF			19321029	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C011780	C	110500	75 AC OF L 774 KDYD 1858 YDYD &304 YDYD	Seymour Lake	PD53553	92.H.096 HH (PD53553)	Y			0				19321029		
C011781	C	110500	STOR FOR C 11780 NILSSON CR	Nilsson Creek	PD53550	92.H.096 FF (PD53550)	N	08A	STORAGE	150	AF			19321029	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C011781	C	110500	STOR FOR C 11780 NILSSON CR	Seymour Lake	PD53552	92.H.096 GG (PD53552)	N			0				19321029		
C013102	C	126702	STOR FOR F 9072 SPANISH CR &GODEY CR	Pye Creek	PD53423	92.I.007 T (PD53423)	N	08A	STORAGE	30	AF			19361027	LOWER NICOLA INDIAN BAND 981-695-7224	RR 1 COMP 18 SITE 17 MERRITT BC V0K2B0
C015177	C	135011	126.7 AC OF L 784 KDYD	Kanevale Creek	PD53525	92.H.097 K (PD53525)	N	03B	IRRIGATION	316.75	AF			19400828	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C015179	C	144173	40.6 AC OF L 1892 & 1893 KDYD	Howarth Creek	PD53522	92.H.097 A (PD53522)	N	03B	IRRIGATION	101.5	AF			19410724	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C015181	C	144172	STOR FOR F 19749 HOWARTH CR	Howarth Creek	PD53523	92.H.097 F (PD53523)	N	08A	STORAGE	100	AF			19410724	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C015181	C	144172	STOR FOR F 19749 HOWARTH CR	Sampson Reservoir	PD53524	92.H.097 G (PD53524)	N			0				19410724		
C017572	C	161884	30 AC OF L 732 YDYD	Cam Creek	PD53385	92.H.096 A (PD53385)	N	03B	IRRIGATION	30	AF			19460706	GRAYSON WILLIAM H HARWOOD FRANCIS H	C/O KENNETH & MARY MOYES BOX 174 MERRITT BC V1K1B8
C019623	C	181406	40 AC OF L 669A & 711 KDYD	Godey Creek	PD53412	92.I.007 K (PD53412)	N			0				19491028		
C019623	C	181406	40 AC OF L 669A & 711 KDYD	Godey Creek	PD53411	92.I.007 L (PD53411)	N			0				19491028		
C019623	C	181406	40 AC OF L 669A & 711 KDYD	Godey Creek	PD53408	92.I.007 M (PD53408)	N	03B	IRRIGATION	80	AF			19491028	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C019624	C	181406	STOR FOR C 19623 GODEY CR	Garcia Lake	PD53415	92.I.007 N (PD53415)	N	08A	STORAGE	80	AF			19491028	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C020669	C	192510	40 AC OF L 1484 KDYD	Freshet Creek	PD53496	92.H.097 Q (PD53496)	N			0				19511117		
C020669	C	192510	40 AC OF L 1484 KDYD	Easterly Slough	PD53488	92.H.097 U (PD53488)	N	03B	IRRIGATION	80	AF			19511117	ANDERSON JOHN JR	PO BOX 2332 MERRITT BC V0K2B0
C020669	C	192510	40 AC OF L 1484 KDYD	Freshet Creek	PD53495	92.H.097 R (PD53495)	N			0				19511117		
C020669	C	192510	40 AC OF L 1484 KDYD	Freshet Creek	PD53490	92.H.097 T (PD53490)	N			0				19511117		
C020669	C	192510	40 AC OF L 1484 KDYD	Easterly Slough	PD53489	92.H.097 V (PD53489)	N			0				19511117		
C020670	C	192510	STOR FOR C 20669 FRESHET CR	Freshet Creek	PD53497	92.I.007 KK (PD53497)	N			0				19511117		
C020670	C	192510	STOR FOR C 20669 FRESHET CR	Easterly Slough	PD53489	92.H.097 V (PD53489)	N			0				19511117		
C020670	C	192510	STOR FOR C 20669 FRESHET CR	Freshet Creek	PD53492	92.H.097 S (PD53492)	N			0				19511117		
C020670	C	192510	STOR FOR C 20669 FRESHET CR	Freshet Creek	PD53490	92.H.097 T (PD53490)	N			0				19511117		
C020670	C	192510	STOR FOR C 20669 FRESHET CR	Easterly Slough	PD53488	92.H.097 U (PD53488)	N	08A	STORAGE	80	AF	3640	06B	19511117	ANDERSON JOHN JR	PO BOX 2332 MERRITT BC V0K2B0
C025311	C	225282	ALL THE LANDS WITHIN THE BDYS OF	Coldwater River	PD53283	92.I.017.1.1.1 B (PD53283)	N	00A	WATERWORKS LOCAL AUTH	365000000	GY			19580709	MERRITT CITY OF	BOX 189 MERRITT BC V0K2B0
C026589	C	237469	ALL THE LANDS WITHIN THE BDYS OF	Coldwater River	PD53283	92.I.017.1.1.1 B (PD53283)	N	00A	WATERWORKS LOCAL AUTH	5475000	GY			19310221	MERRITT CITY OF	BOX 189 MERRITT BC V0K2B0
C028216	C	243310	125 AC OF L 606 YDYD EXC K V RLYR/W PLAN A386	Gillis Creek	PD53555	92.H.096 Y (PD53555)	N	03B	IRRIGATION	312.5	AF			19620330	KIMOFF PETER	6656 WELCH RD SAANICHTON BC V8M1W6
C028273	C	234097	WATER DEVELOPMENT 251 SITUATED ONUNSURVEYED VCL AS SHOWN ONPLAN	Talapus Creek	PD53329	92.I.006 U (PD53329)	N	01A	DOMESTIC	2000	GD			19601206	FOREST DISTRICT - MERRITT	BAG 4400 MERRITT BC V0K2B0
C028273	C	234097	WATER DEVELOPMENT 251 SITUATED ONUNSURVEYED VCL AS SHOWN ONPLAN				N	08A	STORAGE	12	AF			19601206		
C028274	C	234098	WATER DEVELOPMENT 252 SITUATEDON L 4289 KDYD	Oluk Creek	PD53314	92.I.006 S (PD53314)	N	01A	DOMESTIC	2000	GD			19601206	FOREST DISTRICT - MERRITT	BAG 4400 MERRITT BC V0K2B0
C028274	C	234098	WATER DEVELOPMENT 252 SITUATEDON L 4289 KDYD				N	08A	STORAGE	8	AF			19601206		
C028275	C	243809	35 AC OF L 607 YDYD				N	03B	IRRIGATION	87.5	AF			19620504		
C028275	C	243809	35 AC OF L 607 YDYD	Gillis Creek	PD53557	92.H.096 Z (PD53557)	N	01A	DOMESTIC	1000	GD			19620504	ANDERSON JOHN M & MARY K	BOX 2332 MERRITT BC V0K2B0
C028276	C	243809	STOR FOR C 28275 GILLIS CR	Gillis Creek	PD53557	92.H.096 Z (PD53557)	N	08A	STORAGE	2	AF			19620504	ANDERSON JOHN M & MARY K	BOX 2332 MERRITT BC V0K2B0
C029460	C	23524	6.2 AC OF NW 1/4 & FRAC S 1/2 OFL 3765 KDYD	Nelly Creek	PD53463	92.I.007 AA (PD53463)	N	01A	DOMESTIC	500	GD	5649	06B	19200723	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
C029460	C	23524	6.2 AC OF NW 1/4 & FRAC S 1/2 OFL 3765 KDYD				N	03B	IRRIGATION	10.2	AF			19200723		
C029461	C	258656	42.5 AC OF L 3766 & FRAC NE 1/4& L 3765 KDYD	Nelly Creek	PD53424	92.I.007 U (PD53424)	N	03B	IRRIGATION	69.8	AF	5650	06B	19200723	THOMSEN RALPH THOMAS	KJR RANCH BOX 1802 MERRITT BC V0K2B0
C030023	C	257352	UNDERTAKING OF LICENSEE WITHINEXPIRED STL 11466P	Olsen Creek	PD53395	92.H.096 V (PD53395)	N	02I31	STOCKWATERING	500	GD			19640623	FORESTS MINISTRY OF KAMLOOPS REGION	515 COLUMBIA ST KAMLOOPS BC V2B3G6
C030077	C	245176	20 AC OF COLDWATER IR #1 WITHINYDYD & KDYD	West Oluk Creek	PD53313	92.I.006 R (PD53313)	Y			0				19620730		
C030077	C	245176	20 AC OF COLDWATER IR #1 WITHINYDYD & KDYD	Oluk Creek	PD53314	92.I.006 S (PD53314)	N			0				19620730		
C030077	C	245176	20 AC OF COLDWATER IR #1 WITHINYDYD & KDYD	Talapus Creek	PD53302	92.I.006 Q (PD53302)	N	03B	IRRIGATION	40	AF	5859	06B	19620730	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
C030077	C	245176	20 AC OF COLDWATER IR #1 WITHINYDYD & KDYD	Talapus Creek	PD53302	92.I.006 Q (PD53302)	N	03B	IRRIGATION	40	AF	5859	06A	19620730	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
C030077	C	245176	20 AC OF COLDWATER IR #1 WITHINYDYD & KDYD	Lemoto Creek	PD53303	92.I.006 T (PD53303)	N			0				19620730		
C030750	C	127528	ALL THE LANDS WITHIN THE BDYS OF	Coldwater River	PD53283	92.I.017.1.1.1 B (PD53283)	N	00A	WATERWORKS LOCAL AUTH	169031500	GY			19390302	MERRITT CITY OF	BOX 189 MERRITT BC V0K2B0

Source: Ministry of Sustainable Resource Management
Information Management Branch
January 2002

Appendix C: Existing Water Licences within the Coldwater River Watershed

Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
C030751	C	263044	ALL THE LANDS WITHIN THE BDYS OF	Coldwater River	PD53283	92.I.017.1.1.1 B (PD53283)	N	00A	WATERWORKS LOCAL AUTH	169031500	GY			19650616	MERRITT CITY OF	BOX 189 MERRITT BC V0K2B0
C032353	P	268270	200 AC OF THAT PRAT OF L 166 NW1/4 SEC 3 & N 1/2 SEC 4 LYING SEOF COLDWATER R & NW OF K V RLYR/W; SW 1/4 SEC 4 SE 1/4 SEC 5TP 91 & L 581 ALL WITHIN KDYD EXCK V RLY PLAN A215	Coldwater River	PD53305	92.I.006 W (PD53305)	N	03B	IRRIGATION	400	AF			19660318	EWALT GENE E & BLAKE L	PO BOX 945 MERRITT B C V0K2B0
C033227	C	270617	60 AC OF THAT PART OF L 1192 LYINGW OF COLDWATER R	Coldwater River	PD53368	92.H.096 T (PD53368)	N	01A	DOMESTIC	500	GD			19660929	HUMMEL ELTINA	3529 ETON ST VANCOUVER BC V5K1K6
C033227	C	270617	60 AC OF THAT PART OF L 1192 LYINGW OF COLDWATER R	Coldwater River	PD53370	92.H.096 U (PD53370)	N	03B	IRRIGATION	120	AF			19660929		
C034087	C	273069	20 AC OF L 1323 KAMLOOPS WITHINYDYD	Midday Creek	PD53445	92.I.006 LL (PD53445)	N	03B	IRRIGATION	40	AF			19670208	LEISTNER MARTINA	PO BOX 1425 MERRITT BC V1K1B8
C037562	C	277341	40 AC OF L 3766, 4279, 4420 &FRAC NE 1/4 OF L 3765 KDYD	Edna Lake	PD53461	92.I.007 V (PD53461)	N	03B	IRRIGATION	60	AF			19671114	THOMSEN RALPH THOMAS	KJR RANCH BOX 1802 MERRITT BC V0K2B0
C037563	C	277341	STOR FOR C 37562 HOWARTH CR	Howarth Creek	PD53456	92.I.007 X (PD53456)	N	08A	STORAGE	60	AF			19671114	THOMSEN RALPH THOMAS	KJR RANCH BOX 1802 MERRITT BC V0K2B0
C040084	C	309343	L 9 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	MURRAY WILLIAM J & SANDRA F BROOKMERE WUC	PO BOX 691 MERRITT BC V0K2B0
C040327	P	310244	L A OF L 167 KDYD PLAN 20596	Diamond Vale Brook	PD53243	6052C A3 (PD53243)	N	01A	DOMESTIC	1000	GD			19570904	BELLAI JULIUS GHAG MANGA S	RR 4 SITE 6 BOX 5 WIILIAMS LAKE BC V2G4M8
C040329	C	309805	L 4 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BOND LORNE A & LINDA A BROOKMERE WUC	BOX 2687 MERRITT BC V1K1B8
C040334	C	310828	L 26 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	GOTT GARRIE N & ELLEN BROOKMERE WUC	BOX 3005 MERRITT BC V1K1B8
C040336	C	310830	L 17 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JOHNSTON WILLIAM K & THOMAS VICKY E BROOKMERE WUC	BOX 2170 MERRITT BC V1K1B8
C041124	C	267791	40 AC OF L 3239 & 3764 KDYD	Brown Creek	PD53330	92.I.007 F (PD53330)	N	03B	IRRIGATION	80	AF	9127	06B	19660222	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
C041125	C	267791	STOR FOR C 41124 BROWN CR	Brown Creek	PD53330	92.I.007 F (PD53330)	N	08A	STORAGE	25	AF	9128	06B	19660222	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
C041125	C	267791	STOR FOR C 41124 BROWN CR	Brown Creek	PD53330	92.I.007 F (PD53330)	N	08A	STORAGE	25	AF	9128	06A	19660222	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
C044558	C	310147	STOR FOR F 4308 GODEY CR	Godey Creek	PD53419	92.I.007 S (PD53419)	N	08A	STORAGE	60	AF	10079	06B	19720526	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C044558	C	310147	STOR FOR F 4308 GODEY CR	Godey Creek	PD53419	92.I.007 S (PD53419)	N	08A	STORAGE	60	AF	10079	06A	19720526	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C046821	C	329877	STOR FOR F 5666 CASTILLION CR &F 7464 SKUAGAM CR	Castillion Creek	PD53357	92.I.006 JJ (PD53357)	N	08A	STORAGE	10	AF			19751121	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
C050392	C	128300	46 AC OF L 738 & 745 YDYD EXCCPR R/W PLAN A136	Coldwater River	PD53348	92.I.006 DD (PD53348)	N	03B	IRRIGATION	115	AF	11893	06B	19380412	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
C053595	C	346697	0.14 AC L 1 OF L 301 YDYD PLAN24089	Coldwater River	PD53538	92.H.096 LL (PD53538)	N	03B	IRRIGATION	0.35	AF			19440529	WARAWA ALLAN T & MARY E	PO BOX 2374 MERRITT BC V1K1B8
C053596	C	346696	.16 AC L A OF L 301 YDYD PLAN24435	Coldwater River	PD53533	92.H.096 KK (PD53533)	N	03B	IRRIGATION	0.4	AF			19440529	THOMANEK ANJELIKA M	PO BOX 741 MERRITT BC V1K1B8
C053597	C	152726	7.7 AC L A OF L 301 & 1794 YDYDPLAN 29015	Coldwater River	PD53539	92.H.096 NN (PD53539)	N	03B	IRRIGATION	19.25	AF			19440529	ANDERSON JOHN M & MARY K	BOX 2332 MERRITT BC V0K2B0
C053598	C	243984	15 AC OF L A OF L 301 & 1794YDYD PLAN 29015	Kingsvale Creek	PD53559	92.H.086 A (PD53559)	N	03B	IRRIGATION	37.5	AF	5269	06B	19620522	ANDERSON JOHN M & MARY K	BOX 2332 MERRITT BC V0K2B0
C055702	C	135011	STOR FOR C 15177 & F 10514KANEVALE CR	Kanevale Creek	PD53527	92.H.097 J (PD53527)	N	08A	STORAGE	100	AF			19401028	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C057484	C	367381	STOR FOR C 15177 & F 10514KANEVALE CR	Kanevale Creek	PD53527	92.H.097 J (PD53527)	N	08A	STORAGE	243.75	AF			19801022	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
C058163	P	142858	134 AC OF L 126 & 176 GP 1 KDYDEXC PLAN B583 561 11119 11987& 12017	Coldwater River	PD53219	92.I.017.1.1.1 A (PD53219)	N	03B	IRRIGATION	335	AF			19410207	S A L PROPERTIES LTD	5965 - 205 A ST LANGLEY BC V3A8C4
C058163	P	142858	134 AC OF L 126 & 176 GP 1 KDYDEXC PLAN B583 561 11119 11987& 12017	Nicola River	PD53399	92.I.016.2.2 G (PD53399)	Y			0				19410207		
C061097	C	3000249	THE CONS PROJECTWITHIN L 2395 KDYD & L 2396	Kanevale Creek	PD53530	92.H.097 L (PD53530)	N	11A	CONSERV.-STORED WATER	300	AF	14900	06A	19830204	FISHERIES BRANCH	1259 DALHOUSIE DR KAMLOOPS BC V2C5Z5
C061097	C	3000249	THE CONS PROJECTWITHIN L 2395 KDYD & L 2396	Kanevale Creek	PD53530	92.H.097 L (PD53530)	N	11A	CONSERV.-STORED WATER	300	AF	14900	06B	19830204	FISHERIES BRANCH	1259 DALHOUSIE DR KAMLOOPS BC V2C5Z5
C061102	C	3000248	CONS PROJECT L 2397 3229 23993228 1484 & UCL KDYD	Kanevale Creek	PD53480	92.H.097 P (PD53480)	N	11A	CONSERV.-STORED WATER	100	AF	14903	06B	19830204	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C061102	C	3000248	CONS PROJECT L 2397 3229 23993228 1484 & UCL KDYD	Kanevale Creek	PD53480	92.H.097 P (PD53480)	N	11A	CONSERV.-STORED WATER	100	AF	14903	06A	19830204	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C061158	C	3000673	STOR FOR C 63657 READ CAM NORTHW MIDDAY & MIDDAY CRS	West Midday Creek	PD53364	92.I.006 Z (PD53364)	N	08A	STORAGE	82.3	AF			19841119	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C061159	C	3000417	CONS PROJECT L 2907 KDYD	Kanevale Creek	PD53476	92.H.097 M (PD53476)	N	11A	CONSERV.-STORED WATER	49	AF			19831109	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C061160	C	3000415	CONS PROJECT L 2906 & 3223 KDYD	Kanevale Creek	PD53526	92.H.097 H (PD53526)	N	11A	CONSERV.-STORED WATER	29	AF			19831109	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C061161	C	3000438	CONS PROJECT WITHIN L 2907 &3227	Kanevale Creek	PD53479	92.H.097 N (PD53479)	N	11A	CONSERV.-STORED WATER	48	AF	14933	06B	19831206	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5

Source: Ministry of Sustainable Resource Management
Information Management Branch
January 2002

Appendix C: Existing Water Licences within the Coldwater River Watershed

Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
C061161	C	3000438	CONS PROJECT WITHIN L 2907 &3227	Kanevale Creek	PD53479	92.H.097 N (PD53479)	N	11A	CONSERV.-STORED WATER	48	AF	14933	06A	19831206	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
C062083	C	253753	5.76 AC OF L 301 YDYD EXC CP RLYR/W (PLAN A135) & PLANS 24089,24435, 26241 & 29015				N	03B	IRRIGATION	14.4	AF			19631126		
C062083	C	253753	5.76 AC OF L 301 YDYD EXC CP RLYR/W (PLAN A135) & PLANS 24089,24435, 26241 & 29015	Voght Creek	PD53540	92.H.096 JJ (PD53540)	N	01A	DOMESTIC	1000	GD	14837	06B	19631126	RUSHTON ALDEN L & LOUSIE M	PO BOX 2816 STN MAIN MERRITT BC V1K1B8
C062084	C	370490	0.13 AC OF L A OF 301 YDYDPLAN 24435	Voght Creek	PD53540	92.H.096 JJ (PD53540)	N	03B	IRRIGATION	0.33	AF	14838	06B	19631126	THOMANEK ANGELIKA M	PO BOX 741 MERRITT BC V1K1B8
C062999	C	355299	L 1 OF L 659 YDYD PLAN 29740	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	ALBERT ROSS H & ANDERSON BEATRICE M BROOKMERE WUC	104 607 EAST 8 AVE VANCOUVER BC V5T1T2
C063000	C	366129	L 3 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BOND LORNE A & LINDA A BROOKMERE WUC	BOX 2687 MERRITT BC V1K1B8
C063001	C	366659	L 6 OF DL 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	HARRIS ELIZABETH J	PO BOX 1186 MERRITT BC V1K1B8
C063002	C	370570	LOT 4 OF LOT 659 YDYD PLAN 8360	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	1000	GD	23042	06B	19230430	BOND LORNE A & LINDA A BROOKMERE WUC	BOX 2687 MERRITT BC V1K1B8
C063003	C	370571	L 21 & 22 OF L 659 YDYDPLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	MURPHY JACK L & KATIE BROOKMERE WUC	PO BOX 2346 MERRITT BC V0K2B0
C063004	C	370572	L 24 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	LUTZ DONALD V & MARJORIE D	12174 CHESTNUT CRES PITT MEADOWS BC V3Y2C7
C063005	C	370573	L 18 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	RICHARDSON BARBARA J & STEINKE LARRY W BROOKMERE WUC	4669 OLD YELLOWHEAD HWY KAMLOOPS BC V2H1N3
C063006	C	370574	L 31 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	ANDREWS TONI ANN	1670 BABCOCK PL TSAWWASEN BC V4M3L1
C063553	C	310827	L 27 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	14944	06B	19230430	ARMITAGE THOMAS L	BOX 2251 MERRITT BC V1K1B8
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53377	92.H.096 E (PD53377)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Read Creek	PD53381	92.H.096 D (PD53381)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53374	92.H.096 G (PD53374)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53375	92.H.096 F (PD53375)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53363	92.I.006 BB (PD53363)	N	03B	IRRIGATION	316.8	AF			18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53361	92.I.006 AA (PD53361)	N	01A	DOMESTIC	3000	GD			18890502	COLDWATER INDIAN BAND 981-693-7199	PO BOX 4600 MERRITT BC V0K2B0
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53372	92.H.096 J (PD53372)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Cam Creek	PD53384	92.H.096 B (PD53384)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	West Midday Creek	PD53364	92.I.006 Z (PD53364)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Midday Creek	PD53373	92.H.096 H (PD53373)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	North Creek	PD53447	92.I.006 CC (PD53447)	N			0				18890502		
C063657	C	241032	158.4 AC OF IR #2 PAULS BASINYDYD	Cam Creek	PD53383	92.H.096 C (PD53383)	N			0				18890502		
C067235	C	255165	19.8 AC OF THAT PART OF NE 1/4 OFSEC 3 TP 91 KDYD LYING N & W OFPLAN 37177 (COQUIHALLA HWY) EXCPLANS 21157 21318 21911 23242 2537826868 28093 & 30353	Spanish Creek	PD62036	92.I.007 (PD62036)	N	01A	DOMESTIC	1000	GD			19640310	GHOG TARA S & SWAN K	PO BOX 475 MERRITT BC V0K2B0
C067235	C	255165	19.8 AC OF THAT PART OF NE 1/4 OFSEC 3 TP 91 KDYD LYING N & W OFPLAN 37177 (COQUIHALLA HWY) EXCPLANS 21157 21318 21911 23242 2537826868 28093 & 30353				N	03B	IRRIGATION	49.5	AF			19640310		
C068318	C	78213	33.8 AC OF L 332 YDYDEXC PLAN 30391	Cleasby Creek	PD53388	92.H.096 P (PD53388)	Y	03B	IRRIGATION	67.6	AF	17541	06B	19270919	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
C068318	C	78213	33.8 AC OF L 332 YDYDEXC PLAN 30391	Salem Creek	PD53392	92.H.096 N (PD53392)	N			0				19270919		
C068430	C	3001082	BLK C OF L 1800 YDYD	Kelton Creek	PD44011	92.H.075 A (PD44011)	N	01A	DOMESTIC	250	GD	18115	06B	19870702	SALVESEN KENNETH A & EDNA M	1607 2041 BELLWOOD AVE BURNABY BC V5B4V5
C068431	C	3001081	BLK J OF L 1800 YDYD	Kelton Creek	PD44011	92.H.075 A (PD44011)	N	01A	DOMESTIC	250	GD	18116	06B	19870702	HOOEY FLOYD JOHN	1008 THOMAS AVE COQUITLAM BC V3K2K3
C068432	C	3001083	BLK B OF L 1800 YDYD	Kelton Creek	PD44011	92.H.075 A (PD44011)	N	01A	DOMESTIC	250	GD	18117	06B	19870702	KELLINGTON IRENE M	BOX 106 MAYNE ISLAND BC V0N2J0
C109681	C	16204	CON PROJECT OF LICENSEE LYING WITHINDL 4401 KDYD	Menzies Lake	PD53468	92.I.007 DD (PD53468)	N	11A	CONSERV.-STORED WATER	17.5	AF			19191103	FISHERIES BRANCH	1259 DALHOUSIE DR KAMLOOPS BC V2C5Z5
C109723	C	316489	CONS PROJECT OF LICENSEE LYING WITHIN DL 4401 KDYD	Menzies Lake	PD53468	92.I.007 DD (PD53468)	N	11A	CONSERV.-STORED WATER	50	AF			19730308	FISHERIES BRANCH	1259 DALHOUSIE DR KAMLOOPS BC V2C5Z5
C110010	C	329955	1.15 ACS OF LOT B SEC 3 TP 91 KDYD PLAN 26868	Spanish Creek	PD71191	92.I.007 (PD71191)	Y			0				19640310		
C110010	C	329955	1.15 ACS OF LOT B SEC 3 TP 91 KDYD PLAN 26868	Spanish Creek	PD62036	92.I.007 (PD62036)	N	03B	IRRIGATION	2.9	AF			19640310	CARUK RICHARD	BOX 2591 MERRITT B C V0K2B0
C110011	C	329956	2.08 ACS OF LOT A SEC 3 TP 91 KDYD PLAN 26868 EXC PLAN KAP50227	Spanish Creek	PD62036	92.I.007 (PD62036)	N	03B	IRRIGATION	5.2	AF			19640310	BYER WAYNE A & SHEREE L	BOX 2848 MERRITT BC V1K1B8
C110011	C	329956	2.08 ACS OF LOT A SEC 3 TP 91 KDYD PLAN 26868 EXC PLAN KAP50227	Spanish Creek	PD71191	92.I.007 (PD71191)	Y			0				19640310		
C110012	C	3002977	0.68 AC OF LOT 1 SEC 3 TP 91 KDYD PLAN KAP50227	Spanish Creek	PD71191	92.I.007 (PD71191)	Y			0				19640310		
C110012	C	3002977	0.68 AC OF LOT 1 SEC 3 TP 91 KDYD PLAN KAP50227	Spanish Creek	PD62036	92.I.007 (PD62036)	N	03B	IRRIGATION	1.7	AF			19640310	GOETZ DWIGHT O & KAREN T	BOX 203 MERRITT BC V1K1B8
C110444	C	290691	0.33 AC OF LOT 22 DL 167 KDYD PLAN 15716				N	02I42	RES. LAWN/GARDEN	0.67	AF			19691210		
C110444	C	290691	0.33 AC OF LOT 22 DL 167 KDYD PLAN 15716	Godey Creek	PD72100	6052C U3 (PD72100)	N	01A	DOMESTIC	500	GD			19691210	BJARNASON ROBERT	PO BOX 4254 LOWER NICOLA BC V0K1Y0

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January 2002

Appendix C: Existing Water Licences within the Coldwater River Watershed

Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
C110921	C	346220	18 ACS OF LOT DL 746 KDYD EXC CPR R/W PLAN A136 AND PLAN 16967	Coldwater River	PD72015	92.H.096 RR (PD72015)	N	03B	IRRIGATION	45	AF			19380412	STRANDE WILLIAM C	BOX 2763 MERRITT BC V0K2B0
C110922	C	222323	25.2 AC OF L 340 YDYD EXC CPRR/W PLAN A136	Coldwater River	PD72014	92.H.096 QQ (PD72014)	N	03B	IRRIGATION	50.4	AF			19580929	PINE RANCH LTD	COLDWATER RD PO BOX 2763 MERRITT BC V0K2B0
C111708	C	329954	1.68 AC OF L A OF SEC 3 TP 91 KDYDPLAN 25378	Spanish Creek	PD62036	92.I.007 (PD62036)	N	03B	IRRIGATION	4.2	AF			19640310	TEIFFEL SANDRA	PO BOX 1959 MERRITT BC V0K2B0
C111708	C	329954	1.68 AC OF L A OF SEC 3 TP 91 KDYDPLAN 25378	Spanish Creek	PD71191	92.I.007 (PD71191)	Y			0				19640310		
C113705	C	300658	60 AC OF LOTS 3766 4279 4420 EX PL KAP45013 & FRAC NE 1/4 LOT 3765 KDYD	Edna Lake	PD53459	92.I.007 W (PD53459)	Y	03B	IRRIGATION	90	AF			19710114	THOMSEN RALPH THOMAS	KJR RANCH BOX 1802 MERRITT BC V0K2B0
C113705	C	300658	60 AC OF LOTS 3766 4279 4420 EX PL KAP45013 & FRAC NE 1/4 LOT 3765 KDYD	Edna Lake	PD53461	92.I.007 V (PD53461)	Y	08A	STORAGE	90	AF			19710114		
C113705	C	300658	60 AC OF LOTS 3766 4279 4420 EX PL KAP45013 & FRAC NE 1/4 LOT 3765 KDYD	Howarth Creek	PD53464	92.I.007 Y (PD53464)	N			0				19710114		
C114167	C	46437	WWKS PROJECT OF THE LICENSEEWITHIN L 659 YDYD	Brook Creek	PD53563	6062A A (PD53563)	N	00B	WATERWORKS (OTHER)	37000	GD	23042	06B	19230430	BROOKMERE WUC	C/O LARRY DIETRICH PO BOX 81 MERRITT BC V0K2B0
C114168	C	3003507	PARC 1 (KL4957) DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BREMNER TERRANCE G	5606 96 ST DELTA BC V4K3N3
C114169	C	3003508	LOT 4 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	SCHOENIT MICHAEL H K	BOX 1774 MERRITT BC V0K1B8
C114170	C	3003509	LOT 5 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	ESAU ALLAN D & ANNE T	11898 CHALMERS PL DELTA BC V4C1L4
C114171	C	3003510	LOT 7 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BARNES THOMAS J & DONNA L	1087 LANDS END RD SIDNEY BC V8L5L3
C114172	C	3003511	LOT 8 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	FIRMAN RONALD W	3949 COLLINGWOOD ST VANCOUVER BC V6S2A7
C114173	C	3003512	LOT 10 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JOHNSTON GORDON ERNEST	8460 YOUNG RD S CHILLIWACK BC V2P4P1
C114174	C	3003513	LOT 11 DL 659 YDYD PL 6400	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JOHNSTON GORDON ERNEST	8460 YOUNG RD S CHILLIWACK BC V2P4P1
C114175	C	3003514	LOT 28 DL 659 YDYD PL 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	CAIN THOMAS J & ANNA-MARIE	7533 MALTON DR NORTH DELTA BC V4C6W7
C114176	C	3003515	LOT 33 DL 659 YDYD PL 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	METHOT TERRANCE A & WENDY	48 23151 HANEY BYPASS MAPLE RIDGE BC V2X0S5
C114177	C	3003516	LOT 34 DL 659 YDYD PL 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JOBST JOHN T	15069 OLD MISSION RD OYAMA BC V4V2A9
C114178	C	3003517	LT 5 DL 659 YDYD PL 8360	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	1000	GD	23042	06B	19230430	MACDONALD HERRIOT M	PO BOX 3103 STN MAIN MERRITT BC V2K1B8
C114179	C	3003518	PARC A (PL B6711) DL 1620 YDYD EX THAT PART THEREOF SHOWN AS HWY ONPL 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	NOTT GERARDA M	128 STAR CRES NEW WESTMINSTER BC V3M6X5
F004237	C	241684	18 AC OF L 713 KDYD	Marquart Lake	PD53422	92.I.007 G (PD53422)	N	03B	IRRIGATION	27	AF			18961015	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F004238	C	241684	STOR FOR F 4237 MARQUART LK	Marquart Lake	PD53422	92.I.007 G (PD53422)	N	08A	STORAGE	22	AF			18961015	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F004308	C	265440	41.5 AC OF L 714 KDYD	Godey Creek	PD53418	92.I.007 Q (PD53418)	N			0				19140715		
F004308	C	265440	41.5 AC OF L 714 KDYD	Godey Creek	PD53417	92.I.007 P (PD53417)	N	03B	IRRIGATION	62	AF			19140715	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005656	C	265254	11.1 AC OF L 1892 KDYD	Howarth Creek	PD53522	92.H.097 A (PD53522)	N	03B	IRRIGATION	28	AF			19100709	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005657	C	265209	47.8 AC OF L 784 KDYD	Voght Creek	PD53518	92.H.097 C (PD53518)	N	03B	IRRIGATION	119.5	AF			19100722	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005657	C	265209	47.8 AC OF L 784 KDYD	Voght Creek	PD53519	92.H.097 D (PD53519)	N			0				19100722		
F005660	C	15020	3.4 AC OF L 1893 KDYD	Howarth Creek	PD53521	92.H.097 B (PD53521)	N	03B	IRRIGATION	8.5	AF			19190916	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005661	C	14168	24.4 AC OF L 3765 KDYD	Edna Lake	PD53458	92.I.007 Z (PD53458)	N	01A	DOMESTIC	1000	GD			19190910	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
F005661	C	14168	24.4 AC OF L 3765 KDYD				N	03B	IRRIGATION	62	AF			19190910		
F005662	C	14168	STOR FOR F 5661 HOWARTH CR	Howarth Creek	PD53456	92.I.007 X (PD53456)	N	08A	STORAGE	62	AF			19190910	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
F005666	C	241685	36.80 AC OF L 745 KDYD	Castillion Creek	PD53351	92.I.006 GG (PD53351)	N	01A	DOMESTIC	500	GD			18910107	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
F005666	C	241685	36.80 AC OF L 745 KDYD	Castillion Creek	PD53353	92.I.006 FF (PD53353)	N	03B	IRRIGATION	92.75	AF			18910107		
F005666	C	241685	36.80 AC OF L 745 KDYD	Castillion Creek	PD53356	92.I.006 EE (PD53356)	N			0				18910107		
F005713	C	265213	38.5 AC OF L 774 KDYD	Voght Creek	PD53517	92.H.096 EE (PD53517)	N	03B	IRRIGATION	96.5	AF			19100906	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005714	C	14165	48.1 AC OF L 776 KDYD	Voght Creek	PD53518	92.H.097 C (PD53518)	N	03B	IRRIGATION	120.5	AF			19190829	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005717	C	241687	36.5 AC OF L 692 YDYD	Nilsson Creek	PD53544	92.H.096 DD (PD53544)	N	01A	DOMESTIC	500	GD			19011009	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F005717	C	241687	36.5 AC OF L 692 YDYD	Nilsson Creek	PD53546	92.H.096 CC (PD53546)	N	03B	IRRIGATION	73.5	AF			19011009		
F005717	C	241687	36.5 AC OF L 692 YDYD	Nilsson Creek	PD53548	92.H.096 BB (PD53548)	N			0				19011009		
F005735	P	241686	3 AC OF L 746 KDYD				N	03B	IRRIGATION	8	AF			18970612		
F005735	P	241686	3 AC OF L 746 KDYD	Cleasby Creek	PD53406	92.H.096 M (PD53406)	N	01A	DOMESTIC	500	GD			18970612	STRANDE WILLIAM C	BOX 2763 MERRITT BC V0K2B0
F007464	C	49026	36.8 AC OF L 745 GP 1 KDYD	Castillion Creek	PD53353	92.I.006 FF (PD53353)	Y			0				19230813		
F007464	C	49026	36.8 AC OF L 745 GP 1 KDYD	Castillion Creek	PD53351	92.I.006 GG (PD53351)	Y	03B	IRRIGATION	74	AF	206	06B	19230813	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
F007464	C	49026	36.8 AC OF L 745 GP 1 KDYD	Castillion Creek	PD53356	92.I.006 EE (PD53356)	Y			0				19230813		
F007464	C	49026	36.8 AC OF L 745 GP 1 KDYD	Skuagam Creek	PD53359	92.I.006 HH (PD53359)	N			0				19230813		
F009072	C	47919	PART 30 AC OF IR #2 JOEYASKAKDYD	Godey Creek	PD53250	6052C G (PD53250)	N			0				19230621		

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Information Management Branch
January 2002

Appendix C: Existing Water Licences within the Coldwater River Watershed

Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
F009072	C	47919	PART 30 AC OF IR #2 JOEYASKAKDYD	Godey Creek	PD53203	92.I.007 A (PD53203)	N	03B	IRRIGATION	75	AF			19230621		
F009072	C	47919	PART 30 AC OF IR #2 JOEYASKAKDYD	Spanish Creek	PD53199	92.I.007 B (PD53199)	N	01A	DOMESTIC	2000	GD			19230621	LOWER NICOLA INDIAN BAND 981-695-7224	RR 1 COMP 18 SITE 17 MERRITT BC V0K2B0
F009072	C	47919	PART 30 AC OF IR #2 JOEYASKAKDYD	Godey Creek	PD53245	6052C F (PD53245)	N			0				19230621		
F009268	C	74840	12 AC OF S 1/2 OF L 3255 KDYD	Stirling Creek	PD53291	92.I.006 X (PD53291)	N	01A	DOMESTIC	1000	GD			19270429	EWALT GENE E & VIRGINIA A	PO BOX 945 MERRITT BC V0K2B0
F009268	C	74840	12 AC OF S 1/2 OF L 3255 KDYD				N	03B	IRRIGATION	18	AF			19270429		
F009269	C	86682	11 AC OF L 307A YDYD	Coldwater River	PD53532	92.H.096 X (PD53532)	N	03B	IRRIGATION	22	AF			19290528	KELLY OLIVER G & PATRICIA M	7531 GILBERT RD RICHMOND BC V7C3W6
F009497	C	87294	31.8 AC OF L 306 YDYD	Coldwater River	PD53532	92.H.096 X (PD53532)	N	03B	IRRIGATION	79.5	AF			19290630	BEATON CAROL A	PO BOX 1494 MERRITT BC V0K2B0
F010514	C	110499	13.5 AC OF L 784 KDYD	Kanevale Creek	PD53525	92.H.097 K (PD53525)	N	03B	IRRIGATION	27	AF			19321029	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F011229	C	127907	4 AC OF IR #2 PAULS BASIN INVICINITY COLDWATER R	Coldwater River	PD53366	92.H.096 K (PD53366)	N	03B	IRRIGATION	10	AF			19370506	COLDWATER INDIAN BAND 981-693-7199	PO BOX 4600 MERRITT BC V0K2B0
F011230	C	241033	102.5 AC OF IR #1 COLDWATER YDYD	Coldwater River	PD53307	92.I.006 E (PD53307)	N	03B	IRRIGATION	205	AF			18890502	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
F011230	C	241033	102.5 AC OF IR #1 COLDWATER YDYD	Coldwater River	PD53311	92.I.006 B (PD53311)	N			0				18890502		
F011230	C	241033	102.5 AC OF IR #1 COLDWATER YDYD	Coldwater River	PD53309	92.I.006 D (PD53309)	N			0				18890502		
F011230	C	241033	102.5 AC OF IR #1 COLDWATER YDYD	Coldwater River	PD53312	92.I.006 A (PD53312)	N			0				18890502		
F011230	C	241033	102.5 AC OF IR #1 COLDWATER YDYD	Coldwater River	PD53310	92.I.006 C (PD53310)	N			0				18890502		
F013904	C	148069	24 AC OF L 712; 24 AC OF L 711KDYD	Garcia Lake	PD53413	92.I.007 H (PD53413)	N			0				19421006		
F013904	C	148069	24 AC OF L 712; 24 AC OF L 711KDYD	Godey Creek	PD53410	92.I.007 J (PD53410)	N	03B	IRRIGATION	48	AF			19421006	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F014667	C	76180	27 AC OF S PART OF L 1484 KDYD	Kanevale Creek	PD53482	92.H.097 W (PD53482)	N	03B	IRRIGATION	54	AF			19270627	ANDERSON JOHN JR	PO BOX 2332 MERRITT BC V0K2B0
F014667	C	76180	27 AC OF S PART OF L 1484 KDYD	Kanevale Creek	PD53484	92.H.097 X (PD53484)	N			0				19270627		
F014668	C	76180	STOR FOR F 14667 KANEVALE CR	Kanevale Creek	PD53485	92.H.097 Y (PD53485)	N	08A	STORAGE	54	AF			19270627	ANDERSON JOHN JR	PO BOX 2332 MERRITT BC V0K2B0
F015575	C	170300	8 AC OF L 607 YDYD	Coldwater River	PD53536	92.H.096 AA (PD53536)	N	03B	IRRIGATION	20	AF	3951	06B	19471008	ANDERSON JOHN M & MARY K	BOX 2332 MERRITT BC V0K2B0
F017295	C	204737	L 14 OF L 659 YDYD PLAN 6467	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	MURPHY JOHN L & KATIE	BOX 2346 MERRITT BC V1K1B8
F017297	C	208731	L 15 OF L 659 KDYD PLAN 6467	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	SCHOOL DISTRICT NO 58 BROOKMERE WUC	PO BOX 4100 STN MAIN 1550 CHAPMAN ST MERRITT BC V1K1B8
F019376	C	215603	4 AC OF L 3766 KDYD	Howarth Creek	PD53464	92.I.007 Y (PD53464)	N	03B	IRRIGATION	6	AF			19570401	THOMSEN RALPH THOMAS	KJR RANCH BOX 1802 MERRITT BC V0K2B0
F019456	C	47607	45.8 AC COLDWATER IR # 1	Skuagam Creek	PD53301	92.I.006 M (PD53301)	N	03B	IRRIGATION	91.7	AF			19230601	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53299	92.I.006 F (PD53299)	N			0				18890502		
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53295	92.I.006 J (PD53295)	N			0				18890502		
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53297	92.I.006 H (PD53297)	N			0				18890502		
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53293	92.I.006 L (PD53293)	N	03B	IRRIGATION	165.4	AF	2033	06B	18890502	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53298	92.I.006 G (PD53298)	N			0				18890502		
F019457	C	241033	82.7 AC OF IR #1 COLDWATER YDYD	Kwinshatin Creek	PD53294	92.I.006 K (PD53294)	N			0				18890502		
F019749	C	144172	54 AC OF L 776, 3215 & 4569 KDYD	Sampson Reservoir	PD53524	92.H.097 G (PD53524)	Y			0				19410724		
F019749	C	144172	54 AC OF L 776, 3215 & 4569 KDYD	Howarth Creek	PD53452	92.H.097 E (PD53452)	N	03B	IRRIGATION	135	AF	6464	06B	19410724	COQUIHALLA DEVELOPMENTS CORP	BOX 4000 MERRITT BC V0K2B0
F020032	C	215610	L 1618 YDYD	Coldwater River	PD53531	92.H.096 W (PD53531)	N	01A	DOMESTIC	1000	GD			19570404	TRANS MOUNTAIN PIPE LINE CO LTD	C/O LAND & RIGHT OF WAY 900 1333 W BROADWAY VANCOUVER BC V6H4C2
F021362	C	213924	22.5 AC OF L 300 & L 340 YDYDEXC CPR R/W PLAN A136	Salem Creek	PD53390	92.H.096 R (PD53390)	N	03B	IRRIGATION	45	AF			19561024	PINE RANCH LTD	COLDWATER RD PO BOX 2763 MERRITT BC V0K2B0
F049866	C	257313	THAT PART OF IR #1 COLDWATERKDYD LYING E OF COLDWATER R	Kwinshatin Creek	PD53296	92.I.006 P (PD53296)	N	00B	WATERWORKS (OTHER)	5000	GD			19640612	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
F049867	C	257312	THAT PART OF IR #1 COLDWATERKDYD LYING E OF COLDWATER R	Skuagam Creek	PD53300	92.I.006 N (PD53300)	N	00B	WATERWORKS (OTHER)	2500	GD			19640612	COLDWATER INDIAN BAND 981-693-7197	PO BOX 188 MERRITT BC V0K2B0
F050530	C	217576	L B OF L 167 & OF SEC 10 TP 91KDYD PLAN 20237	Diamond Vale Brook	PD53241	6052C T (PD53241)	N	01A	DOMESTIC	500	GD			19570904	BOUCHARD RAYMOND H & BERTHE R	BOX 344 MERRITT BC V1K1B8
F050532	C	309346	L 25 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	RUIGROK ANDREW C	BOX 972 MERRITT BC V1K1B8
F050533	C	309347	L 15 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	PERCIVAL MATILDA L BROOKMERE WUC	C/O B J PERCIVAL PO BOX 1444 150 MILE HOUSE BC V0K2G0
F050534	C	309349	L 14 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BENNETT NELLIE BIOLLA JUDITH E	BOX 2358 MERRITT BC V0K2B0
F050535	C	309350	L 32 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	PARKHILL KIM	20497 115A AVE MAPLE RIDGE BC V2X0A7

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Licence No.	Licence Status	File No	Appurtenances	Stream Name	Points Code	Map No. / Point Code	Re-diversion Flag	PUC	Purpose	Quantity	Units	Pcl No	Pcl Use	Priority	Client	Client Address
F050536	P	309369	L 2 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JACKSON MICHAEL E BROOKMERE WUC	PO BOX 7 MERRITT BC V1K1B8
F050537	C	310824	L 7 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BARBER EDWARD A & SHIELA G BROOKMERE WUC	11524 86TH AVE NORTH DELTA BC V4C2X2
F050538	C	310825	L 8 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	HARRISON ROGER D BROOKMERE WUC	BOX 2497 MERRITT BC V3R2T3
F050539	C	310826	L 13 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	SANFORD BARRIE W BROOKMERE WUC	BOX 3088 MERRITT BC V1K1B8
F050540	C	310829	L 20 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	GOTT GARRIE N & ELLEN BROOKMERE WUC	BOX 3005 MERRITT BC V1K1B8
F050541	C	328371	L 23 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	ROGERS DIXIE L BROOKMERE WUC	RR 3 SITE 43D SUMMERLAND BC V0H1Z0
F050542	C	328610	LOT 13 OF LOT 659 YDYD PLAN 6467	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	11544	06B	19230430	SANFORD BARRIE W BROOKMERE WUC	BOX 3088 MERRITT BC V1K1B8
F050543	C	329304	L 16 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	JOHNSTON WILLIAM K & THOMAS VICKY E BROOKMERE WUC	BOX 2170 MERRITT BC V1K1B8
F051112	C	309352	L 30 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	HENDRICKS VERNON V & KARIN D BROOKMERE WUC	33249 NELSON RD ABBOTSFORD BC V2S2L6
F051171	C	309344	L 12 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	BENNETT NELLIE BIOLLA JUDITH E	BOX 2358 MERRITT BC V0K2B0
F051647	C	309341	L 10 OF L 659 YDYD PLAN 16377	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	MURRAY WILLIAM J & SANDRA F BROOKMERE WUC	PO BOX 691 MERRITT BC V0K2B0
F063065	C	309351	L A OF L 659 YDYD PLAN 29625	Brook Creek	PD53563	6062A A (PD53563)	N	01A	DOMESTIC	500	GD	23042	06B	19230430	HARRER MANFRED & SHEILA J BROOKMERE WUC	1979 EASTLEIGH LN NORTH VANCOUVER BC V7G1W1
F063066	C	370635	3 AC OF L A OF 659 YDYD PLAN29625	Brook Creek	PD53563	6062A A (PD53563)	N	03B	IRRIGATION	6	AF	15543		19720310	HARRER MANFRED & SHEILA J BROOKMERE WUC	1979 EASTLEIGH LN NORTH VANCOUVER BC V7G1W1
Z103135	Z	3000788	L 631 & 875 YDYD	Coldwater River	PD53611	92.H.086 C (PD53611)	N	11B	CONSERV.-USE OF WATER	3	CS			19850624	FISHERIES & OCEANS DEPARTMENT OF	202 317 SEYMOUR ST KAMLOOPS BC V2C2E9
Z103136	Z	3001457	L 1 OF L 332 PLAN 3039	Coldwater River	PD53349	92.I.006 MM (PD53349)	N	03B	IRRIGATION	50	AF			19890414	KATONA LAJOS & MATILDA	PO BOX 1362 MERRITT BC V1K1B8
Z103137	Z	3001476	L 738 & 1821 KDYD	Coldwater River	PD53347	92.I.006 KK (PD53347)	N	03B	IRRIGATION	100	AF			19890601	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
Z103138	Z	3001452	L 3237, 3239, 3240 & 3764 KDYD	Gwen Lake	PD53453	92.I.007 CC (PD53453)	N	03B	IRRIGATION	130	AF			19890411	CHAMBERS PHILIP F & GRACE E	BOX 2520 MERRITT BC V1K1B8
Z103138	Z	3001452	L 3237, 3239, 3240 & 3764 KDYD				N	08A	STORAGE	260	AF			19890411		
Z103139	Z	3000945	L 1484 KDYD	Kane Lake	PD53481	92.H.097 Z (PD53481)	N	02I31	STOCKWATERING	2500	GD			19860822	DUCKS UNLIMITED (CANADA)	954A LAVAL CRES KAMLOOPS BC V2C5P5
Z103140	Z	3001302	DL 4282 KDYD				N	03B	IRRIGATION	15	AF			19880705		
Z103140	Z	3001302	DL 4282 KDYD	Lemoto Creek	PD53304	92.I.006 V (PD53304)	N	02I31	STOCKWATERING	500	GD			19880705	SCHINDLER WAYNE C	DL 1417 LINDLEY CREEK RANCH MERRITT BC V1K1L4
Z103152	Z	366048	UNDERTAKING OF LICENSEE WITHIN L 302YDYD	Voght Creek	PD53542	92.H.096 PP (PD53542)	N	00B	WATERWORKS (OTHER)	8500	GD			19800218	GRAYSON WILLIAM H HARWOOD FRANCIS H & MOYES KENNETH	BOX 1840 MERRITT BC V0K2B0
Z103153	Z	368379	L 4405 KDYD	Voght Creek	PD53520	92.H.097 AA (PD53520)	N	01A	DOMESTIC	1000	GD			19810416	LLAMA MANAGEMENT SERVICES LTD	C/O KATHLEEN KEATING 2658 34TH AVE W VANCOUVER BC V6N2J2
Z103153	Z	368379	L 4405 KDYD				N	03B	IRRIGATION	50	AF			19810416		
Z103632	Z	3001953	L 4405 KDYD				N	08A	STORAGE	50	AF			19910524		
Z103632	Z	3001953	L 4405 KDYD	Voght Creek	PD64048	92.H.097 BB (PD64048)	N	01A	DOMESTIC	500	GD			19910524	LLAMA MANAGEMENT SERVICES LTD	C/O KATHLEEN KEATING 2658 34TH AVE W VANCOUVER BC V6N2J2
Z103632	Z	3001953	L 4405 KDYD				N	03B	IRRIGATION	50	AF			19910524		
Z104802	Z	3002251	L 3001 KDYD	Voght Creek	PD65846	92.H.097 PP (PD65846)	N	08A	STORAGE	12	AF			19920519	HEINRICH EDNA E JACKSON EDNA E	BOX 2229 MERRITT BC V0K2B0
Z116196	Z	3003815	DL 745 KDYD EXC PL A136	Coldwater River	PD76167	92.H.086 (PD76167)	N	03B	IRRIGATION	0	AF			20010413	COOKE MARILYN & LOUIS	PO BOX 2933 MERRITT BC V0K2B0
Z116196	Z	3003815	DL 745 KDYD EXC PL A136				N	02I31	STOCKWATERING	500	GD			20010413		

Source: Ministry of Sustainable Resource Management
Information Management Branch
January 2002

Appendix D

SUMMARY OF EXISTING STORAGE LICENCES WITHIN THE COLDWATER RIVER WATERSHED

Appendix D: Existing Storage Licences within the Coldwater River Watershed.

This table presents the known water storage licences determined by a search of the MWLAP web-based database, and by information provided directly by personnel of MWLAP.

License No.	MWLAP File No.	Source	Trib Network to Mainstem	PD No.	Use	Quantity	Client	Status	Details about the site
C019624	N/A	Garcia Lake	to Godey Creek to Coldwater R	PD53415	Storage	80 AF	Coquihalla Developments	Current	Position in watershed is very low, therefore minimal benefit to mainstem fish habitat.
C044558	N/A	Godey Creek	to Coldwater River	PD53419	Storage	60 AF	Coquihalla Developments	Current	Position in watershed is very low, therefore minimal benefit to mainstem fish habitat.
C013102	N/A	Pye Creek	to Godey Creek to Coldwater R	PD53423	Storage	30 AF	Lower Nicola Indian Band	Current	Position in watershed is very low, therefore minimal benefit to mainstem fish habitat.
C011781	0110500	Nilsson Creek or Seymour Lake	to Nilsson Creek to Voght Creek to Coldwater R	PD 53550 and PD53552	Storage	150 AF	Coquihalla Developments	Current	Water may be obtained from either Nilsson Creek or Seymour Lake.
C055702	0135011	Kanevale Creek (Harrison Lk)	to Voght Creek to Coldwater R	PD53527 (same as C057484)	Storage	100 AF	Coquihalla Developments	Current	Harrison Reservoir = About 350AF of Storage. Some hazards exist to infrastructure downstream.
F005662	0014168	Howarth Creek (Edna Lk)	to Voght Creek to Coldwater R	PD53456	Storage	62 AF	Chambers Philip F & Grace E	Current	Edna Dam. Existing dam is said to not be functional from Stan's records. No record of any follow-up re-construction.
C037563	0277341	Howarth Creek (Edna Lk)	to Voght Creek to Coldwater R	PD53456	Storage	60 AF	Thomsen Ralph Thomas	Current	Edna Dam. Existing dam is said to not be functional from Stan's records. No record of any follow-up re-construction.
C015181	0144172	Howarth Creek or Sampson Reservoir	to Voght Creek to Coldwater R	PD53523 and PD53524	Storage	100 AF	Coquihalla Developments	Current	D130 181 shows a small earth dam with 80AF capacity. Water may be obtained from either Howarth Creek or Sampson Reservoir.
C057484	0367381	Kanevale Creek (Harrison Lk)	to Voght Creek to Coldwater R	PD53527 (same as C055702)	Storage	243.75 AF	Coquihalla Developments	Current	Harrison Reservoir = About 350AF of Storage. Some hazards exist to infrastructure downstream.
C109681	0016204	Menzies Lake	drainage route uncertain	PD53468 (same as C109723)	Storage	17.5 AF	Fisheries Branch	Current	This dam is classified as a Very Low structure licenced to store 17.5AF. Rights on Menzies Lake. Past inspection reports show deficiencies. This structure is the responsibility of Fisheries Branch (Ian McGregor).
C020670	0192510	Freshet Creek and Easterly Slough	to Kanevale Creek to Voght Creek to Coldwater R	PD53488, PD53497, PD53489, PD53490, and PD53492	Storage	80 AF	Anderson John Jr	Current	The 80 AF can be taken from any of the five points of diversion on either Freshet Creek or Easterly Slough. No recent correspondance in file. Licenced for 80AF. File appears to show that this slough has been used to supply water from Kane Lake.
C033809		Hill Creek	drainage route uncertain	PD54286	Storage	30 AF	McLeod Gordon John	Current	
F014668	0076180	Kanevale Creek	to Voght Creek to Coldwater R	PD53485	Storage	54 AF	Anderson John Jr	Current	None given by George Smith.
C109723	0316489	Menzies Lake	drainage route uncertain	PD53468 (same as C109681)	Storage	50 AF	Fisheries Branch	Current	This dam is classified as a Very Low structure licenced to store 17.5AF. Rights on Menzies Lake. Past inspection reports show deficiencies. This structure is the responsibility of Fisheries Branch (Ian McGregor).The sketch on the plat shows a number of

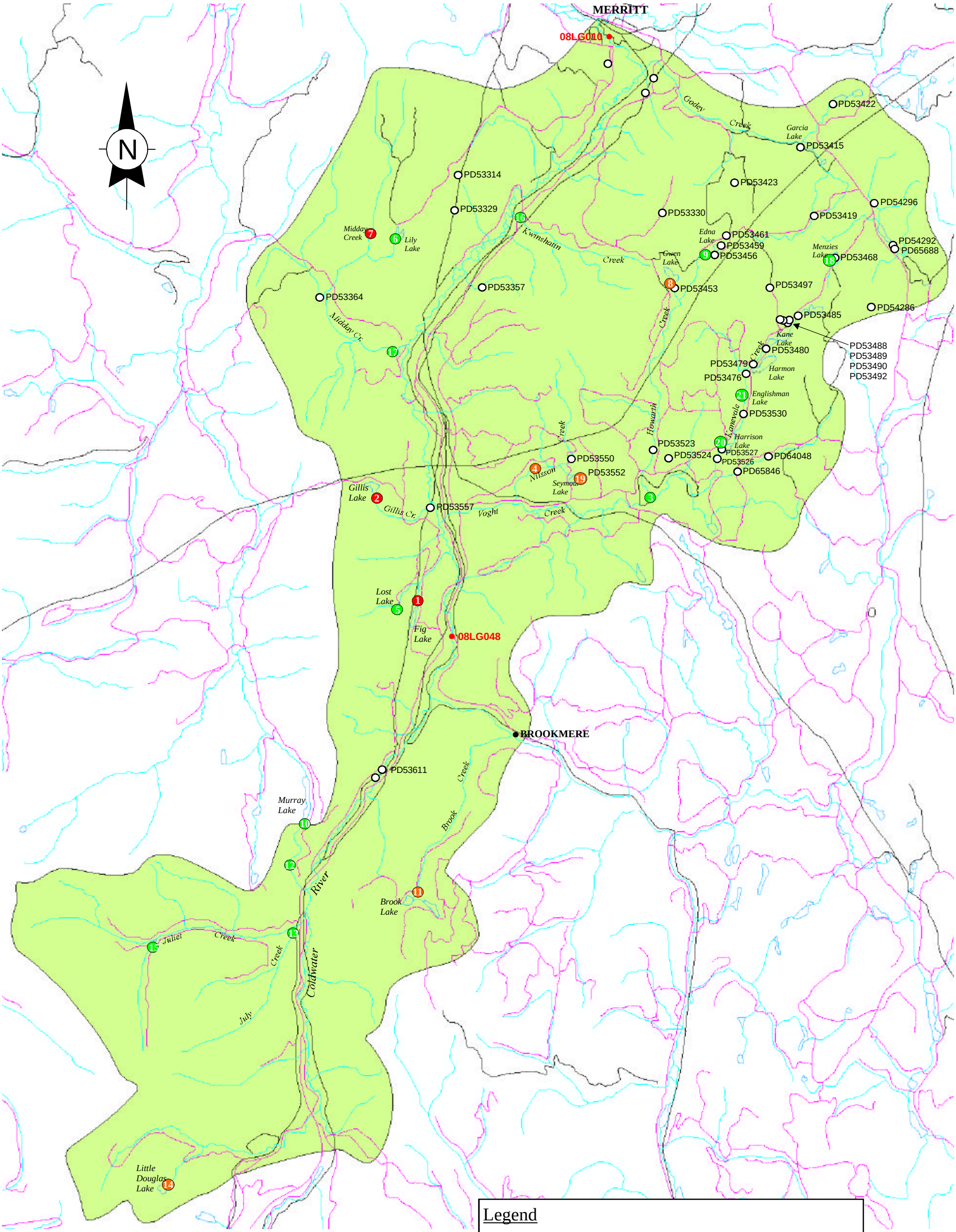
License No.	MWLAP File No.	Source	Trib Network to Mainstem	PD No.	Use	Quantity	Client	Status	Details about the site
C061158	N/A	West Midday Creek	to Midday Creek to Coldwater R	PD53364	Storage	82.3 AF	Ducks Unlimited (Canada)	Current	
C046821	N/A	Castillion Creek	to Coldwater River	PD53357	Storage	10 AF	Cooke Marilyn & Louis	Current	Tributary is small in size, water supply is limited.
C113705	0300658	Howarth Creek	to Voght Creek to Coldwater R	PD53464	Storage	90 AF	Thomsen Ralph Thomas	Current	None given by George Smith.
C041125	0267791	Brown Creek	drainage route unknown	PD53330	Storage	25 AF	Chambers Philip F & Grace E	Current	None given by George Smith.
C061097	3000249	Kanevale Creek	to Voght Creek to Coldwater R	PD53530	Storage	300 AF	Fisheries Branch	N/A	
C061102	3000248	Kanevale Creek	to Voght Creek to Coldwater R	PD53460	Storage	100 AF	Ducks Unlimited (Canada)	N/A	
C061159	3000417	Kanevale Creek	to Voght Creek to Coldwater R	PD53476	Storage	49 AF	Ducks Unlimited (Canada)	N/A	
C061160	3000415	Kanevale Creek	to Voght Creek to Coldwater R	PD53526	Storage	29 AF	Ducks Unlimited (Canada)	N/A	
C061161	3000438	Kanevale Creek	to Voght Creek to Coldwater R	PD53479	Storage	48 AF	Ducks Unlimited (Canada)	N/A	
F005659	N/A	Logans Creek	drainage route unknown	PD54292	Storage	100 AF	Coquihalla Developments	N/A	
C104596	N/A	Logans Creek	drainage route unknown	PD65688	Cons. Construction Works	0 AF	Fisheries Branch	N/A	
C059320	N/A	Logans Creek	drainage route unknown	PD54296	Cons. Stored Water	1 AF	Ducks Unlimited (Canada)	N/A	
C028276	N/A	Gillis Creek	to Gillis Creek to Coldwater River	PD53557	Storage	2 AF	Anderson John Jr	N/A	
C028274	N/A	Oluk Creek	to Coldwater River	PD53314	Storage	8 AF	Forest District Merritt	N/A	
C028273	N/A	Talapus Creek	to Coldwater River	PD53329	Storage	12 AF	Forest District Merritt	N/A	
F004238	N/A	Marquart Lake	drainage route unknown	PD53422	Storage	22 AF	Coquihalla Developments	N/A	

Pending licences

The following is a list of pending licences in "active application" status with MWLAP.

Z104802	N/A	Voght Creek	to Coldwater R	PD65846	Storage	12 AF	Heinrich Edna E	Active Appl.
Z103632	N/A	Voght Creek	to Coldwater R	PD64046	Storage	50 AF	N/A	Active Appl.
Z103135	N/A	Coldwater River	N/A	PD53611	Conserv. -Use of Water	3 CS	Fisheries & Oceans Department	Active Appl.
Z114703	N/A	Unknown	drainage route unknown	N/A	Conserv. -Use of Water	N/A	Fisheries Branch	N/A

Map 1



Map 1: Map of the Coldwater River Watershed, showing the location of existing storage licences, and of potential sites for storage development.