CHAPTER 7

Peachland Creek

7.1 GENERAL DESCRIPTION

Reference is made to the Key Map on Figure 7.1 and the schematic creek diagram on Figure 7.2.

Peachland Creek, with an area of only 59 square miles is the second smallest of the eight tributaries discussed in this chapter. Although not as dry as its neighbour, Trout Creek, it occupies a rainshadow area and exhibits an average runoff of only 4.8 inches over its watershed compared to 3.5 inches for Trout Creek. The average natural flow at creek mouth is estimated at 15,000 acre-feet.

In 1970, the area served a population of 1444 persons and an irrigated area of 617 acres. Most of the people and irrigated acreage are contained within the Peachland Irrigation District whose boundaries extend far beyond the natural boundaries of Peachland Creek. See Figure 7.1. The portion of the District Municipality of Peachland which once received its water from nearby Trepanier Creek now pumps all its domestic water from Okanagan Lake.

The headwaters of Peachland Creek are located some 17 miles northwest of its mouth on the ridge separating the Nicola watershed from that of the Okanagan. The elevation of this ridge is around 5500 to 6000 feet. Drainage from the headwaters of Peachland Creek is soon joined by drainage from the headwaters of McDonald Creek. (MP1). McDonald Creek is not a natural tributary of Peachland Creek but the diversion of its headwaters makes an important contribution to flow. The combined headwaters flow is next joined by outflow from Peachland Lake (CPI) larger of the two controlled lakes in the sub-basin.

The important industrial water user, Brenda Mines Ltd., makes a significant impact on the above described drainage pattern. By diverting water from Brenda Lake (in the Nicola Watershed), flows in the headwaters can be Increased. The facility and authority for making such a diversion is in the hands of Brenda Mines but, it is understood, they do not use it. Authority to divert McDonald Creek as described, used to be with Peachland I.D. but is now with Brenda Mines. The pattern followed is understood to be that all flow, up to the 100 cfs capacity of the diversion ditch, is transferred

to Peachland Creek. A four mile long diversion ditch with a capacity of 135 cfs can transfer water from Crescent Lake, in the Trout Creek watershed, to Peachland Lake. This diversion was not operated in 1970, and hence has not been included in the tributary model. It can be an important source of water and should be considered in future studies. Lastly, Brenda Mines have installed a diversion from Peachland Creek into Peachland Lake for purposes of storing the above described diverted flows. This diversion is operated as required to maintain satisfactory levels in Peachland Lake whose recreational attributes are also being exploited. The mine pumps water from Peachland Lake to meet its needs and releases water downstream as required by other licencees (DPI). Peachland Lake, which now has an active storage of 9575 acre-feet, appears to have been developed considerably beyond immediate actual need by Brenda Mines Ltd. and hence its capacity and potential drawdown of 75 feet has never been used.

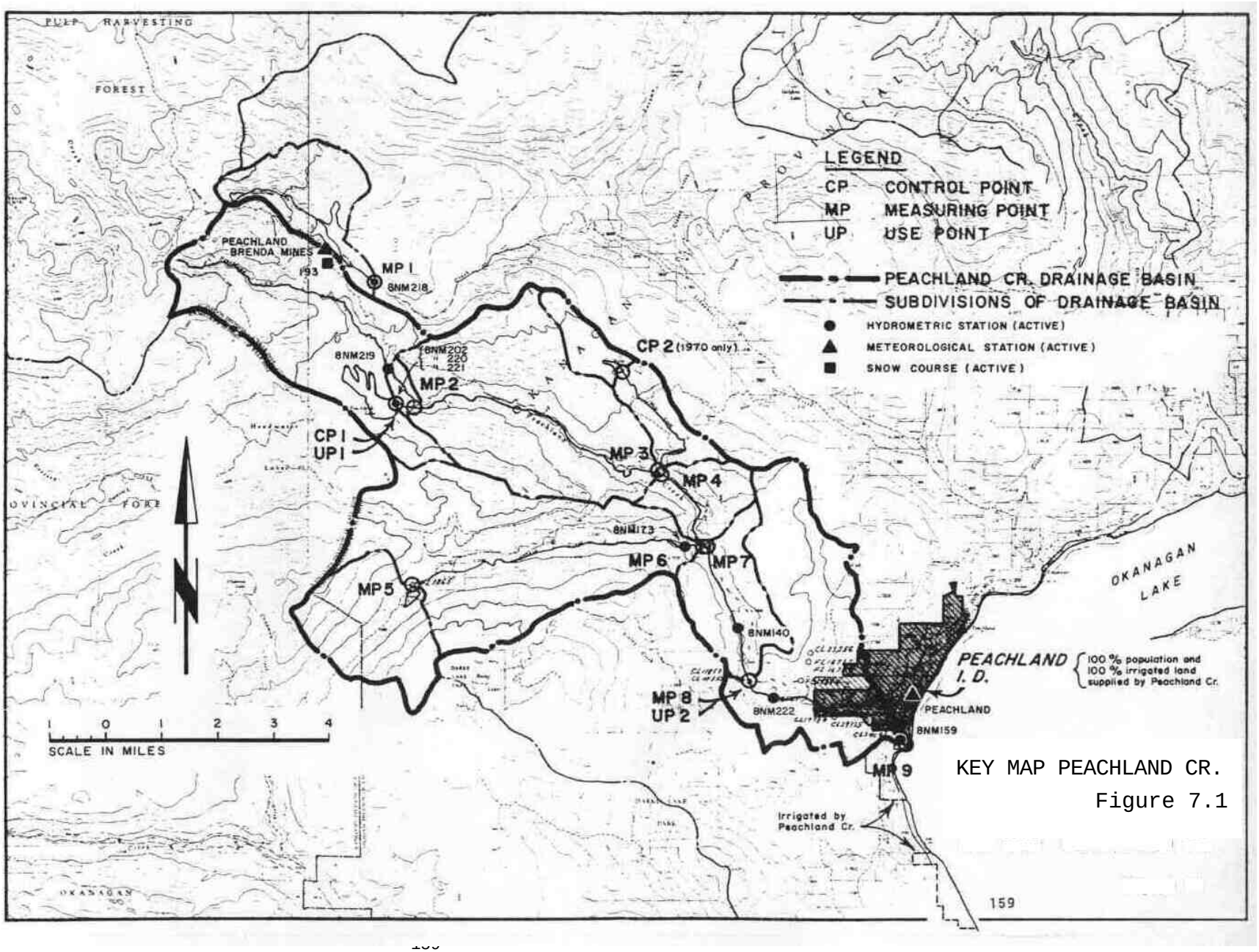
The headwaters of Wilson Lake (CP2) are on the ridge separating Peach-land and Trepanier Creeks. Compared to Peachland Lake, it is of little significance, having an active storage of only 81 acre-feet. However, it is the only other controlled storage in the sub-basin and was operated in 1970. Outflow from Wilson Lake forms Mile Creek which flows southeast for about two miles to join Peachland Creek.

Glen Lake (MP5) is formed in the saddle separating the Peachland and Trout Creek watersheds. Its outflow travels in a generally easterly direction in Greata Creek for about six miles before joining Peachland Creek.

No other tributaries of significance join Peachland Creek before it discharges into Okanagan Lake (MP9). The second major withdrawal point (MP2) diverts water to Peachland Irrigation District at a point about 3 1/2 miles upstream from the creek mouth.

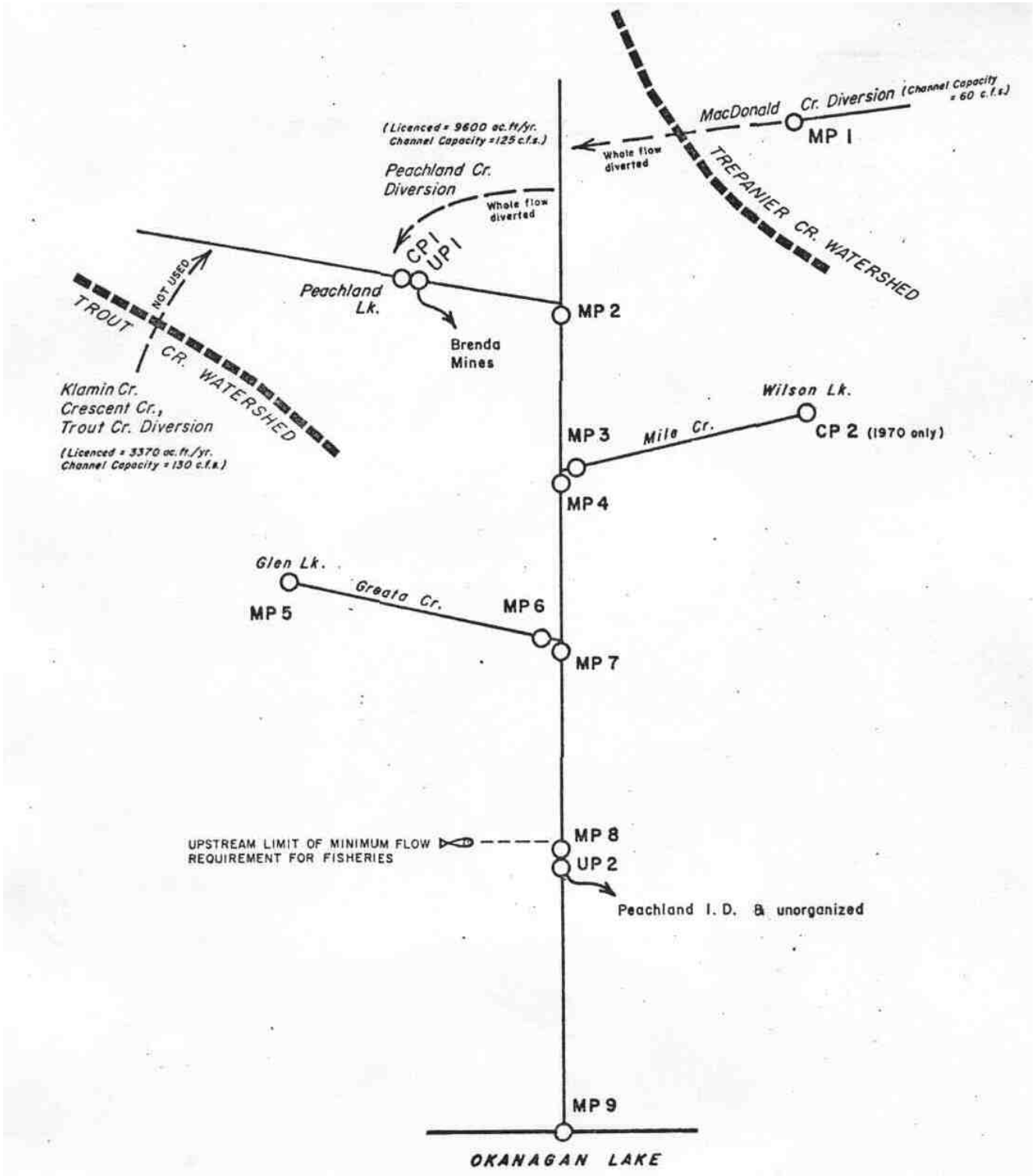
Reference to the area-elevation curves on Figure 14.2 (Chapter 14) will show that the median elevation of Peachland Creek is 4100 feet. Except for valley floors and benches, the land rises steeply out of Okanagan Lake for 2000 vertical feet, reaching elevation 3000 feet with only 13% of the sub-basin area below. The main body of the sub-basin (71%) is a rugged upland plateau extending between elevation 3000 feet and 5000 feet. The final 16% of the area extending to over 6000 feet is comprised of local mountain tops and ridges.

Reference to Figure 14.3 will show that the course of Peachland Creek rises steeply over almost its whole length. For the first two miles up-



KEY MAP PEACHLAND CR.

Figure 7.1



PEACHLAND CR. SCHEMATIC Figure 7.2

stream from its mouth, it rises at a gradient of 364 feet per mile. This is much steeper than any of the other creeks under study. For the remaining 17 miles to its headwaters, Peachland Creek rises at a less steep and fairly constant gradient averaging 197 feet per mile.

There are a number of hydrometric, meteorological and snowcourse stations within the Peachland Creek system and these are located on Figure 7.1.

Many of the hydrometric records are of short duration and often cover only the summer months.

The most significant hydrometric station is 8NM159 near the creek mouth. Hydrographs of mean monthly flows passing this station have been plotted on Figure 14.4.

7.2 HISTORICAL BACKGROUND

Peachland was first developed by the Peachland Townsite Company. This Company was incorporated in 1899, for the purpose of buying and selling lands and supplying them with irrigation water.

The Company acquired lots and subdivided them into blocks of various sizes which were sold for orchard land. A system of ditches, wooden flumes and woodstave pipes, were constructed in 1906 to convey water from Peach-land Creek.

Storage reservoirs with a combined storage of about 1000 acre-feet were constructed, but even so, the water supply was deficient in August to September. There were few measuring devices and no locks on any of the sluices or gates, with the result that the distribution of water was unsatisfactory.

In 1916 all the Company's lands were sold for taxes.

In 1917 a Commission was appointed to inquire into the affairs of Peach-land Townsite Company. It was found that the Company was practically bankrupt. The water distribution system was generally efficient, but a shortage of water did occur during the end of the irrigation season. Hence, the Company was not in a position to carry on operations or fulfill its obligations to the water users. As a result of this commission, an improvement district was formed on October 28, 1920, under the name of "Peachland Irrigation District". Later in November of the same year the Peachland Irrigation District bought out all rights of the Peachland Townsite Company for $6,000.

Records from the year 1915 show that Peachland Creek was called Deep

Creek and that a reservoir existed at the headwaters of the South Fork. This presumably, was the original Peachland Lake reservoir. It is recorded to have had 8 1/2 feet of drawdown and 227 acre-feet of storage. The catchment area was insufficient to fill the storage and investigations were being made for possible diversion. On "the Main Deep Creek" was situated another reservoir with a concrete dam and spillway, 8 1/2 feet of drawdown and a storage of 531 acre-feet.

The small storage (81 acre-feet) on Wilson Lake was of value to the area until the enlargement of Peachland Lake to its present size of 9575 acre-feet by Brenda Mines. Now, because Peachland I.D. can call on an assured 1000 acre-feet per year, Wilson Lake has become obsolete.

7.2.1 Brenda Mines Limited

Early in the 1960's, an interesting low grade copper prospect was discovered near the headwaters of Peachland Creek, one mile east of Brenda Lake. By 1967, sampling and concentrating tests on bulk samples obtained from underground operations were completed in a pilot mill with a capacity of 100 tons per day. The open-pit area and the proposed mill-site were cleared and a power line brought to the property. By the end of the year 170,000 tons of over burden had been removed.

Data from water licences shows that, in 1966, authority was given to divert 1500 acre-feet per year from Brenda Creek and 2300 acre-feet per year from McDonald Creek. In this year also, storage of 5800 acre-feet was authorized for Peachland Lake.

In 1968, Brenda Mines were licenced to divert up to 3370 acre-feet per year from Crescent Lake, Clamin Creek and Trout Creek. This involved construction of over four miles of diversion ditch. Water thus diverted is direct-into Peachland Lake.

Thus, a number of diversions into Peachland Lake are now possible. The capacity of the lake has been greatly increased to a total of 9575 acre-feet. Utilization of this capacity would require a drawdown of 75 feet but through re-circulation it is fortunate that water requirements are much less than anticipated. The reduced fluctuation in Peachland Lake has improved the recreation potential.

7.3 LAND USE AND WATER REQUIREMENTS

Apart from a few smallholders, there are only two water users in the Peachland Creek watershed, namely, Brenda Mines Ltd. and Peachland Irrigation

District. The mine occupies the headwaters area and pumps Us water needs from Peachland Lake. The irrigated area occupies the lower benches near Okanagan Lake and extends beyond the natural boundaries of the watershed.

Peachland Irrigation District performed its function of water supply with little change to its old system, built in 1906, until financial assistance under ARDA became available in 1969. Between 1969 and 1972, a completely new system was built. At its intake, this new system has a capacity of 5100 gpm and is designed to serve up to 640 acres with an annual diversion duty of 3.4 feet. The trunk supply line consists of 8075 feet of asbestos-cement pipe ranging down from 24 inch to 12 inches in diameter. The lateral distribution system is also of asbestos-cement and is comprised of 50,000 feet of pipe ranging in size from 12 inch to 4 inch diameter. Pressures are maintained between 65 and 125 psi. Because of the low pressure range and the wide range in elevation of irrigated lands, the system is divided into five pressure zones, two requiring booster pumping and three requiring pressure reduction.

The entire system is chlorinated to provide a potable water. The common pattern of residential development replacing previously irrigated agricultural land is well advanced. In 1973 it is estimated that, of all the land served, 510 acres are under irrigation and 127 acres are residential.

Brenda Mines Ltd. is a large, Copper producing, open pit mining operation. In 1967 a small 100 tons per day pilot mill proved the economics of the venture. By 1971 a 24,000 tons per day mill was working to capacity all year around. Copper concentrates are trucked to Kelowna and thence out of the valley by rail. By arrangement, the mine acquired the right to carry out a series of diversions, the water from which they store in a greatly improved Peachland Lake dam. Water is then pumped from the lake, as required, to meet the needs of the mine for production of copper concentrates and for local domestic purposes connected with the mine. Because of the mine's originally estimated water requirement (licensed diversion 13,513 acre-feet) greatly exceeds their current need (1,548 acre-feet), there is a large over capacity in the present Peachland Lake and diversions.

Water users in terms of population and areas irrigated are shown on Table 7.1.

Consumptive use diversions as listed above are assumed to result in no return flow within the Peachland Creek sub-basin. However, consumptive use diversions are expected to provide a return flow to Okanagan Lake. The amount

of return flow varies with the type of use and is estimated as follows:

a) For "Irrigation" return flow = 50% of diversion.
b) For "Domestic and Waterworks", return flow = 65% of diversion.
c) For "Industry", return flow = 90% of diversion.

From the above, water utilization in terms of the amounts of consumed water and return flow within the Okanagan Lake Basin may be tabulated as shown on Table 7.2.

TABLE 7.1
WATER USERS IN THE PEACHLAND CREEK WATERSHED (1970)

Area Served	Area Irrigated (acres)	Population (approx.) (persons)	Irrigation (ac. ft.)	Domestic and Industrial (ac. ft.)	Total (ac. ft.)
Brenda Mines	0	0	0	1548	1548
Peachland I.D.	585	0	1771	0	1771
Other	32	0	97	0	97
Total	617	0	1868	1548	3416

TABLE 7.2
WATER UTILIZATION IN PEACHLAND CREEK (1970)

Requirements	Diversion for Consumptive Use (acre-feet)	Consumed Water (acre-feet)	Return Flow to Okanagan Lake (acre-feet)
Irrigation	1,868	934	934
Domestic and Waterworks	80	28	52
Industry	13,433	1,343	12,090
Totals	15,381	2,305	13,076

A detailed breakdown of the diversion requirements for the major areas as the 1970 stage of development is as shown on Table 7.3

TABLE 7.3

DIVERSION REQUIREMENTS ON PEACHLAND CREEK (1970)

GIVEN IN ACRE FEET

Month	Type	Peachland I.D.	Brenda Mines	Other	Total
J	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	124	0	124
F	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	124	0	124
M	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	139	0	139
A	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	124	0	124
M	Agriculture	265	0	15	280
	Domestic	0	0	0	0
	Industry	0	124	0	124
J	Agriculture	443	0	24	467
	Domestic	0	0	0	0
	Industry	0	139	0	139
J	Agriculture	443	0	24	467
	Domestic	0	0	0	0
	Industry	0	124	0	124
A	Agriculture	443	0	24	467
	Domestic	0	0	0	0
	Industry	0	124	0	124
S	Agriculture	177	0	10	187
	Domestic	0	0	0	0
	Industry	0	139	0	139
O	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	124	0	124
N	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	124	0	124
D	Agriculture	0	0	0	0
	Domestic	0	0	0	0
	Industry	0	139	0	139
Total		1771	1548	97	3416

LOCATION	AREA IN K.AC	FLOWS IN AC.FT. J	F	M	A	M	J	J	A	S	O	N	D	YEAR	Date of Print-out: Oct. 19, 1973. (revision)
RPDA 1	2.9	13.	17.	18.	37.	1013.	691.	49.	32.	23.	23.	17.	17.	1950.	
CPDA 1	6.4	31.	39.	46.	89.	1464.	894.	103.	83.	44.	44.	39.	39.	2885.	
RPDA 2	9.5	46.	57.	65.	129.	2497.	1505.	155.	85.	88.	88.	87.	87.	4879.	
CPDA 2	0.8	4.	4.	6.	11.	99.	48.	11.	4.	4.	4.	4.	4.	204.	
RPDA 3	1.9	7.	7.	10.	24.	169.	80.	21.	7.	7.	7.	7.	7.	361.	
RPDA 4	18.5	79.	94.	116.	243.	3351.	2005.	260.	121.	104.	104.	92.	92.	6662.	
RPDA 5	2.7	12.	15.	18.	38.	442.	250.	39.	17.	18.	15.	18.	15.	888.	
RPDA 6	18.5	38.	47.	58.	127.	1204.	635.	125.	49.	45.	45.	46.	45.	2466.	
RPDA 7	30.4	119.	144.	179.	388.	4605.	2661.	394.	172.	151.	151.	148.	149.	9236.	
RPDA 8	32.5	121.	146.	181.	387.	4634.	2676.	400.	173.	152.	152.	141.	141.	9303.	
RPDA 9	38.1	123.	150.	184.	400.	4681.	2694.	409.	176.	155.	155.	143.	143.	9411.	

PEACHLAND CR. DRY YEAR (NATURAL FLOW) Figure 7.3

LOCATION	AREA IN K.AC.	FLOWS IN AC.FT. J	F	M	A	M	J	J	A	S	O	N	D	YEAR	Date of Print-out: Oct. 19, 1973 (revision)
RPDA 1	2.9	20.	25.	27.	55.	1459.	990.	73.	46.	34.	34.	25.	25.	2814.	
CPDA 1	6.4	50.	62.	75.	143.	2245.	1355.	164.	82.	69.	69.	62.	62.	4438.	
RPDA 2	9.5	72.	89.	104.	203.	3742.	2362.	242.	130.	104.	104.	89.	89.	7338.	
CPDA 2	0.8	6.	7.	10.	26.	171.	83.	19.	7.	7.	7.	7.	7.	362.	
RPDA 3	1.9	13.	14.	19.	45.	311.	147.	40.	13.	13.	13.	13.	13.	655.	
RPDA 4	18.5	133.	158.	197.	418.	5298.	3105.	437.	198.	170.	170.	154.	154.	10389.	
RPDA 5	2.7	20.	25.	30.	63.	719.	408.	60.	28.	25.	25.	24.	24.	1669.	
RPDA 6	18.5	89.	88.	106.	237.	2083.	1078.	228.	88.	80.	80.	79.	79.	4288.	
RPDA 7	30.4	206.	249.	310.	678.	7487.	4230.	663.	265.	254.	254.	238.	238.	15115.	
RPDA 8	32.5	210.	255.	316.	695.	7564.	4263.	700.	268.	258.	258.	242.	242.	15293.	
RPDA 9	38.1	218.	265.	327.	761.	7718.	4329.	734.	295.	265.	266.	249.	249.	15855.	

PEACHLAND CR. AVERAGE YEAR (NATURAL FLOW) Figure 7.4

LOCATION	AREA IN K.AC.	FLOWS IN AC.FT. J	F	M	A	M	J	J	A	S	O	N	D	YEAR	Date of Print-out: Oct. 19, 1973. (revision)
RPDA 1	2.9	32.	41.	43.	87.	2266.	1531.	115.	72.	54.	54.	41.	41.	4373.	
CPDA 1	6.4	87.	106.	130.	248.	3715.	2213.	281.	137.	117.	117.	106.	106.	7362.	
RPDA 2	9.5	122.	150.	177.	345.	6053.	3777.	405.	212.	173.	173.	158.	150.	11888.	
CPDA 2	0.8	12.	13.	19.	37.	316.	184.	36.	13.	13.	13.	13.	13.	658.	
RPDA 3	1.9	24.	27.	37.	93.	609.	282.	79.	25.	25.	25.	25.	25.	1266.	
RPDA 4	18.5	239.	283.	357.	746.	9025.	6189.	784.	337.	298.	298.	275.	275.	18126.	
RPDA 5	2.7	36.	45.	54.	115.	1342.	682.	118.	49.	44.	44.	43.	43.	2515.	
RPDA 6	18.5	130.	160.	200.	443.	3811.	1949.	436.	157.	149.	149.	148.	148.	7909.	
RPDA 7	30.4	381.	459.	574.	1256.	13097.	7248.	1266.	506.	458.	458.	434.	434.	26601.	
RPDA 8	32.5	393.	477.	592.	1295.	13343.	7356.	1321.	518.	470.	470.	446.	446.	27190.	
RPDA 9	38.1	424.	517.	633.	1518.	13822.	7603.	1453.	645.	497.	497.	473.	473.	28557.	

PEACHLAND CR. WET YEAR (NATURAL FLOW) Figure 7.5

In order to acquire rights over the use of water, most users, acting either individually or collectively in an irrigation district, have maintained water licences for storage and diversion granted by the Crown, in right of the Province. Licences provide their holder with rights over the stated amount of water and, in cases of a shortage, the older licence takes precedence over the newer.

Current water licences in 1970 for both storage and consumptive use are listed on Table 7.4.

TABLE 7.4

WATER LICENSES ON PEACHLAND CREEK (1970)

Area Served	Total Licensed Storage (ac. ft.)	Agriculture (ac. ft.)	Domestic (ac.ft.)	Industry (ac.ft.)	Total (ac.ft.)	Computed Diversion Requirement (ac. ft.)
Brenda Mines	10575	0	80	13433	13513	1548
Peachland I.D.	1200	2564	0	0	2564	1771
Other	730	552	0	0	552	97
Total	12505	3116	80	13433	16629	3416

7.4 ESTIMATED NATURAL WATER SUPPLY

Estimated natural water yields for the area are shown on computer printout sheets, reproduced on Figure 7.3 (Dry Year) Figure 7.4 (Average Year), and Figure 7.5 (Wet Year).

In summary, the annual precipitation and natural runoff of the Peachland Creek Basin under the three types of year are as follows:

TABLE 7.5

ESTIMATED NATURAL WATER YIELDS FOR PEACHLAND SUB-BASIN

Type of Year	Annual Runoff		Estimated Precipitation (inches)	Remarks
	Kilo acre-feet	Inches over Basin		
Dry	8.9	2.8		area=59.1 square miles Note: Abstracted from Computer Printout Data
Average	15.0	4.8	20.0	
Wet	27.5	8.7		

7.4.1 Water Management

Natural water yields as described in the previous section estimate flows under pristine conditions. Under the influence of Man, water has been diverted for various purposes and reservoirs have been created to retard natural runoff. All these changes in natural conditions are included under the general title of Water Management.

7.5 STORAGE

Reference is made to the schematic diagram on Figure 7.2.

In a climate of spring floods and summer droughts, it is necessary to store a high proportion of total available water so that it may be used when needed.

By nature, the Peachland watershed is in a rather unusual situation with respect to storage potential. The two small lakes, Wilson (CP2) and Glen (MP5) have watersheds with quite good water yields but poor dam sites. Conversely, the best dam site is on Peachland Lake (CP1) which has a small, low yield catchment. This problem has been overcome by making a number of diversions to increase the potential catchment of Peachland Lake.

7.5.1 Peachland Lake

Although the natural drainage area of Peachland Lake is only 2800 acres, several important diversions enhance its potential inflow greatly. As detailed in section 7.1 diversions may be made from the Trout and McDonald Creek watersheds and from Peachland Creek itself. The present dam was built in 1968 and impounds 9575 acre feet of water of which only a small proportion is required under normal operation. The spillway of the earthfill dam is set at elevation 4150.0 feet and the invert of the 36 inch diameter outlet culvert is at elevation 4075.0 feet. This provides for an unusually large drawdown of 75 feet. The reservoir is owned and operated by Brenda Mines Limited who, by agreement, release up to 1000 acre feet of water to meet the needs of Peachland I.D.

7.5.2 Wilson Lake

This old earth and rock fill dam contains 81 acre feet of storage. Its spillway elevation is at 4603 feet while the invert of its 12 inch outlet culvert is at elevation 4590 feet. It is expected that the dam will be breached soon.

Basin hydrologic information on the two reservoirs described above is given in Table 7.6.

TABLE 7.6

1970 STORAGES IN THE PEACHLAND CREEK SYSTEM

Reservoir	Drainage Area (acres)	Live Storage (acre-feet)	Surface Area (acres)	Estimated Annual Natural Runoff (acre-feet)		
				Dry Year	Average Year	Wet Year
Peachland	2800	9575	270	567	1039	1961
Wilson	800	81	47	204	352	652
Total	3600	9656	317	771	1391	2613

Storages are currently operated in a manner which seems best to the owners for the purposes of irrigation or ore concentration.

Methods of operation are by no means rigid and, for Peachland Lake, are normally kept within narrow limits for recreational purposes. Input data for purposes of computer programming is based on the assumed pattern of storage operation as shown on Table 7.7.

TABLE 7.7

RULE CURVE VALUES

FOR PEACHLAND CREEK RESERVOIR

Reservoir Name	Reservoir Capacity	Rule Curve Values Expressed as a Percentage of Reservoir Capacity											
		J	F	M	A	M	J	J	A	S	O	N	D
Peachland	9575	45	45	45	45	70	100	82	63	45	45	45	45
Wilson	81	0	0	0	0	100	100	67	33	0	0	0	0
Total	9656												

EXPLANATION: For any given month -

a) Percentages shown refer to active storage occupied by water at end of month. e.g. 30% storage occupied by water at end of March.
b) When rule curve value is exceeded, all excess water is released.
c) When rule curve value is not achieved, only stated water requirements are released.

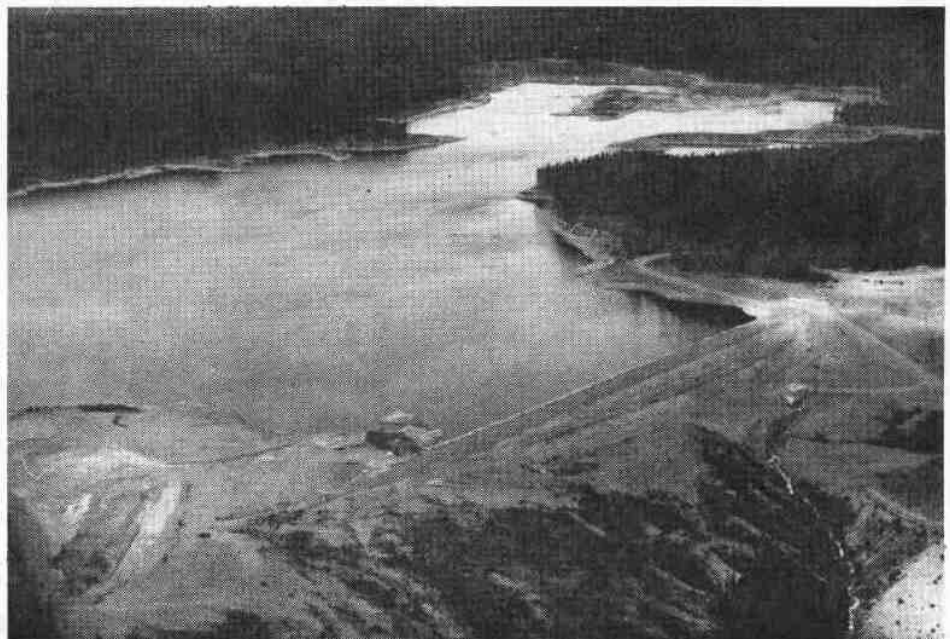


Photo 31 PEACHLAND LAKE - Looking Southwest (Sept. 12, 1973)
Peach land Creek System

Photo 32 DOBBIN, ISLAHT AND WEST LAKES
Looking East (Sept. 12, 1973)
Powers Creek System

d) Information based on local records of water users.

At the 1970 stage of development little or no consideration is given to the operation of storage for Fisheries or other non-consumptive use.

7.5.3 Residual Flows

When natural flow is affected by storage changes, diversions to or from the area and withdrawals for irrigation, domestic or industrial purposes, the resulting creek flow is called the "residual flow". These residual flows, for various selected points and three types of weather year at 1970 development, are shown on computer print-outs. They are reproduced as Figure 7.6 (Dry Year), Figure 7.7 (Average Year), and Figure 7.8 (Wet Year),

Reference to the above figures will show that residual flows immediately upstream and immediately downstream from the selected point are given. The difference is the amount diverted at the point for consumptive use. It will be noted that there are no "demand deficiencies" at the 1970 stage of development, even in a "dry" year.

Reference to Figures 7.9 and 7.6 will show that, based on Department of Fisheries estimates of need, there would be a considerable shortage of water for non-consumptive use in both "dry" and "average" years.

These water deficiencies are the product of storage operation based on present or historic methods. Using the model for modified operation of storage (described earlier) it becomes possible to eliminate all deficiencies. This is shown graphically on Figure 7.9 and suggests that refinements to the historic method of operating storage would result in a more advantageous use of the water resource. On the negative side it must be remembered that modified storage operation would require a wider range of drawdown on Peachland Lake and, hence, would reduce its recreational value.

In conclusion, the contribution which Peachland Creek makes to the gross inflow to Okanagan Lake may be evaluated for various types of year as shown on Table 7.8

TABLE 7.8

COMPARISON BETWEEN INFLOWS TO PEACHLAND CREEK AND OKANAGAN LAKE

Type of Year	Estimated Regulated Flows at 1970 Development		
	Inflow to Okanagan Lake from Peachland Creek	Total Tributary Inflow to Okanagan Lake from all Sources	Percentage Contribution by Peachland Creek to Okanagan Lake Inflow
	acre-feet	acre-feet	%
Dry	6,900	279,200	2.5
Average	12,200	516,000	2.4
Wet	24,300	796,700	3.1

Date of Print-out
Oct. 26, 1973 (revision)

STORAGES GIVEN ARE FOR THE END OF THE MONTH
UNITS FOR DEMANDS, STORAGES, FLOWS, AND DEFICIENCIES ARE ACRE FEET

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
CONTROL POINT STORAGE	1	4279.	4161.	4085.	4088.	6440.	7886.	7720.	6032.	4309.	4252.	4186.	4101.	
CONTROL POINT STORAGE	2	0.	0.	0.	0.	81.	81.	54.	27.	0.	0.	0.	0.	
MEASURING POINT FLOW	2	14.	18.	19.	40.	1033.	701.	245.	1682.	1676.	24.	18.	18.	5488.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	3	7.	7.	10.	23.	87.	79.	48.	35.	34.	7.	7.	7.	380.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	4	47.	55.	70.	153.	1807.	1111.	376.	1746.	1738.	60.	54.	54.	7271.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	7	88.	105.	132.	290.	3062.	1767.	520.	1797.	1789.	108.	102.	102.	9852.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	9	91.	110.	137.	310.	2858.	1332.	59.	1333.	1605.	111.	105.	105.	8156.
DEFICIENCY (FISH)		59.	40.	13.	0.	0.	0.	91.	0.	0.	159.	45.	45.	452.
USE POINT DEMAND, IRRIGATION	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
FLOW, UPSTREAM		124.	124.	139.	124.	124.	139.	317.	1773.	1791.	124.	124.	139.	5042.
FLOW, DOWNSTREAM		0.	0.	0.	0.	0.	0.	193.	1649.	1652.	0.	0.	0.	3494.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
USE POINT DEMAND, IRRIGATION	2	0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, TOTAL		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
FLOW, UPSTREAM		89.	107.	134.	298.	3091.	1779.	516.	1798.	1790.	109.	103.	103.	9917.
FLOW, DOWNSTREAM		89.	107.	134.	298.	2811.	1312.	49.	1331.	1603.	109.	103.	103.	8049.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY (FISH)		61.	43.	16.	0.	0.	0.	101.	0.	0.	161.	47.	47.	476.
GRAND TOTALS FOR ALL THE USE POINTS: DEMAND, IRRIGATION		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	404.	606.	591.	591.	326.	124.	124.	139.	3416.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

PEACHLAND CR. DRY YEAR (1970) Figure 7.6

Date of Print-out
Oct. 26, 1973 (revision)

STORAGES GIVEN ARE FOR THE END OF THE MONTH
UNITS FOR DEMANDS, STORAGES, FLOWS, AND DEFICIENCIES ARE ACRE FEET

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
CONTROL POINT STORAGE	1	4255.	4218.	4181.	4255.	6702.	6908.	7851.	6032.	4309.	4288.	4251.	4199.	
CONTROL POINT STORAGE	2	0.	0.	0.	0.	81.	81.	54.	27.	0.	0.	0.	0.	
MEASURING POINT FLOW	2	22.	27.	29.	60.	2629.	1008.	1248.	1871.	1724.	36.	27.	27.	8707.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	3	12.	14.	19.	45.	230.	146.	67.	41.	40.	13.	13.	13.	652.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	4	83.	98.	121.	275.	4104.	1750.	1470.	1964.	1815.	101.	92.	92.	11965.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	7	157.	187.	236.	535.	6293.	2875.	1717.	2054.	1900.	186.	176.	176.	16492.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	9	169.	203.	252.	598.	6244.	2507.	1301.	1598.	1724.	197.	187.	187.	15167.
DEFICIENCY (FISH)		0.	0.	0.	0.	0.	0.	0.	0.	0.	73.	0.	0.	73.
USE POINT DEMAND, IRRIGATION	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
FLOW, UPSTREAM		124.	124.	139.	124.	1256.	139.	1294.	1947.	1827.	124.	124.	139.	7361.
FLOW, DOWNSTREAM		0.	0.	0.	0.	1132.	0.	1170.	1823.	1688.	0.	0.	0.	5813.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
USE POINT DEMAND, IRRIGATION	2	0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, TOTAL		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
FLOW, UPSTREAM		161.	192.	241.	556.	6370.	2908.	1734.	2058.	1904.	190.	180.	180.	16674.
FLOW, DOWNSTREAM		161.	192.	241.	556.	6090.	2441.	1267.	1591.	1717.	190.	180.	180.	14806.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY (FISH)		0.	0.	0.	0.	0.	0.	0.	0.	0.	80.	0.	0.	80.
GRAND TOTALS FOR ALL THE USE POINTS: DEMAND, IRRIGATION		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	404.	606.	591.	591.	326.	124.	124.	139.	3416.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

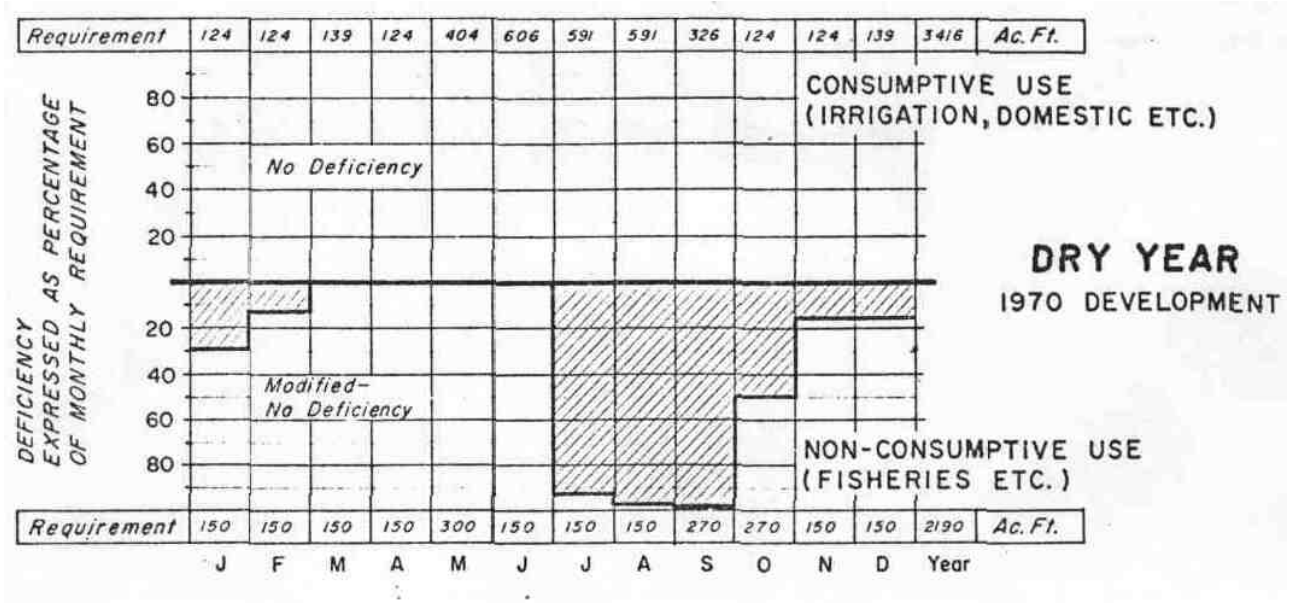
PEACHLAND CR. AVERAGE YEAR (1970) Figure 7.7

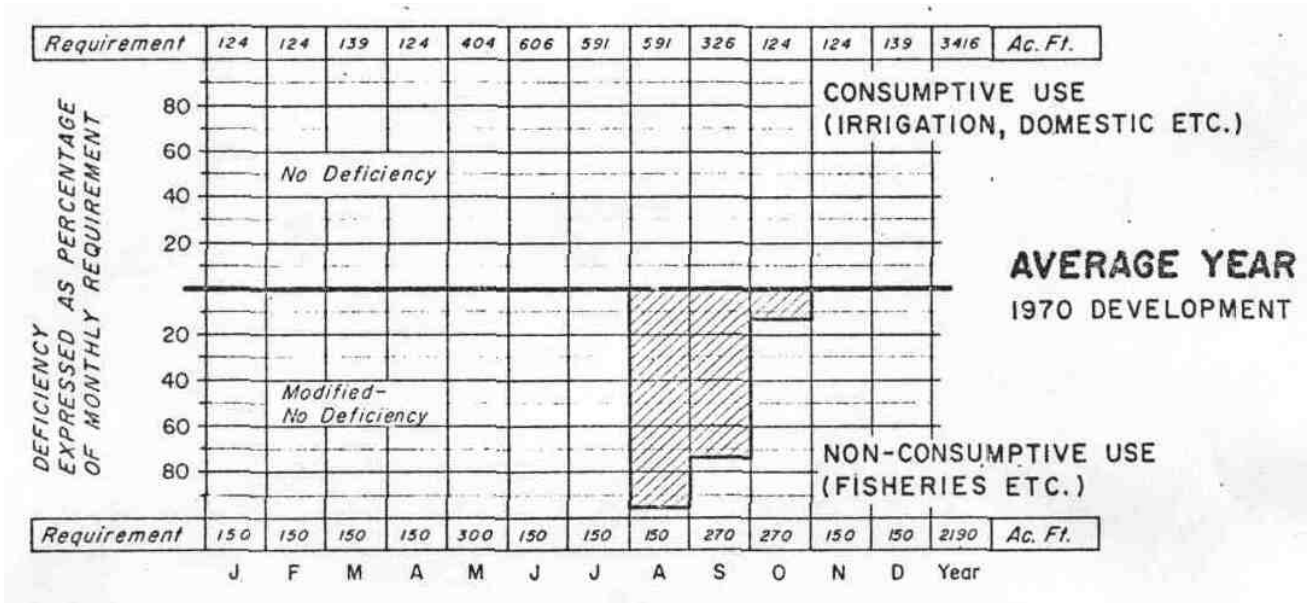
Date of Print-out:
Oct. 28, 1973 (revision)

STORAGES GIVEN ARE FOR THE END OF THE MONTH
UNITS FOR DEMANDS, STORAGES, FLOWS, AND DEFICIENCIES ARE ACRE FEET

		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ANNUAL
CONTROL POINT STORAGE	1	4304.	4309.	4309.	4309.	6702.	9575.	7851.	6032.	4309.	4309.	4309.	4309.	
CONTROL POINT STORAGE	2	0.	0.	0.	0.	81.	81.	54.	27.	0.	0.	0.	0.	
MEASURING POINT FLOW	2	35.	62.	81.	308.	5806.	2297.	2120.	1979.	1813.	104.	67.	52.	14717.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	3	24.	27.	37.	89.	519.	282.	106.	53.	52.	25.	25.	25.	1263.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	4	152.	195.	261.	728.	8691.	3709.	2525.	2131.	1963.	228.	191.	176.	20950.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	7	294.	370.	477.	1249.	12762.	5768.	3007.	2299.	2123.	388.	350.	335.	29422.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
MEASURING POINT FLOW	9	338.	429.	536.	1481.	13308.	5655.	2727.	1871.	1975.	427.	389.	374.	29510.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
USE POINT DEMAND, IRRIGATION	1	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
FLOW, UPSTREAM		124.	142.	173.	335.	3687.	872.	2120.	2028.	1895.	171.	147.	147.	11740.
FLOW, DOWNSTREAM		0.	18.	34.	211.	3463.	733.	1996.	1904.	1756.	47.	23.	8.	10192.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
USE POINT DEMAND, IRRIGATION	2	0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, TOTAL		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
FLOW, UPSTREAM		307.	388.	495.	1318.	13012.	5875.	3862.	2311.	2135.	400.	362.	347.	30012.
FLOW, DOWNSTREAM		307.	388.	495.	1318.	12732.	5408.	2595.	1844.	1948.	400.	362.	347.	28144.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	
GRAND TOTALS FOR ALL THE USE POINTS: DEMAND, IRRIGATION		0.	0.	0.	0.	280.	467.	467.	467.	187.	0.	0.	0.	1868.
DEMAND, DOMESTIC		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
DEMAND, INDUSTRIAL		124.	124.	139.	124.	124.	139.	124.	124.	139.	124.	124.	139.	1548.
DEMAND, TOTAL		124.	124.	139.	124.	404.	606.	591.	591.	326.	124.	124.	139.	3416.
DEMAND, DEFICIENCY		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

PEACHLAND CR. WET YEAR (1970) Figure 7.8





LEGEND
Historic (Simulated) Operation
Modified (Simulated) Operation

NOTES: 1. Consumptive Use deficiencies are totals for whole basin.
2. Non-Consumptive deficiencies are those extant at creek mouth.
3. In a Wet Year, a fisheries deficiency of $^{106\ (Hist)}/_{0\ (Mod)}$ ac. ft. exists at mouth in August.

PEACHLAND CR. (1970) DEFICIENCY DIAGRAM Figure 7.9