

STATE WATER PROGRAM



W.I.R.P.P. SERIES – NO. 26

**WENATCHEE RIVER BASIN
INSTREAM RESOURCES PROTECTION PROGRAM
INCLUDING
PROPOSED ADMINISTRATIVE RULES (WAC 173-545)
AND
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT**

**STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY**

**DECEMBER 1982
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Wenatchee River Basin
Instream Resources Protection Program
Including
Proposed Administrative Rules (WAC 173-545)
and Supplemental Environmental Impact Statement
(Water Resources Inventory Area 45)

Prepared by
Water Resources Policy Development Section
Washington State Department of Ecology
Principal Planner - Marsha Beery
Preliminary Research - Judy Kelly

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INTRODUCTION

The Wenatchee River Basin Instream Resources Protection Program was initiated primarily as a result of Chelan County Public Utility District's (PUD's) interest in redeveloping power facilities at two existing dam sites on the Wenatchee River and the Wenatchee Reclamation District's interest in diverting an additional amount of water from the mainstem Wenatchee River. Through this instream protection program, the Washington State Department of Ecology (WDOE) proposes to establish minimum instream flows on certain streams which will constitute senior rights to those subsequently issued for additional consumptive diversions. Minimum instream flows are being adopted to protect fish, wildlife, navigation, water quality, scenic, aesthetic, and other environmental values. These minimum flows are proposed for adoption as Chapter 173-545 WAC, a new section in the Washington Administrative Code.

The Wenatchee River Basin (WRIA 45) is drained by the Wenatchee River and its tributaries (see Figure 1, pg. v). The basin includes over 1,300 square miles of mountain and valley terrain, with surface water discharging eventually into the Columbia River near the City of Wenatchee. The rivers, streams, and lakes of the Wenatchee Basin supply water for a multitude of uses both instream, nonconsumptive, and out-of-stream consumptive types. One typical stream and major tributary is Icicle Creek which is used by campers, sportsmen, hikers, and sightseers for its instream recreation, and aesthetic values. A number of species of fish, both native and anadromous, as well as numerous wildlife species rely upon the creek for their subsistence. On the other hand, competing for the available water supply are the out-of-stream uses which include large diversions by three irrigation districts, a diversion by the City of Leavenworth for municipal supply, a diversion for fish propagation, and a multitude of diversions for small residential developments and stockwatering, as well as proposed diversions for several small scale hydroelectric operations.

Other tributaries, including Ollala, Nahahum, Mission, Peshastin, and Chumstick creeks, as well as the main stem river, are used for irrigation, numerous single or group domestic water supplies, and stockwatering.

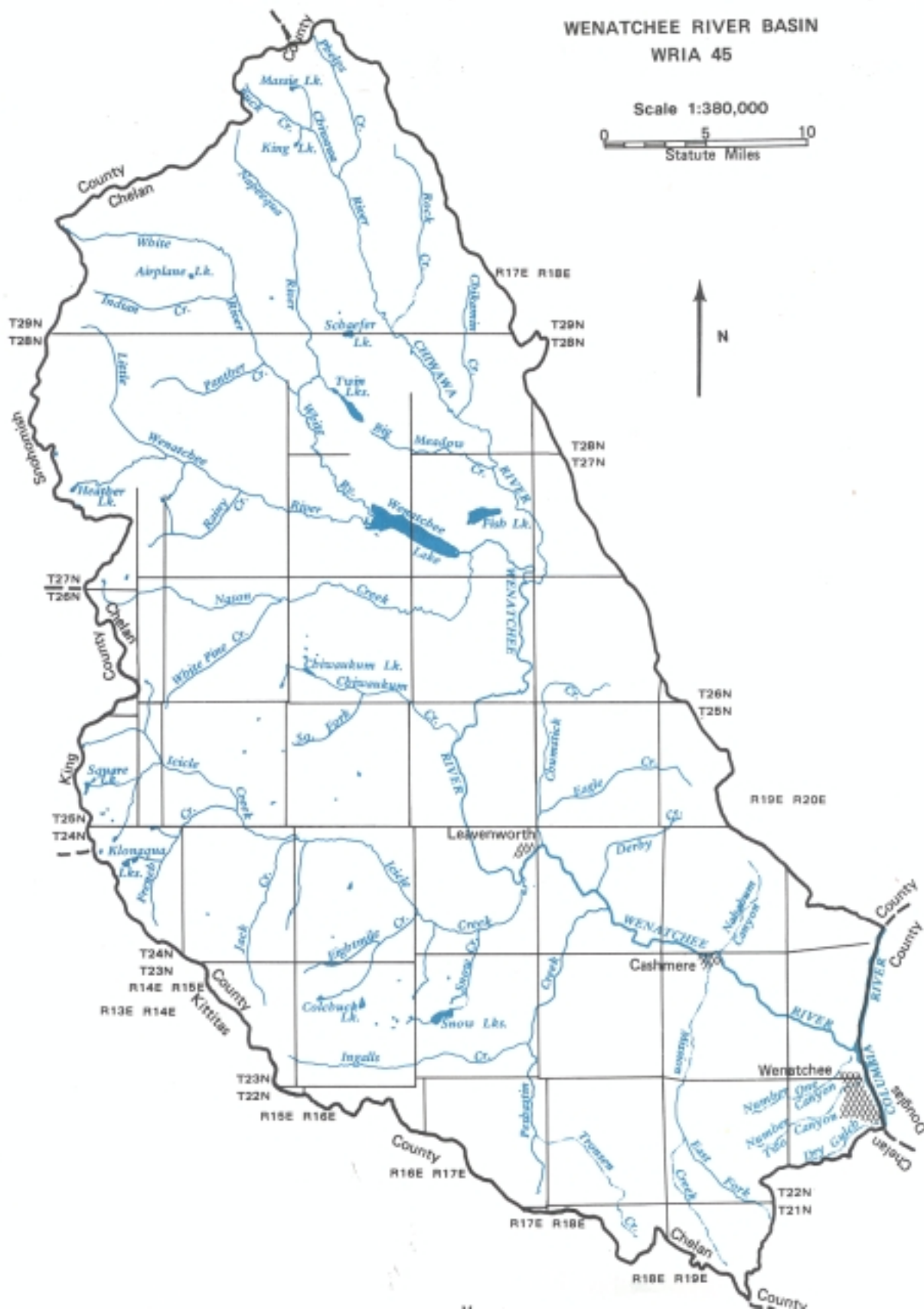
The principal source of water for the river system is snow pack melt in the high elevations of the eastern Cascade Crest. During late spring to early summer, as temperatures rise, these snow packs melt creating high stream flows. By late summer to early fall, high summer temperatures have caused snow packs to recede and stream flows to fall to a low level. During this time, competition between out-of-stream and instream use of the water is most apparent and the need for maintenance of minimum flows is most critical. This critical period is followed in the winter months by a return to higher stream flows from increased precipitation and reduced out-of-stream use.

WENATCHEE RIVER BASIN WRIA 45

Scale 1:380,000

0 5 10
Statute Miles

N



Through the proposed Wenatchee River Basin Instream Resources Protection Program, minimum instream flows will be established on Icicle Creek, Mission Creek, and the mainstem Wenatchee River. These minimum instream flows will be measured at five control stations - one on Icicle Creek, one on Mission Creek and three on the mainstem Wenatchee River. A partial year closure from June 15 to October 15 will be established on Peshastin Creek. During the nonclosure period, minimum flows will be measured at the nearest downstream control station on the mainstem Wenatchee River, the Monitor stream gage. Water right permits issued for future consumptive uses of water on these and other perennial tributary streams or rivers .in the basin will be subject to the minimum flows as measured at the appropriate control station, preferably the closest one downstream. In addition, future water right permits issued on all streams or lakes will be subject to the department's general surface and ground water allocation regulations and the policy to preserve an appropriate base flow in all streams or rivers and lake levels in all lakes by encouraging the use of alternate sources of water (see pg. A-4, WAC 173-545-050). Single domestic use and stockwatering (except that related to feedlots) will be exempt from minimum instream flow provisions on all streams. Where cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream use, then only in-house domestic use will be exempt if no alternative source is available. Group domestic use, including municipal supply, may be exempted from instream flow provisions of the program when it is determined by the department, after consulting with the departments of Fisheries and Game, that overriding considerations of the public interest will be served.

EXISTING WATER RIGHTS ARE NOT AFFECTED BY THIS PROGRAM.

PROGRAM OVERVIEW

In June 1979, a Western Washington Instream Resource Protection Program (WWIRPP) document, including a final environmental impact statement, was distributed to the public and governmental agencies. (Copies are available at the Department of Ecology, Olympia). In this document, the Washington State Department of Ecology (WDOE) proposed a plan for developing and adopting instream flows for 26 Western Washington Water Resource Inventory Areas (WRIAs) including two Eastern Washington WRIAs, the Wind-White Salmon Basin (WRIA 29) and the Klickitat Basin (WRIA 30). Because of the Wenatchee Reclamation District's (WRD) interest in taking additional water, from the Wenatchee River and the Chelan County Public Utility Districts (PUD) interest in redeveloping hydropower at two existing dam sites on the river, the WDOE decided that an instream resource protection program was needed in the Wenatchee River Basin (WRIA 45). Development of the program was initiated in early 1980.

The proposed plan outlined in the WWIRPP document was extended to include WRIA 45. The methods and procedures used in the Wenatchee Basin program are those outlined in the Western Washington Instream Resource Protection Program report. The anticipated environmental impacts of the program are similar to the impacts discussed in the WWIRPP final environmental impact statement. A final supplemental EIS, however, is included in the Wenatchee Basin program report to focus on those areas not adequately covered in the WWIRPP report when applied to the Wenatchee River Basin.

In the Wenatchee River Basin Instream Resources Protection Program (Wenatchee Program), the Washington State Department of Ecology (WDOE) proposes to establish specific minimum instream flow levels to protect the instream resources of fish, wildlife, water quality, navigation, recreation, scenic, aesthetic and other environmental values. (see figures 7, 8, and 9, pages 30 and 31).

Authority

The Water Resources Act of 1971 provides that perennial streams and rivers shall be retained with base flows necessary to provide for preservation of wildlife; fish; navigation; scenic and aesthetic; and other environmental and navigational values [RCW 90.54.020(3)(a) 1971]. The state may also establish minimum water flows or levels for streams, lakes, or other public waters for the purposes of protecting fish, game, birds, or other wildlife resources, recreational and aesthetic values, and water quality under the Minimum Water Flows and Levels Act [RCW 90.22.010, 1969]. Under provisions of the State Fisheries Code, the Department of Ecology may deny or otherwise limit water right permits if, in the opinion of the director of Game or director of Fisheries, such permit might adversely affect the ability of the stream to support game or food fish populations. (RCW 75.20.050, 1949). The Wenatchee Program is authorized by Chapters 90.54 RCW and supported by Chapters 90.22 and 75.20 RCW.

The base or minimum flows proposed in this program are referred to by the generic term "instream flows."

Public Participation

All interested individuals, private groups, and public agencies are encouraged to comment on any aspect of the recommended measures for streams and lakes in the Wenatchee River Basin. A series of coordination meetings have been held with local, county, state, and Federal agencies, as well as interested private individuals and organizations. A public meeting was held in Leavenworth on September 30, 1980. More than 30 people attended the meeting, representing many interests including fisheries, irrigation, rafting, orchards, and governmental agencies. Two public hearings to receive comments on the draft program, proposed rules, and draft supplemental EIS were held on Monday, October 25, 1982, at 2:00 p.m. at Chumstick Grange in Leavenworth and at 7:00 p.m. at the Cascade Natural Gas Auditorium, 614 N. Mission, in Wenatchee.

Proposed Action

The Wenatchee Program will establish minimum flows affecting future water right appropriations unless specifically exempted by the program. The recommended program is based on analysis of basin hydrology, departmental water right records, water use estimates, surveys of fish production capabilities in various parts of the Wenatchee River Basin, and consultations with the Washington Departments of Fisheries and Game, other agencies, and the public. Specific proposed actions are as follows:

- 1) Establish minimum instream flows throughout the year to be measured at three locations on the main stem of the Wenatchee River.
- 2) Establish minimum flows throughout the year on Icicle and Mission creeks to be measured at one control station on each creek.
- 3) Adopt a general policy to preserve an appropriate base flow in all streams and rivers as well as water levels in all lakes of the basin consistent with provisions of the Water Resources Act of 1971 (Chapter 90.54 RCW) to be used in the future management of the water resources of the basin.
- 4) Close Peshastin Creek to further consumptive uses of water from June 15 to October 15, each year.
- 5) Condition future water right permits on all perennial streams or rivers to the minimum flows as measured at the appropriate control station, preferably the closest one downstream.
- 6) Exempt single domestic use and stockwatering (except that related to feedlots) from provisions of the program. If the cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream use, then only single domestic in-house use shall be exempt if no alternate source is available.

- 7) May exempt future group domestic uses, including municipal supply, from the minimum instream flow provisions of the program when it is determined by the department, in consultation with the departments of Fisheries and Game, that overriding considerations of the public interest would be served.

BASIN DESCRIPTION

Geography

The Wenatchee River Basin, Water Resources Inventory Area 45 (WRIA 45), is located on the eastern slope of the Cascade Mountain range in the southwest portion of Chelan County in Central Washington. The basin, approximately 1,310 square miles in area, is bounded on the west by the crest of the Cascade Mountains, on the north and east by the Entiat Mountains, and to the south by the Wenatchee Range. The WRIA, as a whole, is dominated by rugged mountains. The narrow Wenatchee River Valley, extending 22 miles from the Wenatchee River's confluence with the Columbia River to the City of Leavenworth, provides the only significant continuous area of level ground in the basin and contains most of the basin's agricultural, urban, and suburban development.

The basin climate is continental, characterized by hot, dry summers and mild to severe winters. As a result of the prevailing westerly winds which cross the Cascades, temperature and precipitation vary widely in the basin, depending upon elevation and nearness to the mountains. Warm, moist air rises and cools as it encounters the Cascade Range, resulting in heavy precipitation on the western slopes of the Cascade crest. Precipitation drops sharply on the east side from more than 100 inches at points along the crest to the semiarid climate at Wenatchee where less than nine inches are received in an average year. Most of the precipitation occurs during the winter months as snow. Snow depths in the mountains range from 10 to 20 feet, and snow covers the mountain areas from late fall through early summer. Temperatures at Wenatchee range from a January mean of 26.2°F to a July mean of 73.4°F (1).

Population

WRIA 45 encompasses the Wenatchee Valley and a large area of mountainous backcountry drained by the Wenatchee River and tributaries. The basin includes the incorporated cities of Wenatchee, Leavenworth, and Cashmere. Unincorporated communities in the basin include Monitor, Dryden, Peshastin, and Plain. All of these towns are located along or near the Wenatchee River. The estimated population of WRIA 45 is 35,537 (1980), representing 78 percent of the total Chelan County population (2). Of this number, about 24,000 live within incorporated areas with the majority of the remainder located in the fringe areas. Thirty-eight percent of the basin's population lives within the Wenatchee city limits.

The basin experienced rapid population growth during the first third of this century as orchards were planted and towns were settled. Since the 1960s, however, the basin's population has grown only 1.5 percent, while population in the state as a whole increased by 20 percent (3). Most of the statewide growth in the last 40 years has occurred in the large urban areas. Rural areas have generally had decreasing shares of the total state population. This is due, in part, to consolidation of smaller farms and orchards into larger, more economic, capital intensive units. Figure 2 (pg. 5) illustrates population projections in the Wenatchee River Basin. Table I, below, indicates the general distribution of population and residences in the basin in 1980.

TABLE I
POPULATION AND RESIDENCE FIGURES
1980

<u>Area</u>	<u>Population</u>	<u>Residences</u>
City of Wenatchee	17,257	7,682
Wenatchee Urban Area	24,057*	10,391*
City of Leavenworth	1,526	701
Leavenworth Urban Area	2,404*	1,032*
Town of Cashmere	2,240	957
Cashmere Urban Area to include Peshastin & Dryden	7,885*	3,285*
Lake Wenatchee Area	1,191*	1,716*
TOTAL	35,537*	16,424*

*Estimate

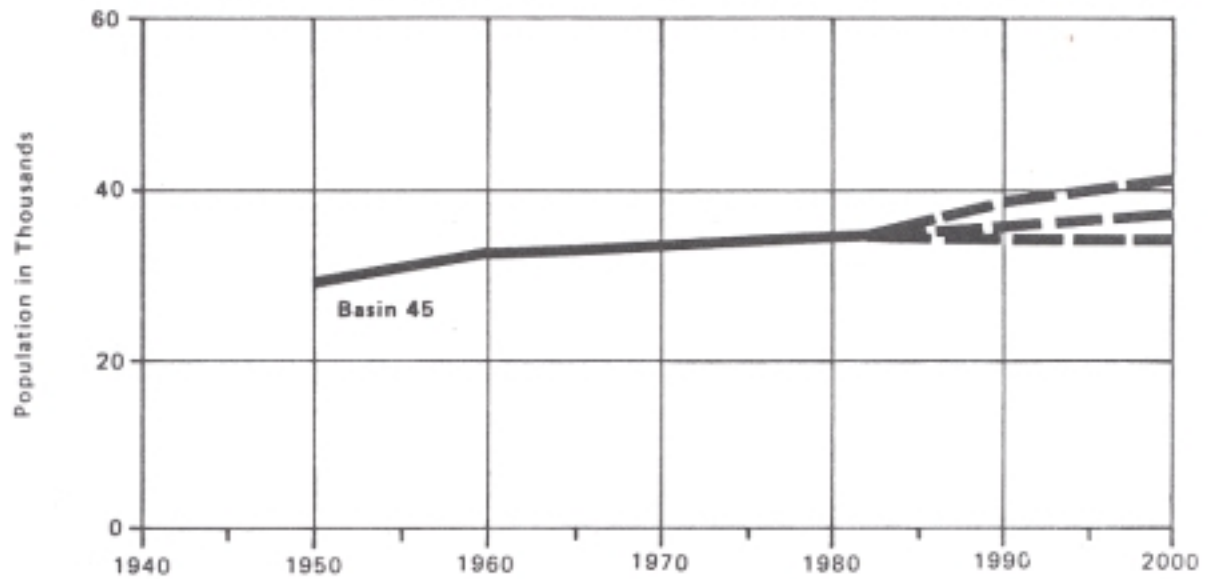
Source: U.S. Census, Chelan County Planning Council.

Economy and Land Use

Agricultural production is dominated by the fruit orchards of the Wenatchee Valley. Apples and pears are the predominant fruits in production (3). As basin population grows, urbanization will probably require conversion of some agricultural land (especially around Wenatchee) to residential development. The Wenatchee Valley Comprehensive Plan seeks to minimize the loss of prime agricultural lands.

From 1969-1971, timber production in the basin from national forest lands was over 35 million board feet (4). Logging on private lands contributed an average of 14 million board feet during the same three-year period. The saw mills in Cashmere and Peshastin processed much of this timber. According to the U.S. Forest Service (USFS), annual basin timber harvest is anticipated to remain at current production levels.

FIGURE 2 POPULATION PROJECTIONS (High, Medium, Low)



Source: U.S. Census; Chelan County Planning Council

Recreational opportunities in the basin cover a full range of outdoor activities. Served by a major transportation corridor (U.S. Highway 2), recreationists have good access to hiking, camping, hunting, fishing, swimming, and winter sport areas. With a broad range of retail goods and services, Wenatchee is in a good position to benefit economically from the recreation attractions in this area. The Town of Leavenworth has oriented itself to recreation, and has become a tourist attraction with Bavarian motif and seasonal festivals. Recent establishment of the North Cascades National Park and the Alpine Lakes Wilderness area should further support recreation and tourist-oriented commercial enterprise in the future.

Nearly 2,000 recreational lots have been platted in the basin since 1960, many in the Lake Wenatchee vicinity. Approximately one-fifth of these were developed prior to 1975. There are indications that some of the buyers intend to use these homesites for permanent or semipermanent retirement living. Increased permanent population eventually could have a substantial economic impact on the area.

Related Land and Water Resource Plans

Related land and water planning activities include the following:

Comprehensive Plan-Wenatchee Valley Planning Area, 1968

Comprehensive Water Plan for the City of Leavenworth, 1975.

The Leavenworth Area Comprehensive Plan, 1981

Comprehensive Water and Sewer Plan, Wenatchee, Washington, 1969

Facilities Plan for the City of Leavenworth, 1976.

Comprehensive Water and Sewer Plan, Chelan County, Washington, 1971

Sewage Drainage Basin Plan, Chelan County, Washington, 1974

Water Quality Management Plan (Section 303(e) - P.L. 92-500) WRIAs 45, 46, 47, 1975

Riverfront Development Plan, Chelan County, 1974

Wenatchee Forest Management Plan, 1981

Alpine Lakes Area Land Management Plan (Draft Environmental Impact Statement 1980)

WATER RESOURCES

Surface Waters

The Wenatchee River Basin is drained by the Wenatchee River and its tributaries. (See Figure 1, pg. v). The 1,310 square mile drainage area of the Wenatchee River Basin is confined by the 7,000 to 9,000 foot peaks of the Entiat, Wenatchee, and the Cascade mountains. Snowmelt between 5,500 to 7,500 feet in elevation provides the principal source of water for the basin's larger streams. The large headwater tributaries, the Chiwawa, White, and Little Wenatchee rivers, Icicle and Nason creeks originate along the eastern Cascade crest. The White and Little Wenatchee rivers flow into Lake Wenatchee. The main stem Wenatchee River flows southeasterly from Lake Wenatchee through valley and canyon reaches and discharges into the Columbia River at Wenatchee. The main stem of the river from the mouth to Lake Wenatchee is 53 miles long. The major tributaries and their approximate percentage contribution to the annual flow of the Wenatchee River at its mouth (based on average flows) are as follows:

Little Wenatchee River	15%
White River	25%
Chiwawa River	15%
Nason Creek	18%
Icicle Creek	20%
Chumstick Creek and Peshastin Creek	3%
Mission Creek	1%
Other minor sources	<u>3%</u>
	100%

The channel characteristics of the Wenatchee River change significantly at Leavenworth (river mile 25) and at river mile 40. From Lake Wenatchee (river mile 54), to river mile 40 the river meanders in a broad V-shaped valley with a gradient of less than 10 feet per mile. Between river mile 40 and Leavenworth (river mile 25), the stream channel is deeply incised in a bedrock canyon (Tumwater Canyon) with a gradient of approximately 52 feet per mile. The side spur ridges reach almost to the river in this reach. Below Leavenworth to the confluence with the Columbia River, the valley opens up into a more broad V-shape with a stream gradient of approximately 20 feet per mile.

In addition to the main Wenatchee River system, a few small streams originate in the southwest portion of WRIA 45 and drain directly into the Columbia River. These streams, which include Canyon Creek #1 and Canyon Creek #2, are independent of the main drainage system.

Tributaries

In the Wenatchee Basin, the tributary streams can be classified into three types: perennial, intermittent, or ephemeral.

Perennial streams. These are streams which flow from source to mouth throughout the year.(5) Flows are sustained in the stream during dry weather by groundwater inflow. Icicle Creek, Peshastin Creek, Mission Creek, and the upper Wenatchee River basin tributaries are examples of perennial streams.

Icicle Creek rises in a particularly high and rugged portion of the Cascade Mountain range. It flows easterly to join the Wenatchee River near Leavenworth. Extreme flows recorded in Icicle Creek vary from a minimum of 44 cubic feet per second (cfs) (11/30/1936) to a maximum of 11,600 cfs (5/28/1948) as measured at the USGS gaging station located above Snow Creek upstream of all the major diversions. Mean annual flow is 628 cfs. Waters of Icicle Creek are diverted by the Icicle Irrigation District, the Peshastin Irrigation District, other smaller irrigation systems, the Leavenworth Fish Hatchery and the town of Leavenworth. These diversions occur in the lower five miles of the stream. An adjudication of Icicle Creek water rights was completed in 1929.

Spring chinook salmon raised in the Leavenworth fish hatchery use lower Icicle Creek for spawning and rearing. A dam (river mile 2.8) immediately above the fish hatchery, however, impedes migration to the upper Icicle Creek area. Steelhead and native trout also inhabit the Icicle Creek drainage. Some water is stored in five high elevation lakes to provide supplemental water supply for irrigation, fish propagation, and municipal supply. Flows in the lower reaches of Icicle Creek fall to low levels during the summer and early fall months due to low natural flows and upstream consumptive diversions. Additional withdrawals during periods of low stream flow in the lower portion of Icicle Creek would be detrimental to the instream resource values of the creek. To protect these resource values, minimum instream flow limitations for future out-of-stream consumptive appropriations are proposed in the Wenatchee Program.

Peshastin Creek rises in the area around Mt. Stuart and flows northeasterly to join the Wenatchee River near the community of Peshastin. The drainage area of Peshastin Creek is about 100 square miles. This stream is used by a small population of spring chinook salmon; but passage problems, caused by a lack of water in the lower reach, have diminished the run. Native trout have also been stressed because of low flows in the lower reach. Irrigation diversions are made by the Peshastin Irrigation District and other smaller irrigation systems from the lower part of Peshastin Creek. Through the Wenatchee Program, the department proposes to protect instream values on Peshastin Creek by establishing a closure to further consumptive appropriations during the low flow period from June 15 to October 15. Future water right permits providing for the consumptive diversion of water from the creek during the nonclosed portion of the year will be subject to the minimum flows proposed for the mainstem Wenatchee River at the Monitor control station.

Mission Creek drains an area of 82 square miles. Its headwater tributaries originate in the Tronsen Ridge - Mission Peak area. The creek is used primarily by native trout. In the lower reaches of the creek, trout have been stressed during the summer and early fall months when low stream flows occur as a result of low natural flows and irrigation diversions. Creek water is used for domestic purposes, irrigation, and stockwatering. Both Mission Creek and a tributary, Brender Creek, were the subject of historic court actions which resulted in miscellaneous

adjudication decrees. Through the Wenatchee Program, minimum flows will be established on Mission Creek.

Mason Creek, White River, Little Wenatchee River, and Chiwaucum Creek all rise in the upper elevation lands that are primarily federally owned and administered by the United States Forest Service, Wenatchee National Forest. Current appropriations of surface water are small in quantity and mostly used for domestic or small irrigated plots. Because there is a lack of hydrologic data for these creeks, and little existing or proposed consumptive use demand, instream flows will not be established at this time. Instead, future permits to divert water from these streams, except Chiwaucum Creek, will be subject to the minimum flows proposed for the Plain control station on the mainstem of the Wenatchee River. Future permits on Chiwaucum Creek will be subject to the minimum flows proposed for the Peshastin control station on the mainstem.

The Chiwawa River, which also rises on National Forest lands, joins the Wenatchee River near Plain. The Wenatchee Chiwawa Irrigation District diverts water from the Chiwawa River to irrigate land near Plain. New consumptive withdrawal proposals are not anticipated at this time. Future permits to divert water from this river will be subject to the minimum flows proposed for the Plain control station on the Wenatchee River.

Chumstick Creek, rising to the north of Leavenworth in the Entiat range, is also heavily appropriated. An adjudication has been undertaken on this tributary and is scheduled to be completed in 1983. Through the adjudication, rights to the use of Chumstick Creek surface water will be confirmed. Although technically a perennial stream, at least during most years, Chumstick Creek's contribution of water to the Wenatchee River during periods of low flow is negligible. Therefore, in the context of the Wenatchee Program, Chumstick Creek will be considered as a nonperennial stream and applications for new permits will be evaluated on a case-by-case basis consistent with the general policy established by proposed WAC 173-545-050. Also, recommendations will be requested on each application from the departments of Fisheries and Game pursuant to the provisions of RCW 75.20.050.

Intermittent & Ephemeral Streams. These are streams which flow during part of the year (intermittent) or only in direct response to precipitation (ephemeral)(5).

Intermittent streams are primarily supported by rainfall, but may receive some flow from ground water part of the year. Ephemeral streams are dry except after heavy precipitation and do not receive flow from ground water, since the streambed always lies above the water table. Because of the short-lived nature of these streams, minimum flows will not be established on them. Rather, future water right permits on such streams will be subject to the department's general surface and ground water allocation policies, including the policy established by proposed WAC 173-545-050 encouraging the use of alternate sources of water.

Nahahum Canyon Creek and Ollala Canyon Creek are examples of intermittent streams tributary to the Wenatchee River. Both are located on the southern flanks of the Entiat Mountains northeast of Cashmere. During peak runoff periods in the spring months, flows of the creeks are used for irrigation and stockwatering. By summer, flows have diminished or completely dried up along most reaches of the stream bed. Because of disputes which have arisen over the use of water in Nahahum Canyon Creek, an adjudication of the drainage is currently under way.

Canyon Creek #1 and Canyon Creek #2, tributary to the Columbia River, are examples of ephemeral streams. These creeks lie southwest of the city of Wenatchee and have caused flood damages to parts of the city during periods of heavy precipitation which normally occur in the spring.

Runoff Characteristics

A major proportion of the stream flow in the Wenatchee River Basin results from the snowmelt during the spring and summer months. The ambient air temperature, and the mass of snow pack and the elevational distribution of snow pack determine runoff characteristics in the basin. Figures 3, 4, and 5, pgs. 11-13, show the relative year round expectancy of different levels of stream flow based on historical stream flow records for a particular location. Frequency of occurrence is shown in percent-of-time (1%, 50%, 99% occurrence) that the indicated daily flows can be expected to be equaled or exceeded.

Annual precipitation, largely in the form of snow, increases with elevation and ranges from 50 to 140 inches per year in headwater areas. During the winter and early spring, flows from snow pack areas are small because precipitation is retained. Snowmelt in the higher regions occurs later than in the lower parts of the watershed. Peak runoff usually takes place from April through July, when the temperature at the upper elevations has become high enough to melt the snow pack. Runoff may reach extreme proportions, as it did during the flood of 1948 when flows in the river measured 32,800 cfs. This high runoff was caused by the coincidental occurrence of heavy rains and high snow melt. Peak flow of this proportion has a recurrence frequency of about 100 years.

Flooding

Flows of 20-year recurrence frequency on the Wenatchee River cause flooding of low-lying buildings in rural areas near Cashmere and Monitor. A flood of 200-year recurrence frequency would result in flooding of some buildings within Cashmere and throughout the valley, inundation of roads in several places and washouts of highways, railroad embankments and orchard lands (6). While the City of Wenatchee is not within the floodplain of the Wenatchee River, it is subject to damages from floods in Canyon Creeks #1 and #2 which flow through the city to the Columbia River. Preliminary studies of flood control measures have been completed by the U.S. Army Corps of Engineers (USCE) (3).

FIGURE 3 MISSION CREEK HYDROGRAPH

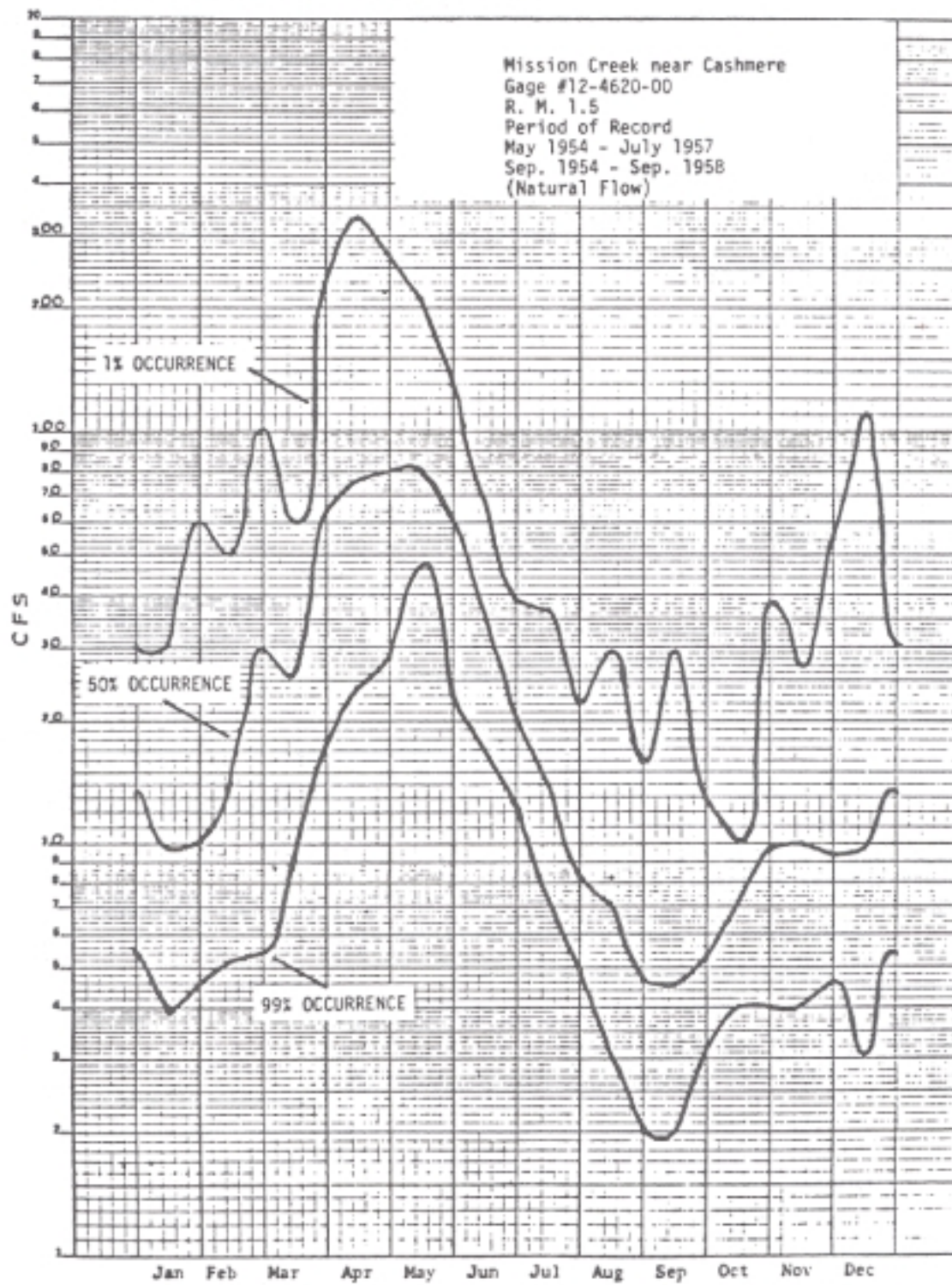


FIGURE 4 WENATCHEE RIVER (AT MONITOR)
HYDROGRAPH

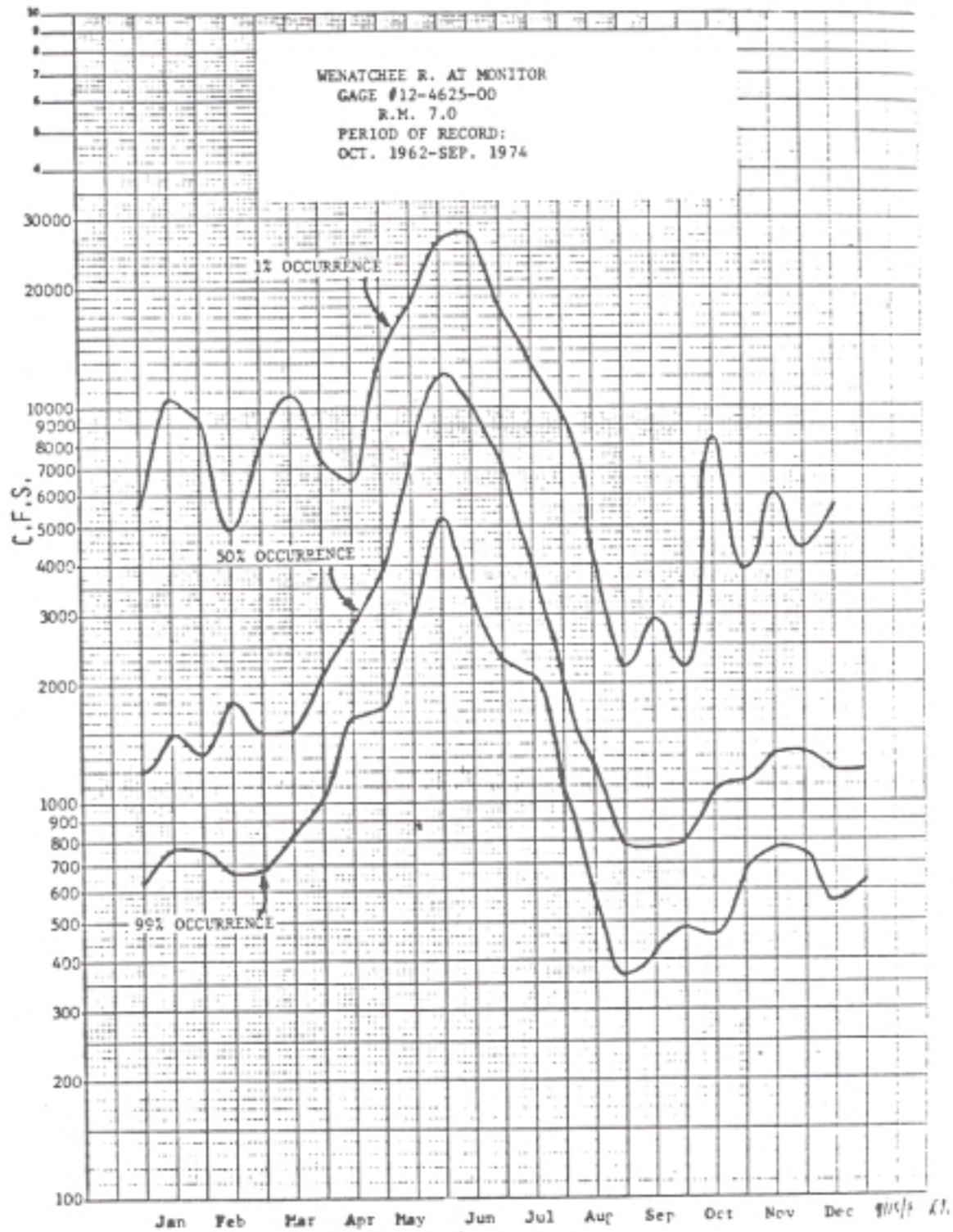
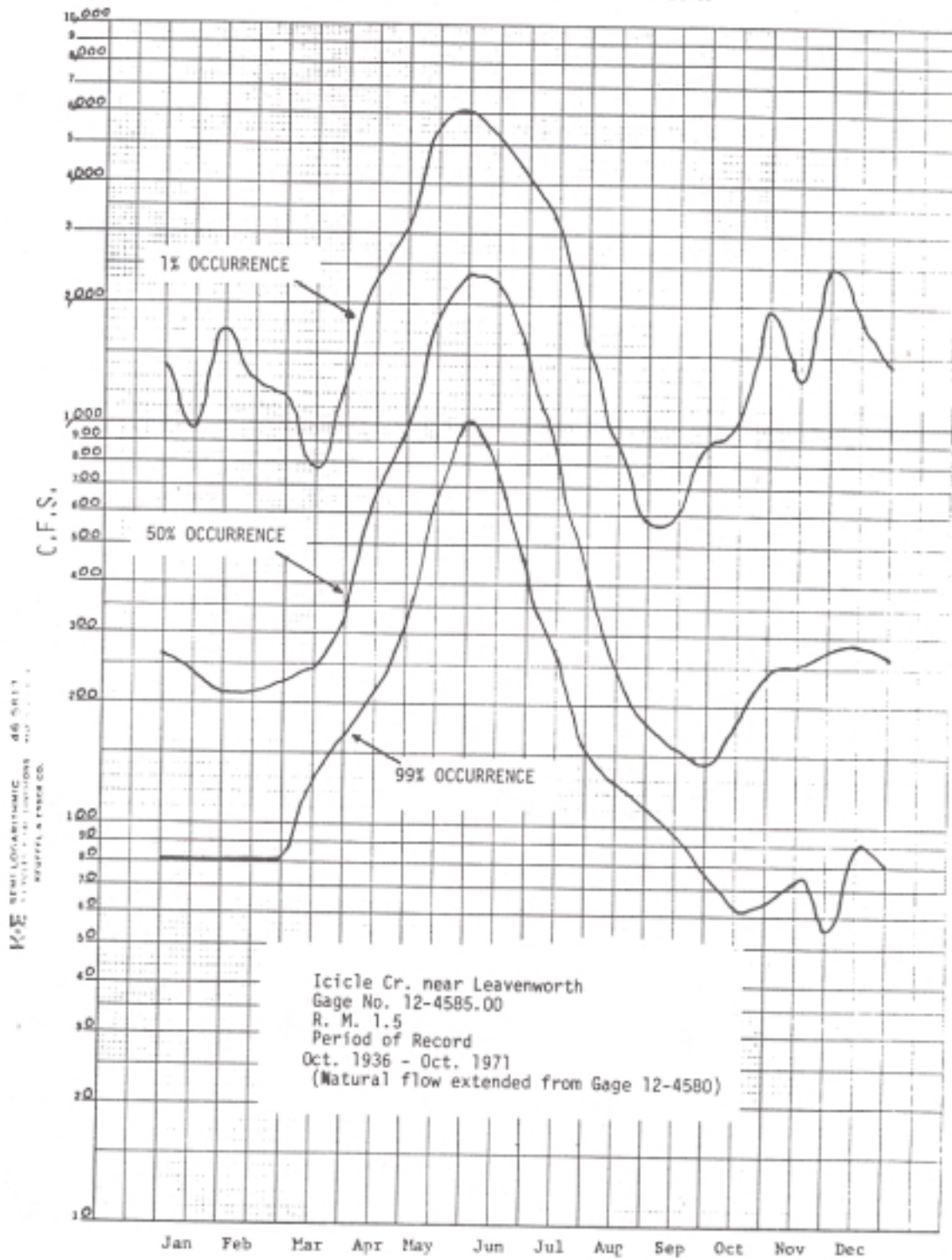


FIGURE 5 ICICLE CREEK HYDROGRAPH



Storage

The State of Washington has identified 205 lakes in the Wenatchee basin, mostly in the mountainous areas (7). These lakes serve as natural reservoirs, storing water to some extent during periods of high runoff and releasing it to outlet streams over an extended time period. Klonauqua, Eight Mile, Colechuck, Square, and Snow lakes in the Icicle Creek subbasin have regulating dams which are used for storing and releasing irrigation and municipal supply.

Lake Wenatchee, a natural lake, is the largest in the basin. It is five miles in length and one mile in width, with a maximum depth of 225 feet. The lake has become the focus of recreational development, with approximately 250 summer homes, several camps, and a state park along the shoreline.

Low Flows

Low flows generally occur during the months of August, September, and October, after high summer temperatures have substantially reduced the snow pack areas, and before winter storms contribute new precipitation. During the latter half of September, the median flow of the Wenatchee River, as measured at the Monitor gage, (see Figure 4, pg. 12) is 800 cfs. The out-of-stream diversions occurring above this point have reduced the natural low flows resulting in marginal water availability for instream water uses.

Ground Water

Ground water in the Wenatchee River Basin is generally found in the river valley areas, where sizeable deposits of alluvial (sand and gravel) materials for storing ground water are located. Where it is available, ground water is used as a source of domestic, industrial, and irrigation water supply, as well as for other uses. Large instantaneous quantities can be obtained at only a few locations, usually where alluvial fans have been created over time at the mouths of larger streams. The City of Cashmere rests on alluvial materials washed down from the neighboring mountains and local ground water wells provide the primary source of water supply to the city.

Generally, wells drilled into the alluvium adjacent to a watercourse may tap water which is in direct hydraulic continuity with a stream. In this instance, the surface water supply can be diminished when the well is pumped.

Ground water recharge appears to result directly from precipitation and from infiltration of river water. A large percentage of the groundwater recharge during the summer months may be a result of irrigation return flows (4).

Water Quality

Water quality is a measure of the physical, chemical, and bacteriological characteristics of water. These characteristics in turn define the beneficial uses which are suitable for a given body of water. Water quality in the Wenatchee Basin is monitored by the Washington State Department of Ecology, and stream and lake water quality classifications have been developed for all waters within the basin (see Table II, pg. 16). Most surface waters of the Wenatchee Basin are classified extraordinary (AA). Only the main stem Wenatchee River below the Wenatchee National Forest Boundary has been given a less than an extraordinary rating; this stretch is classified as excellent (A)(8). As indicated by the State Water Quality Index, the waters in the Wenatchee River Basin normally meet the standards for their rating.

In some areas of the basin, ground water quality is not ideal for water supply since the water is usually quite hard. The hardness is frequently on the order of 300 parts per million. In some locations, where ground water has been entrapped over long periods, the hardness may exceed 800 parts per million and the water is not potable.

The following four parameters provide an overview of the basin's water quality (see Table III, pg. 16):

Coliform. The presence of coliform bacteria in water is commonly used for measuring fecal pollution. According to the water quality samples taken by the Department of Ecology, the fecal coliform counts in the Wenatchee River are well within the state water quality standards for the river's classification.

Temperature. Summer water temperatures in the basin occasionally approach or exceed the temperature criteria of the water quality standards for their respective classification. This condition develops when natural low flows occur during periods of heavy water withdrawals and high ambient air temperatures.

Turbidity. Turbidity in the basin streams and rivers is not generally a problem, although it rises sharply during the high runoff periods due to snow melt and/or rain in the spring and early summer months.

Dissolved Oxygen. The dissolved oxygen values for streams and rivers in the Wenatchee Basin are generally in compliance with water quality criteria.

INSTREAM USE OF WATER

Fisheries

Anadromous Fish

Salmon and steelhead trout are found in the streams of the Wenatchee Basin. These anadromous fish begin their life cycles in the freshwater streams of the Wenatchee River system, migrating eventually, to the Pacific Ocean through the Columbia River. After several years, the fish

TABLE II
CLASSIFICATION OF SURFACE WATERS IN WENATCHEE BASIN

<u>Water Body</u>	<u>Assigned Class</u>
Wenatchee River (from confluence with Columbia River to Wenatchee National Forest Boundary)	A
Wenatchee River (from Wenatchee National Forest Boundary to headwaters)	AA
Little Wenatchee River (from Lake Wenatchee to headwaters)	AA
White River	AA
Lake Wenatchee	Lake (3)
Chiwawa River	AA
All Other Lakes	Lake
All Surface Waters in National Forests, National Parks and/or Wilderness Areas	AA

Source: 9

TABLE III
EVALUATION OF SEASONAL CHANGES IN THE QUALITY OF SELECTED SURFACE WATERS IN WENATCHEE BASIN

<u>Water Body</u>	<u>Sampling Location</u>	<u>Water Quality Characteristics</u>	<u>Summer Values</u>			<u>Winter Values</u>			<u>Probable Cause of Variation</u>
			<u>Period of Record</u>	<u>Number of Measurements</u>	<u>Mean Value</u>	<u>Mean Value</u>	<u>Number of Measurements</u>	<u>Period of Record</u>	
Wenatchee River	Wenatchee	Temperature (°CC)	7/11/72-9/12/72	5	13.48	1.41	7	12/14/71-3/28/72	Predominantly natural causes.
		Dissolved Oxygen (mg/l)		5	9.94	13.37	7		Lower solubility at higher temperatures.
		Turbidity (JTU)		5	1.40	5.71	7		Runoff from settled lowlands in winter.
		Conductivity at 25°C (Micromhos)		5	56.60	91.29	7		Runoff from settled lowlands in winter.
		Total Coliforms* (MF)M LES/100 ml)		3	475.00	1,260.00	7		Lower flow during winter period.
		Nitrate (mg/L M)		1	0.16	0.25	7		Increased waste dilution and/or Increased algal uptake in summer.
		Orthophosphate (mg/L P)		1	0.00	0.01	7		Increased waste dilution and/or Increased algal uptake in summer.

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Source: 3

*Note: Total coliform counts include coliforms from fecal and nonfecal sources. In 1977, bacteriological standards changed from total to fecal coliforms.

return to their native streams to spawn; their offspring begin the life cycle again. (See Fig. 6, pg. 18).

Chinook and sockeye are the principal species of salmon found in the Wenatchee River system. This drainage supports the most significant population of spring and summer chinook salmon the upper Columbia River Basin and one of the larger sockeye runs (21,900 sockeye is the 18-year average) in the Columbia River Basin. The sockeye run represents approximately 30 to 40 percent of the total sockeye production in the Columbia River Basin. Recent estimates of the coho salmon run indicate approximately 200-500 fish use the system (10). While there may be some wild coho remaining in the basin, the run was supported primarily by artificial production at Leavenworth National Fish Hatchery. The hatchery has discontinued supporting that run.

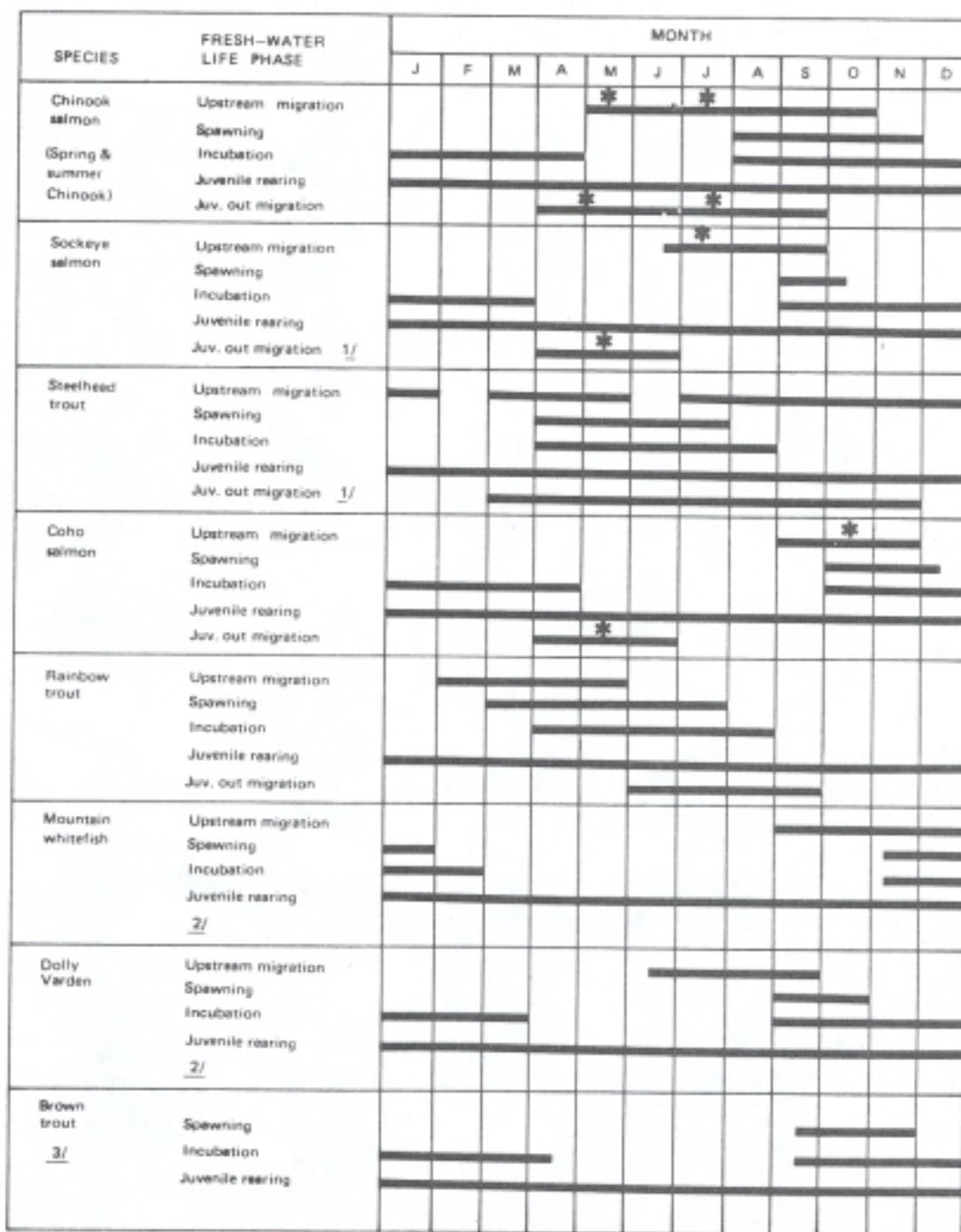
Spawning spring chinook use most of the larger tributary streams, including Nason Creek, the Chiwawa River, Lower Icicle Creek, Upper Peshastin Creek, and the Little Wenatchee River, while summer chinook are found mostly in the main stem Wenatchee River from Lake Wenatchee downstream to the Columbia River. The main spawning concentration of these summer chinooks is downstream from the lower end of Tumwater Canyon (near Leavenworth). Spring chinook salmon are also reared at the Leavenworth National Fish Hatchery on Icicle Creek. These fish are raised as a partial compensation under the Grand Coulee Fish Maintenance Project for the losses caused by the construction of Grand Coulee Dam.

Sockeye salmon spawn in the tributary streams above Lake Wenatchee, including the White, the Little Wenatchee, and the Napeequa rivers. The remaining coho run, which is relatively small, spawns primarily in the main stem Wenatchee River above the Dryden area. Nearly all the above-mentioned waters are also used for rearing of juvenile salmon. (See Table IV, pg. 19 for estimations of salmon run sizes.)

Steelhead trout require relatively swift water and at least 10 inches depth for spawning. Wenatchee River steelhead spawn during the heavy spring runoff, when a large amount of habitat (i.e., water meeting minimum depth, velocity, and substrate requirements) is available for spawning. Steelhead spawning commences in early spring and continues through the peak of spring runoff. Steelhead spawn in the main stem or in tributary streams, depending on conditions. The later spawners lay their eggs at a higher elevation in the channel than fish which spawn when flows are low in early spring. Although eggs of late spawners are wetted for a shorter period, less time is needed for development to the emergence stage by late-spawned embryos because of higher temperatures during incubation. Wenatchee River steelhead populations have declined because of passage problems at Columbia River dams. Successful restoration of Wenatchee steelhead depends upon maintenance of a flow pattern which will support them and on correction of the Columbia River passage problems. In addition to the basin's natural run, steelhead are also produced at the Leavenworth National Fish Hatchery (LNFH). (See Table V, pg. 19, for estimated steelhead catch.)

Maintenance of adequate instream flows is important for salmon and steelhead spawning, rearing, and migration.

FIGURE 6 LIFE CYCLES OF ANADROMOUS AND NATIVE FISH SPECIES OF THE WENATCHEE RIVER BASIN



* Approximate Migration Peak (at mouth of Wenatchee River)

1/ Includes early or late downstream juvenile migration

2/ Juv. out migration unknown

3/ Migration unknown

Source (12 & 13)

TABLE IV

ESTIMATED WENATCHEE RIVER SALMON RUN SIZES 1/
ADULTS) EXCLUDING COHO, 2/ 1961-67 AND 1973-80

<u>Year</u>	<u>Spring Chinook</u>	<u>Summer Chinook</u>	<u>Sockeye</u>
1961	2,092	6,158	7,820
1962	2,264	7,090	16,035
1963	566	4,975	18,469
1964	702	5,590	28,821
1965	1,253	5,266	10,657
1966	2,619	8,212	36,235
1967	933	4,544	15,261
Average	1,490	5,976	19,043

1973	3,697	5,238	14,772
1974	4,839	3,841	13,754
1975	2,974	7,185	28,293
1976	4,497	5,718	8,332
1977	11,795	4,562	64,613
1978	11,599	10,680	6,593
1979	4,922	10,525	21,738
1980	4,790	8,995	22,770
Average	6,139	7,093	22,602

1/ Run size estimate based on Rock Island Counts minus Rocky Reach counts. No estimate for 1968-1972 because no counts at Rock Island during those years. (Run estimates include Rock Island pool mortalities and are liberal to an unknown extent.)

2/ Coho run was almost entirely supported by production at Leavenworth NFH which has been discontinued.

Source: 11

TABLE V

WENATCHEE RIVER STEELHEAD SPORT CATCH

<u>Year</u>	<u>Sport Catch</u>
64-65	491
65-66	640
66-67	716
67-68	1,828
68-69	974
69-70	617
70-71	1,087
71-72	1,141
72-73	974
73-74	905
74-75	383
75-76	696
76-77	1,282
77-78	1,087
78-79	265

SOURCE: 13

High flow during spring runoff serves several functions in habitat maintenance for both fish and wildlife. Spawning gravel is cleaned of silt and sand which accumulate during lower flows. Silt and sand, if not flushed by spring flows, can cause mortality in developing eggs by restricting the flow of oxygen and exchange of metabolic wastes.

Summer low flows are a serious limiting factor to the production of summer chinook salmon and steelhead in the Wenatchee Basin. Natural low flows when combined with withdrawal of water for summer irrigation have critically reduced flows in some sections of the watershed, as in lower Peshastin, Mission, and Icicle creeks.

Resident Fish

Several types of resident game fish are found in the Wenatchee Basin; cutthroat, brown, and brook trout contribute substantially to the basin's resident sport fishery. These fish remain in the streams and lakes of this basin throughout the year (see Fig. 6, pg. 18).

Resident game fish in the basin include rainbow trout, Dolly Varden trout, and mountain whitefish.. Whitefish support a major recreational fishery, especially in winter.

Resident nongame fishes in the Wenatchee Basin include squawfish, peamouth, chiselmouth, redbelly shiner, speckled dace, leopard dace, and longnose dace in the family Cyprinidae; longnose sucker, bridgelip sucker, largescale sucker, and mountain sucker in the family Catostomidae; three-spine stickleback in the family Gasterosteidae; prickly sculpin, mottled sculpin, and torrent sculpin the family Cottidae; and, possibly, the sandroller in the family Percopsidae, and the pygmy whitefish in the family Salmonidae. Many of these fishes are endemic to the Columbia system or to the Pacific Northwest. The mountain sucker and sandroller are species of special concern in Washington. The role of these nongame fishes is often overlooked, but sculpins and sticklebacks are both eaten by trout, and suckers are a popular food fish in some areas. Carp were introduced as part of a Federal program in the last century, and tench are a more recent introduction.

Resident fish, like anadromous fish, require the maintenance of adequate flows for spawning, rearing, and other life functions.

Wildlife

Several species of wildlife are numerous in the region and are sought annually by thousands of hunters. Big game species include elk, deer, mountain goat, bighorn sheep, and bear. Several species of grouse are common as are quail, chukar, partridge, pheasant, and mourning dove. The region lies in the Pacific Flyway and each fall thousands of ducks migrate through the area. In terms of numbers of hunters, deer are the biggest attraction. Upland game birds attract heavy hunting and an average combined yield of over 100,000 birds.

Instream flows can affect wildlife habitat and food chains in several ways. Flow regime, together with topography, controls the extremely valuable wildlife habitat of the riparian zone. Riparian vegetation is not a climax vegetation; it persists at a very productive successional stage due to

occasional high flows which prevent climax vegetation from developing. Natural fluctuations are important for the maintenance of the riparian zone (13).

While formal methodologies are unavailable to determine instream flow requirements for wildlife, flows may directly affect the food supply of a species. A number of wildlife species depend on fish for food. While extreme low flows facilitate the capture of fish for some wildlife; continued heavy predation, together with other impacts of low flows, can reduce the fish population enough to cause a drop in dependent wildlife species. The list of fish-eating wildlife is long and includes: kingfishers, several species of herons, ducks (especially mergansers), ravens, crows, eagles, ospreys, several members of the weasel family, raccoons, and bears. Several bald eagles have been observed to winter along the Wenatchee River. Ospreys, which are almost exclusively dependent on fish, nest near Lake Wenatchee (14).

Recreation

The Wenatchee Basin is one of the most popular outdoor recreation areas in the state. Its attractiveness centers on the basin's water features, including numerous alpine lakes, Lake Wenatchee, the Wenatchee River and tributaries such as Icicle Creek (see Table VI, pg. 22). The Wenatchee Basin is heavily used by Puget Sound metropolitan residents, as it offers warm, dry weather conditions within a relatively easy drive from the Puget Sound metropolitan area. However, as increasing energy costs influence the distance traveled for recreation, areas such as the Wenatchee Basin may tend to lose popularity for Puget Sound area residents. Future recreation use trends in the basin are therefore difficult to predict.

One of the key recreational features of the Wenatchee Basin is Lake Wenatchee, a 2,445-acre natural lake. It is the site of a state park and a large U.S. Forest Service campground. The state park receives approximately 250,000 visitors annually.

The Wenatchee Basin is the eastern portal to the Alpine Lakes Wilderness area. The wilderness region and its fringes include many small lakes that attract visitors who hike into the area to camp, fish, or just relax (see Table VII, pg. 22). The Alpine Lakes area is a highly scenic, mountainous region that is attractive to sightseers, climbers, photographers, and others. Of special note is the Enchantment Basin, which is the most heavily used area within Alpine Lakes Wilderness. The Enchantment Basin drains into Icicle and Peshastin creeks, tributaries to the Wenatchee River. Problems of overuse, which may impact water quality, have prompted the Forest Service to institute special user control measures and to give the Enchantment Basin special emphasis in developing a management plan for Alpine Lakes.

Another highly scenic area within the Wenatchee basin is Tumwater Canyon on the Wenatchee River. This reach of the river is popular with white water boaters. Below the canyon, the main stem Wenatchee is less turbulent and is used for a variety of instream uses, such as boating and floating. An estimated 16,000 people floated parts of the Wenatchee River in 1981 (14). A county park on this section of river is heavily used. The Wenatchee River is also a popular fishing stream for native fish and steelhead trout.

TABLE VI
RECREATION USE PROJECTIONS
(in hundred's)
WATER RELATED ACTIVITIES*

WENATCHEE BASIN				
<u>Activities</u>	<u>1975 Activity Occasions</u>	<u>180 Activity Occasions</u>	<u>1990 Activity Occasions</u>	<u>2000 Activity Occasions</u>
Camping	6077	6668	7985	9010
Picnicking	1652	1808	2188	2333
Non-Pool Swimming	580	626	693	724
Sightseeing	4924	5434	6637	7354
Boating, Nonmotorized	605	668	799	878
Water Skiing	316	349	410	446

TABLE VII
WENATCHEE BASIN**

36 U.S. Forest Service Sites	324 camping spaces
1 State Park	197 camping spaces
1 County Park	90 camping spaces
5 Private Parks.	164 camping spaces

*Source: 16

**Source: 17

Navigation

Navigational use of the Wenatchee Basin is almost exclusively limited to recreational boating. The most heavily utilized river segment is the main stem Wenatchee from Lake Wenatchee to its confluence with the Columbia River. Recreational boating also occurs on Lake Wenatchee. There is presently no commercial navigation on any of the basin waters except for commercial white water boaters who use the Wenatchee River for recreational trips.

Aesthetic and Scenic Values

The Wenatchee River Basin has some very attractive scenic resources. These include Tumwater Canyon, the Icicle Creek drainage, Lake Wenatchee, and the rugged mountainous country of the basin's upper elevations. These scenic resources play an important role in attracting recreational visitors to the basin. Apple blossoms are one of the significant scenic attractions and are the theme of a festival each spring in the city of Wenatchee. The city of Leavenworth has developed a Bavarian theme, with associated architectural design and festivals. This development has in turn increased the recreational/scenic value of the basin.

The Wenatchee River (including Lake Wenatchee) and its tributaries, the Chiwawa and White rivers are on the Secretaries' of Agriculture and Interior "5(d) status list" as being worthy of future consideration for the National Scenic Rivers System (published in the Federal Register, October 28, 1970, 35-Federal Register, 16693). This means that Federal agency planning for any use and development of water and related land resources pertaining to these rivers must include consideration and discussion of scenic river potentials. In addition, former President Carter in his 1977 environmental message, recommended that these Wenatchee Basin rivers be elevated by Congress to study status. No action has occurred in Congress, but if taken, the USFS would be directed to make the specific studies and investigations. It would then determine which, if any, of these rivers should be added to the National Scenic Rivers System.

In addition, the Wenatchee River from Lake Wenatchee downstream to its confluence with Icicle Creek as well as the Chiwawa and White rivers have been listed in the Nationwide Rivers Inventory distributed by the National Park Service. This inventory contains information on the nation's significant free flowing streams.

OUT-OF-STREAM WATER USES

Domestic, Municipal, and Industrial Supply

Water supply for portions of the Wenatchee urban area is provided by Chelan Co. PUD. The City of Wenatchee also operates a large system and supplies water to three-quarters of the city's population. The Columbia River is one sources of supply to the Wenatchee system; the city treats the water at a filtration plant before distribution. Chelan County recently acquired the independent water systems that had been servicing the city. Those companies obtained all of their water from five wells.

The town of Cashmere has a municipal water supply system with ground water serving as the main source of supply. During periods of high water demand, surface water from the Wenatchee River is pumped into an artificial recharge area where several of the city wells are located to supplement the ground water supply..

The communities of Dryden, Monitor, and Peshastin obtain adequate quantities of ground water for their needs. The town of Leavenworth uses Icicle Creek and a well as their source of supply. Water from the creek is treated at a filtration plant located a short distance downstream from the diversion. The engineer for the town has indicated that Leavenworth is interested in obtaining additional water for municipal use and is considering ground water as a source (18).

Irrigation canals traverse most of the populated sections of the basin. This water is sometimes used as a source of domestic supply. Homes in the orchard lands between communities rely mainly on individual wells or springs as a source of supply.

Several industries in the Wenatchee area rely on ground water for processing requirements and others are able to use the untreated Columbia River water to meet their needs. Industrial water use is not great in the basin and includes principally fruit packing, processing, and warehouse operations.

Irrigation

Irrigation has been practiced in the Wenatchee River Valley from the time of the first settlers. The Gunn ditch began taking water from the Wenatchee River in 1891, and in the years that followed, several other ditches were constructed on tributary streams.

The Peshastin ditch was built about 1898 to irrigate lands near Peshastin, Dryden, and Cashmere. The Peshastin Irrigation District took over the operation of this canal in 1917 and added lands served by the Tandy and Gibb ditches. The three irrigation entities have a cooperative service area agreement among them for distribution of irrigation water (19). The Icicle Irrigation District, which serves lands near Leavenworth and Cashmere, is also integrated with the Peshastin District and Tandy-Gibb Company.

The largest irrigation project in the basin is the Wenatchee Reclamation District which was formed in 1915. Highline Canal, the principal canal of the district, was constructed during the early years of the century. Water is diverted into the canal at Dryden Dam above Dryden, and carried down the north bank of the Wenatchee River to a point near its mouth. There the canal divides, one branch extending a short distance upstream along the west bank of the Columbia and the other extending downstream along the Columbia and across the river into Douglas County.

Other irrigation developments in the basin include the Jones-Shotwell ditch; Cascade Irrigation Company; and the Wenatchee-Chiwawa Irrigation District near Plain.

Hydroelectric Power Developments

Electric power in the Wenatchee Basin is provided by the Chelan County PUD. The Chelan Falls facility on the Chelan River and the Rock Island and Rocky Reach hydroelectric projects on the Columbia River supply electricity to the PUD. Presently there is no commercial hydroelectric power produced in the Wenatchee Basin, although the small dams on the main stem Wenatchee River at Tumwater and Dryden were once used for this purpose. Both the Tumwater and Dryden plants were built in the early 1900s. Power generation was discontinued at both sites during the 1950s, due to their higher costs as compared to the Columbia River projects.

Until recently, the Chelan County PUD was studying the possible redevelopment of both the Tumwater and Dryden hydroelectric projects. Applications for three-year preliminary permits to investigate and determine the engineering and economic feasibility of these projects were filed with the Federal Energy Regulatory Commission (FERC) in March 1978. The preliminary permit for the Dryden project was issued in September, 1979, and in September 1982, the Chelan County PUD allowed it to terminate. (20) Likewise, the preliminary permit for the Tumwater project was issued in April 1980 and recently the PUD requested that it be terminated. (20) The Chelan County PUD will not be redeveloping these projects in the near future since they have been determined to be economically infeasible (20).

For the Dryden project, an instream flow study was commissioned by the PUD to determine minimum and optimum flows for anadromous fish in the one-mile reach to be bypassed. Detailed measurements of depth, velocity, and substrate type were made along a number of transects in the reach to be bypassed. Measurements were taken three times at flows ranging from 600 cfs to 1,600 cfs. The data were analyzed by computer to calculate the amount of fish habitat available for chinook, sockeye salmon, steelhead, and rainbow trout under various increments of flow. Maintenance of chinook salmon and steelhead trout habitat was considered critical. Minimum flows were determined for each species and life stage by calculating the lowest flow which provided 80 percent of the maximum weighted usable area for these fish species. These studies resulted in an interagency agreement on operational minimum flows in the bypassed reach of: 1) 1,750 cfs from April through June for steelhead spawning, 2) 500 cfs from July through August for Chinook salmon spawning, and 3) 450 cfs from September through March for salmon and steelhead rearing.

A similar study was planned by the PUD during 1982 for the bypassed reach in the proposed Tumwater Canyon project. However, the study did not take place since the project was determined to be economically infeasible.(20)

Site specific data of the type provided by these studies is lacking regarding minimum flow requirements for fish in other parts of the main stem Wenatchee River. Most of the Wenatchee River has less gradient than those reaches affected by the Tumwater Canyon and Dryden hydroelectric projects. It is the judgment of professional fisheries biologists that somewhat higher flows than those approved for the Dryden reach are needed for the fisheries resource in

the lower gradient reaches of the Wenatchee River. Data provided by the Department of Fisheries using the somewhat more crude usable width method confirm this conclusion. Therefore, the mainstem Wenatchee River minimum flows proposed in this program are higher than the specific flows approved by Fisheries agencies for the Dryden bypass reach.

Other hydroelectric projects proposed for construction in the Wenatchee River basin are listed in Table VIII on pg. 27.

NORTHWEST POWER PLANNING COUNCIL

In 1980, Congress passed the Pacific Northwest Electric Power Planning and Conservation Act (P.L. 96-501) creating the Northwest Power Planning Council. This law requires the Council to develop a program to protect and enhance fish and wildlife that have been adversely affected by hydroelectric dams on the Columbia River and its tributaries. The program is to be implemented by the Bonneville Power Administration and other federal agencies.

The eight-member council which is made up of two members each from Washington, Oregon, Idaho, and Montana will be adopting a 20-year plan in April 1983 for meeting the region's energy needs.

The fish and wildlife segment of the plan is designed to improve stream flows in the Columbia and Snake rivers during April through June of each year to enhance downstream fish migration. It also calls for construction of bypass systems at each mainstem dam to route migrating fish around turbines.

The draft fish and wildlife program was distributed in September 1982 for public review and comment. This program represents an "initial step" by the council toward carrying out the mandate of the law "to protect, mitigate, and enhance fish and wildlife including related spawning grounds and habitat, on the Columbia River and its tributaries." Adoption of the final program occurred on November 15, 1982 and the final plan was distributed in December 1982. Under this final plan, BPA will be funding studies for improvement of passage facilities of dams on the Columbia River and its tributaries. Fish passage improvements on the Columbia River and Wenatchee basin dams will probably result in increased survival of adult and juvenile migrant salmon and steelhead and could appreciably increase the populations of these fish using the Wenatchee River. The department feels that the Wenatchee Program is consistent with the final Power Planning Council program.

PRESENT ADMINISTRATIVE STATUS

In 1974, the Washington State Department of Fisheries formally requested that no more consumptive appropriations be granted from the Wenatchee River and its tributaries in order to protect food fish populations. Consumptive use applications were not processed for a short time pending determination of whether WDOE would develop a comprehensive basin water plan. Processing of applications began again after such a program was postponed. Presently

Table VIII. PROPOSED HYDROPOWER PROJECTS

PROJECT (PROPONENT)	LOCATION	DESCRIPTION OF PROPOSED WORKS	POWER GENERATED (megawatts)	STATUS AS OF JUNE 1982		
				FERC	Water Right	
					App.	Quantity (cfs)
City of Leavenworth	Icicle Creek (Wenatchee River)	Run of river project with little storage, 15' diversion dam, 5-mile pressure penstock in valley bottom.	80 MW	Competing app. filed on above project	0	
Icicle Irrigation District	Icicle Creek	Use existing diversion dam and canal, up to 200 cfs conveyed to a pressure penstock, to powerhouse 1.5 miles downstream, use secondary to irrigation requirements.		Notice of intent filed	Filed	200
Hydro Resource, Inc.	Chiwaukum Creek	8' high dam, 9000' pipeline/penstock.	5.6 MW	PPA filed	0	
Rainsong Co.	Chiwaukum Creek		5 MW	5 MW exemption app.	0	
Peshastin Irrigation District	Peshastin Cr.	Use existing diversion dam and canal, 500' pressure penstock, powerhouse 1 mile below dam.	0.4 MW	Notice of intent filed	Filed	100
Hydropower Resources	Ingalls Creek (Pesh Cr.)	8' dam, 12,000' pipeline/penstock	6 MW	PPA	0	
Homestake Consulting and Investments	Rainy Creek (Little Wenatchee River)	Run of river project, no storage or ponding, minor diversion/intake structure, 4700' – 36" pipeline/penstock.	1.2 MW	PPA sent in	0	
Homestake Consulting and Investments	Roaring Creek (Nason Creek)	Run of river project, no storage or ponding, minor diversion/intake structure, 2700' – 20" pipeline/penstock.	.6 MW	PPA sent in.	0	

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postponed. Presently consumptive use applications, except those for single-domestic use, are being held pending the completion of the Wenatchee River Basin Instream Resources Program.

None of the rivers or streams of WRIA 45 are currently closed to consumptive appropriation or subject to low flow limitations. However, the following water right adjudication actions have been performed:

<u>Stream or Lake</u>	<u>Tributary To</u>	<u>Status</u>
Mission Creek	Wenatchee River	Miscellaneous decree May 22, 1913
Canyon No. 2 Creek	Columbia River	Miscellaneous decree September 22, 1910
Chumstick Creek	Wenatchee River	In Process of Adjudication
Brender Creek	Mission Creek	Miscellaneous decree August 26, 1936
Icicle Creek	Wenatchee River	Adjudication October 28, 1929
Nahahum Canyon	Wenatchee River	In process of Adjudication

Water Allocation Policies

As required by the state surface water and ground water codes (Chapter 90.03 and 90.44 RCW), the department, prior to issuing a permit to appropriate state waters, must find that:

1. Water is available for appropriation.
2. The proposed appropriation will not detrimentally affect existing rights, including adopted minimum instream flows (see RCW 90.03.345).
3. The proposed use is beneficial.
4. Issuance of a permit for the proposed use would not be detrimental to the public interest.

If a proposed appropriation passes the above tests, the department can issue a water right permit.

Currently, the department denies permits for new, large consumptive withdrawals from Peshastin, Mission, and Icicle Creeks. Because of the high demand for water under existing rights and the lack of water available for additional appropriation, this practice will continue until the Wenatchee program is adopted.

PROPOSED ADMINISTRATIVE STATUS

Minimum Flows

The department proposes to establish minimum instream flows on the main stem Wenatchee River as well as Icicle and Mission creeks. These minimum instream flows will be measured at three control stations on the mainstem river and one control station on each creek (see figures 7, 8, and 9, pgs. 30 and 31). The purpose of establishing minimum instream flows is to protect the instream values including: aesthetic, navigation, scenic, water quality, fish, wildlife, and other environmental values of the streams. This program is also intended to formalize water allocation policies for future appropriation of water within the Wenatchee River Basin.

Control Stations

The following network of control stations is intended to provide control of future surface water appropriations under permits provisioned with minimum flows established herein. Minimum instream flows are proposed for five stream management reaches (see Figs. 7, 8, 9, and 10, pgs. 30-32):

Proposed Stream Control Network WRIA #45 (Wenatchee)

<u>Control Station</u>	<u>Stream Management Reach</u>	<u>Gage #</u>	<u>River Mile</u>
Wenatchee River at Plain	From Plain Road Bridge RM 46.2, to headwaters	12-4570.00	46.2
Icicle Creek near Leavenworth	From headwaters of Icicle Creek to its mouth	12-4585.00	1.5
Wenatchee River at Peshastin	From confluence of Derby Creek to Plain Road Bridge, RM 46.2 excluding Derby Creek and Icicle Creek	12-4590.00	21.5
Wenatchee River at Monitor	From mouth to confluence of Derby Creek, including Derby Creek and excluding Mission Creek	12-4625.00	7.0
Mission Creek near Cashmere	From Mission Creek headwaters to its mouth	12-4620.00	1.5

Source: (21)
(22)

FIGURE 7 WENATCHEE RIVER BASIN INSTREAM FLOW
HYDROGRAPH

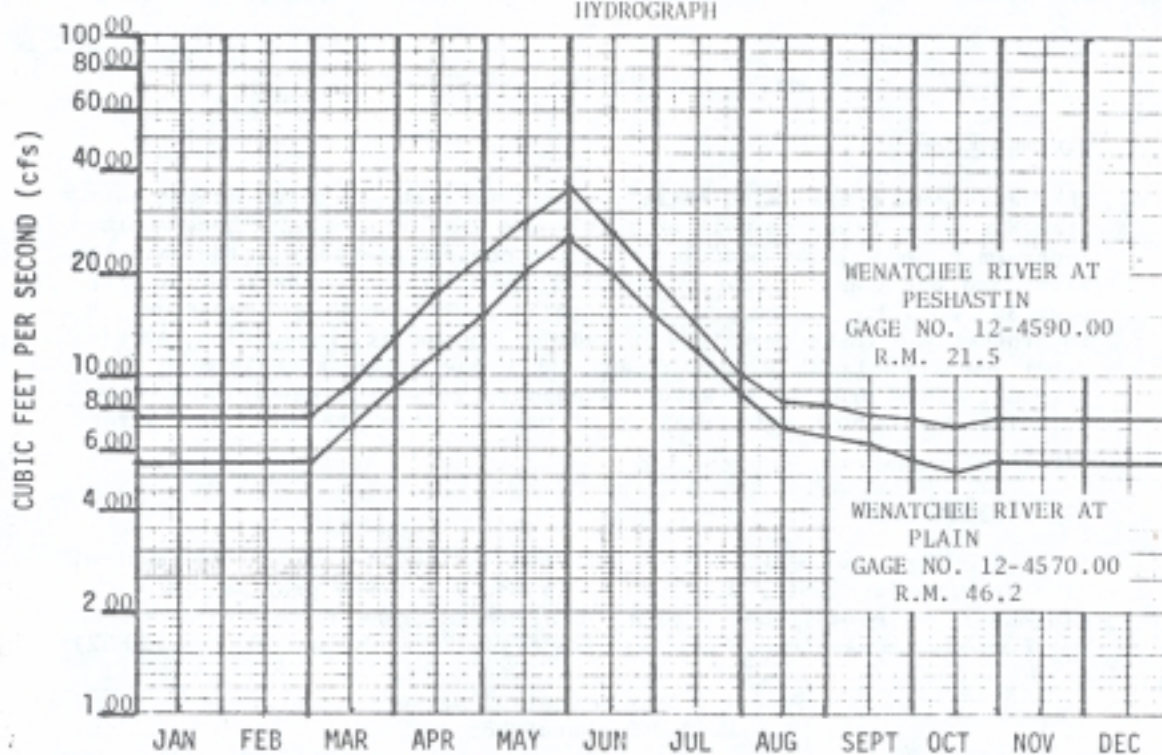


FIGURE 8 WENATCHEE RIVER BASIN INSTREAM FLOW
HYDROGRAPH

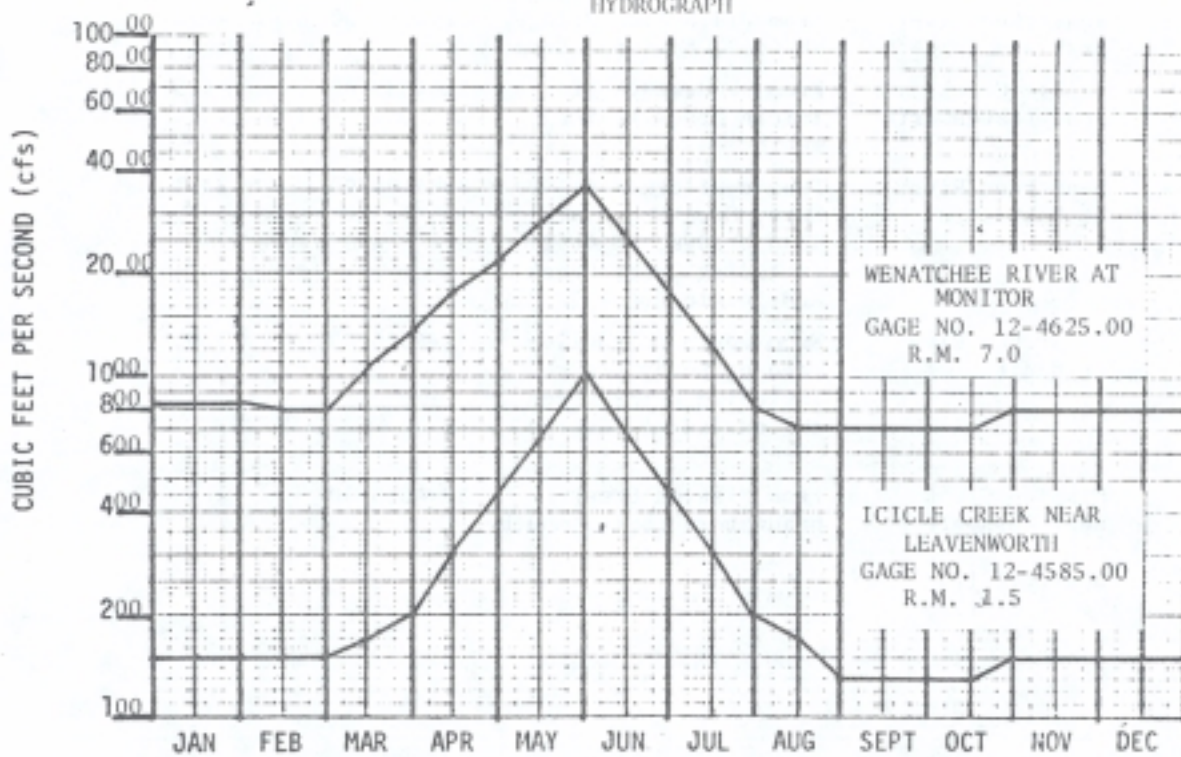
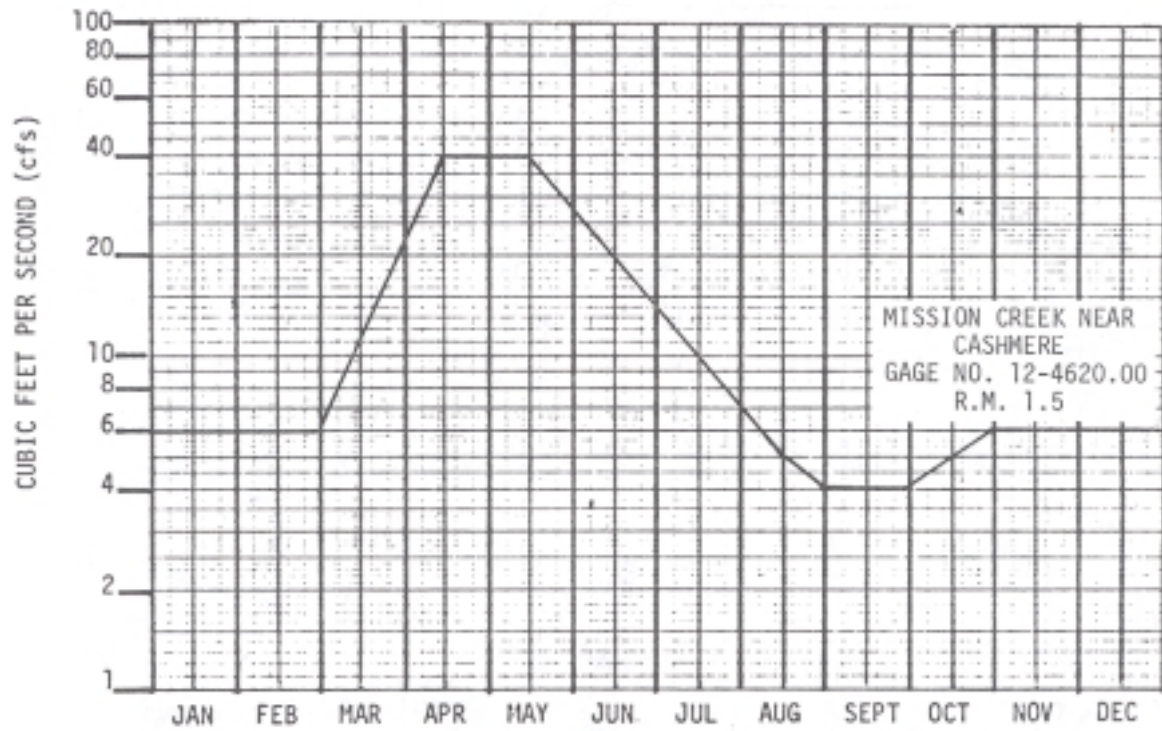


FIGURE 9 WENATCHEE RIVER BASIN INSTREAM FLOW HYDROGRAPH





Stream Closure

In addition, the department proposes to establish a closure of Peshastin Creek to future out-of-stream consumptive appropriations from June 15 to October 15 for protection of instream values.

Water Allocation Policies

The use of alternative sources of water will be encouraged, when direct surface water diversions are proposed from the main stem Wenatchee River. If the department determines that such alternative sources of water are unavailable or are infeasible to develop, water may be appropriated from the main stem of the Wenatchee River. Such appropriations would be subject to minimum flows. If the department, after consultation with the departments of Fisheries and Game, determines that overriding considerations of the public interest will be served, water for group domestic uses, including municipal supply, may be exempted from minimum instream flow requirements of the program.

Future appropriations of surface water from perennial tributary streams will be subject to the adopted minimum instream flows as measured at the appropriate control station on Icicle or Mission creeks or on the main stem Wenatchee River. Further, the use of alternative water sources rather than direct surface water diversions will be encouraged for future consumptive uses on all perennial tributaries. When no alternative source exists, the department will evaluate requests for direct appropriation on the basis of the policies and procedures described herein. Only single domestic supply and stockwatering uses will be exempt from the proposed administrative rules.

The adopted minimum instream flows, together with the policies relating to future appropriations stated in the Wenatchee River Basin program, will be used by the department in its investigations and ensuing decisions regarding the issuance or denial of water right permits.

Many of the small tributary streams exhibit alternate gaining and losing reaches and have a high degree of interaction with ground water in an associated valley-floor aquifer. Permit recommendations for approval or denial of requests to appropriate water from these small watersheds are highly sensitive to and dependent on the location of the proposed point of diversion or withdrawal, the extent of use under prior water rights within the watershed, and the amount of the request. The department's practice for consideration of applications for appropriation of water from these tributaries will be:

1. To determine the extent of uses under prior water rights or claims to right.
2. To determine unused water rights that could be relinquished to bring water right authorizations in line with actual water use and to implement such relinquishments when it is feasible.

3. To develop a water budget and an estimate of the water available to new appropriations.
4. To make permit recommendations based upon availability of water, impairment to existing rights – including the adopted minimum flow requirements – beneficial use, and public interest, consistent with the policies expressed in this program.

On specific reaches of Peshastin and Icicle creeks or other streams on which hydroelectric projects are proposed, the department will recommend, when necessary, to the Federal Energy Regulatory Commission that specific instream flow studies be carried out by proponents of these projects.

Formal review of the Wenatchee Basin instream regulation will be initiated by the department within 5 years of the adoption of the proposed administrative rules.

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APPENDIX A

PROPOSED ADMINISTRATIVE RULES

Chapter 173-545 WAC
Instream Resources Protection Program--Wenatchee River Basin,
Water Resource Inventory Area (WRIA) 45

NEW SECTION

WAC 173-545-010. GENERAL PROVISION. These rules apply to waters within the Wenatchee River Basin, WRIA 45, as defined in WAC 173-500-040. This chapter is promulgated pursuant to Chapter 90.54 RCW (Water Resources Act of 1971), Chapter 90.22 RCW (Minimum Water Flows and Levels), Chapter 75.20 RCW (State Fisheries Code) and in accordance with Chapter 173-500 WAC (Water Resources Management Program).

NEW SECTION

WAC 173-545-020. PURPOSE. The purpose of this chapter is to retain perennial rivers, streams, and lakes in the Wenatchee River Basin with instream flows and levels necessary to provide protection for wildlife, fish, scenic, aesthetic, and environmental values, recreation, navigation, and water quality.

NEW SECTION

WAC 173-545-030. ESTABLISHMENT OF INSTREAM FLOWS. (1) Stream management units and associated control stations are established as follows:

Stream Management Unit Information

Control Station No. Stream Management Unit Name	Control Station by River Mile and Section, Township, and Range	Affected Stream Reach(es) including Tributaries
12-4570.00 Wenatchee River at Plain	46.2 Sec. 12, T. 26N., R. 17E. W.M	From Plain Road Bridge, R.M. 46.2, to headwaters
12-4585.00 Icicle Cr. near Leavenworth	1.5 Sec. 24, T. 24N., R. 17E. W.M	Headwaters of Icicle Creek to its mouth
12-4590.00 Wenatchee River at Peshastin	21.5 Sec. 8, T. 24N., R. 18E. W.M	From confluence of Derby Creek to Plain Road Bridge, R.M. 46.2 excluding Derby Creek and Icicle Creek
12-4625.00 Wenatchee River at Monitor	7.0 Sec. 11, T. 23N., R. 19E. W.M	From mouth to confluence of Derby Creek, including Derby Creek and excluding Mission Creek
12-4620.00 Mission Creek near Cashmere	1.5 Sec. 8, T. 23N., R. 19E. W.M	From mouth to head waters

(2) Instream flows are established for the stream management units in WAC-173-545-030(1) as follows:

Instream Flows in the Wenatchee River Basin
(Instantaneous cubic feet per second)

<u>Month</u>	<u>Day</u>	12-4570.00 Wenatchee R. <u>at Plain</u>	12-4585.00 Icicle Cr. near <u>Leavenworth</u>	12-4590.00 Wenatchee R. <u>at Peshastin</u>
Jan	1	550	150	750
	15	550	150	750
Feb	1	550	150	750
	15	550	150	750
Mar	1	550	150	750
	15	700	170	940
Apr	1	910	200	1300
	15	1150	300	1750
May	1	1500	450	2200
	15	2000	660	2800
Jun	1	2500	1000	3500
	15	2000	660	2600
Jul	1	1500	450	1900
	15	1200	300	1400
Aug	1	880	200	1000
	15	700	170	840
Sep	1	660	130	820
	15	620	130	780
Oct	1	580	130	750
	15	520	130	700
Nov	1	550	150	750
	15	550	150	750
Dec	1	550	150	750
	15	550	150	750

Instream Flows in the Wenatchee River Basin (cont'd)
(Instantaneous cubic feet per second)

<u>Month</u>	<u>Day</u>	12-4620.00 Mission Cr. <u>near Cashmere</u>	12-4625.00 Wenatchee R. <u>at Monitor</u>
Jan	1	6	820
	15	6	820
Feb	1	6	820
	15	6	800
Mar	1	6	8080
	15	11	1040
Apr	1	22	1350
	15	40	1750
May	1	40	2200
	15	40	2800
Jun	1	28	3500
	15	20	2400
Jul	1	14	1700
	15	10	1200
Aug	1	7	800
	15	5	700
Sep	1	4	700
	15	4	700
Oct	1	4	700
	15	5	700
Nov	1	6	800
	15	6	800
Dec	1	6	800
	15	6	800

(3) Instream flow hydrographs, as represented in the document entitled “Wenatchee River Basin Instream Resources Protection Program, figs. 7, 8, 9, pgs. 30 and 31,” shall be used for identification of instream flows on those days not specifically identified in WAC 173-545-030(2).

(4) Future consumptive water right permits issued hereafter for diversion of surface water from the main stem Wenatchee River and perennial tributaries shall be expressly subject to instream flows established in WAC 173-545-030(1) through (3) as measured at the appropriate gage, preferably the nearest one downstream, except for those exemptions described in WAC 173-545-070 (1) through (3).

(5) Projects that would reduce the flow in a portion of a stream's length (e.g.: hydroelectric diversion projects) will be considered consumptive with respect to the bypassed portion of the stream and will be subject to specific instream flow requirements as specified by the department for the bypassed reach notwithstanding WAC 173-545-030(1) through (3). The department may require detailed, project-specific instream flow studies to determine a specific instream flow for the bypassed reach.

(6) If department investigations determine that withdrawal of ground water from the source aquifers would not interfere significantly with stream flow during the period of stream closure or with maintenance of minimum flows, then applications to appropriate public ground waters may be approved and permits or certificates issued.

NEW SECTION

WAC 173-545-040. STREAM CLOSURE. The department has determined that additional diversions of water from Peshastin Creek during the period June 15 to October 15 would deplete instream flows required to protect instream values. Peshastin Creek is, therefore, closed to further consumptive appropriation from June 15 to October 15 each year. During the nonclosed period, minimum instream flows will be controlled and measured from the control station on the Wenatchee River at Monitor.

NEW SECTION

WAC 173-545-050. POLICY STATEMENT FOR FUTURE PERMITTING ACTIONS. Consistent with the provisions of Chapter 90.54 RCW, it is the policy of the department to preserve an appropriate base flow in all streams and rivers as well as the water levels in all lakes in the Wenatchee River Basin by encouraging the use of alternate sources of water which include (1) ground water, (2) storage water, or (3) purchase of other valid water rights.

NEW SECTION

WAC 173-545-060 LAKES. In future permitting actions relating to withdrawal of lake waters, lakes and ponds shall be retained substantially in their natural condition. Withdrawals of water which would conflict therewith shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served.

NEW SECTION

WAC 173-545-070 EXEMPTIONS. (1) Nothing in this chapter shall affect existing water rights, riparian, appropriative, or otherwise existing on the effective date of this chapter, nor shall it affect existing rights relating to the operation of any navigation, hydroelectric, or water storage reservoir or related facilities.

(2) Future requests for group domestic uses, including municipal supply, may be exempted from the minimum instream flow provisions of this chapter when it is determined by the department, in consultation with the departments of Fisheries and Game, that overriding considerations of the public interest will be served.

(3) Single domestic and stockwatering use, except that related to feedlots, shall be exempt from the provisions established in this chapter. If the cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream uses, then only single domestic in-house use shall be exempt if no alternative source is available.

(4) Nonconsumptive uses which are compatible with the intent of the chapter may be approved.

NEW SECTION

WAC 173-545-080 FUTURE RIGHTS. No rights to divert or store public surface waters of the Wenatchee River Basin, WRIA 45, shall hereafter be granted which shall conflict with the purpose of this chapter.

NEW SECTION

WAC 173-545-090 ENFORCEMENT. In enforcement of this chapter, the Department of Ecology may impose such sanctions as appropriate under authorities vested in it, including but not limited to the issuance of regulatory orders under RCW 43.27A.190 and civil penalties under RCW 43.83B.335.

NEW SECTION

WAC 173-545-100 REGULATION REVIEW. Review of the rules in this chapter shall be initiated by the Department of Ecology within five years of the date of adoption.

APPENDIX B

SUPPLEMENTAL
ENVIRONMENTAL IMPACT STATEMENT

Wenatchee River Basin
Instream Resources Protection Program
and
proposed Chapter 173-545
Washington Administrative Code

State of Washington
Department of Ecology

INTRODUCTION

Proposed Action: The Washington State Department of Ecology (WDOE) proposes to adopt administrative rules (Chapter 173-545 WAC) establishing minimum instream flows for certain streams within the Wenatchee River Basin (see main document). Under the proposal, Peshastin Creek would be closed to further appropriation for consumptive uses during part of the year.

This final environmental impact statement (EIS) is supplemental to the programmatic EIS prepared for the Western Washington Instream Resources Protection Program (WWIRPP). The draft WWIRPP EIS, including a program overview, was issued on April 27, 1979 and the final on June 21, 1979. The WWIRPP final EIS is available, on request, from the department. This final supplemental EIS for the Wenatchee River Basin Instream Resources Protection Program contains information on possible environmental impacts of the proposal which were not discussed in the programmatic EIS.

The following documents are incorporated into this final EIS by reference:

WWIRPP programmatic EIS and the references within it

Wenatchee River Basin program report (of which this
EIS is an appendix)

Lead Agency: Washington State Department of Ecology

Responsible official: Eugene Wallace
Division Supervisor
Water Resources Management Division

Contact person: Marsha Beery
Washington State Department of Ecology
Mail. Stop PV-11
Olympia, WA 98504
Phone (206) 459-6116

Author: Janet Rhodes, Department of Ecology, Environmental Review Section

Licenses required: Department of Ecology - Adoption of proposed rules

Background data: See Appendix 1, Bibliography

These references can be reviewed at:

Department of Ecology Headquarters Office St. Martin's College Campus Olympia, WA 98504 Phone: (206) 459-6000	and	Department of Ecology Central Regional Office 3601 West Washington Avenue Yakima, WA 98903 Phone: (509) 575-2800
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Copies of the WWIRPP final EIS can be obtained from the department's Headquarters office.

Cost to the Public: Individual copies of this final EIS may be obtained free of charge from the department prior to January 12, 1983.

Date of issue: December 28, 1982

Comments due: January 12, 1983

Distribution: See Appendix 2

Adoption Hearing: January 12, 1983, continued to June 3, 1983

2:00 p.m.
Department of Ecology
Rowesix Conference Room
4224 Sixth Ave. S.E.
Building 4
Lacey, Washington

Adoption: June 3, 1983

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SUMMARY

The Washington State Department of Ecology (WDOE) proposes to adopt administrative rules to establish minimum instream flows for certain streams in the Wenatchee River Basin. This environmental impact statement (EIS) is supplemental to the programmatic EIS for the Western Washington Instream Resources Protection Program (WWIRPP). Since the Wenatchee River Basin is east of the Cascade Mountains, there are specific aspects of the program which were not discussed in the WWIRPP EIS.

The proposed Wenatchee Instream Resources Protection Program (Wenatchee Program) would:

1. Establish minimum instream flows on Icicle and Mission creeks;
2. Close Peshastin Creek to further consumptive uses from June 15 to October 15 each year;
3. Establish minimum flows on the main stem Wenatchee River (except that related to feedlots);
4. Exempt stock watering (except that related to feedlots) and single domestic use. Where numerous single domestic diversions significantly affect the quantity of water available for instream uses, then only single domestic in-house use shall be exempt if no alternative source is available;
5. Establish a policy to encourage use of sources of water other than natural stream flow, unless prior rights are used.
6. May exempt future requests for group domestic uses, including municipal supply, on the mainstem Wenatchee River when it is determined by WDOE, in consultation with the departments of Fisheries and Game, that overriding considerations of the public interest will be served.

The goal of the Wenatchee Program is to protect instream resources which could be damaged by low water flows. Withdrawal of surface waters for out-of-stream uses during low flow periods can lead to chronic damage of these resources. If the Wenatchee Program is adopted, new water rights issued for the Wenatchee River Basin would be conditioned on the established minimum instream flows. When stream flows fall below the minimum flows, water users with the conditioned rights would be required to stop diverting. They could divert again when water levels rise above the minimum instream flows. **NO EXISTING WATER RIGHTS WOULD BE AFFECTED BY THE PROGRAM.**

The impacts for this proposal fall into two groups: impacts to the environment and to the future water user. The program would benefit the environment by protecting instream flows that would preserve the instream resources of the Wenatchee River Basin. Balanced against the benefits to instream resources are impacts to the out-of-stream users. New water rights for surface water withdrawals, or for groundwater withdrawals which would directly affect surface water flows,

would be conditioned to protect minimum instream flows. The holders of conditioned rights would not be able to depend on a firm supply of water under the right. The lack of a reliable surface water source could affect new irrigators, community systems, and municipal systems. Potential water users may turn to alternate or supplemental sources for their water.

The alternatives for this proposal are:

Higher/lower flows: Higher minimum instream flows would mean less water for new diverters, but would provide a more optimal environment for instream resources. Lower flows would mean a more firm water supply for users but would provide less protection for instream resources.

Categorical exemptions for Multiple Domestic and/or Municipal Systems: Exemption of these systems would ensure a reliable water source for households, but would mean less water in the stream and during periods when the flow was at or below the established minimum flow levels. Less water would be available for other diverters.

Stream Closures: The program includes a partial year closure on Peshastin Creek. Under a full year closure, water would not be available for consumptive uses for a longer period; causing greater impact to potential diverters. Partial or full year closures on other streams would limit water available to potential diverters.

Instream Flow Incremental Method (IFIM): The IFIM would provide additional detailed information on flows, but would delay adoption of the program for at least a year and probably much longer because of funding constraints. During that time, water right applications would continue to be held pending adoption of a program.

PROPOSED ACTION

The Washington State Department of Ecology (WDOE) proposes to adopt a regulation, Chapter 173-545 WAC, establishing minimum instream flows for the Wenatchee River and its tributaries (Water Resource Inventory Area 45); see Appendix A of program document for the proposed administrative rules.

Under the Wenatchee Program, surface water rights issued in the future for consumptive uses would be conditioned to the adopted minimum instream flows; these new diversions would be reduced or cut-off when flows dropped below the minimum instream flow. Groundwater rights may be conditioned to the minimum instream flows, if the proposed withdrawal would directly affect stream flows. Future consumptive withdrawals on Peshastin Creek, and groundwater withdrawals directly affecting flows in the creek, would not be allowed during the closure period, unless exempted under the regulation.

The Instream Resources Protection Program proposed for the Wenatchee River Basin (Wenatchee Program):

1. Establishes minimum instream flows for the mainstem of the Wenatchee River, which will be measured at three control stations.
2. Establishes minimum instream flows for Icicle Creek and Mission Creek. Flows will be measured at one control station on each creek.
3. Conditions future consumptive uses of water on all other perennial tributary streams or rivers in the basin to the minimum instream flows as measured at the appropriate control station, preferably the closest one downstream.
4. Closes Peshastin Creek to further consumptive withdrawals from June 15 to October 15 each year.
5. Establishes a policy to encourage use of sources of water other than natural streamflow, unless prior rights are used.
6. Does not affect development of future ground water withdrawals, unless such withdrawals would clearly impact the established minimum instream flows or the closure period.
7. Exempts stockwatering (except that related to feedlots) and domestic water use for single residences. In situations where cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream uses, then only single domestic in-house use shall be exempt if no alternative source is available.
8. DOES NOT AFFECT EXISTING WATER RIGHTS.
9. Will be reviewed by the department at least every five years.
10. May exempt group domestic uses, including municipal supply, from the mainstem Wenatchee River minimum flows when it is determined by the department, after consulting with the departments of Fish and Game, that overriding considerations of the public interest will be served.

Related Land Use Plans

Land and water use plans related to this proposal are listed in the program document on page 6.

Water supply is important to development and growth in the Wenatchee River Basin. The availability of or lack of water affects agriculture, housing, commercial development, and industry. Availability of a firm supply of water is also an important factor in determining the

extent to which an area will grow. With adoption of the Wenatchee Program, development may occur in different geographical areas than described in current local land use plans.

The Leavenworth area draft comprehensive plan recently completed by Chelan County recognizes the need to protect instream flows in Icicle Creek and to protect the character of the basin. These desires are compatible with the Wenatchee Program.

EXISTING CONDITIONS AND IMPACTS TO THE ENVIRONMENT

Instream Resources Protection Programs were initially planned for Western Washington basins only. A final environmental impact statement (EIS) for the Western Washington Instream Resources Protection Program (WWIRPP) was issued in June 1979. It discusses the existing conditions and environmental impacts related to setting minimum instream flows in general. Subsequently, the need arose to establish a similar program to protect the instream resources of the Wenatchee River Basin. The major impetus came when the Wenatchee Reclamation District submitted a water right application for an additional 50 cubic feet per second (cfs) from the main stem Wenatchee River, and Chelan County PUD proposed to reactivate the hydroelectric plants at the Dryden and Tumwater dams.

Water use and the physical environment in Eastern Washington differ from the conditions in Western Washington. Therefore, the department decided that a supplemental EIS should be prepared for the proposed Wenatchee Program.

This supplemental EIS addresses environmental impacts that relate to the Wenatchee River Basin and which were not addressed in the Western Washington programmatic EIS (WWIRPP). The WWIRPP EIS is included in this EIS by reference; thus, it may be helpful to review the impacts discussed in the WWIRPP EIS before reading the following section. Impacts that were not addressed in the programmatic EIS will be discussed in detail here.

The main report for the Wenatchee Program (see main document) describes existing conditions in the basin. Where appropriate, additional information is provided here.

INSTREAM WATER USES

General Impacts.

The goal of the Wenatchee Program is to protect instream resources which could be damaged by low water flows. These include: fish, wildlife, recreation, navigation, water quality, and aesthetic and scenic values. Heavy withdrawal of surface waters for out-of-stream uses during low flow periods can lead to chronic damage of these resources.

The proposed Wenatchee Program would protect levels of stream flow that help maintain instream resources at an existing level. The program is NOT designed to provide optimum conditions for fish and other instream resources. Since existing water rights would not be affected, the Wenatchee Program would NOT itself add water to the streams, and the quality of instream resources would not be improved.

New rights, only, would be conditioned to the established minimum instream flows. When stream flows fall below the minimum instream flows, water flows could be increased to as high as the minimum flow level by ordering cutbacks in water use by those people holding conditioned rights. During periods of drought, actual stream flows could fall below the minimum instream flows due to natural low flows and diversions of water under existing rights.

Water Quality

Existing Conditions. The Washington State Water Quality Standards (WAC 173-201) classify most of the surface waters of the Wenatchee Basin as AA (extraordinary). However, the main stem Wenatchee River below the Wenatchee National Forest boundary is classified A (excellent). Water quality in the basin is generally excellent. Summer water temperatures occasionally approach or exceed the state water quality standards during low flow periods. Fecal coliform counts are well within the state water quality standards. Turbidity is sometimes a problem during periods of high flow. See page 15 of the program report for more information on water quality.

Impacts. Water quality problems are often associated with periods of low flow. During high or moderate flow periods, pollutants (such as runoff or sewage discharges) are diluted by stream flows. However, during low flow periods, less dilution occurs, and pollutant concentrations are higher. Also, high summer temperatures can cause water temperatures to exceed water quality standards. This problem is increased when stream flows are low: the smaller volumes of water heat faster than larger volumes. The more water present in a stream or lake, the more ambient air temperature extremes will be moderated.

Setting minimum instream flows will help prevent further deterioration of water quality by protecting water levels which will dilute pollutants and transport them from the area. These flows will also protect against the adverse effects of high summer temperatures on water temperatures.

Fisheries

Existing Conditions. The program document contains a detailed description of the fishery resources in the Wenatchee River Basin (see pages 15-20). Figure 6, page 18 of the program document, shows the different fish species present in the Wenatchee River drainage basin during each month of the year. Fish may be present in specific areas of the river at slightly different times than indicated in Figure 6.

Impacts. Adequate instream flows are important to maintain proper fish habitat for rearing and reproduction, as well as for transportation of migrating fish. Flows affect harvest and predation of fish, spawning area, space for growth, incubation of eggs, water temperature (which in turn can affect incubation, fish survival, etc.), and food supply. For any specific reach of the river, certain flows provide optimum fish habitat. The type of habitat required varies with the fish species and the time of year. Fish require certain water velocities and depth, and type of bottom material (i.e., sand, gravel, mud). Thus, the relationship of flows to habitat is not linear: higher flows do not necessarily mean more habitat, and lower flows do not necessarily mean less

habitat. In some cases, a reduction in flows during high flow periods may actually increase available fish habitat. During low flow periods, available habitat is usually reduced by withdrawals of water from a stream.

Although adequate flows are necessary to all anadromous and resident fish in the Wenatchee River Basin, steelhead and chinook salmon are of particular concern. Adequate flows during spring runoff are essential to protect steelhead spawning areas, maintain spawning gravel, and "flush" young fish for spring out-migration. For summer chinook, it is important to maintain adequate flows in May and June to flush juveniles downstream; in late September through early November, for spawning; and in late August and September for transportation. During summer and early fall, adequate flows are important for rearing both juvenile salmon and steelhead.

During low flow periods, fish may be lost due to reduced habitat and/or poor water quality. Loss of anadromous fish in the Wenatchee River Basin means loss of fish for commercial and sport catch on the coast, in the Columbia River, and in the streams of the Wenatchee River Basin. Loss of native fish also means a reduced sport catch in the basin. With reduced catches, less people may come to the basin for recreation, which would be a financial loss to the local communities. With the adoption of the Wenatchee Program, the fishery resource would be protected from further reductions in flow by out-of-stream consumptive uses below the proposed instream flows.

Representatives from both the Washington Departments of Game (WDG) and Fisheries (WDF) were involved in the early planning process for the Wenatchee Program. Recently, the WDOE held meetings with WDG (November 29, 1982) and WDF (December 2, 1982) to discuss their concerns on the program as a result of their review and comment of the draft document (see pages D2-D5 for their comments). From those meetings and in response to other comments received, WDOE has made changes to the program (see listing pg. E-1). Among those changes is an increase in fall flows for spawning on Icicle Creek and the Wenatchee River.

Wildlife

Existing Conditions. The program document contains a description of wildlife on page 20.

The Nongame Wildlife Program of the Washington Department of Game maintains files on animal species which are of special concern because they are exemplary, unique, or endangered on a statewide basis. There are 10 bird, 12 mammal, 5 amphibian, and 2 butterfly species of special concern in the Wenatchee River Basin.

Impacts. Adequate flows are important to many wildlife species in addition to those found directly in the water. Flows may affect wildlife in several ways. Many animals are dependent upon streams and rivers for food. For example, adequate numbers of fish are necessary to support populations of ospreys, eagles, and herons. Other animals live in a riparian habitat (the bank of a stream, river, or lake). The amount of riparian habitat available along any stream depends on the water flows in that stream. Each stretch of a stream may have its own particular flow which would provide optimum riparian habitat. Changes in flow (either up or down) may reduce the amount of riparian habitat available to these animals. This may be particularly

important if they have small home ranges close to the stream bed. Examples include amphibians and reptiles. The loss of riparian habitat can affect wildlife that actually occupy a large range and spend only part of their time in the riparian area. Flows may also affect the size of island areas in streams. River islands are important to wildlife production, especially to birds, because they provide refuges from predators.

Special animals which are potentially sensitive to changes in stream flow include: great blue heron, osprey, spotted owl, marten, fisher, shorttailed weasel, longtoed salamander, Pacific giant salamander, tailed frog, Cascade frog, sagebrush lizard, and rubber boa.

During low flow periods, predators may have access to island areas which were previously isolated. The amount of riparian habitat may also be reduced by chronic low flows.

The minimum instream flows proposed for the Wenatchee River Basin would help maintain existing wildlife habitat by protecting existing stream flows.

Flora

Existing Conditions. The Washington Natural Heritage Program has identified ten plant species of special concern in the Wenatchee River Basin which could be affected by instream flows. Five of these species were listed in the 1975 "Notice of Review" in the Federal Register as candidates for threatened or endangered species. Three are considered by the Washington Natural Heritage Program to be rare in Washington; the rest (seven) are endemic to Washington. Six of the ten species are only found in the Wenatchee Mountains or a narrow region of the east Cascade Mountains in Chelan, Kittitas, and/or Yakima counties. The Heritage Program has also identified two sensitive areas in the basin: Camas Land and Fish Lake Bog.

Impacts. According to Natural Heritage Program staff, only general comments can be made about the effects changes in stream flows can have upon the special plant species. Some species are dependent upon certain levels or patterns of ground or surface water to maintain their habitats. In some cases, spring flooding is necessary to maintain wetland areas. Changes in the water table can affect the ability of special plant species to live and grow.

The nature of spring runoff in the basin is such that springtime flows would seldom fall to the levels proposed under the Wenatchee Program. However, the minimum flows proposed for low flow periods should help protect plant habitat from degradation.

It appears that the Wenatchee Program would not affect the plant populations in Camas Land or Fish Lake Bog. According to the U.S. Forest Service (Glen Klock, Forestry Sciences Laboratory), streamflow is not a major factor influencing the condition of Fish Lake Bog. Because Camas Land is in a high basin with many inlet streams, setting minimum instream flows should not affect the area (Annette Olson, Natural Heritage Program, personal communication).

Recreation

Existing Conditions. As discussed in the program document (pages 21-23), the Wenatchee River Basin provides opportunities for a great variety of outdoor recreation. Tables VI and VII, page 22, provide information on water-related recreational use in the basin.

While no specific minimum flow levels are required for most recreational activities, they are made possible or enhanced by stream flows. White water rafting, however, does require certain levels of stream flow. The Chelan County PUD conducted a survey of commercial white water rafters as part of its studies for the Dryden Hydroelectric Project draft EIS (DEIS). The PUD found that rafters consider 3,000 cubic feet per second (cfs) as the minimum flow necessary for rafting (as measured at the Monitor gage); flows from 6,000 to 13,000 cfs were viewed as optimum for rafting. Flows are usually high enough to begin rafting in April. Rafting then continues until the flows are too low - with the season usually ending in July. The Dryden DEIS states that "Consultations with commercial rafters and agencies (HCRS* and State Parks primarily) suggest that the lower Wenatchee River is one of the most important commercial white water rivers in the state, if not the most important" (page 62).

Extremely low instream flows directly affect recreational activities. Potential visitors may find the area less attractive for swimming, boating, fishing, sight-seeing, camping, picnicking, and hiking. Any change that makes the Wenatchee River Basin less attractive for recreation significantly affects the many businesses in the area that cater to recreational visitors.

Impacts. Rafters use the river during the high flows of the spring runoff. Hydrographs of flows at Monitor, the gaging station just below Cashmere, indicate that more than 50 percent of the time flows are higher than 3,000 cfs from late April through mid-July (i.e., more often than every other year). In 99 years out of 100, the flow will be greater than 3,000 cfs from mid-May through mid-June.

The instream flows proposed for the Wenatchee River at the Monitor gage are found in Appendix A, page A-3 of the regulation. As proposed, they would protect instream flows of 2,800 cfs or higher from about mid-May through the first week of June. This is approximately three weeks out of a season which generally runs about 3½ months (14 weeks), or about one-fifth of the season. This level of flow is expected to be exceeded 99 years in 100. Thus, the Wenatchee Program provides little protection for the relatively high flows desired by rafters. However, the range of flows currently seen during spring runoff would not be lowered appreciably, unless a significant number of large surface water diversions were developed.

*HCRS = Heritage Conservation Recreation Service

State Parks = Washington State Parks and Recreation Commission

On weekends from May 1 through July 4, the Chelan County PUD had planned to operate the proposed Dryden project so that the project itself would not cause flows in the Dryden Reach to drop below 3,000 cfs. This procedure was intended to help protect flows in the Dryden Reach for the use of rafters on weekends during the period of heaviest use. However, the PUD's plans have changed and they do not intend to develop these projects in the near future.

Navigation

Existing Conditions. As the program document states, navigational use in the Wenatchee River Basin is almost exclusively limited to recreational boating. Recreational boating also occurs on Lake Wenatchee.

Impacts. See previous section on Recreation.

Aesthetic and Scenic Values

Existing Conditions. The program document discusses aesthetic and scenic values on pages 23.

Impacts. The quality of aesthetic and scenic values is quite subjective, depending largely on the perception of the viewer. Many aspects of these values relate to other activities such as hiking, fishing, or boating. People enjoy the sight of running water in a stream and the associated falls and rapids. When a stream that normally contains running water loses it (through appropriation or drought), the sight is not aesthetically pleasing to hikers, campers, sightseers, or residents in surrounding areas. Severe low flows may actually reduce the number of people that will come to the area for recreation, because the area is not as they want it to be.

Establishing minimum instream flows would help protect the aesthetic and scenic values of streams in the basin from further degradation.

As discussed in the program document, the Wenatchee River, including Lake Wenatchee and the Chiwawa and White rivers are on the Secretaries' of Agriculture and Interior "5(d)" list as being worthy of future considerations in the National Scenic Rivers System. Please see page 23 of the program document for more detail. Establishing minimum instream flows in the Wenatchee Basin would be in line with the intent of the Wild and Scenic Rivers Act of 1968 to protect certain rivers that have outstanding characteristics and maintain them in a free-flowing condition.

OUT-OF-STREAM WATER USES "

General Impacts

Existing Rights. Adoption of minimum instream flows for the Wenatchee River Basin would not affect existing water rights.

New Water Rights. Under the Wenatchee Program, water rights issued in the future for consumptive uses would be conditioned to the proposed minimum instream flows. When stream flows fall below the adopted minimum flow, diverters with conditioned rights would be regulated (i.e., their withdrawals reduced or cut off) until the established minimum instream flows are attained. Anyone receiving such a conditioned right would not be able to count on a firm supply of surface water (or groundwater, if the withdrawal directly affected stream flows). This would be felt most significantly during the low flow period from August through October. On Peshastin Creek, no new consumptive withdrawals would be allowed from June 15 to October 15.

Alternate Sources. Because new water rights would not provide a firm supply of water, potential water users may turn to alternate sources of water supply. These may include: storage of water during high flows; use of ground water; purchase of existing valid water rights; or a combination of these.

If adequate storage were supplied in conjunction with a surface water diversion, the storage could carry the user through times of low flow. The practicality of water storage would depend on the quantity of water needed during low flows, availability of a site for the facility, and cost of facility construction.

Ground water resources are somewhat limited in the basin (see program document, page 14). However, where available, they would offer a reliable water source, when WDOE determines that they do not interfere significantly with the minimum flows or closure period.

The purchase of water rights may also provide a reliable source of water. The point of diversion, place of use, and purpose of use listed on the water right may, in some instances, be changed. However, the change must be able to be made without detriment or injury to existing rights. This action is subject to approval from the Department of Ecology and is not possible if water rights have been relinquished because of nonuse. Such changed rights would retain their original priority date (seniority). If the priority date was earlier than the adoption of the Wenatchee Program, then minimum instream flows would not apply to the changed right.

These alternate water sources could provide a main water supply; or they could serve as a secondary water source, providing water during low flow periods when the primary source does not provide enough water for the users' needs. Combinations of surface and ground water or surface water and storage could offer a reliable water source.

Under the Wenatchee Program, WDOE would encourage use of the alternate sources discussed above before allowing diversions from streams, rivers, or lakes in the Wenatchee River Basin.

Domestic, Municipal, and Industrial Supply

Existing Conditions. See program document, page 23 & 24, for a discussion of domestic, municipal, and industrial supply.

As noted in the program document, industrial water use in the basin is not great. The summary of surface water rights for the basin indicates that 3 out of about 300 water rights are for commercial or industrial use. The total quantity of water appropriated in the Wenatchee River Basin 45 under these rights is about 42 cfs. However, the industries holding these rights may not be putting all of the water authorized under their rights to beneficial use. Also, uses of the appropriated water may not be totally consumptive: a portion of the diverted water may return to the stream(s) of the Wenatchee River drainage, through direct runoff or through percolation.

Appendix 3, page B-30, contains a summary of surface water rights for the basin.

Impacts. The general impacts discussed on page B-12 apply to domestic, municipal, and industrial users.

Under the Wenatchee Program, withdrawal of water for single family residences would be excluded from minimum instream flow requirements. This exemption may encourage development of many single domestic systems in the place of larger, multiple-service domestic systems. The larger systems would be subject to the minimum instream flows established on most streams and may be subject to the minimum instream flows on the main stem Wenatchee River. Compared to centralized, multiple service systems, proliferation of single domestic systems would result in: greater cost to the individual household, many more diversion structures, less control of instream flows, greater assurance of water for the domestic user, and less control on the quality of the drinking water. In order to protect instream flows in situations where numerous single domestic diversions are adversely impacting a stream, the department has made a provision in the regulation to restrict water use to in-house use only.

Presently, there are no pending water right applications for municipal, industrial, or other group domestic system use of surface water. However, the City of Leavenworth is considering whether to apply for additional surface water from Icicle Creek (Mike Cecka, Chelan County, personal communication). The population in the Leavenworth area was fairly stable until 1975, but grew significantly between 1975 and 1980. A report developed by the county (1979) indicates that Leavenworth could experience "substantial population increases" through 1990. Chelan County has completed a draft comprehensive plan for the Leavenworth area; a draft EIS was issued for the plan on September 1, 1981. Current plans are to encourage development within the urban area of Leavenworth. The population increases, plus expected urban development, will increase demands for water, which Leavenworth's current supply may not be able to satisfy.

Unless the town provided adequate storage facilities, Leavenworth would be unable to rely on Icicle Creek as the sole source of additional water. If storage was feasible, water stored during times of high flow could be used when flows fell below the minimum instream flows. Other alternatives would be to divert water from the main stem Wenatchee River or to use ground water from wells, which may provide a more reliable supply. Diversion from the Wenatchee

River would be subject to minimum instream flows, unless exempted on a case-by-case basis. If the department, in consultation with WDF and WDG, determines that overriding consideration of public interest would be served, diversion from the main stem Wenatchee River may be exempt from the instream flow requirements.

Any multiple domestic system proposing to use surface water from streams other than the main stem Wenatchee River would be subject to minimum instream flow requirements. These systems then would be faced with the impacts discussed under General Impacts on page B-12.

Future industrial use of surface water would also be subject to minimum instream flow requirements and the associated impacts. However, the potential for major new industries establishing in the basin is small, since available land is limited, and the area is more oriented towards agriculture (fruit) and tourism. The recently drafted Leavenworth Area Comprehensive Plan states on page 34: "Care must be taken to avoid encouraging new industrial development at the expense of the existing economic base."

Irrigation

Existing Conditions. As indicated in the program document (pages 24 and 25), use of water for irrigation is quite extensive in the basin. Appendix 3, page B-30, contains a summary of surface water rights. There are about 109 prime and supplemental water rights, permitting surface water withdrawals to irrigate about 16,500 acres (Department of Ecology water right records, 1980).

The principal agricultural crop in the basin is fruit, principally apples and pears. The orchards are concentrated along the Wenatchee River below Leavenworth. Some irrigated land is also used for growing hay and grazing livestock. In addition, some nonirrigated land is used for range and pasture.

Indications are that there will be no increase, and more probably a decrease, in agricultural lands within the Leavenworth area. A county report (1980) on land use trends indicates that acreage in urban development has nearly tripled since 1968, and agricultural lands have declined by 34 percent. Urban development has apparently occurred primarily at the expense of agricultural land uses. Orchards have decreased from 42.2 percent of the land use in 1967 to 39 percent in 1979. The "other agricultural" category of use declined from 40.9 percent to 16.5 percent in 1979. In some cases, the change from agriculture to residential could mean an increased need for water. Housing developments use a large amount of water. Also, much of the converted land had been in pasture, which most probably did not require irrigation.

Impacts. The General Impacts for out-of-stream use discussed on page B-12 also apply to irrigation.

Irrigators who apply to use water from streams or rivers in the Wenatchee River Basin would be encouraged to use alternate sources of water (page B-12). As noted earlier, availability of these alternate sources is important during low flows, especially in Mission, Icicle, and Peshastin creeks.

Because of the large quantities of water used in irrigation, use of storage as a primary water source during low flows may not be practical. Construction of appropriate storage may be hampered by cost and lack of a suitable site. Use of ground water may provide an adequate primary or secondary water source. However, ground water resources are somewhat limited in the basin and may not be available to a particular area. The main stem Wenatchee River offers a more reliable water source than the tributary streams. This is especially true for Peshastin Creek, which would be closed four months of the year. Bringing water from the Wenatchee River to the property may be difficult, technically and/or economically, for lands located away from the river. Lands using water from the Wenatchee River would have a fairly reliable source of water (see Figure 1, page B-18). However, even new water rights issued for the main stem Wenatchee River would be conditioned to the established minimum instream flows, and a secondary water source may be advisable: irrigators may have to turn to the alternate sources during the low flow periods of August through October.

Presently, the department has 10 pending applications requesting appropriation of surface waters in the basin (including springs) for irrigation. Four are minor diversions on small tributaries, about .13 cfs total; five are medium-sized diversions, about 3.25 cfs; and one large request is for 50 cfs. Requests for irrigation total 54.68 cfs.

The department expects no major water right applications for new irrigation in the future. Conversations with Bob Johnston (Soil Conservation Service) and Monroe Mashburn (Icicle Irrigation District) indicate that most of the land in the basin which can be irrigated economically is already in production. Some additional land may be productive if irrigated, but costs would be prohibitive with current irrigation methods and commodity markets. In addition, the amount of acres devoted to agriculture in the Leavenworth area has been declining as the land is converted to residential use.

The department may receive proposals to appropriate water for agricultural use outside of the basin. The cost for construction of facilities and/or transportation of the water would have to be balanced against the benefit of using the water. This benefit would be reduced, because any water right permit for new diversions or additional water would be conditioned to minimum instream flows. Other than the request by Wenatchee Reclamation District, WDOE has not received applications from any others proposing to divert water from the Wenatchee River or its tributaries for use outside the basin.

Adoption of the Wenatchee Program may indirectly affect irrigators who do not have valid surface water rights on streams conditioned with minimum flows. In this instance, should an illegal diversion be found, action would be taken by WDOE to shut it down until a valid water right permit was obtained. These new permits, if issued after adoption of the program, would be provisioned with the minimum instream flows.

Hydroelectric Developments

Existing Conditions. Presently, no commercial hydroelectric power is produced in the Wenatchee River Basin. However, a number of projects are being proposed (see Table VIII, page 27, and page 25 in the program document).

The Chelan County PUD has paid an annual license fee required by RCW 90.16.050 (Appropriation of Water for Public and Industrial Uses) for the Dryden project. Therefore, the PUD maintains it has a valid water right to divert up to 1,300 cfs from the Wenatchee River for the Dryden hydroelectric plant. The Department of Ecology maintains that the PUD relinquished its water right by failing to record the right pursuant to RCW 90.14 (Water Rights Registration - Waiver and Relinquishment, etc.). Currently, the PUD does not plan to reestablish hydropower at the Dryden or Tumwater dam sites.

Impacts. Hydroelectric developments come under the jurisdiction of the Federal Energy Regulatory Commission (FERC). During the licensing process, project proponents and interested agencies or individuals would recommend to FERC what instream flows should be maintained in the reaches affected by a project. The recommended flows would be the result of detailed studies performed on the reaches affected by the project. The Department of Ecology may intervene in the proceedings to recommend studies and to make flow recommendations. At that time, the department may present the minimum instream flows adopted in the Wenatchee Program, as appropriate. Ultimately, FERC would establish minimum flows for the reaches affected by any hydropower plant; these would become conditions in the FERC license for operation of the projects.

Economics

Existing Conditions. The main economic activities of the basin relating to water use are: agriculture, agricultural-related industries, tourism, and recreation. See related sections of the program document and the EIS for more information.

Impacts. It is difficult to determine exact numbers for the economic impact of the proposed minimum instream flows. Adoption of the Wenatchee Program would help reduce the economic losses that could result from over-appropriation of the surface waters in the Wenatchee River Basin. As discussed on pages B-8 and B-9, extreme low flows may cause fish losses and reduced recreational opportunities, causing a financial loss to the communities in the basin. Protecting instream flows would protect recreational opportunities, reducing potential losses.

Future water users may find that potential financial returns are lower under the Wenatchee Program than if no minimum instream flows were established. New water rights would be conditioned to the established flows, so that the holder of the right could not depend on it for a steady supply of water all of the time. Awareness of this impact may cause potential users of surface water to develop water storage facilities, to rely on ground water (wells) as a primary or supplemental source, or to plant crops compatible with this period of water availability. Developing alternate water sources may be more expensive than using surface water.

The major pending water right application in the basin is the Wenatchee Reclamation District's request for an additional 50 cfs from the main stem Wenatchee River. If issued, the permit would be subject to any minimum instream flows that are adopted. However, the district presently has a claim to water right to divert up to 200 cfs. The additional 50 cfs is for supplemental water.

ALTERNATIVES AND MITIGATION

BACKGROUND

In developing these proposed instream flows for the Wenatchee River Basin, the Department of Ecology has received recommendations from the departments of Fisheries and Game. During this process, several different flow regimes were suggested. Figure 1 on page B-19 shows the flow regimes recommended by WDF and WDG as they would appear at the Monitor gage. Figure 2 shows the instream flow proposed by WDOE at the Monitor gage in the draft program document and the adjusted instream flow after consideration of WDF, WDG, and other agency and public comments.

For comparison, the top line on Figure 2 shows the 50 percent occurrence level. On any given date, the stream flow would be this high or higher in half the years; it also means that in half of the years, this flow would not be attained.

Using the instream flow methodology explained in the programmatic EIS, the department determined the hydrologic base flows for the Wenatchee River and certain tributaries. These initial flows were then reviewed with the departments of Game and Fisheries. The flows first proposed by the Department of Game are also shown on the graph. To keep the graph readable, several other flow regimes considered by WDOE are not indicated. However, they are variations of the flows first proposed.

After extensive review and analysis, WDOE developed the initial proposed flows. In consideration of the recommendations by WDF, WDG, and other agency or public comment, WDOE developed the adjusted flows listed in Figure 2, pg. 19, and in the regulation pgs. A-2 and A-3. They are designed to protect instream resources, but will not to provide optimum conditions for various instream uses.

A number of alternatives were evaluated. Some of these were considered for use basin-wide, others were evaluated for only one or two streams in the basin. The alternatives are discussed below.

LOWER/HIGHER FLOWS

Either higher or lower minimum instream flows could be adopted for the Wenatchee River Basin. Generally, lower flows would allow more out-of-stream water uses, while providing less protection for instream values and uses. Adoption of higher flows would reduce adverse impacts to instream resources but would increase impacts to future water users. Surface water would provide a less reliable water source than under the proposed program. Water users would more likely have to develop alternate water sources as a primary rather than as a secondary source.

FIGURE 1 Departments of Game and Fisheries Recommended Instream Flows

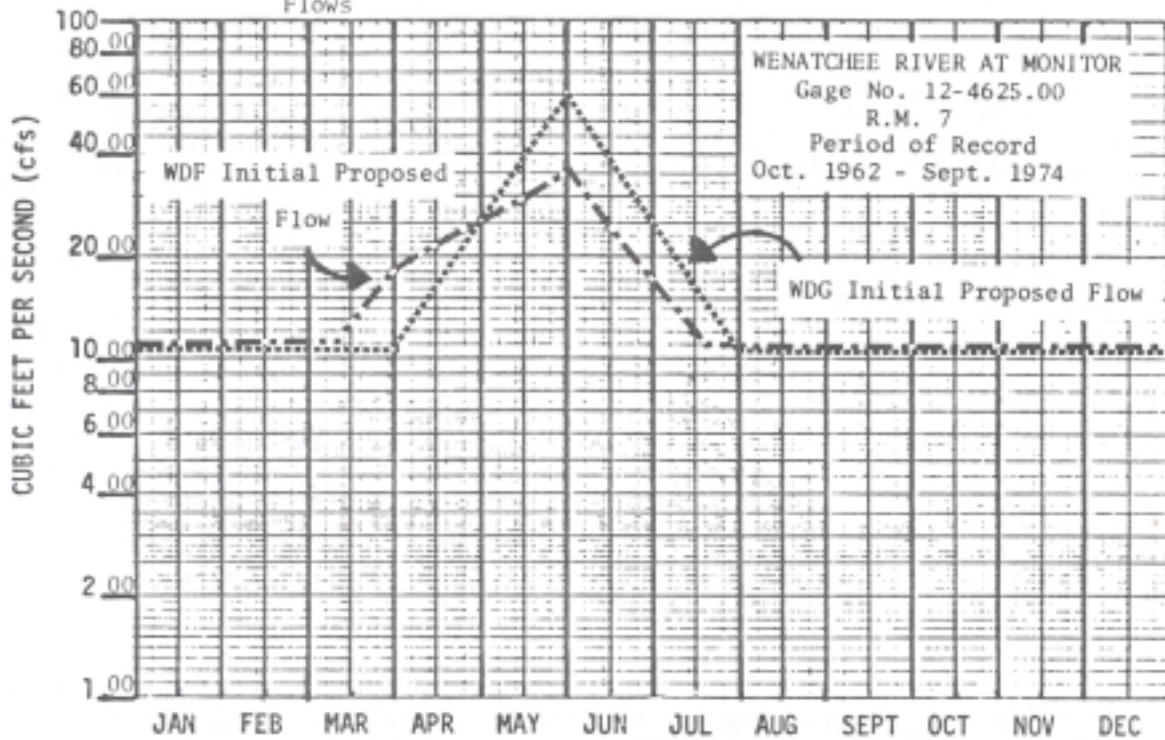
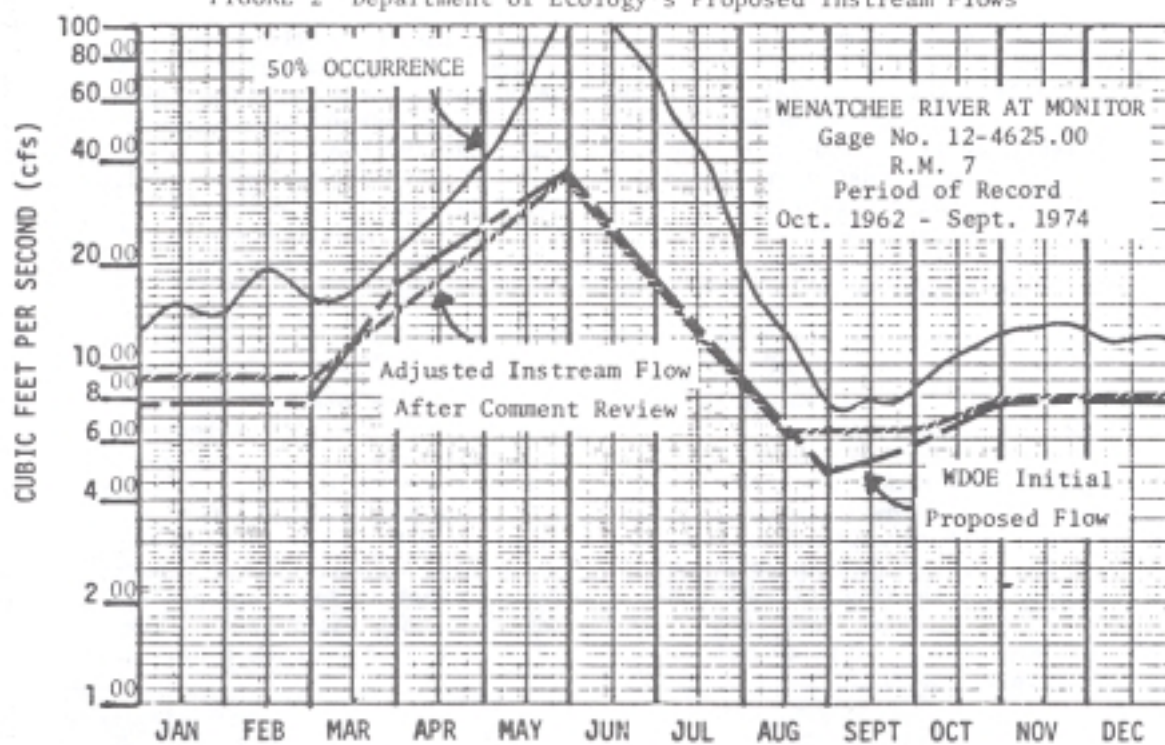


FIGURE 2 Department of Ecology's Proposed Instream Flows



The fishery resource agencies initially suggested higher flows than those proposed for adoption (see Figure 1). After extensive review of technical information provided by Chelan County PUD on the Dryden Reach (see IFIM, page B-24), the departments of Fisheries and Game agreed to lower minimum instream flows for a one-mile reach below the Dryden Dam.

The minimum instream flows, as proposed, generally are higher than, but in some instances drop below, the 99 percent occurrence flows for the streams in the basin. Further reduction of the flows would seriously interfere with the goal of the program: to protect instream resources.

EXEMPTIONS OF DOMESTIC AND MUNICIPAL USERS

Because of the need to ensure that water is available for households, WDOE evaluated several options for exempting domestic and municipal use of surface water. Generally, exemptions for domestic use would reduce the amount of water available for other future diverters and protection of instream resources.

Single Residences

Exemption of single residences would ensure that individual households could obtain a reliable water source. However, if only single residences were exempted, construction of many individual diversions would be encouraged. This conflicts with the Water Resource Act of 1971, which encourages construction of community water systems.

DSHS Class 4 Systems

Exemption of systems serving 2-9 residences would allow these smaller systems to develop a surface water source when alternate sources are not available. This would encourage development of community systems (see above). If larger community systems were not exempted, many Class 4 systems may be formed where there would ordinarily be one larger water system. Lower density residential development may also be encouraged, because of the desirability of smaller water systems. The exemption of the Class 4 systems from the minimum instream flow requirements would ensure a source of water for these smaller systems, which may not have the financial resources to develop an alternate water source.

Municipal

The incorporated cities in the Wenatchee River Basin would be exempted under this alternative. The exemption would allow the City of Leavenworth to divert an additional amount from Icicle Creek to meet its expanded water needs. However, that additional use could cause serious stress to the lower portion of the creek during the August to October period (see Stream Closures, page B-21). According to the draft Comprehensive Plan for the Leavenworth area (1981), the city is aware of the importance of maintaining stream flows in the Icicle Creek drainage and prefers to look to storage facilities or ground water for new water needs. The city may also be able to use water from the main stem Wenatchee River, if approved by WDOE.

Other Systems

Exemption of other community systems would encourage more intensive housing development (as opposed to that under DSHS Class 4). It would provide a more reliable water source for domestic use within the basin. Less water would be left for instream values and uses, especially if water is diverted from heavily used tributary streams. Less water would also be available for other out-of-stream uses.

STREAM CLOSURES

Icicle, Mission, and Peshastin creeks are heavily used by irrigators and by systems supplying domestic needs. During some months, the amount of water authorized under recorded water rights is greater than what is available in the stream for consumptive use.

The department reviewed flow information for these streams and estimated the amount of water available for out-of-stream uses. The following method was used for each stream:

1. Determine the 50 percent occurrence flow for each two-week period;
2. Subtract the hydrologic base flow; then
3. Subtract the amount of water presently being used; leaving
4. The amount of water available at least fifty percent of the years for out-of-stream use.

Table 1 shows the results for Icicle and Mission creeks. No numerical information on stream flows was available for Peshastin Creek.

As shown in Table 1, no water appears available with current withdrawals in either Mission or Icicle creek for out-of-stream use during August, September, and October. Flows in Mission Creek are extremely low in July: 3 cfs and 1 cfs; flows in Icicle Creek during July are 242 cfs and 432 cfs, but drop to 0 in August.

Year-round Closures

The department could close any or all of the three streams to appropriations for the entire year. Icicle Creek has large quantities of water available for out-of-stream use from November through July, and moderate flows are available in Mission Creek for out-of-stream use during those months. Year-round closure would mean that water available for out-of-stream use would be lost to irrigators and group domestic users.

When a stream is closed to additional appropriations, potential use of ground water may also be closed. Except for single domestic and stockwatering uses, all other ground water withdrawals that would significantly affect the flow of a closed stream would not be allowed. Thus, within the drainage basin of a closed stream, ground water may or may not provide an alternate source of water supply.

TABLE 1. FLOWS AVAILABLE FOR USE (in cfs)

	OCT	NOV	DEC	JAN	FEB	MAR
MISSION	0/0 **	3.74/3.94	3.37/3/74	7.44/3.74	3.94/7.94	23.94/14.94
ICICLE	16/0	174.5/174.5	178.5/178.5	105.5/105.5	109.5/109.5	98.5/78.5

	APR	MAY	JUN	JUL	AUG	SEP
MISSION	39/33	37/37	29/12	3/1	0/0	0/0
ICICLE	333/313	1201/901	620/1040	242/432	0/0	0/0

AV/W19(B27)

** The two numbers show flows for the first and second half of each month respectively.

When water rights are relinquished due to nonuse, the water that was appropriated under the right is returned to the stream. Under a year-round closure, this water could not be used for a new diversion, even if flows in the stream exceed the minimum instream flows.

Partial Year Closure

Closing streams only during the months when water is not available for consumptive use would offer several advantages over a full year closure. Flow levels in the streams above the minimum flows would be protected during the dryer months. However, water may be available for use during the winter and spring, so that potential users could divert water into storage facilities for use during the low flow period - mid-June through mid-October. This stored water could serve as either a primary or secondary water source, but it would be more practical for domestic users than for irrigators (see pages B-15 and B-16).

As in year-round closures, above, ground water sources may be indirectly closed during the stream closure period. Thus, use of ground water as a main or secondary source could be limited in a basin with a partial year closure. In addition, water returned to the stream from relinquished rights would not be available for use during the closure period.

No Closure

The department could leave perennial streams open to appropriation all year. Potential out-of-stream water users would be able to apply for a water right permit to appropriate water during any season. The water rights issued for any perennial streams in the Wenatchee River Basin would still be conditioned with the established minimum instream flows, and the department would be able to regulate users when flows drop below the established minimum. Having streams open to appropriation year-round is more advantageous to the potential water user than a full or partial year closure: water would not be lost to the user during periods when flows exceed the established minimum instream flows. In addition, water returned to the stream from relinquished rights could be appropriated.

In some instances, ground water contributes to stream flows. If a closure is established on such a stream, appropriation of ground water may be indirectly closed during the closure period (see above). By leaving these drainages open to appropriation, the department retains the flexibility to issue water rights for ground water use, if investigations shows that the water is available.

Leaving a stream open to appropriation offers more flexibility in managing the streams. Instream values would still be protected by the minimum instream flows established for the stream. Use of water under existing water rights would be protected by their priority dates. Maintenance of minimum instream flows occurs through WDOE's regulation of diversions when flows drop below established levels. At the present, given the manpower and monetary constraints placed on the department, timely regulation for protection of instream values may be affected.

Administrative Withdrawal

Under an administrative withdrawal, all water right applications for consumptive uses would be held by the department for a set length of time. During that period, the department would gather additional information on the stream. Once minimum instream flows and/or closure periods were established, the applications could be processed. The date each completed application was received at the department would establish the priority date for any water right permit issued in response to the application.

Peshastin Creek is used quite heavily and observers have noted very little flow at its mouth in late summer. However, there is little detailed stream flow information for the creek.

An administrative withdrawal for Peshastin Creek would allow time for data collection, so that a more accurate determination could be made about minimum instream flows and the need for closures. No new diversions would be allowed during the next five years (except for those exempt from the Wenatchee Program). A five-year period for the withdrawal would be consistent with the required review of the Wenatchee Program in five years. Depending on the results of the studies, diversions may be allowed in the future. The main adverse impact of this alternative is that no requests for diversions could be considered for five years. During high flow periods, water may be available for out-of-stream use. However, with an administrative withdrawal, no permit for such a use could be issued for five years.

USE INSTREAM FLOW INCREMENTAL METHOD (IFIM)

Minimum instream flows could have been determined using a different method than described in this report or in the Western Washington Instream Resources Protection Program Final EIS and Program Document. In the Instream Flow Incremental Method (IFIM), a computer model of the stream is developed from detailed physical and biological information about the stream. The computer model shows the effects of different flows on fish and wildlife habitat.

Chelan County PUD used the IFIM to determine what flows should be maintained in the Dryden Reach of the Wenatchee River. This study showed that minimum instream flows for that reach could be lower than the original proposal by departments of Game and Fisheries. Operational minimum flows in an interagency agreement for the Dryden reach were: 1) 1,750 cfs from April through June for steelhead spawning; 2) 500 cfs from July through August for Chinook salmon spawning; and, 3) 450 cfs from September through March for salmon and steelhead rearing.

Use of the IFIM on the main stem Wenatchee River would provide additional information on the instream resource needs in the river and how various flows would affect them. Flows determined through this method may be either higher or lower than what is proposed for the Wenatchee Program.

The IFIM requires experienced staff and much time, as well as a considerable financial commitment. At this time, neither the staff nor the finances are available to the department. Use of the method would also delay adoption of the program for at least a year, while information

was collected. During that time, water right applications would continue to be held pending adoption of a program.

The IFIM could be used later to provide information for the every five-year review.

OTHER ALTERNATIVES

The programmatic WWIRPP EIS (1979) discusses the following alternatives:

1. No action
2. Various methods of establishing instream flows
3. Use the minimum flow technique
4. Complete basin plans
5. Declare a moratorium

MITIGATION

The purpose of the Wenatchee Program is to protect stream flows which will help maintain existing instream resources. Once instream resources have been damaged, it is difficult to return them to their original condition. This goal, then, is essentially one of protecting the environment from damage, and the Wenatchee Program is itself a type of mitigation measure. Some of the alternatives discussed above may encourage higher instream flows, which may provide a higher level of protection for instream resources.

UNAVOIDABLE ADVERSE IMPACTS

The impacts for this proposal fall into two groups: impacts to the environment and to future water users.

As noted above, the Wenatchee Program itself is an effort to prevent significant adverse impacts to the environment. However, because the program is designed to protect instream flows, it will not provide optimum flows for fish, wildlife, and other instream values. Thus, instream resources and values will not be maintained at an optimal level by the program.

Balanced against the impacts to instream uses and values are impacts to future out-of-stream users. Since future water rights for consumptive uses would be conditioned to the established instream flows, the holder of a conditioned water right would not be able to depend on a firm supply of water. Diverters with conditioned rights using water from Peshastin Creek would not be able to divert at all from June 15 to October 15 each year. The lack of a reliable surface water source would affect irrigators, community systems, and municipal systems. Greater risk of water supplies being cut off during low flow periods may affect the feasibility of using surface water as a source of supply, unless a supplemental source is also developed.

SHORT-TERM USES OF MAN'S ENVIRONMENT AND MAINTENANCE AND
ENHANCEMENT OF LONG-TERM PRODUCTIVITY; IRREVERSIBLE OR
IRRETRIEVABLE COMMITMENTS OF RESOURCES

See programmatic EIS.

APPENDIX 1

BIBLIOGRAPHY

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Memorandum to Janet Rhodes, Washington State Department of Ecology, regarding impacts to fishery. October 22, 1980.

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_____. "Economic Assessment for the Leavenworth Planning Area." January 1980.

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Johnston, Bob. Soil Conservation Service. Personal communication regarding irrigable acres. September 24, 1981.

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Klock, Glen, U.S. Forest Service. Letter to Janet Rhodes, Washington State Department of Ecology regarding Fish Lake Bog. January 8, 1981.

Mashburn, Monroe. Icicle Irrigation District. Personal communication regarding irrigable acres. September 23, 1981.

Olson, Annette (Natural Heritage Program, Washington State Department of Natural Resources). Letter to Janet Rhodes, Washington State Department of Ecology, regarding plants of special concern. December 15, 1980.

_____. Personal communication regarding Camas Land and Fish Lake Bog. December 22, 1980.

PUD No. 1 of Chelan County. Dryden Hydroelectric Project, draft environmental impact statement: October 1980.

APPENDIX 2
DISTRIBUTION LIST

State Agencies

Department of Game	Department of Commerce and Economic Development
Department of Fisheries	State Energy Office
Department of Natural Resources	State Conservation Commission
Department of Social and Health Services	Parks and Recreation Commission
Department of Agriculture	Interagency Commission for Outdoor Recreation
State Ecological Commission	Washington Natural Heritage Program

Local Agencies

Chelan County	Chelan County PUD No. 1
City of Leavenworth	City of Cashmere
City of Wenatchee	Wenatchee Reclamation District
Icicle Irrigation District	Gibbs Ditch Co.
Yakima Indian Nation	Peshastin Irrigation District
	Tandy Ditch
	Jones-Shotwell Ditch Co.

Federal Agencies

U.S. Forest Service	U.S. Fish and Wildlife Service
U.S. Army Corps of Engineers	Leavenworth Fish Hatchery
	National Marine Fisheries Service

Organizations & Individuals

Columbia River Fishermen's Protection Union	U of Washington Canoe Club
Charlie Schill	Columbia R. Intertribal Fish Commission
Bruce Carlson	Violet K. Burelbach
Puget Sound Power & Light Co.	Columbia R. Fisheries Council
Art Troppman	Columbia R. Basin Fisheries Alliance
R. Kammerick	N.W. Steelhead & Salmon Council of Trout Unlimited
Peter Vogel	Friends of the Earth
K. L. Colvin	Washington Environmental Council
Mr. & Mrs. Ted Kuch	Helen Engle
Pioneer Water Users Assoc.	

Mill Creek Water Users
Bob Skanes
Wash. State Sports Council
William F. Royce
Desert Kayak & Canoe Club
Western River Guides Assoc.
Washington State Sportmen's
Council-Westside
Washington Kayak Club
R. James Pope
Wenatchee World
Wenatchee Area Chamber of
Commerce
Aluminum Co. of America
Wenatchee Sportsmen's Assoc.
Crippen Consultants
Tom Anderson
Wenatchee Whitewater
The Mountaineers
Richard Reiman
Lynn Childers
Gerald Doyle
Thelma Harmic
David Kungler
Carol Lynch
E. Fraser Maclean
Dorothy Rayfield
Violet Shipman
Doyle Renolds
Robert Stroup
Rebecca Tehan

Nancy C. Nelson
Nancy Murphy
Representative Georgette Valle
Black Hills Audubon Society
Pacific N.W. Waterways Assn.
J. Patrick Aylward
Harold Copple
Archie U. Mills
C. C. Pitlack
Lower Columbia Basin Audubon
Society
Columbia River Intertribal
Fish Commission
Northern Wilderness Co.
Richard Rutz
Sandy Hoveskeland
Brian Fuhrman
Mid-Columbia Economic Development
District
Bill Cierihan
Conrad Craber
Homer Doyle
Donald May
Dan Larsen
F. L. Manley
Cynthia Paulson
Don Senn
Lawrence Smith
Al Smithson
Mike Tehan

APPENDIX 3

STATE OF WASHINGTON SURFACE WATER RIGHTS WENATCHEE RIVER BASIN^{1/} (WRIA #45)

<u>Type of Use</u>	<u>Maximum^{2/} cfs</u>	<u>No. of Entries^{3/}</u>
Commercial/Industrial	202	3
Domestic	12	198
Environmental Quality	1	1
Fire Protection	2	9
Fish Propagation	517	9
Heat Exchange	2	2
Irrigation	298	102
Mining	1	2
Domestic Municipal	5	3
Power	26	10
Recreation & Beautification	1	2
Railway	1	1
Stock Watering	1	15
Wildlife Propagation	1	1

^{1/} Taken from Department of Ecology records, 1980.

^{2/} Rounded to nearest cfs. Includes rights for consumptive, partially consumptive, and/or nonconsumptive uses.

^{3/} More than one use may be listed for an entry. Thus, the total of water rights on record is about 290 rather than the 358 that seems to be indicated here.

APPENDIX C

GLOSSARY

GLOSSARY

Adjudication - In reference to water rights, it is the legal procedure confirming individuals rights to the use of water.

Allocate - To allot or assign a quantity of water to a specific category of beneficial use.

Alluvial Material - Silt, sand, and gravel deposited by stream or glacial action.

Ambient - The natural conditions at a given time or place.

Appropriation - The process of legally acquiring a water right for application to beneficial use.

Base Flow - As defined in the Water Resources Act of 1971 (Ch. 90.54 RCW), base flows are the flows administratively established "necessary to provide for the preservation of wildlife, fish, scenic, aesthetic, and other environmental values and navigational values."

Biochemical Oxygen Demand - The quantity of oxygen utilized primarily in the biochemical oxidation of organic matter in a specified time and at a specified temperature.

Bypassed Reach - The section of a stream or water course where water flow is reduced or depleted.

Consumptive Use - The use of water whereby there is a diminishment of the water source.

Cubic Feet Per Second - A unit expressing rates of water discharge. One cubic foot per second is equal to the discharge through a rectangular cross section, one foot wide and one foot deep flowing at an average velocity of one foot per second.

Dissolved Oxygen - The oxygen freely available in water.

Diversion - The physical act of taking water from a stream or other water body into a canal, pipe, or other conduit.

Floodplain - Any land area which is susceptible to being inundated by water from any source.

Gaging Station - A particular location on a stream, canal, lake, reservoir, or other surface water body where systematic observations of gage height or discharge are obtained.

Hydrology - Scientific study of the properties, distribution, and effects of water on the earth's surface, in the soil and underlying rock, and in the atmosphere.

Impervious Material - Material through which water cannot pass.

Instream Flow - Stream flow levels which are necessary for the maintenance and preservation of wildlife, fish, navigation, aesthetic, scenic, and other environmental values. See Base Flow.

Miscellaneous Decree - In a water right dispute, it is a judgment or decree in a cause in which the Department of Ecology or predecessor may not be a party.

Nonconsumptive Use - The use of water in a manner which does not deplete the source of supply. Fishery, aesthetic, and hydropower uses are examples of nonconsumptive uses.

Preliminary Permit - A permit issued by the Federal Energy Regulatory Commission which allows a permittee to secure a priority of application for a license for a water power project while the permittee obtains the data and performs the acts required to determine the feasibility of the project and to support an application for a license.

Recurrence Frequency - An average number of years during which an event of magnitude equal to or greater (or smaller) than a given value is expected to occur once.

Stream Management Unit - Stream segments, reaches, or tributaries, each containing a control station which are identified as units for defining minimum instream flow levels.

Turbidity - In water pollution, a measure of the optical property of the quantity of mud, clay, silt, finely divided organic material, and microscopic organisms suspended in water that interfere with light transmission, causing light to be scattered and absorbed rather than transmitted through the water in a straight line.

Water Right - A legal right and property interest. (subject to certain limitations) to obtain specific maximum quantities of water from specific sources for application to beneficial use.

APPENDIX D

COMMENTS

The following are the letters of comment received on the Draft Wenatchee Program Document and Supplemental Environmental Impact Statement. Corrections and additions have been made to the documents where we feel it is appropriate, while other comment responses have been provided in Appendix E.

Comments were received from the following:

		<u>Page</u>
1	Department, of Fisheries	D-2
2	Department of Game	D-4
3	U.S. Fish and Wildlife Service	D-6
4	Richard Rutz, Department of Biochemistry University of Washington	D-7
5	National Marine Fisheries	D-9
6	Department of Social and Health Services	D-10
7	Department of Parks and Recreation	D-11
8	The Mountaineers	D-11



115 General Administration Building • Olympia, Washington 98504 • (360) 737-6661 • DC/AF/214/6661

November 9, 1982

Ms. Marsha Beery
Water Resources Planning and Management Section
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504

Dear Ms. Beery:

The Department of Fisheries (WDF) has reviewed the draft Wenatchee River Basin Instream Resources Protection Program (WIRPP) document and the supplemental EIS. Our comments follow:

General Comments

- WDF strongly supports the concept of establishing minimum instream flows to protect fish, wildlife, and other instream resources considered important by the public. However, we disagree with specific sections of the program and supplemental EIS as proposed. These issues will be discussed under the following "Specific Comments" section. Also, in reviewing our correspondence file for the WIRPP, we found that the last time that a meeting was held to discuss the program with the state and federal fish and wildlife agencies was on June 18, 1981 and that meeting was solely to consider the possibility of conducting a IFIM flow study on the mainstem Wenatchee River above and below the Dryden bypass reach. Since that time, WDF has heard virtually nothing about the WIRPP until notice of the impending release of the draft document was received on August 16, 1982, followed by the actual document on September 20. We feel there has been inadequate coordination with the instream resource agencies, particularly WDF and WDG, during the development of the draft program over the last 14 months. Since establishing equitable instream flows is viewed by WDF as crucial to the continued welfare of the Wenatchee River anadromous fish resource, we are therefore requesting that a meeting of the interested agencies be held as soon as possible to: 1) discuss the proposed flows in the document, 2) consider the merits of the different resource agencies flow recommendations, and 3) discuss other concerns relative to flow monitoring and regulation enforcement.

Specific Comments

Page 16, Anadromous Fish, Paragraph 2

- Although the Wenatchee River system does support the largest run of chinook salmon in the mid-Columbia River (spring and summer chinook combined), our run size estimates fall

Marsha Beery

-2-

November 9, 1982

short of your 15,500 fish 18-year average. Table IV on page 19 (WDF data) shows that the average combined adult return from 1961 – 1967 was about 7,500 fish. The average increased to about 13,200 fish during the 1973 – 1980 period largely due to the influence of two or three strong return years. Your sockeye salmon run estimate is accurate, however, the Wenatchee system is not the largest producer of sockeye in the Columbia River Basin. As you correctly state later on, the Wenatchee run represents 30 to 40 percent of total Columbia River sockeye production. The remaining 60 to 70 percent is produced in the Okanogan River system. Your discussion of coho salmon status is accurate.

Page 16, Anadromous Fish, Paragraph 3

- 4 Spring chinook salmon use most, not some, of the larger tributary streams in the upper and middle portions of the basin, including the White River and Napequa River which were omitted.

Page 17, Figure 6

- 5 Salmon freshwater life phase timing has been corrected on the attached copy of Figure 6 based on our best available data.

Page A-2 and A-3

- The proposed instream flows for the three mainstem Wenatchee River control reaches and Icicle Creek deviate substantially from WDG and WDF instream flow recommendations and even from the flows derived from DOE's own "base flow" methodology. Therefore, a meeting among the resource agencies to discuss instream flows prior to program adoption is totally justified.
- Another critical issue is the management of Icicle Creek flows. The proposed instream flows for Icicle Creek are definitely too low (particularly in late July, August, and September) when you consider that the major existing diversions on Icicle Creek are downstream of the control point (gage 12-4580). The existing diversions below the gage will be exempt from the regulations and may continue to divert water even when the flow at the gage drops below the proposed minimum flows. The resulting impact would be extremely low flows (substantially less than the minimum flow measured at the gage) in the lower reaches of Icicle Creek downstream from the fish hatchery. The reach below the hatchery is of vital importance to WDF and the public since it supports the only naturally produced spring chinook salmon in Icicle Creek. Lower Icicle Creek also supports the only spring chinook sport fishery in the entire mid-Columbia River area. Most of the salmon caught by sportsmen are hatchery produced fish returning to Leavenworth NFH, but a portion of the catch consists of naturally produced chinook from the lower reach. DOE early in the development of the WIRPP, recognized the seriousness of the Icicle Creek flow problem. In two in-house memos to files, Judy Kelly, former program planner, discussed the issue:

(memo dated 8-12-80):

"Doug Clausing expressed concern for the tributaries in the basin, especially the Chumstick, Peshastin, and Icicle.

- a. Icicle – runs nearly dry during periods of low flows and high diversions. DOE's hydrograph shows 80 – 100 cfs minimum flow, however, the gage (12-4580) is above major diversions and does

not show accurate picture. For irrigation purposes, the stream is already defacto closed.” (emphasis added)

(memo dated 8-27-80):

“Icicle Creek – Management of Icicle Creek will be somewhat of a problem as the gage is upstream of the major diversion. Kris stated that clear, strong language will be needed in the document regarding flow levels to be maintained. 130 cfs was discussed, although that figure would provide only 70% spawnable area. The Peshastin gage would be the trigger for detecting problems on the Icicle; whatever flow is established would pertain to the upstream and downstream sections monitored at the Icicle gage.”

WDF firmly believes that using the Wenatchee River at Peshastin gage to detect problem flows in lower Icicle Creek is unacceptable since the vastly higher flows of the Wenatchee River could easily mask a flow shortage in lower Icicle Creek. The objective of the program should be to assure adequate flows in the lower reaches of the creek, as well as above the control point. Therefore, WDF strongly recommends that Icicle Creek be closed to further
8 consumptive appropriation (other than single domestic and stock watering) from Aug. 1 to October 15. This is consistent with Kelly’s comment regarding “defacto closure” in the August 12, 1980 memorandum. In lieu of complete closure, we can accept instream flows
9 measured at Icicle gage 12-4580 if they are established using the following procedure:

- 1) Reach agreement on acceptable instream flows for the lower reach below the hatchery (to be discussed in the meeting proposed by WDF).
- 2) Total the existing diversions downstream of the gage.
- 3) Add the instream flows from 1) to the total existing downstream diversions in 2) to yield the minimum flow as measured at the gage.

The above procedure will assure that necessary instream protection is obtained while existing diversions continue to take their entitlements.

Page A-5, Paragraph 2

WDF disagrees with the proposed regulation regarding future group domestic and municipal
10 water rights. The problem is that, as presently worded, group domestic and municipal diversions could be exempted from mainstem Wenatchee Instream flows on a year-round basis regardless of need. In fact, it is unclear from this paragraph whether water right permits for these diversions would be subject to the adopted instream flows at all. WDF maintains that all future consumptive water right permits (other than single domestic and stock water) should expressly state that the water right is subject to the adopted instream flows – this includes group domestic and municipal. However, we agree that natural drought conditions can create a situation where the public interest is best served by modifying instream flows. This should be done only after the Directors of the Departments of Fisheries and Game are consulted. There should also be criteria established which will determine whether flow modification is

- 11 appropriate. For example, the Green – Duwamish River Basin IRPP prohibits the Director of DOE from issuing a “Declaration of Overriding Considerations of Public Interest” because of drought conditions when natural flows equal or exceed the 1 in 50 year drought. Similar criteria should be developed and included in the WIRPP. If a Declaration of Overriding Consideration is warranted after consulting with WDF and WDG, then the new regulation should state that the Director of DOE will notify all basin resource agencies, water purveyors, and local governments, and include the reason for such declaration and its expected duration.

Supplemental EIS

Page B-5, Paragraph 1

- 12 As stated above, WDF is opposed to categorical exemptions for multiple domestic and/or municipal systems.

Page B-5, Paragraph 5

- 13 Change “could” to “would” in line 3. Enforcement of the program and protection of instream flows should not be compromised by stating that future diversions could or may be limited by instream flows.

Page B-7, Paragraph 4

- We agree that the WIRPP should not be required to provide optimum conditions for fish and other instream resources since other uses must be provided for as well. However, WDF insists that instream resources receive fair and equitable treatment under the program. Of particular
14 concern is the fact that the program document and the supplemental EIS both fail to address the future impact of the Northwest Power Planning Council’s (PPC) impending Fish and Wildlife program. Included in the program are plans to construct new fish passage and protection facilities at Dryden Dam and Tumwater Dam. Restoration and enhancement of Wenatchee River anadromous fish populations is a high priority task of the PPC fisheries plan and these passage improvements will be implemented early in the program. Fish passage improvements at mainstem Columbia River dams and at Dryden Dam and Tumwater Dam under the PPC
15 program should result in increases in all runs of anadromous fish. As this occurs, instream flows established to protect existing populations may become inadequate. WDF believes that restoration of Wenatchee River fish runs should not be derailed by a short-sighted WIRPP which makes no allowance for future run size increases.

Page B-7, Paragraph 5

- 16 Change “could” to “would” in line 3. Same reason as previously stated.

Page B-9, Paragraph 2

- WDF and WDG were involved in development of the WIRPP until 17 months ago. Since that time, WDF has not been consulted or asked to participate in the development of the draft
17 program document. The statement that we have agreed that the proposed instream flows are satisfactory is false since we have not seen DOE’s latest proposal until issuance of the draft

November 9, 1982

document. The apparent lack of communication regarding this program between DOE, WDF, and WDG warrants a meeting in the immediate future to discuss differences.

Page B-19, Paragraph 2

- Here you state that DOE developed the proposed instream flows after extensive review and analysis, yet you neglect to explain how the flows were determined. When the last consultation meeting was held with WDF and WDG, DOE's position was that the hydrologic base flows were appropriate instream flows. The flows in the draft document are considerably less than the base flows for the most part. No explanation is given for the changes. Figure 1, page B-18 is interesting in that the proposed minimum flows are considerably less than the base flows until October 15, which coincides with the end of the irrigation season. It appears that the proposed flows are purposely lower than base flows during the irrigation season so that Wenatchee Reclamation District will have a high degree of reliability in diverting the additional 50 cfs they have applied for. Reducing instream flows to assure reliable water supplies to new diversions subject to IRPP regulation is unacceptable to WDF.

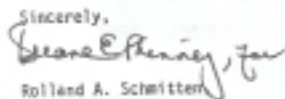
Page B-22, Table 1

- This table shows that no water is available for additional diversion in Icicle Creek during August, September, and October, assuming that hydrological base flows are maintained. We agree with this analysis and have stated that Icicle Creek should be closed to further appropriation from August 1 to October 15.

Page 23, Paragraph 3

- We are very concerned that the WIRPP, when finally adopted, may be a meaningless program unless flows at control points are monitored on a regular basis. During the summer and early fall when flows are low, diversions are high and the salmon resource requires protection, control point flows should be monitored on a daily basis. Since DOE's regional headquarters is located in Yakima, the most logical method of monitoring flows is to install telemetry equipment at the gages so that flow data can be obtained in order to regulate conditioned diversions in a timely manner. DOE's budget for the next biennium should include funding to provide for meaningful implementation of the WIRPP.

We look forward to attending a meeting in the near future to discuss the many unresolved issues that remain. Resolution of these issues is necessary before a comprehensive, equitable instream resource protection program can be adopted for the Wenatchee River Basin.

Sincerely,

 Rolland A. Schmitter
 Director

Attachment

cc: NMFS
 USFWS
 Yakima Indian Nation
 WDG



November 9, 1982

Mr. Don Moos, Director
 Department of Ecology
 PV-11
 Olympia, Washington 98504

Dear Mr. Moos:

The Wenatchee River basin supports significant game fish and wildlife resources. These resources, which are discussed under Instream Use of Water in the Wenatchee River Basin Instream Resources Protection Program draft document, have statewide significance because of their abundance and accessibility. To varying degrees these resources depend upon instream flows. Consequently, the Department of Game recommends a strong, enforceable program to protect instream flows and the resources that depend upon water and flow. Once adopted, the program must be enforced. We offer the following comments so that such a program might be attained.

- The Department of Game recommends that minimum instream flows for the Wenatchee River should be no lower than 30% of mean annual flow for each stream reach in the basin. This equates to 1,060 cfs at Monitor, 945 cfs at Peshastin, 680 cfs at Plain, 185 cfs at Icicle Creek, and 4 cfs at Mission Creek. We base this recommendation on Tennant's "Montana method". Work by Paul Mongillo, fish biologist for the Department of Game, has demonstrated the validity of the Montana method for a Washington stream on the eastern slope of the Cascade Mountains: he found a high correlation ($r = .95$) between game fish abundance (electrofishing catch per unit effort) and percent of mean annual unregulated flow maintained in the stream reach during the preceeding 5 years.

- Minimum flows of 30% mean annual flow must be maintained in all tributary streams. Small streams without gages or control stations cannot be ignored. Many streams with less than 5 cfs at summer low flow are important for fish production and wildlife habitat. By monitoring only mainstem gages, a tributary could be dried up without being detected at the gage.

- Stream closure in Peshastin Creek (WAC 173-545-040) will be difficult or impossible to enforce. Total closure would be preferable to seasonal closure. If any "extra" water exists in Peshastin Creek, it is only during peak spring flows. Chumstick Creek deserves closer examination for instream flow needs. This stream, formerly a good fish-producing stream, is being reclassified by Department of Ecology as an intermittent stream – the result of overappropriation. It may warrant closure.

26 Minimum flows should be established at levels which provide good protection for game fish. Ecology has indicated that it does not anticipate much need for additional water withdrawal in the foreseeable future. Thus, there is no serious conflict between future out-of-stream water rights which would be affected by this program and instream flows which protect fish. The provision to review the program every 5 years is responsive to public interest, so that there is no reason not to provide adequate fish protection.

27 Given minimum flow of 30% mean annual flow, further refinements are desirable. Spring flushing flows maintain habitat quality and move smolts of anadromous salmonids downstream. Spring flushing flows are protected to varying degrees by instream flow regimes suggested on page B-18 of the draft document.

28 We are puzzled by the methods used by the Department of Ecology to develop the proposed instream flows for the Wenatchee River basin. The proposed instream flow is generally less than Ecology's "hydrologic base flow" (see page B-18). This represents a move away from, rather than compromise, with Department of Game recommendations. It is a departure from Ecology's usual procedure of starting with the "hydrologic base flow" as the bottom line for instream flows, then raising them closer to flow levels requested by Department of Game. We suspect that these proposed flows result from a decline in communications between Game staff and Ecology staff and discontinuous work on the program. In the view of the Department of Game, there has been insufficient discussion, review, and resolution of the Wenatchee River
29 Basin Instream Resources Protection Program, and publication of the document and proposed regulations is premature. The result would be insufficient protection for valuable instream resources.

What will be the consequence to game fish population from insufficient instream flows? Drought year fish production would probably be unaffected by the proposed instream flows: production is poor in droughts. New diversions would not operate in droughts, but existing diversions would be unaffected. The loss to fish production would occur in average and wet
30 years. Fish production should be high when late summer-early fall flows are relatively high, but low instream flows could allow future diversion to lower flow to a level that reduces fish production from what it could have been without additional diversion. Proposed flows could reduce stream flow to the equivalent of an annual drought. Potential best years would be reduced to mediocre years for fish production. Average fish production would also be lowered significantly.

31 The Department of Game cannot and will not endorse WAC 173-545-030(5), relating to future hydroelectric development in the Wenatchee River basin. The Department of Game has a direct, legally established role in hydropower licensing. This role involves, among other things, setting instream flows in the bypass reach to provide the best possible flows for game fish production. Flows established in this program would not accomplish the goal because: (1) each reach is unique, (2) flows proposed by Ecology are not optimum, and (3) this regulation, as worded, is unenforceable, since no gage is required in the diverted or bypassed reach and all

32 water would be returned to the stream before the control point. In addition, the proposed fish and wildlife program of the Northwest Power Planning Council has recommended a temporary moratorium on hydropower development on the Wenatchee River system until further study is conducted.

33 If this program is to accomplish the stated goal of protection of instream resources, then the program must be enforced.

The goal of the Wenatchee River Basin Instream Resources Protection Program is excellent. The draft program misses the goal; it is premature. The Department of Game recommends substantial revision of the program in order to reach that excellent goal.

Sincerely,

THE DEPARTMENT OF GAME



Frank R. Lockard
Director

FRL:mjf
cc: Region 3
Department of Fisheries



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
2625 Parkmont Lane SW, Bldg. B-3
Olympia, Washington 98502

November 2, 1982

Marsha Beery
Water Resources Planning and Management Section
Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504

Dear Ms. Beery:

We have reviewed your Department's draft Instream Resources Protection Program (IRPP) for the Wenatchee River Basin. The following comments are provided for your consideration.

General Comments

We commend your efforts to establish minimum flows in the Wenatchee River Basin to protect instream resources such as fish, wildlife, water quality and other environmental values. In light of growing consumptive water uses in the area, this type of protection program is very important.

34 This document provides an accurate description of the anadromous fishery resources in the Wenatchee River System. However, we are concerned that the minimum flows proposed by this program are not based on the actual biological requirements of these aquatic resources. It appears that during certain times of the year, the proposed flows may be closer to minimum survival levels than to levels that would support natural, self-sustaining populations of aquatic organisms. In any case, we believe that any instream flow regimes adopted by the Department of Ecology should be endorsed by the Washington Departments of Fisheries and Game as being sufficient to protect the Basin's instream resources with an adequate margin of safety.

Specific Comments

35 Page 2, Paragraph 2-This paragraph states that the proposed instream flows were based on several factors, including consultation with the Departments of Fisheries and Game. However, in our communications with the Department of Game, they have indicated that the proposed flows are not sufficient to protect fish and wildlife resources. They feel that minimum flows during the critical late summer and fall months should be substantially higher. We feel these discrepancies should be resolved before any flow regimes are adopted as law.

Page 2, Paragraph 7-This sentence states that allocations from perennial streams will be measured at the nearest downstream control station. However, many of the perennial tributaries do not have control stations and must be gaged at the nearest downstream station on the Wenatchee River. Since there are numerous ungaged irrigation withdrawals from the mainstem river, it may be difficult or impossible to monitor changes in perennial streams which contribute only a small fraction of the total river flow.

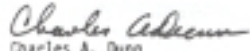
36 Page A-4, Paragraph 2-The proposed legislation correctly recognizes the fact that hydroelectric diversion projects are consumptive uses with respect to any bypassed reaches. There are several pending hydroelectric projects on the Wenatchee River and its tributary streams. The Federal Energy Regulatory Commission (FERC) often requires small hydro developers to conduct instream flow studies to determine the minimum flows necessary to protect aquatic resources in the bypassed stream reach. We believe that should scientific flow studies be conducted in the future, i.e., in relation to a hydroelectric development, and should the study show that instream flows need to be higher than those set by WAC 173-545 to protect instream resources, the Department of Fisheries or Game should be given the authority to recommend changes in those flow regimes established under this legislation. As the law is proposed, the regulations would not be subject to review for five years. If studies show the instream resources are not being protected by this IRPP, five years is too long to wait for a chance at revision.

38 Also, the final Wenatchee River Basin IRPP should discuss how it relates to the Fish and Wildlife Program of the Pacific Northwest Electric Power Planning Act of 1980. The draft Fish and Wildlife Program proposes a study to evaluate stretches of the Wenatchee River to be classified as critical fish and wildlife habitat for the Columbia River system. The Fish and Wildlife Program also proposes that undeveloped reaches of the Wenatchee River be protected from further development until this study is conducted.

39 Page A-5, Paragraph 3-We understand that the single domestic users which would be exempt from regulation under this IRPP can include up to one-half acre of irrigation. Because of the potential for significant future development by single domestic users in the Basin, we feel there should be some mechanism to evaluate the cumulative impacts of these "small" consumptive users.

Thank you for the opportunity to provide these comments. Please contact our staff at the Moses Lake suboffice (509) 765-6125 if there are any questions.

Sincerely,


Charles A. Dunn
Field Supervisor

cc: WDG (Eldred)
WDF (Easterbrook)
NMFS (Cebalos)
MLO

Department of Biochemistry SJ-70
University of Washington
Seattle, WA 98195
November 9, 1982

Marsha Beery
Dept. of Ecology PV-11
Olympia, WA 98504

Dear Ms. Beery:

I would like to comment on the Wenatchee River Basin Instream Resources Protection Program and Supplemental E.I.S. This Program would perform a very important function, that of establishing firm water rights (in the form of guaranteed instream flows) for fish, wildlife, and other users of instream waters. I strongly support the establishment of instream flow levels. I have several specific comments regarding some of the sections of these documents; these comments follow below.

40 Flows—These are based on the 99% occurrence (sometimes higher or lower). There should be some mechanism for guaranteeing higher instream flows during higher snowpack/runoff years, falling back to the minimum (as set in this program) only in the worst years. Given our archaic water laws, the instream users should be guaranteed (as part of this program) fire rights not only to a minimal level but to higher flows in better years.

41 DOE should not wait for a crisis in order to set instream levels; Nason Creek, White River, Little Wenatchee River, and Chiwaucum Creek should have guaranteed flows. The lack of existing or proposed demand shouldn't control the setting of flows; it shouldn't require a crisis to recognize the need for establishing a water right for fish on these streams.

I understand that this document refers back to the Western Washington Instream Resource Protection Program. Nonetheless, somewhere in these documents it should be stated how the flows are to be measured/monitored (i.e., instantaneous, daily or weekly average). Upon inquiry I learned that the flows are instantaneous, with the daily average being the operating measure. This I find to be satisfactory (whereas weekly averaging, with

its possible large fluctuations, would not be), but I would like to see the units in the final documents.

43 Exemptions—I do not agree with the exemption of domestic users from flow restrictions. This could lead to future problems in water volume and quality if the population increases and single-family dwellings proliferate. But even if this exemption is to be retained, the exemption should apply only to in-house use: outside and stockwatering uses should not be exempted (-070-3).

44 There is a danger inherent in the exemptions in -060 and -070-2 on the basis of “overriding considerations of the public interest”. The quoted phrase is such too vague: it provides a large loophole which could be used in the future to destroy the intent of these instream flow provisions. These exemptions should be made more difficult to obtain or, better, be deleted.

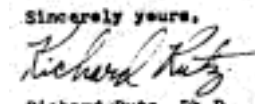
45 Existing water rights should not be exempt from instream flow restrictions. I realize that current law does not allow DOE to consider changes in existing water rights for this program, but I think that this problem needs to be recognized. The public, and the DOE, must work towards the revision of our archaic water laws Some mention of the problem, I think, should be made in the E.I.S.

46 Other comments—The documents do not refer to the Regional Council’s Fish and Wildlife Program for the Columbia River Basin. Some mention of this program, and provision for coordination, should be made in the DOE documents.

47 The graph on page B-18 incorrectly represents the Dept. of Game’s recommendations for instream flows. This should be corrected.

I support the program as outlined in the review documents, but the program should go further than it does. It should not be simply a minimal program. In better years, higher flows should be guaranteed. Moreover, where a surplus now exists, more than minimal flows should be guaranteed. DOE should not wait until a crisis develops to set flow restrictions. Exemptions from the program should be eliminated or curtailed.

Thank you for the opportunity to make these comments.

Sincerely yours,

Richard Rutz, Ph.D.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
ENVIRONMENTAL & TECHNICAL SERVICES DIVISION
847 NE 15th AVENUE, SUITE 350
PORTLAND OREGON 97232
(503) 230 5400

November 10, 1982 F/NWR5:JRC

Marsha Beery
Washington Department of Ecology
Water Resources Planning and Management Section
Mail Stop PV-11
Olympia, WA 98504

Re: Comments on Draft Wenatchee River Basin Instream Resources Protection Program
(September, 1982)

Dear Ms. Beery:

The National Marine Fisheries Service (NMFS) has reviewed your Department's draft program and offers the following comments for your consideration. Our comments on the draft program are limited to those sections concerning anadromous fish flow requirements through the section of the river between the Dryden diversion dam and powerhouse (Dryden Reach).

48 The draft states that, after extensive review of technical information provided by Chelan County PUD, the Washington Departments of Fisheries and Game have agreed to lower minimum flow requirements through the Dryden Reach. However, the agreed upon flows are not listed in the draft program. NMFS actively participated in State and Federal fishery agency discussions with Chelan County PUD on fishery resource protection measures, including the establishment of instream flows through the Dryden Reach. We are concerned that some flows are less than the instream flow regime informally agreed to during 1980 discussions with Chelan County PUD as part of the Dryden hydroelectric project. Specifically, the proposed riverflows for the month of September (480 and 510 cfs), to be measured at Monitor seven miles below Dryden, are less than the Dryden Reach riverflow informally agreed to by the Departments of Fisheries and Game, the U.S. Fish and Wildlife Service and NMFS. We do not believe that chinook salmon spawning and incubation flow requirements would be adequately protected by the proposed level of flow.

The instream flow regime proposed for the higher gradient Dryden Reach was intended to provide fishery resources access to 80 percent of the Instream Flow Incremental Method's maximum weighted useable area. We concur with the opinion of Washington Department of Game personnel that riverflows somewhat higher than proposed for the Dryden Reach are necessary to assure the protection of fishery resources in lower gradient reaches of the river. In view of this need, we recommend that decisions related to the setting of September riverflows be reevaluated. Additionally, we believe that instream flow regimes established by the Department of Ecology should have the endorsement and approval of the Departments of Fisheries and Game.

Thank you for the opportunity to provide these comments. If you have any questions, please contact Jim Ceballos of my staff at (503) 230-5426.

Sincerely,


Dale R. Evans
Division Chief

cc: Washington Dept. of Game
Washington Dept. of Fisheries
U.S. Fish and Wildlife Service, Olympia



November 4, 1982

Ms. Marsha Beery
Department of Ecology
MS PV-11
Olympia, WA 98504

SUBJECT: Wenatchee River Basin Instream Resources Protection Program Draft System 1982

Dear Marsha:

I have reviewed the subject draft instream protection program and have the following comments:

1. As noted in the report, the City of Leavenworth is a major user of Icicle Creek for municipal purposes. If the current instream limitations go into effect, serious water quantity problems could occur at Leavenworth. In talking with you on November 3, 1982, the current water rights for the City of Leavenworth are 3.29 cfs. Peak day uses for the last three years for August and September show water withdrawals in excess of 3.29 cfs.

<u>Month/Day/Year</u>	<u>Amount in MGD</u>	<u>Amount in CFS</u>
August 1-27, 1980	3.1	4.78
September 1-8, 1980	2.5	3.85
August 13, 1981	3.11	4.79
September 8, 1981	2.72	4.19
August 8, 1982	3.18	4.90
September 9, 1982	3.15	4.80

Average daily flows are between 2.5 cfs to 3.5 cfs during August and September.

If the instream program were to be strictly enforced, Leavenworth would have to curtail its peak day usage significantly. This is not an easy chore for customers on a flat rate, non-metered system. I would like to recommend a possible phasing of the

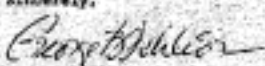
Ms. Marsha Beery
November 4, 1982
Page 2

instream program on Icicle Creek to allow Leavenworth to plan for either a water conservation program, system metering, or an additional source. Most of Leavenworth's water comes from the Icicle diversion. The City only has 690 thousand gallons of storage available. This computes to 800 gallons per customer or one day's supply. Most of this storage is required for fire protection. If peak usage were curtailed then customers would rely more on stored water than diverted water from Icicle Creek. This could cause a fire protection problem. I am sure the City of Leavenworth would be glad to work with DOE on meeting the instream flows as much as possible. The key is to allow some flexibility on implementation until Leavenworth can work out a plan to make up additional water and future water needs.

2. On page B-19 under "Exemption of domestic and municipal" this office would support exemptions for municipal users. Public water systems listed as Class 4 and "Other Systems" that are non-municipally owned should not be exempted from this program. Class 4 systems are generally not encouraged to use surface water by DSHS. Their management and construction propose serious health potential when using surface waters. Most small systems do not meter services or intake pumps. Water usage could be small or extreme. Class 2 and 3 systems usually have better construction but their management is poor and it would be doubtful if they would abide by the instream program or understand it. DSHS does not promote the promulgation of small water systems. Our WAC's and design requirements discourage large numbers of small water systems.

This is the extent of our comments. If you have any questions, please feel free to contact me.

Sincerely,

Sincerely,

George M. Schlender
Water Supply Specialist

GBS:pm

cc: City of Leavenworth
State Health
Chelan/Douglas HD

JOHN SPELLMAN
Governor



DANIEL RIN
Director

STATE OF WASHINGTON
WASHINGTON STATE PARKS AND RECREATION COMMISSION

7150 Clearwater Lane, N.Y. 11 • Olympia, Washington 98504 • (206) 753-5755

October 29, 1982

Re: 35-529-0555
(E-2445)

TO: Marsha Beery
Department of Ecology
Olympia PV-11

FROM: David W. Heiser, E.P.
Chief – Environmental Coordination

RE: Wenatchee River Basin Instream Resources Protection Program Including Proposed
Administrative Rules (WAC 173-545) and Supplemental Environmental Impact
Statement

Thank you for the opportunity to review these rules and EIS. The only park within the area of interest is Lake Wenatchee State Park and it does not appear to be impacted. We appreciate the protection afforded to fisheries and recreation.

bh
cc: Ange Taylor, WSP&RC
Kris Kauffman, WSP&RC



The Mountaineers

719 Pike Street • Seattle, Washington 98101 • (206) 623-2314

BRANCHES IN TACOMA, EVERETT AND OLYMPIA

November 16, 1982

Hearings Officer
Department of Ecology, PV-11
Olympia, Washington 98504

Dear Sir or Madam:

The Mountaineers is the largest outdoors organization in the Pacific Northwest, with over 10,000 members. For many years our members have scheduled recreational outings in the Wenatchee River Basin, and we have a long history of involvement in conservation efforts concerning lands and waters in the Basin and its vicinity. We would therefore like to comment on the Wenatchee River Basin Instream Resources Protection Program and Supplemental EIS.

The Mountaineers strongly supports guaranteed water flows to protect instream resources, in particular fish and wildlife and their habitats. For too many years fish and wildlife have had no rights to water, and have borne the costs of steadily decreasing flows, diversions, pollution, and other alterations and changes in the waterways of the state. We have taken a strong position in favor of fish and wildlife protection in the Columbia River Basin; our testimony and comments to the Regional Power Planning and Conservation Council regarding their Fish and Wildlife Program reflect our commitment to these heretofore ignored resources. Protection of these instream resources, at the bare minimum, requires guaranteeing sufficient instream flows to maintain the fish and wildlife populations at their current levels. The neglect and destruction of these valuable state resources in the past, moreover, must be redressed in part by restoring and enhancing habitat and populations, and this requires (in part) an increase in instream flows. We fully support the Statement of Principles of the Columbia River Citizens Compact; these should be applied not only to the Columbia (including the Wenatchee River Basin) but to all of the river basins of Washington state. These principles are:

1. Fish and wildlife shall be entitled to equal rights with power, transportation, municipal and industrial uses, and agriculture in the consideration of any proposed project in the Columbia River system.
2. No government agency or publicly licensed entity shall operate or manage the Columbia River system in any manner which would discriminate against protection of fish and wildlife habitat in favor of power, transportation, municipal and industrial uses or agriculture.

...TO EXPLORE, STUDY, PRESERVE AND ENJOY THE NATURAL BEAUTY OF THE NORTHWEST

3. Legal protection shall be provided for optimum flows, as distinguished from minimum flows, for fish and wildlife on every occasion when a public water right is to be established or recognized.

4. Legal and political support shall be given to protect aboriginal and public water rights for instream flows.

5. For both the present operation and any proposed project, public agencies must recognize that the Columbia River system is for the benefit of the entire Pacific Northwest rather than private interests or local areas.

6. Every government agency or publicly licensed entity seeking approval of any dam or water related project shall provide funding for independent expert analysis and investigation of the project and shall guarantee full public hearings in the affected area and also in Portland, Seattle, Boise and Missoula.

7. In every project the ultimate total direct and indirect costs shall be identified and the real beneficiaries shall be disclosed. There must be an end to public subsidies to destroy fish and wildlife resources.

8. No proposed project shall be approved unless it makes good ecological and economic sense.

9. Government agencies and publicly licensed entities should be required to provide compensation and enhancement for past destruction of fish and wildlife.

10. New projects shall not be started until full funding has been provided for compensation for destruction of fish and wildlife habitat.

The proposed Instream Resources Plan for the Wenatchee River Basin is a needed first step in providing protection for the fish and wildlife and other instream water users. As the above paragraph suggests, however, we do not consider minimal flows to be adequate protection. They are, simply, minimal protection. At the very least, when snowpack and runoff is more generous than the 99% occurrence level and exceeds both current water appropriations and guaranteed minimal instream flows, some portion of the excess water should be guaranteed to the fish and wildlife. In other words, the fish and wildlife and other instream users should have firm water rights to some of the surplus water. These rights should be guaranteed now, before there are conflicting claims.

52 We support the measurement of flows as instantaneous or daily averages, and would oppose weekly averaging. The flow measurement periods should be indicated in the final document.

We are concerned about the exemption from flow restrictions which are contained in the proposed regulations. We do not believe that any exemptions should be authorized. But if domestic single-family residences are to be exempted, the exemption should be limited to inside-the-house use. Outside uses should not be exempt. Exemptions based on "overriding considerations of the public interest" are much too loose; some definition of these overriding considerations should be provided if these exemptions are to be exceptions instead of general practice.

Water law is a difficult area which is loaded with controversy, and current state laws preclude setting flows which restrict existing water rights without legal action. Nonetheless, the problems of overallocation of water are quite pertinent to the discussion of the affected environment and of various alternative actions which could be taken to protect instream resources (Icicle Creek, for example, is too heavily allocated.) While the program cannot, and does not, affect existing water rights, this problem should be raised as part of the discussion.

It is surprising that there is no reference to the Regional Power Planning and Conservation Council's programs for fish and wildlife and instream flows. This omission should be corrected, and provisions made for meeting or exceeding those levels required by the Council.

We appreciate the opportunity to comment on the proposed Program and EIS.

Sincerely yours,
THE MOUNTAINEERS

Earl Nelson
President

38/B

APPENDIX E

RESPONSES TO COMMENTS AND SUMMARY OF PUBLIC TESTIMONY

SUMMARY OF CHANGES TO DRAFT WENATCHEE PROGRAM

In response to the comments received during the review of the draft Wenatchee Program from the Department of Game, Department of Fisheries, U.S. Department of Commerce, Department of Social and Health Services, the Mountaineers, Richard Rutz, and those who testified at the hearings, the following changes have been made to the program and are reflected throughout this final document..

1. The minimum instream flows of Icicle Creek and the Wenatchee River mainstem have been raised during the fall spawning period.
2. The control works on Icicle Creek which was to be located at USGS Gage #12-4580.00, above Snow Creek near Leavenworth has been changed and is to be located at R.M. 1.5, Sec. 24, T. 24, R. 17 E.W.M. on Icicle Creek (near Leavenworth) at the site of abandoned USGS Gage #12-4585.00.
3. The language of WAC 173-545-030(5) has been changed to read "Projects that would reduce the flow in a portion of a stream's length. (e.g., hydroelectric diversion projects) will be considered consumptive with respect to the bypassed portion of the stream and will be subject to specific instream flow requirements as specified by the department for the bypassed reach notwithstanding those flows established by WAC 173-545-030 (1) through (3). The department may require detailed project-specific instream flow studies to determine a specific instream flow for the bypassed reach.
4. The language of WAC 173-545-070(2) has been changed to read "Future requests for group domestic uses, including municipal supply, may be exempted from the minimum instream flow provisions of this chapter when it is determined by the department, in consultation with the departments of Fisheries and Game, that overriding considerations of the public interest will be served.
5. The language of WAC 173-545-070 (3) has been changed to read "Single domestic and stockwatering uses, except that related to feedlots, shall be exempt from the provisions established in this chapter. If the cumulative impacts of numerous single domestic diversions would significantly affect the quantity of water available for instream uses, then only single domestic in-house use shall be exempt if no alternative source is available.

Responses to the written comments are keyed by numbers that correspond to numbers that correspond to numbers listed on the comment letters.

1. We acknowledge that the last time a meeting was held with your agency regarding specific minimum flow levels was June 18, 1981. Instream flow recommendations and supporting data were received from your agency in 1981. In recent months, contact was made by telephone with the Department of Fisheries (WDF) on two occasions to discuss: 1) Peshastin Creek fish runs and, 2) the program in general in response to our August 16, 1982 letter. This letter informed interested parties that the draft program document, regulations and supplemental EIS, was to be sent out soon and provided a summary of actions proposed in the program. WDF was not precluded from requesting a meeting with the Department of Ecology (WDOE) to further discuss details of the program if such a meeting was thought necessary. During the 14-month period from June 18, 1981 to August 16, 1981, WDOE was working out details of the program within the organization as well as training new personnel in the instream program. In order to improve communication between our respective agencies, WDOE plans to institute quarterly status meetings.
2. Meetings with the departments of Game and Fisheries (WDG, WDF) were held on November 29, 1982 and December 2, 1982, respectively, to discuss their concerns about the program. In response to these meetings as well as other comments received during the review process, changes have been made to the program. Those changes are listed on page E-1. In addition, we plan to call a separate meeting with WDF and WDG in the near future to discuss general agency policy and future direction of the Washington Instream Resources Protection Program.
3. Text changed as suggested.
4. Text changed as suggested.
5. Figure changed as suggested.
6. As a result of your comments, and those of other interested parties, the proposed instream flows for the three mainstem stations have been amended during the critical late summer and early fall period. See the summary of changes, page E-1 of this report. The proposed instream flows at Monitor for this period are now 620 cfs. This is lower than the WDF recommended instream flow (of 1,100 cfs) for this period, however, according to the Unit Spawnable Area curves provided to WDOE by WDF, a flow of 620 cfs would provide 88 percent of the maximum unit spawnable area provided by 1,100 cfs. Proposed instream flows for the Wenatchee River at Peshastin and Plan have also been amended to be hydrologically consistent with the Monitor instream flows.
7. We agree that downstream control is preferable and now propose that the control station on Icicle Creek be located in the lower section of the creek at river mile 1.5 where USGS gage #12-4585.00 was located in the past.
8. We acknowledge that water availability in Icicle Creek for future consumptive appropriation is marginal. However, we prefer to administer Icicle Creek using minimum flows rather than by closing it. In the future, when our regional office must consider an

application for consumptive use from the creek, they will make a detailed evaluation of whether water is available based on the creek's hydrology, existing water rights, and the minimum instream flow.

Please note that we have raised the proposed instream flows for Icicle Creek during the low flow period to 130 cfs. 130 cfs would provide 70 percent of the maximum unit spawnable area according to information provided to us by your department. In our opinion, these flows, together with the water allocation policy outlined in Section 050 of the rules provide the best. possible protection to the important fishery resources in lower Icicle Creek.

9. The proposed control station for Icicle Creek has been moved downstream of the major diversions.
10. The language in proposed WAC 173-545-070(2) is intended to allow future group domestic or municipal supply water rights potential exemption from instream flows on the mainstem of the Wenatchee River. The determination of overriding considerations of the public interest would be considered only once prior to issuing a permit to appropriate public waters. We do not believe it would be practical to consider instream flow waivers on a year by year basis. Potential source alternatives would be more thoroughly addressed prior to the time the appropriation permit is issued when sufficient time would be available to determine and assess these alternatives. WDOE would consult with the departments of Fisheries and Game in making its determination.
11. See response No. 10.
12. The exemption for multiple domestic and municipal use in the proposed rules is not categorical. WDOE will consider each application on its own merits. Considerations will be given to potential alternate sources of water in accordance with Section 050 of the proposed rules (policy statement for future permitting actions).
13. Text changed.
14. Please refer to page 26 for a discussion of the Northwest Power Planning Council's proposed program.
15. We believe that the proposed instream flows in this program and the expected minor amount of additional future diversions likely to occur in the Wenatchee Basin will result in adequate water availability on an average basis to accommodate future increased anadromous fish populations. WDOE is limited by statute to setting flows adequate to protect and preserve instream resources including fish. If future information shows that the adopted instream flows are inadequate, then they can be amended appropriately. Once adopted, the rules must be reviewed at least every five years.

16. We disagree. The intent here is to state that curtailing water rights provisioned to the flows could result in achieving flows as high as the minimum flow, but may not, depending on how depressed the natural flows are at the time.
17. WDOE internal records indicate that WDF representatives agreed with flows proposed by the department in early 1981. The proposed flows were subsequently adjusted since then using hydrographs with common periods of record. At the Peshastin control station instream flow levels remained the same. At Plain and Monitor, they were changed somewhat to make them hydrologically consistent with the Peshastin gage flows. Monitor summer and early fall instream flows are lower than those at Peshastin reflecting the effects of irrigation diversions between the two points.

We have significantly increased the proposed flows at the three mainstem sites and on Icicle Creek in response to your comments as well as those of others. Although these flows are not as high as the optimum fish flows WDF recently recommended, they provide 88 percent of the maximum unit spawnable area for the mainstem Wenatchee River and 70 percent for Icicle Creek. They are in excess of the preferred rearing flows according to information provided by your department.

18. The flows we have proposed are based upon the Dryden IFIM study flows plus a factor of safety for varied conditions upstream and downstream. Also considered was 1) stream hydrology, 2) existing withdrawals, and 3) WDF usable width method data.
19. We strongly disagree. The reliability of water supply of future rights was not a consideration. Proposed instream flows were derived as stated in response f118.
20. See response #8.
21. The Wenatchee River at the Peshastin gage is presently telemetered and reports to the Columbia River operational hydrometeorological monitoring system (CROHMS). WDOE accesses the system presently at our headquarters office in Olympia. We hope to install hardware for accessing CROHMS in our regional office in Yakima, but this will depend on the availability of funds.

WDOE headquarters regularly monitors flow conditions using CROHMS, particularly during low flow events. Until our regional office is capable of accessing CROHMS, our headquarters office will be responsible for obtaining flow reports from CROHMS to determine the need for regulation.

Since the Peshastin gage is currently telemetered, it will be used as an indicator for mainstem flows. Although WDOE regional office has field personnel in the Wenatchee Basin regularly, they may not necessarily be there during periods when flows are below the minimum flow levels. We must emphasize that adoption of the WRIRPP is not intended to supplant the responsibilities of other agencies or interest groups. If the fisheries resource is being impacted by below-minimum flows as a result of future appropriations, we will want to know so that appropriate regulatory action can be taken.

However, as indicated, our capability for on-stream and remote monitoring has its limitations. Therefore, although the regulatory responsibility does fall directly on WDOE, we do expect the WDF, WDG, and the USFWS personnel to continue their normal surveillance of the stream system and report problems to the WDOE regional office personnel in Yakima. WDOE will work with the U.S. Geological Survey to install and maintain staff gages and to prepare stage discharge rating tables for control station sites that are currently not gaged.

22. Proposed instream flows for the Wenatchee River have been increased, however, we cannot justify setting flow levels as high as those recommended by WDG. The recommended flows are well in excess of the median flow level during the normal low flow period. A WDG memo dated December 3, 1980, indicated agreement with instream flows for the Wenatchee River as low as 670 cfs in the vicinity of Peshastin. The flows now proposed by WDOE are at approximately this level, dropping as low as 650 cfs during October, but higher the rest of the year.
23. It would be prohibitively expensive to develop and monitor instream flows on many small tributaries with no existing or proposed uses. Specific control stations can be added in the future as needed. WDG should continue to review water right applications and make recommendations of this nature, as necessary, to our regional office. See also response #41.

Many of the smaller streams with less than 5 CFS of water may fall in the intermittent or ephemeral category as discussed in the report on page 9 of the Wenatchee Program Document.

24. Water availability is normally not a problem in the Wenatchee Basin except during late summer and early fall months due to low natural flows and irrigation diversions. There is presently no significant use during the rest of the year, therefore, a year round closure is inappropriate. We disagree that the partial year closure will be "impossible to enforce." Any consumptive water development approval would be expressly permitted only during the nonclosure period. WDOE, to the best of its ability, will monitor the stream flows. WDG personnel living and working in the area can assist by reading staff gages during low flow periods and reporting those readings to the WDOE regional office in Yakima.
25. We lack adequate flow data to set an instream flow on Chumstick Creek. WDOE is now completing a general adjudication of the water rights of Chumstick Creek. A significant number of water right applications have been received by our regional office from residents who have used water from Chumstick Creek for many years for a variety of purposes, but who were found through the adjudication procedure to be lacking a legal right to divert water. In most cases this was due to a lack of understanding by the water users of the water right claim filing requirements (Chapter 90.14 RCW) and the water right permit requirements.

The WDOE considers it in the public interest. to evaluate and act on the pending applications on a case-by-case basis (particularly those relating to existing uses) before making a decision relating to total closure of the system.

26. We do anticipate some future water withdrawal needs in the basin. We believe that except for some presently unforeseen and unlikely large water storage or interbasin transfer project, future consumptive use developments will be small. Nearly all irrigable land in the basin is presently irrigated. Urban encroachment has reduced and will likely continue to reduce total irrigated acreage. Irrigation delivery systems and water application techniques have been improved and should continue to be improved in the future, reducing per acre water requirements. Some minor added acreage may be developed on marginal sites. If new surface water rights are required, they will be subject to the instream flows. Water demand to serve the growing needs of communities such as Leavenworth, Peshastin, Dryden, and Cashmere will increase gradually over time, and the total increase is unlikely to be significant. We believe the reduced consumption of present uses and the increased demand imposed by future uses will roughly balance out.

Future developed consumptive uses will be subject to the proposed regulations if adopted. It is beyond the scope of this department's authority to adopt flows in excess of those necessary to preserve and protect instream values. The WDOE cannot subject legitimate future offstream needs to instream flows in excess of this standard. We believe the instream flows we have proposed will provide "good" protection of game fish and other instream values.

27. Only a large storage project or interbasin transfer, presently unforeseen, could result in a measurable change in the spring freshet experienced in the Wenatchee Basin. The proposed instream flows will protect a spring freshet during drought conditions when this is truly of some legitimate concern.
28. See response No. 6, 18, and response No. 22 (WDG memo December 3, 1980). WDG regional personnel, in early November, by telephone, indicated agreement with instream flows of 600 cfs for the low flow period and 2,000 cfs for the high flow period for the lower mainstem Wenatchee River. We also used the data generated by the Chelan County PUD Dryden Reach Instream Flow Study. Your department has orally approved a range of flows from 470 to 1,750 cfs (depending on the season) for that project. We used these flows and added a reasonable factor of safety in consideration of variable channel conditions above and below the study reach.
29. The purpose of a draft report and proposed rules is to elicit comments from the public and other agencies including the WDG. These comments will be reflected in the final proposed rules in accordance with their merit and supporting justification. Our agencies have met on a number of occasions to discuss these matters. At least three different sets of flow recommendations were received from WDG for the mainstem Wenatchee River at various times. Although we prefer that we agree on proposed flows in advance of publication, the final authority rests with WDOE.

A letter was sent to the WDG on August 13, 1982, to inform the agency that WDOE was soon to be releasing a draft of the Wenatchee program. WDG was not precluded from requesting a meeting of our respective agencies to discuss proposed actions. In addition, hydrographs of WDOE proposed instream flows were sent to the WDG Wenatchee office on October 29, 1981. In response to this memo, telephone contact was made with WDG and flows of 600 cfs for the low flow period and 2,000 cfs for the high flow period were agreed to by your field office.

30. The statutes authorizing WDOE to develop and adopt instream flows and the legislative history of the development of those flows simply do not support the argument that minimum or base flows are intended to protect instream uses from out-of-stream uses during average or wet years. Rather, they are intended to assure that water flow conditions during relatively dry conditions become no worse than they already are due to natural flow conditions and existing withdrawals.

Your statement that, "Proposed flows could reduce stream flow to the equivalent of an annual drought," is incorrect. Instream flows do not reduce stream flow levels, however, consumptive withdrawals or artificial storage may. As stated elsewhere in these responses, a level of consumptive use development capable of depressing flows year after year to the instream flow level is not anticipated and in our view is highly unlikely.

Absent some rather large (and undoubtedly controversial) storage or interbasin transfer project, we cannot agree with the notion that there will be a sufficient quantity of future withdrawals to chronically depress the flow of the Wenatchee River, particularly during average or wetter years. If a large project is proposed, studies would undoubtedly be required of the proponent to evaluate the impacts of chronic low flows and to consider the instream flows themselves.

31. The tenor of your comment indicates that you may not be in possession of revised language for this section that was distributed at the public hearings, see WAC 173-545-030 subsection (5). Copies of this change were available to WDG's representative in attendance at the public hearing in Wenatchee on October 25, 1982.

Nothing in this section or the section it replaces precludes the WDG from exercising its authority under the state and federal laws to recommend to the Federal Energy Regulatory Commission necessary terms and conditions for hydropower projects for the protection of wildlife and aquatic resources, including instream flow conditions.

The intent of this section is to provide WDOE the flexibility to respond to hydroelectric proposals through the water rights process. For projects under FERC jurisdiction, WDOE may wish to express its views on minimum flows for a bypass reach. We may do so as an intervenor or simply as an ex officio expression of the state's interest.

For new projects exempt from FERC jurisdiction, the state water right may be the only practical means of imposing instream flow conditions. Your comment correctly points out the technical problems associated with attempting to impose general instream flow conditions on a project that affects only a limited reach of the total stream. The purpose of this section is to permit WDOE to be responsive to this problem.

- 32. See response No. 14. In addition, the council's proposed moratorium on hydropower development in the Wenatchee River Basin (or any other) has been deleted in the final fish and wildlife program.
- 33. See response No. 21.
- 34. Higher instream flows are now proposed as a result of public comment. See responses to WDG and WDF comments.

According to available information, the flows we propose will satisfy actual biological requirements.

- 35. See responses to WDG and WDF comments.
- 36. See response No. 23.
- 37. See response No. 31. If future data and experience indicates that the adopted instream flows need to be reconsidered, then the rules can be reopened at the five-year review, or before the five-year review if necessary.
- 38. See responses 14, 15, and 32.
- 39. Our regional office would normally consider the cumulative effects of numerous small exempt diversions in the course of considering water right applications for those uses. Where such effects are foreseen, the applicant may be granted water for in-house use only, or in extreme circumstances, the application may be denied.

To assure that cumulative effects are considered, proposed WAC section 173-545-070(3) has been appropriately amended. (See revised proposed rules.)

- 40. The proposed instream flows are significantly higher than the 99 percent occurrence flow except during the spring freshet when more than adequate water is available for instream values. As noted elsewhere in these responses, we have increased the proposed minimum instream flows for the Wenatchee River and Icicle Creek. See also responses 6, 8, 15, 17, and 30.
- 41. See also response No. 23. The program does not preclude the future expansion of the instream flow control point network to include control points on streams such as Nason Creek, White River, Little Wenatchee River, etc. if and when significant withdrawals are proposed. These particular streams are almost entirely on U.S. Forest Service land and

are relatively remote from man's current activities. Little or no water use presently occurs, and little or no intensive future use is currently anticipated. WDOE believes its limited monetary resources are better spent on streams in other basins that are currently or potentially subject to withdrawals rather than spending money and time on streams that may not see any development for many years, if at all. In any case, any minor consumptive uses that may occur in these tributary streams will be made subject to the instream flow at the Plain gage on the Wenatchee River. The State Game and Fisheries departments, under the authority of Chapter 90.22 RCW, can recommend establishing minimum instream flows on the specific streams in question should the need arise, and may, under the authority of Chapter 75.20 RCW, recommend denial of proposed diversions or conditioning water rights with appropriate provisions.

- 42. The proposed rules have been changed to indicate that the minimum instream flows are "instantaneous" in nature. See proposed WAC 173-545-030(2).
- 43. The state of Washington prefers to discourage the use of surface water for small or single domestic systems because of potential health problems. Ground water is generally safer but may not be present in adequate quantity and of potable quality in some locations See response No. 39.
- 44. The Water Resources Act of 1971 (Chapter 90.54 RCW (3)(a)) provides that withdrawals of water that conflict with instream flows set by the department shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served. The language used in WAC 173-545-060 and 070(2) reflects this provision from the act. WDOE has qualified this condition by requiring that its decisions on making such exemption would be done after consulting with the departments of Fisheries and Game.

In addition, the Water Resources Act (RCW 90.54.020(4)) also requires that, "Adequate and safe supplies of water shall be preserved and protected in potable condition to satisfy human domestic needs." Section 070(2) of the proposed rules is intended to reflect the Legislature's direction that should the public interest in securing a reliable potable water supply for human use exceed the public interest in maintaining the instream flow, then the flow may be waived.

See also responses 10 and 12.

- 45. As recently as the 1981 session of the Washington State Legislature, that body has clearly limited the application of minimum flows to those water rights subsequently developed. The notion of a date of priority for all water rights (including instream flows) provide a security of interest in water and is the foundation of water law in our state.

The WDOE does work with the state Legislature to improve our water laws. We do not believe that it is appropriate to discuss water law problems or recommend changes through this instream program. You have recently requested and have been sent a copy of a recent report prepared by the Governor's Task Force on Water Resources. This report outlines problems and issues related to the states water laws, and recommends a number of significant changes.

46. See responses 14 and 15.
47. The graph has been changed to correctly depict Department of Game's recommendation.
48. The preliminary instream flows agreed to by state and federal agencies for the proposed Dryden project bypass reach are on page 25 of the program document. The amended instream flows proposed by WDOE in this program are somewhat higher than these Dryden reach flows. The high gradient Dryden reach is not typical of the Wenatchee River, therefore, the results of the PUD's instream flow studies for that reach cannot be automatically applied to the entire lower mainstem. Usable width data provided by the Department of Fisheries indicates that instream flows higher than those acceptable in the Dryden reach are necessary.
49. Leavenworth's current and future water needs are of concern to WDOE. A meeting has been scheduled among WDOE, the Department of Social and Health Services (DSHS), and Leavenworth representatives to discuss the city's water system and water rights. WDOE encourages Leavenworth and other communities in the Wenatchee Basin to consider future water sources other than already heavily appropriated tributaries such as Icicle Creek. If Leavenworth's present diversion quantity is higher than its currently held water rights and if this excess quantity meets legitimate needs, then the city would be asked to apply for an additional water right. or seek to develop an alternative source for supplemental supply.
50. WDOE does not encourage that single domestic or small multiple domestic water systems use surface water as a source. Ground water or springs, if available, are generally preferred, but are not always available. Section 050 of the proposed rules states a policy that WDOE will encourage future applicants to use ground water rather than surface water as a source of supply.
51. See response No. 6, 8, 15, 17, 30, and 40.
52. See response No. 42.
53. See response No. 39 and 43.
54. See response No. 10, 12, and 44.
55. See response No. 45.
56. See response No. 14 and 15.

Summary of Public Hearing Comments, October 25, 1982.

A. The following summarizes oral comments made at the 2:00 p.m. public hearing, Chumstick Grange Hall, in the City of Leavenworth.

1. Jim Mullen of the U.S. Fish and Wildlife Service stated that he felt the Wenatchee River Basin Instream Resources Protection Program was an excellent program.
2. Roger Purdom of the Chelan County PUD stated that during the one-year period the PUD worked on instream flow studies for redevelopment of hydro projects on the Wenatchee River, he got excellent cooperation from WDOE and felt that the final product that came out of these studies was a good one.

We want to thank both Mr. Mullen and Mr. Purdom for their very positive and supportive comments.

B. The following summarizes oral comments made at the 7:00 p.m. public hearing, Cascade Natural Gas Auditorium, in Wenatchee:

1. Tony Eldred, representing the Washington State Department of Game (WDG), stated that biologists in his agency were preparing extensive remarks on the program and that these would be provided to WDOE on or before the November 10, 1982 deadline. He stated that WDG has two major concerns; a) instream flows proposed by WDOE were insufficient to adequately protect game fish populations, and b) instream flow regulations must be enforced in order to protect instream resources. In addition, he stated that Figure 1 on page B-18 of the supplemental EIS was incorrect. WDG's initial recommended instream flow at Monitor was 1,060 cfs and not 1,700 cfs as shown on the graph.
2. Tom Whiteside, representing the Wenatchee Sportsmans Association, stated that his groups concern was for fish habitat. He asked that WDOE, in developing this regulation, listen to the advice of WDG in protecting the fisheries resources.

We want to thank both Mr. Eldred and Mr. Whiteside for expressing their concerns about the program. The WDG's written comments and WDOE's response to those comments are located on pgs. D4-D5 and pages E5-E8, respectively. WDOE has increased the proposed instream flows on both Icicle Creek and the Wenatchee River during the spawning period. This would provide 88 percent of the maximum spawnable area for the Wenatchee River and 70 percent for Icicle Creek for salmon. These increased flows will also benefit rearing steelhead. WDOE believes these instream flows will provide the levels necessary to preserve and protect instream values. With the assistance of other natural resource agencies in the basin, WDOE feels that the program will be adequately enforced.