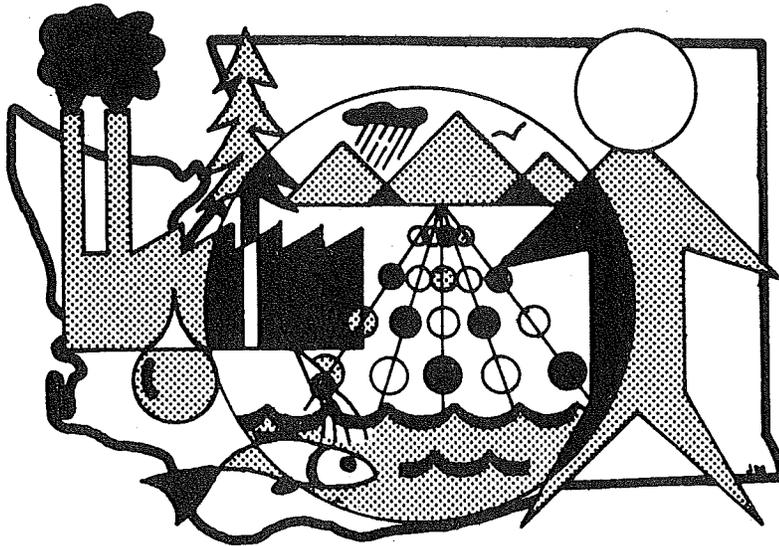


ENVIRONMENTAL IMPACT STATEMENT



State of Washington
Department of Ecology

**FINAL ENVIRONMENTAL
IMPACT STATEMENT**

**Prepared in accordance with the
Washington State Environmental Policy Act of 1971**

**Relative to proposed administrative action
by the Department of Ecology on:**

P R O P O S E D

Water Resources Management Program

Chehalis River Basin

March 1976

WASHINGTON STATE DEPARTMENT OF ECOLOGY

John A. Biggs, Director

S U M M A R Y

Nature of this Report

Final Environmental Impact Statement

Sponsor

State of Washington, Department of Ecology
Olympia, Washington 98504

Contact Person: Stanley E. Mahlum, P.E.

Official Title of Proposed Action

Chehalis River Basin
Water Resources Management Program

Type of Proposed Action

Implementation of the Management Program by regulation.

Outline of Proposed Action

This action will:

- (1) set priorities for water use
- (2) establish base flows on perennial streams
- (3) close selected streams to further appropriation
- (4) quantify surface waters available for future appropriation
- (5) establish administrative procedures for water resource management

Summary of Environmental Impacts

Major impacts are:

- (1) increases the demand on ground water supplies.
- (2) protects stream habitat for fish and wildlife.
- (3) limits availability of water for consumptive use with possible influence on future development in the basin.
- (4) improves other environmental values such as aesthetics, recreation, etc.
- (5) exerts a possible influence on hydroelectric potential.

(6) helps prevent deterioration of water quality.

Alternatives

Major alternatives to the proposed action are:

- (1) retain present policy: issue water rights with low flow restrictions on a case-by-case basis, and close streams to further consumptive use by administrative action.
- (2) issue water rights without restriction until the water resource is depleted.
- (3) develop a more sophisticated management program which would allow more efficient use of available water supply (above base flow). This could require metering, stream patrolmen, etc.

Recipients of the Document

Governor's Office, Ecological Commission, Draft EIS Respondants, Requestors.

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I N T R O D U C T I O N

The following is a Final Environmental Impact Statement prepared in accordance with the State Environmental Policy Act of 1971 (SEPA).

The proposed action (Chehalis River Basin Water Management Program, including regulation Chapter 173-522 WAC) is considered as a governmental action of a non-project nature. Thus, this impact statement does not attempt to address those environmental impacts to be generated by future projects which may require permits under the Water Management Program. Those environmental impacts to be caused by specific projects proposed in the future are not presently foreseeable. Thus, the projects will have to be evaluated environmentally on a case-by-case basis as they are proposed.

The proposed program and regulation will have the effect, however, of modifying some parts of the physical environment. These potential effects were considered significant by the department and the decision was made to prepare this impact statement.

This impact statement makes no pretense of presenting a technical explanation of the program and its procedures. Details of the proposal are contained in the "Revised Review Draft" of the program and that document is freely referred to in this impact statement.

All comments that have been received during the review period for the draft statement have been included as Appendix C in this statement. An attempt has been made to address all pertinent comments, either by changing the text or by direct response to the letter.

Copies of this final statement will be sent to the Governor's office, Ecological Commission, to all those who commented on the draft, and to all others who have requested a copy.

Acknowledgment is made to Stan Mahlum and Emily Ray for their input to this document. Special thanks to Beverly Jolley for typing and editing. This impact statement was prepared by Steve Mitchell of the Environmental Review Section, Department of Ecology.

I. BACKGROUND INFORMATION

Since 1917, the public's right to use surface water has been subject to a state administered permit and certificate system. Priority to the surface water is determined by the date an application is received by the state agency assigned to administer the water code. The priority principle is known as the "first in time is first in right" doctrine. This doctrine is common throughout the western states.

Receipt of an application to appropriate water results in the establishment of a priority date and, after investigation and review, a permit is approved or denied. Approval of the permit allows the water to be put to beneficial use consistent with the provisions and limitations in the permit.

Once beneficial use has taken place, the final certificate of water right is issued and recorded in state and county offices. The certificate is appurtenant to the land and its provisions cannot be changed without just cause and state approval.

In 1945, this system was expanded to include ground waters. However, permits are not required for ground water withdrawals of less than 5,000 gallons per day.

Since its inception in 1971, the Department of Ecology has administered the state water code and managed the state's water resources.

Traditionally, administration of the state water code encouraged development and full appropriation. Conservation of water resources and protection and enhancement of in-stream values were not emphasized. If water was physically available and the appropriation would not adversely affect existing rights, the permit was usually granted.

Within the last 20 years it has become increasingly obvious that the state's water supplies are not inexhaustible. Irrigation, municipal, power generation, and industrial uses are competing for a rapidly diminishing water supply. Pollution levels of the state's waters have risen at an alarming rate and irreplaceable environmental values were being lost.

In 1971, the legislature passed chapter 90.54 RCW which is known as the "Water Resources Act of 1971." This act expanded the definition of "beneficial uses" beyond the traditional ones of stock watering, domestic, municipal, industrial, irrigation, power, and mining. The Act broadened the "beneficial use" clause to include fisheries, wildlife, recreation and aesthetics. The Department of Ecology was specifically directed by the Water Resources Act to develop and implement a comprehensive state water resources policy and to insure that the waters of the state are utilized for the best interests of the people of the state.

The department is responding to the Act's directives by developing and proposing water management programs such as the one described in this impact statement.

Study of the Chehalis River Basin began in early 1973 when the Department of Fisheries, Game, and Ecology voiced serious concerns over the environmental

effects of low in-stream flow during dry seasons. In July of 1973, the Department of Ecology began a comprehensive hydrologic study of the basin. Local government and other state agencies were invited to cooperate and participate in the endeavor. Purpose of the study was to develop base flows within the drainage system that would result in best beneficial use of water along with protection and enhancement of pertinent environmental amenities.

In August 1973, all surface water applications received by the department were held and no permits issued pending completion of the study and the development of a management program.

In July 1975, the first preliminary draft of the proposed water program was released to the public. In the interim period, the program has been modified and the plan as described in the subject document and this impact statement is considered to be the final proposed draft.

II. DESCRIPTION OF THE PROPOSED ACTION

A. Location

The Chehalis River Basin encompasses approximately 2,700 square miles and includes the southeastern portion of Grays Harbor County, the northwestern section of Lewis County, the southwestern portions of Mason and Thurston Counties, and small portions of Cowlitz and Pacific Counties. The basin lies between the Deschutes and Cowlitz River Basins on the east and south, respectively, and the Olympic Range on the north, and falls within Water Resource Inventory Areas 22 and 23. Figure 1 is a map of the basin.

B. Proposed Action

The proposed action is presented technically in the document "Revised Review Draft, Water Resources Management Program, Chehalis River Basin, November 1975." The document is readily available from the department if the reader has not received a copy with this impact statement.

Implementation of the program will be conducted under regulation "Water Resources Program, Chapter 173-522 WAC." The regulation is included in this impact statement as Appendix A.

Following are brief answers to the most commonly asked questions regarding the meaning of the proposed action:

What is the proposal?

The department is proposing to implement a water management plan in the Chehalis River Basin. The plan will:

1. Establish base flows at 31 control stations along the Chehalis River and tributaries (for locations and amounts, see Appendix A).
2. Confirm the closure of 19 tributary streams to further appropriation, and establish the closure of five additional streams. On closed streams, applications for domestic and stockwater use will be considered on an individual basis and allowed only when no other source is available. (For details, see Appendix A.)
3. Determine the amount of water available for future consumptive use in key areas throughout the basin. Thirteen areas have been identified and water availability determined. (For details, see Program Document, Table 4, pages 14 and 15.)
4. Define priorities for water use when the streams are regulated under this program. The following "priority classes" would be established (in order of increasing priority):

PRIORITY IV (first to be regulated); all uses not addressed by priorities I through III.

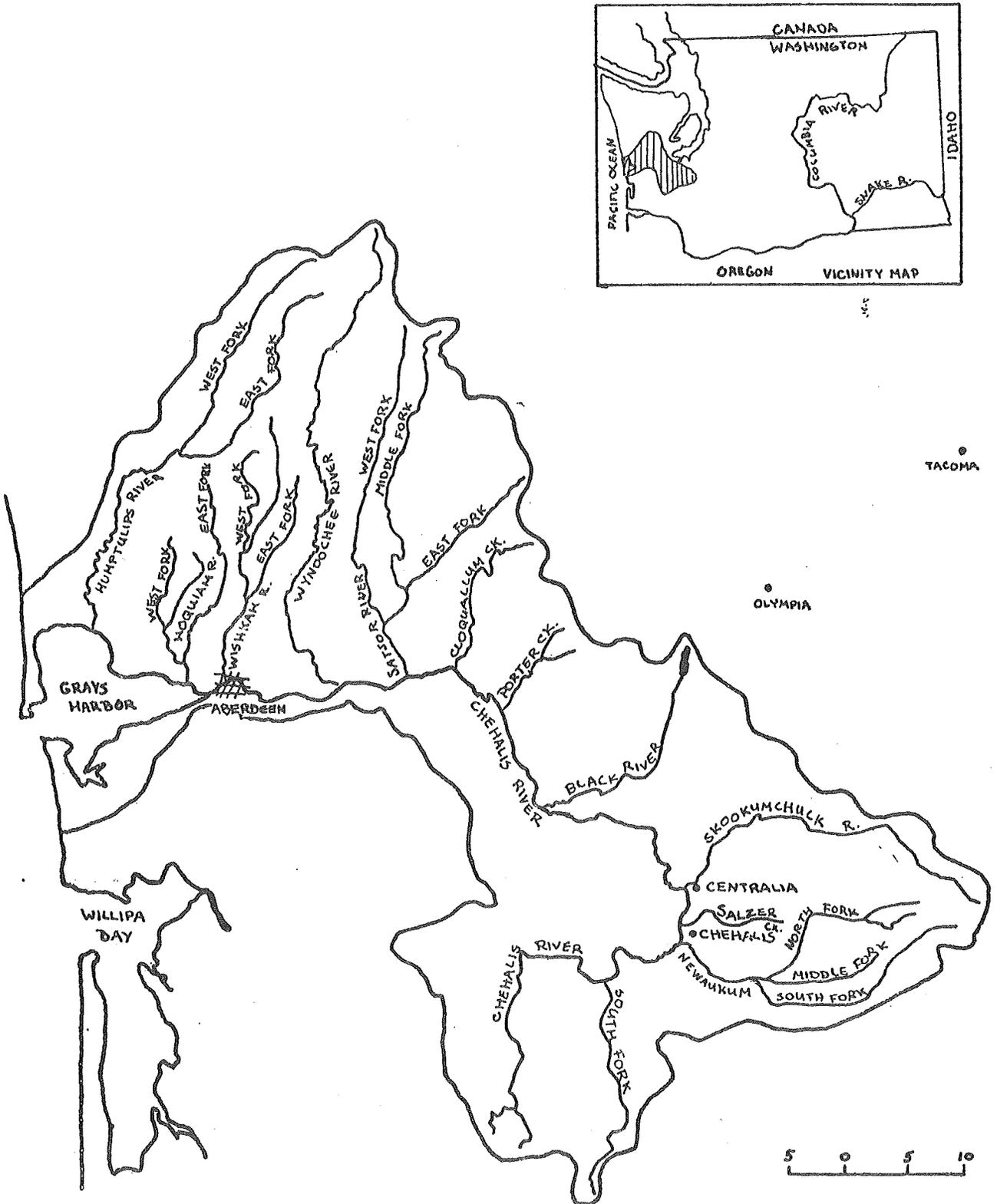


Figure 1
CHEHALIS BASIN

PRIORITY III (second to be regulated); non-consumptive use where water is circulated back to the stream; domestic and stockwater use except where no other water source is available.

PRIORITY II (third to be affected); amount necessary to maintain base flow levels.

PRIORITY I (highest priority and last to be regulated); prior rights (includes permits and water right certificates issued prior to adoption of this program). Priorities under the "Priority I Class" will be governed by the established priority date of the permit or certificate (i.e., first in time, first in right doctrine).

5. Establish administrative procedures for water resource management in the basin. The program document and the regulation (Chapter 173-522 WAC) contains details on the methods and procedures to be used to implement the proposed program.

What is base flow and how is it derived?

Base flow is the amount of flowing water in a stream necessary to protect the following instream values:

fish (and the value of a stream for fishing)
wildlife (wild animals and birds)
scenic and aesthetic (the sights and sounds of natural beauty)
navigation (commercial and recreational boating)
water quality standards
other environmental values (including swimming and wading)

Base flows are set by the Department of Ecology in cooperation with a number of other agencies:

Department of Fisheries
Department of Game
Department of Natural Resources
Department of Highways
Interagency Committee for Outdoor Recreation
State Parks and Recreation Commission

The interested agencies look at streams in terms of their areas of expertise and rate them on a numerical scale. Water quality standards are incorporated by using a scale based on stream classification. The desires of residents for instream flow protection are assessed, and these desires influence the setting of the base flows.

The rating for each stream is transformed into a flow level through a mathematical computation and adjusted with respect to actual flow conditions. The resulting base flow level is not constant throughout the year, but fluctuates according to seasonal fluctuations of the stream under natural conditions.

How does "base flow" operate?

The department monitors stream levels at certain control points. When the stream level drops to the base flow level, persons with water rights (except for drinking and household supply) granted after the adoption of the management regulation have to cease their use until the flow increases. Domestic and stockwaters would have to be terminated if other water sources were available.

How are available waters determined?

The following steps are taken to arrive at the amount of water available in a stream for consumptive use:

1. Determine natural streamflow from historical data.
2. Determine amount of water required to satisfy existing rights (permits, certificates).
3. Determine base flow necessary to protect in-stream environmental values.

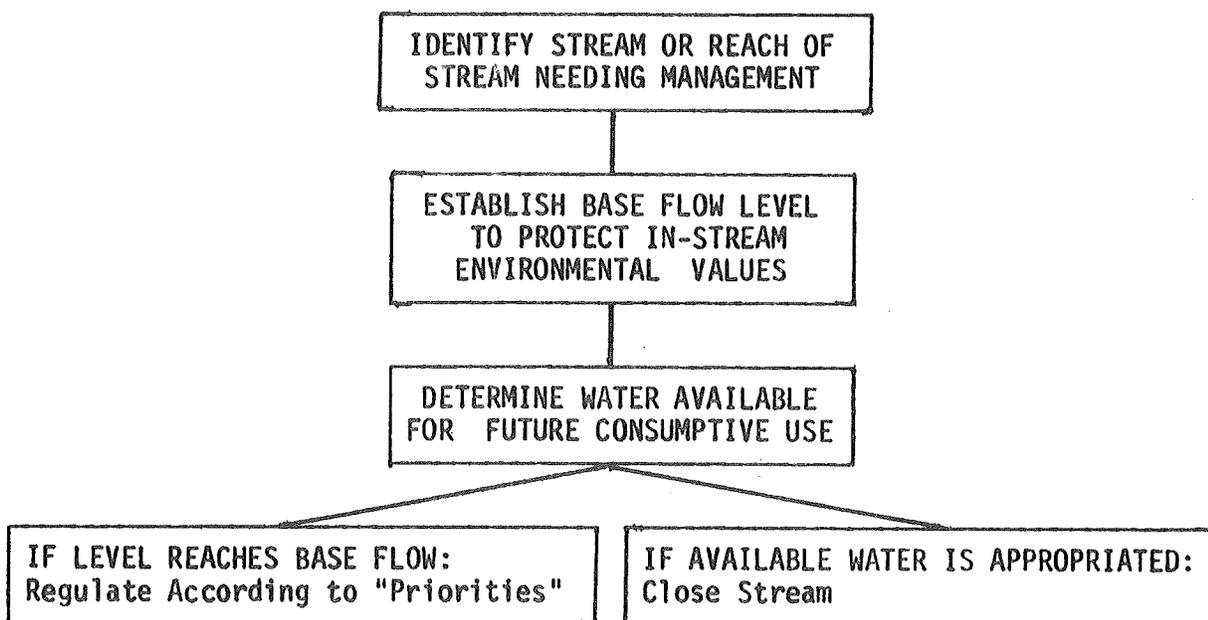
Thus, WATER AVAILABLE FOR FUTURE CONSUMPTIVE USE = natural streamflow minus existing rights minus base flow.

How are streams closed?

The department may take administrative action to close the stream to further issuance of water rights during those months of the year when no more water is available for appropriation over base flows.

In general, how will the entire program operate?

Following is a simplified outline of the program operation:



III. PUBLIC INVOLVEMENT

On July 28 and 31, 1975, public informational meetings were held in Centralia and Satsop. The meetings were announced in advance via news media, and letters of invitation were also sent to individuals whose water right applications were held by the department pending the determination of water availability. At the meetings, the department's proposals for water management were explained, copies of the draft program document were circulated, and public comment was received.

Comments received from the public meetings were studied and evaluated. A second program document was then developed, printed and distributed.

The draft environmental impact statement was prepared in November and December of 1975. The statement explains to the public the environmental implications of the proposed management program. The draft statement was widely distributed to over 200 citizens, groups, and governmental agencies.

Formal public hearings were held on January 19, 20, 21, and 22 to explain the final proposal, to consider comments regarding the plan and impact statement, and to solicit recommendations for change from the public prior to any implementation of the program.

IV. AGENCY INVOLVEMENT

The department has held numerous meetings with the Departments of Fisheries and Game in order that the proposed plan addresses their concerns regarding in-stream values. Input was also received from county officials and the Department of Social and Health Services.

In August of 1975, preliminary drafts of the management program were mailed to local, state, and federal agencies for their review and comments. The final draft was mailed out to these agencies to solicit any last-minute changes that they may wish to recommend.

The draft impact statement was distributed to all interested federal, state and local agencies to assist them in any decision they will make regarding the subject proposal.

V. EXISTING ENVIRONMENTAL CONDITIONS

A. Climate

The climate of the Chehalis Basin is characterized by mild temperatures both summer and winter. The greatest amount of precipitation falls between the months of October and May. Annual precipitation varies from a minimum of 40 inches in the central portions of the basin to a high of 220 inches in various areas of the Olympic National Forest in the northern portion. The form of this precipitation is generally rain, with some snowfall. Temperature variations are such that snow does not accumulate over any prolonged period of time, except in mountainous portions.

B. Physiography and Geology

The basin is drained by the Chehalis River which flows along the broad, relatively flat valley that lies between the Cascade and coast mountain ranges. The Chehalis River drains northward and westward to empty into Grays Harbor. The uplands, which include the Willapa Hills and the western flank of the Cascade Mountains, have been dissected by numerous tributary channels of the Chehalis River.

The rocks exposed in the basin vary from early Tertiary to Quaternary in age. They consist of marine, brackish-water, and nonmarine sedimentary rocks with interbedded volcanic rocks. The structure is folded and faulted and, in most cases, buried by glacial till and outwash deposits and by alluvium of Recent Age.

C. Soils

In the upper part of the basin, most of the soils have developed over a long period of time and therefore have deeply weathered parent materials and are heavy textured. The majority readily permit the penetration of water, air, and roots. Because they have developed under fairly high precipitation, they are strongly leached and slightly acid. The content of organic matter is moderately high, but supplies of available nitrogen and phosphorus are deficient and the soils need fairly large applications of fertilizer in order to produce good yields of cultivated crops over a sustained period of time.

In the Grays Harbor area, the soil conditions vary tremendously. On mountainous terrain are found deep, very steep, medium-textured soils. The floodplains are covered by deep, nearly level, well-drained, medium and moderately fine-grained soils. These are the most productive soils in the area. The coastal dune lands are covered by poorly drained, coarse-textured and organic soils. The low terraces of the major river valleys consist of soil types possessing poorly drained, fine-textured characteristics.

D. Fish and Wildlife

The upper portion of the Chehalis River Basin is an important spawning area for anadromous fish. Chinook, coho (silver), chum salmon, steelhead and sea-run cutthroat trout migrate into the Chehalis River and its tributaries. Cutthroat and rainbow trout are other sport fish native to the

basin. Sport angling for these species is a popular leisure activity in the basin. The Chehalis River and its tributaries spawn many of the fish which form the basis for recreation and the sport fishing industry on the Pacific Coast of Washington.

The overall salmon catch within the estuary of Grays Harbor has remained stable since 1934 when gill netting and trolling succeeded the state's abolition of fish traps. However, the catch value per pound of salmon has fallen off in recent years. This generated pressure to increase the gross tonnage landed to maintain net fishing revenues.

Much of the Grays Harbor estuary is composed of tidal flats, which are ideally suited to shellfish production. However, approximately 34 percent of the total tidelands are restricted from oyster culture because of their proximity to the domestic sewage discharge of Aberdeen and Hoquiam.

Wildlife resources in the basin include big game (blacktailed deer and black bear), game birds (pheasant, grouse and pigeons), fur animals (beavers, minks, muskrats, and river otters), and various waterfowl. There is considerable hunting in the basin upstream from Chehalis. Seasonal flooding of streams temporarily increase the habitat for waterfowl.

E. Vegetation

The Chehalis Basin supports a dense, natural vegetative cover as a result of the prevailing maritime climate. Forests occupy about 83 percent of the area. Dominant species include Douglas fir, western hemlock, and western red cedar. The lowland areas in the basin under natural conditions are generally occupied by a variety of herbaceous and woody vegetation, including scattered stands of hardwoods and second growth coniferous timber.

Grass prairie-like areas occur throughout the central portion of the basin. Vegetative cover of these areas is predominantly grasses. However, scattered stands of Douglas fir and Oregon white oak are common. Scotchbroom has now invaded parts of the open areas.

The vegetative cover of poorly drained mineral soils consists of western red alder, western hemlock, red alder, willow, and black cottonwood. The understory includes evergreen blackberry, spirea, oceanspray, wild rose, skunk cabbage, and tules.

Sedge and woody peat bogs have vegetative cover consisting of western red cedar, spirea, ocean spray, evergreen blackberry, sedges, and tules.

Tidal flats have a salt grass cover, and freshwater marshes commonly have cover of tules and sedges. On the alluvial flood plains or bottom lands, vegetative cover varies with the degree of soil drainage.

F. Air Quality

Air quality in the Chehalis is generally considered good. An exception is the odor and sulfur oxide problems associated with the pulp mills in the Aberdeen-Hoquiam area. Air quality control for these mills are under the

jurisdiction of the Department of Ecology. Comprehensive control programs are now in effect for major industries and the sulfur oxide and particulate situations are improving. In the Aberdeen-Hoquiam area, no violations in ambient standards were measured during 1975.

The basin's other air pollution problems, while not as serious as in the Aberdeen-Hoquiam area, are also associated with the forest products industries. The burning of slash from logging operations is common particularly during the fall. The Department of Ecology and the Department of Natural Resources have developed a Smoke Management Plan that regulates slash burning, based on meteorological conditions, to minimize air pollution effects.

Except for pulp mills and motor vehicles, which have not been the source for recorded violations in the basin, all other air pollution sources fall under the authority of two regional agencies:

Olympic Air Pollution Control Authority
(Clallam, Jefferson, Mason, Grays Harbor, Thurston and Pacific)
122 East State Street
Olympia, Washington 98501

Southwest Air Pollution Control Authority
(Clark, Cowlitz, Lewis, Skamania, Wahkaikum)
Suite 7601 H, N.E. Hazeldell Avenue
Vancouver, Washington 98665

Appreciable reductions in particulate emissions from wigwam burners, hog fuel boilers, and burning dumps have resulted from the control programs conducted by these two regional agencies. Air monitoring records have not shown any violations of the suspended particulate standard in the basin.

Centralia Power Plant, although a large source for air emissions, has not directly caused air quality violations. Extensive air monitoring studies conducted by the department found satisfactory levels in the area of the plant.

In summary, while the Chehalis Basin has some localized problems with sulfur oxides, odor, and particulates, air quality standards are being met.

G. Water Resources

1. Ground Water Occurrence

Ground water occurrence is variable within the basin, depending on local geologic conditions. Variations in occurrence are a result of differences in the rock types, their thickness and extent, and the degree to which they have been altered or deformed.

The uplands of the basin are, in general, made up of predominantly volcanic and fine-grained sedimentary rocks such as shale, siltstone, and sandstone. These deposits normally yield only small quantities

of ground water, and often this water is unsuitable for normal uses due to its high mineral content. Most wells yield only enough water for domestic use. An exception to this rule is in the Newaukum artesian basin where yields of several hundred gallons per minute are common.

The Newaukum artesian basin has an area of about 25 square miles, and lies within a southeasterly trending syncline. Water supplies taken from this artesian basin are obtained from nonmarine and sedimentary rocks. Recharge to the Newaukum artesian basin is from precipitation that occurs on the adjacent uplands.

The lowlands are mantled with deposits of coarse-grained materials, such as gravel, sand, and conglomerate. These deposits are of major importance as a supplier of usable ground water. Major aquifers are the glaciofluvial deposits of permeable sands and gravels that underlie upland plains and terraces to depths of 50 to 200 feet. Wells tapping these deposits usually yield 50 to 150 gallons per minute.

Outwash deposits of sand and gravel deposited from melting of the Puget Sound ice lobe are very permeable, and extend through parts of Thurston County and the northern edge of Lewis County. Wells are reportedly obtaining large yields of water from the deposit. The city well at Centralia, which has tapped this aquifer, is yielding 800 gallons per minute.

In general, wells in the Chehalis Basin yield good-quality water that is suitable for all common uses, but in a few places the ground water contains high concentrations of iron or sodium chloride. Much of the ground water sampled in the Lewis and Thurston County areas is a calcium-magnesium bicarbonate type.

Water from some wells in the vicinity of North Cove and Westport contain a high concentration of chloride that probably is not caused by sea-water intrusion but rather has its source in sea water that remained in place when the material was deposited.

2. Surface Water Occurrence

Fresh water includes all lakes, streams, and freshwater marshes. Salt water includes all salt and tidal water. There are 7,146 acres of fresh water and 26,603 acres of salt water within the basin.

Major sources of fresh water in the basin are the Chehalis River and its larger tributaries, and the Humptulips and Wishkah Rivers. The major body of salt water is Grays Harbor.

Grays Harbor is shaped like a low-topped boot with the cities of Hoquiam, Aberdeen, and Cosmopolis near its toe to the east, Westport at its heel, and Ocean Shores to the north near its top. Grays Harbor is approximately 15 miles long and 6 miles wide. It provides ocean-going vessels access to the Hoquiam-Aberdeen area, and headquarters for numerous fishing fleets.

There are 13 subbasins within the Chehalis River Basin. The drainage characteristics of these subbasins are summarized in Table 1.

T A B L E 1

| SUBBASIN | DRAINAGE AREA (sq/mi) | AVERAGE DISCHARGE (cfs) | MAXIMUM RECORDED DISCHARGE (cfs) | MINIMUM RECORDED DISCHARGE (cfs) |
|-------------------------------------|-----------------------|-------------------------|----------------------------------|----------------------------------|
| Upper Chehalis | 438 | 1,600 | 11,400 | 54 |
| Newaukum | 158 | 506 | 8,770 | 12 |
| Middle Chehalis (Above Grand Mound) | 118 | 271 | NA* | NA* |
| Skookumchuck | 181 | 540 | 8,190 | 21 |
| Middle Chehalis (Below Grand Mound) | 263 | 4,287 | 55,600 | 164 |
| Black River | 136 | 330 | NA* | NA* |
| Cloquallum | 65 | 375 | 5,080 | 6.8 |
| Satsop | 299 | 1,968 | 46,600 | 166 |
| Wynoochee | 185 | 1,316 | 25,500 | 3 |
| Wishkah | 100 | -- | 7,400 | 33 |
| Hoquiam | 90 | NA* | NA* | 6 |
| Humptulips | 245 | 1,344 | 33,000 | 82 |
| Lower Chehalis | 169 | NA* | NA* | NA* |

* Records not available.

The "Basin Plan" document describes in detail the hydrology and drainage characteristics of the various subbasins within the Chehalis River Basin. This information can be found on pages 21 through 31. Therefore, to avoid duplication, this impact statement does not include an exhaustive hydrologic description of the surface water regime.

3. Water Use

Water use in the Chehalis Basin was approximately 125,000 acre-feet in 1970; of this total, about 25,000 acre-feet was actually depleted (or consumed).

Approximately 66 percent of the water use is by industry, 23 percent by agriculture, and 11 percent by municipalities.

Reservoir storage rights on record with the Department of Ecology permit a total of 201,408 acre-feet to be retained in storage annually in the Chehalis Basin.

At the present time, there are few dams or diversion structures on the rivers of the basin. The Hoquiam and Wishkah Rivers have diversion structures to supply municipal and industrial water to the Hoquiam-Aberdeen area. These structures allow Hoquiam to remove 2.5 c.f.s. from the Hoquiam River, and Aberdeen to divert 10 c.f.s. from the Wishkah River. The newly constructed Wynoochee Dam on the Wynoochee River combines fish and wildlife, irrigation, recreation, flood control, and municipal and industrial water supply for the city of Aberdeen as its purposes. The reservoir has a maximum retention capacity of 70,000 acre-feet. Bloody Run Dam on the Skookumchuck River supplies water for use in the Centralia steam plant. A dam on the north fork of the Newaukum River contributes municipal and industrial water to the city of Chehalis. Other small dams scattered throughout the basin contribute to the rural water supply.

4. Present Policies

Currently, there is no overall policy to guide the management of water resources in the Chehalis River Basin. Each water right application must be considered individually based on the source involved. In the absence of basin-wide policy, the department has been conservative in its issuance of water rights and the result is that for the last year and a half, 100 applications have been held pending the assessment of water availability and the development of this Management Program.

H. Water Quality

The Water Quality Standards for Interstate and Coastal Waters of the State of Washington list four categories, based on the quality of its water:

Class AA Extraordinary, in which the water quality of this class markedly and uniformly exceeds the requirements for all or substantially all uses.

Class A Excellent, in which the water quality exceeds or meets the requirements for all or substantially all uses.

Class B Good, in which water quality exceeds or meets the requirements for most uses. Class B Good is not suited for use as a domestic water supply.

Class C Fair, meets or exceeds the requirements of selected and essential uses. Characteristic uses include, but are not limited to, commerce and

navigation, cooling water, boating, or fish passage. Class C Fair is not recommended for use as a water supply of any type, for fishery and wild-life habitat, or for most types of general recreation.

The Chehalis River near its mouth is rated as Class A Excellent. However, lower reaches have a low dissolved oxygen content during summer months. Its upper reaches and its main tributaries rate as well as, and in many cases better than, at its mouth. The Humptulips River has also received a Class A Excellent rating near its mouth. Both the Wishkah and the Hoquiam Rivers have been given Class B Good ratings. Grays Harbor west of longitude 123°59' west has been given a Class A Excellent salt water rating. All of the harbor east of this longitude has been given a Class B Good rating.

I. Population

The 1970 population of the basin was 98,500. The following table shows the expected populations if historical growth trends continue:

| <u>AREA</u> | <u>1970</u> | <u>1980</u> | <u>2000</u> | <u>2020</u> |
|----------------------|-------------|-------------|-------------|-------------|
| Chehalis Basin | 98,500 | 105,400 | 127,400 | 148,000 |
| Southwest Washington | 346,600 | 370,000 | 440,000 | 510,000 |
| State of Washington | 1,411,900 | 3,672,100 | 4,571,900 | NA |

In the upper portion of the basin, population tends to be rather stable which is characteristic of predominately rural areas. The incorporated cities in Lewis County grew somewhat faster than the rural areas, while more of the growth in Thurston County was concentrated in the unincorporated areas.

The major population concentration in the lower portion of the basin is in the Aberdeen-Hoquiam-Cosmopolis area which supported a 1970 census population of 30,544, about 50 percent of Grays Harbor's total population.

J. Land Use

Land within the basin is used primarily for forestry and agriculture. Forest lands are located primarily in the upland areas, with scattered stands of timber on poorly-drained bottom lands. Most timberland is owned by corporations with the remainder being privately or government owned (Capitol State Forest and Snoqualmie National Forest).

Most of the cropland is concentrated along the Chehalis River and its major tributaries. Principal crops include pasture, hay, and silage, with some vegetables and small grains. Berries are grown within the vicinity of the Chehalis-Centralia area. Several Christmas tree farms are located along the Skookumchuck River and to the southwest in the vicinity of Chehalis-Centralia.

Minerals of economic importance found in this basin include coal, clay, sand, and gravel. A steam plant east of Centralia is fueled by coal from local sources. Clay found in the Chehalis vicinity is used for bricks and tile.

Most forest land is located on the uplands, with scattered amounts found on the poorly drained bottom lands. A majority of the public forest land is contained in the Olympic National Forest located in the northern part of the basin. The Chehalis Indian Reservation is located in the central part of the basin near the town of Oakville. The private forest land is concentrated in the eastern portion of the basin, with scattered amounts in the other sections. Total forest in the Chehalis Basin amounts to 1,440,395 acres.

Land that has less than four houses per 10 acres is considered in the rural nonagricultural category. Densities greater than this are classified as urban built-up. Most of the rural nonagricultural land is located in the Montesano, Aberdeen, Hoquiam, Centralia, and Chehalis areas. Smaller amounts are found southwest of Olympia and in the Oakville-Rochester area. There are 8,791 acres of rural nonagricultural land in the basin.

There are 71,545 acres of class II land,* 132,954 acres of class III land, and 256,110 acres of class IV land in the Chehalis Basin. These lands are suited for cultivated crops, pasture, range, woodland, or wildlife. However, more difficult or complex construction measures are required on class III and IV land when cultivated.

There are 32,713 acres of class V land and 704,031 acres of class VI land which have limitations or hazards making them unsuited for cultivation. They may be better suited for pasture, range, woodland, or wildlife.

The 437,891 acres of class VII lands have very severe limitations or hazards that make them generally unsuited for cultivation or pasture. They may be better suited for grazing, woodland, or wildlife.

The 59,705 acres of class VIII lands have limitations and hazards that prevent their use for cultivated crops, pasture, range, or woodland. They may have utility for recreation, wildlife, or water supply.

K. Socio-Economics

At present, the economy of the basin continues to be natural resource oriented, being centered on agriculture and the wood products industry.

The principal industry is wood products related. Logging operations by several large corporations are distributed throughout the basin. New sawmills and wood-processing plants are expected to locate within the

* Refer to Appendix B for complete descriptions of land classes.

central portion of the basin as the second-growth timber in the area matures and logging operations begin cutting more of this resource.

Agriculture serves an important role in the economy. Field crops, irrigated and non-irrigated, berry production to a limited degree, poultry, beef cattle and dairy cattle are all important elements of this sector. The farms in the basin are decreasing in number while the remaining farms are becoming larger, which coincides with trends nation-wide. The poultry and dairy operations are expected to expand with improved technology.

The mining industry within the basin is twofold: the extraction of coal for the Centralia steam plant and the extraction of sand and gravel. Sufficient reserves of coal exist near Hanaford Creek at the Thurston-Lewis County line to supply the 1.4-million-kilowatt steam plant past the year 2000. Sand and gravel deposits along the river courses and the large deposits in the Grand Mound area of the basin are resources that can have considerable future economic impact.

Typical products produced in the basin include: lumber, plywood, veneer, shingles, shakes, pulp, furniture and cabinets, cranberry products, seafood products, and pulp and paper making machinery. The following types of industrial sites are available: zoned, planned industrial parks, rail, river frontage, deep water frontage, airport, and highway.

The Pacific Ocean, with its beaches, excellent offshore salmon fishing and sheltered harbors, has been a major tourist attraction since the early 1870's. Improvements in access over the years have helped promote continued expansion in the recreational use of the region, and tourism continues to increase in importance to the regional economy as a source of income and employment. Commercial developments have expanded, keeping pace with the increasing number of visitors, and offer activities to satisfy a diversity of interests.

Employment growth in the south coast region has not kept pace with the state's rate of expansion. Total employment in forest products manufacturing has remained fairly stable recently with expansion in logging, pulp, and paper off-setting declines in lumber and wood products. The primary source of employment gains has been in nonmanufacturing. These gains are particularly in services and trade. Wages and salaries from manufacturing, primarily forest products, are the principal source of income.

Major areas of the basin are experiencing changes in economic base, diversifying from the wood products industry to be a broader service-oriented economy. New and expanding light industrial parks are important to this change. The basin's location, on major highways and rail route, is a prime factor favoring industrial growth.

Other recent developments affecting the south coast economy include: continued growth in recreational developments characterized by rapid expansion in condominium complexes, motels, convention facilities, and scores of second homes; and the Wynoochee Dam project which upon completion will provide large quantities of water to the Grays Harbor area cities of Aberdeen, Hoquiam, and Cosmopolis.

L. Energy/Power

The major supplier of power in the basin is the Bonneville Power Administration through their main transmission lines. BPA power is usually supplied directly to distributors, mostly public utilities, and then to general users.

The only electric generating facility in the basin is the Centralia Thermal Electric Plant (steam plant), owned by Pacific Power and Light Company.

Under consideration is the proposed Satsop Nuclear Plant sponsored by the Washington Public Power System.

M. Recreation

Recreation has become an important industry in the basin area. The most important factor contributing to the recreation industry is the Pacific Ocean and its beaches. People come to fish, collect driftwood, camp, dig for clams, wade in the surf, and enjoy the scenery. Other factors such as mild climate, scenic inland area, hunting, and stream fishing also contribute to the growth of recreation.

This area is especially important for visitors residing in the major metropolitan areas of Puget Sound and Portland-Vancouver. The ease of access from these metropolitan areas coupled with the attractions of the ocean beaches indicate that the recreation and tourist industry will become even more important to the economy of the area.

Public recreation facilities in the basin are rapidly becoming inadequate as recreation participation increases at a rate even faster than straight population growth. This is due to a number of factors, namely the increased affluence of Seattle and Portland metropolitan families, number of available vacation days, improved and more rapid access to the area, and a growth in the local population. The inadequacy of this existing supply of developed lands can be attributed directly to the inability of public and private sectors to finance needed acquisition and developments. This is particularly true along the ocean beaches which are an extremely limited resource and where land acquisition cost has sky-rocketed over the last few years. The present state of the economy and related factors have leveled off some of these accelerating factors in the last one or two years. However, over the long run, with the economy returning to a more prosperous condition, recreation and population growth should continue to expand markedly.

N. Archeological/Historical/Cultural

The Chehalis River Basin contains numerous sites important for archeological, historical, and cultural aspects. Over 16 archeological sites exist along the lower Chehalis River from Grays Harbor to Porter. Most of these locations are Indian settlement sites.

The basin contains 9 fair and festival sites, 5 museums, and 1 national historic place: Hoquiam's Castle (the Lytle House) in Grays Harbor County. Two main bicycle trail corridors are located in the project area, one along the Chehalis River and the other along Route I-5 from Centralia to

the southern limits of the basin. An ethnic site exists at the Chehalis Indian Reservation near Oakville, and a number of ghost towns dot the entire area. Other interesting historic sites include Claquito Church, Jackson Prairie Court House and McFadden House, all near Chehalis.

VI. IMPACT OF THE PROPOSAL ON THE ENVIRONMENT

A. General

As explained previously in the introduction, this impact statement does not cover the environmental impact of any individual project that may need water supplies regulated under the proposed water management program. Those impacts to be generated by specific projects proposed in the future are not presently foreseeable. Thus, these projects will have to be evaluated environmentally on a case-by-case basis as they are being considered.

The proposed program is not expected to generate a direct, significant effect on the following environmental values:

Air Quality, including noise
Archeological/Historical/Cultural
Soils/Physiography/Geology
Climate

B. Water Resources

1. Ground Water

The result of the proposed program will be to increase, to varying degrees, the demand on existing ground-water supplies. As water in streams is further appropriated, base flow levels are reached, and available water for consumptive use no longer exists, more and more users will be turning to ground water for their source of water supply.

Most of the ground water available for future use occurs in the sands and gravels of the stream valleys. In areas of upper elevations in the basin, ground water potential is very limited.

Although the demand on the ground water supplies in stream valleys will increase as the base flow in streams is reached, available information indicates that the supply is not in danger of being depleted in the foreseeable future. If future investigation reveals that local areas are exhausting their supplies of ground water, the department is committed to include the ground water resource under the water management program in those particular areas where problems occur.

2. Lakes

Administrative procedures for lakes are not changed appreciably by the proposed program. At present a great demand does not exist for lake water as a consumptive water supply. Also, the availability of lakes in agricultural and municipal areas is very limited. Current plans are to evaluate each application for appropriation of lake water as it is received and to relate the application to individual

lake conditions. It is not expected that the proposed management program will result in a significant increase for demand of lake water.

3. Rivers/Streams

a. Present Water Use

The proposed program would not adversely affect those present water users holding valid permits or water right certificates dated prior to adoption of the program. These water rights are identified as having first priority on waters in the basin stream system. Operating procedures for existing rights will remain under rules and regulations used in the past.

Present water users would be impacted beneficially by sharing in the effects of the program that protect environmental values such as aesthetics, recreation, water quality, fish and game.

Present water users will also acquire a degree of protection because future water users will be required to cease diversion of water when the streamflow falls below base flow levels.

b. Future Water Use

Future water use will be affected by the program because a specified quantity of water will be reserved for in-stream values (recreation, water quality, aesthetics, fish and game, etc.). Thus, there will be less water available in the stream system for consumptive use (municipal, industrial, agricultural, domestic, stock). Most streams that have not been closed to appropriation will be allocated a quantity of water that will be available for consumptive use, and issuance of water rights will be based on this availability limit.

With implementation of the proposed program, future water quantities for industrial, agricultural, and municipal uses will be further limited. Unless reservoirs for storage of water are developed, the supply of surface water available for these consumptive uses will essentially be exhausted in the foreseeable future. For a further discussion of this aspect and the implications to economic growth, refer to page 23, Section VI-G.

C. Fish and Wildlife

A reflection of agency reaction to the proposed plan and its effect on the fisheries resource can be found in a letter commenting on the proposal from the National Marine Fisheries Service which says in part:

"National Marine Fisheries Service is pleased to note that instream maintenance flows for anadromous fish are included in the report. These recommended flows are necessary for the protection and enhancement of the fishery resource. We encourage actions which support instream flow needs for anadromous fish and agree with the various system closures described in the report for protection of the anadromous fish resource."

One of the major objectives of the water management program is to protect the fishery resource. Establishment of base flows was based, to a great

extent, on recommendations and advice from the Departments of Fisheries and Game. Each of these agencies evaluated the flow conditions and helped determine the amount of water necessary to provide adequate habitat for the fish and wildlife populations.

In the future, the base flow levels will be evaluated periodically. If additional changes are needed to achieve objectives, the base flows will be changed.

In summary, the proposed program will have a beneficial impact on the fish and wildlife resources in the basin.

D. Recreation

It is expected that the proposed water management program will improve to a limited extent recreation potential in the basin. Establishment of base flow levels will help guarantee that the streams will not be depleted due to overappropriation and unrestrained commercial and residential development. Waters will remain at levels that protect environmental values even during dry seasons.

E. Energy/Power

The Federal Power Commission has expressed concern regarding the adverse effect that the proposed water management program would have on potential "bulk power facilities" including hydroelectric developments. The FPC indicates that potential exists for four hydroelectric sites on the Wynoochee River which would amount to a combined installed capacity of more than 80,000 kilowatts.

The Department of Ecology does not foresee the proposed management program having any adverse effect on potential hydroelectric power sites on the Wynoochee River (or any other river or stream in the basin). The Wynoochee River has been closed to additional consumptive use (beyond existing rights) since March 1962 and will remain closed under the proposed program. This policy, however, does not preclude consideration of "stored water" which includes dams and reservoirs constructed for hydroelectric power. The department does not foresee future applications for "stored water" being inconsistent with the proposed water management program. In fact, by establishing base flows and closing streams to further consumptive use, the potential for hydroelectric facilities is increased on the Wynoochee River and other streams throughout the basin.

F. Water Quality

The proposed water management program will help prevent further water deterioration in the rivers and streams of the Chehalis Basin. The main influence of the program will be to provide base flows and limits on water availability for future consumptive use. Water quality criteria were used to arrive at these determinations. By maintaining sufficient water flow in the streams, particularly during dry seasons, less concentration of contaminants occur. This results in a healthier habitat for fish and wildlife and cleaner water supplies for downstream water users.

G. Socio-Economics

By allocating a specified amount of water for consumptive use, closing some of the streams to further appropriation, and reserving other waters for in-stream environmental values, the amount of water that can be obtained in the future for municipal, industrial, agriculture, and domestic uses is definitely limited. As to how this limitation of available water would affect economic growth and development in the Chehalis Basin depends on many factors including rate of growth, changes in priorities, types of future development, etc. However, considering present water-supply conditions and the trend in economic growth rate, the end of new appropriations for water in the Chehalis Basin can be anticipated in the foreseeable future. Although these conditions will be accelerated somewhat by the proposed program and its policies, future appropriation of water for consumptive use would be approaching termination even if the proposed management program were not implemented. In effect, the proposal accepts a trade-off between economic growth and environmental values, and provides that a certain amount of water be retained for these environmental values even if new appropriation of water for consumptive use eventually reaches an end.

The impact that limited availability of water will have on future economic growth can be minimized somewhat by development of storage-water facilities. The consideration of storage facilities is not expected to be hindered by the proposed program and its policies.

VII. ADVERSE IMPACTS WHICH MAY BE MITIGATED

Most potential adverse impacts, if they are generated by the proposed program in the future, are suitable for mitigation. For example:

1. The proposal will increase the demand on ground water supplies.

Mitigative action in this case would probably be to regulate the appropriation of ground water in those local areas where the supply was being depleted. Regulation would attempt to balance the amount to be withdrawn for appropriation with the amount being naturally recharged to the ground water supplies.

2. The proposal would limit the availability of water for consumptive use with possible influence on future development in the basin.

The proposed program was developed to provide solutions to present conditions and future trends as they now appear. The program was designed, however, to be flexible, and if priorities for water use in the basin change at some future time, the entire management program will be re-evaluated.

Additionally, the development of storage reservoir sites would provide additional water for consumptive use which would be especially valuable during dry seasons.

VIII. UNAVOIDABLE ADVERSE IMPACTS

Adverse impacts generated by the proposed program relate to the effects of the program's restrictions on those who desire to use water classed as not available to consumptive use. Additionally, another group unavoidably affected are those who would be regulated under the priority system when stream levels drop below established base flow.

These inconveniences and restrictions cannot be completely avoided if prior rights for consumptive use are to be protected and if water is to be allocated for in-stream environmental values.

IX. ALTERNATIVE ACTIONS

1. Retain present policy, issue water rights with low flow restrictions on a case-by-case basis; close individual streams to further consumptive use by administrative action.

The present policy does not allow for consideration of the total stream system in the basin. Problems are handled on a case-by-case basis. For example, low flow restrictions and stream closures are usually generated by a recommendation from the Departments of Fisheries and Game. The low flow restrictions and stream closures are generally effective only for a particular stream or reach of stream where the streamflow has been decreased to such an extent that the fisheries resource is endangered.

This policy does not incorporate a planning concept that anticipates future trends and problems that may be avoided. Neither does this policy consider the relationship between the conditions of the various tributaries and their effect upon each other. Additionally, environmental factors, other than fisheries, were generally not specifically addressed under the present policy.

The present policy does, however, allow a low profile position for the administrative governmental agency (the Department of Ecology). The department does not exert its administrative and jurisdictional authority until environmental conditions and/or public outcry demands it, then an attempt is made to alleviate the adverse situation by closing the stream or restricting water use by low flow stipulations. Under the present policy, the public only becomes aware of agency administration and regulation in those local areas where serious environmental conditions and/or water shortages have brought the problems to public attention.

2. Issue water rights without restrictions until the water resource is depleted.

This alternative would be simple and would require the least amount of money and manpower to administer (at least until the time that solutions to problems were demanded). The department would merely issue water rights indiscriminately on a "first come, first serve" basis until all the water in a given stream was allocated to consumptive use. This alternative would have no administrative influence on commercial development and economic growth in the basin; the amount of water remaining in the stream at a given time would be the only limiting influence in regard to water availability.

The following objections have been made to this alternative policy:

- a. This policy would lead to elimination of the fisheries resource.
- b. This alternative does not allow for consideration of other environmental values (recreation, aesthetics, water quality, etc.).
- c. Water quality problems would be serious throughout the basin when streamflows become low.

d. This policy would have a tendency to lead to conflicts among water users. During the summer months, downstream users would probably be short of water even though they may have "prior rights" and "higher priority." For solution to the water right conflicts arising from this policy, the only answer may be to adjudicate the entire stream system. This would probably mean tight regulation, use of stream patrolmen, etc.

3. Develop a more sophisticated management program which would allow more efficient use of available water supply (above base flow).

This alternative would include developing a program that would probably require a) meters at all diversion points, b) intricate procedures for determining actual water use during low flow situations, c) close coordination among water users, and d) use of stream patrolmen for tight regulation in those areas where conflicts arise.

This policy would allow for a more accurate determination of available water and would help insure fair distribution of those waters allocated for consumptive use, protection of environmental values, etc. This alternative program would also require much more money and manpower to operate than the proposed management program.

X. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT
AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

One of the main purposes of the proposed action is to control "short-term" interests with subsequent environmental losses and to preserve in-stream environmental values for "long-term" productivity. Some short-term interests must be affected in order to achieve these goals.

If the proposal was not implemented now but instead reserved for some future date, the environmental conditions that could be treated now would no longer exist. Their value at the future date would be decreased at some rate that multiplies with the time the water resource is allowed to approach depletion.

XI. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES

Water resources in the Chehalis River Basin will be committed to the policies of the proposed management program on a long-term basis if the program is adopted. Under this program, a specified amount of water in each selected stream will be committed to in-stream environmental values (fish, wildlife, recreation, aesthetics, water quality, etc.). This specified amount so allocated will be lost to future consumptive use (municipal, commercial, agricultural, industrial uses).

As to whether this commitment of water resources is entirely irreversible and irretrievable is doubtful. If and when priorities for water use in the basin change appreciably in the future, the proposed program has a built-in flexibility so that priorities can be adjusted, reallocations for water use can be made, and considerations can be given to water storage capabilities. The results of the management program will be monitored continuously and evaluated periodically as to effectiveness and adequacy. The program has been planned for modifications to be made as needed.

Another aspect to consider regarding whether the commitment of water under the proposed program is irreversible or irretrievable is the concept of consumptive use. That amount of water in the streams of the basin allocated as available for consumptive use will be eventually appropriated and used for that purpose. Insofar as water rights are considered held in perpetuity, the appropriated water will be committed to persons holding the rights and such commitment of water probably cannot be considered easily reversible or retrievable.

A P P E N D I X A

WATER RESOURCES PROGRAM IN
THE CHEHALIS RIVER BASIN, WRIAs 22 and 23

Chapter 173-522 WAC

NEW WAC 173-522-010 GENERAL PROVISION. These rules, including any subsequent additions and amendments, apply to waters within and contributing to the Chehalis River Basin, WRIA-22 & 23 (See WAC 173-500-040). Chapter 173-500 WAC, the general rules of the Department of Ecology for the implementation of the comprehensive water resources program, applies to this Chapter 173-522 WAC.

NEW WAC 173-522-020 ESTABLISHMENT OF BASE FLOWS. (1) Base flows are established for stream management units with monitoring to take place at certain control points as follows:

Stream Management Unit Information

| Control Station Number Stream Management Unit Name | Control Station by River Mile and Section, Township and Range | Affected Stream Reach Including Tributaries |
|--|--|--|
| 12.0200.00 Chehalis River Conf- w/Elk Creek | 101.8 14-13-5W | From confluence with Elk Creek to headwaters except Elk Creek. |
| 12.0205.00 Elk Creek | 2.5 8-13-5W | From confluence with Chehalis River to headwaters. |
| 12.0216.30 So. Fork Chehalis River | 0.3 24-13-4W | From mouth to headwaters. |
| 12.0235.00 Chehalis River | 77.6 2-13-3W | From confluence with Newaukum River to confluence with Elk Creek, excluding Elk Creek, and Newaukum Rivers. |
| 12.0240.00 S. Fork Newaukum River | 22.8 28-13-1E | From confluence with Lost Creek to headwaters, excluding Lost Creek. |
| 12.0245.00 N. Fork Newaukum River | 6.6 35-14-1W | From mouth to headwaters. |
| 12.0250.00 Newaukum River | 4.1 9-13-2W | From mouth to confluence with Lost Creek on S. Fork Newaukum River, excluding N. Fork Newaukum River. |
| 12.0275.00 Chehalis River at Grand Mound | 59.9 22-15-3W | From confluence with Newaukum River to confluence with Prairie Creek. |

WATER RESOURCES PROGRAM
IN THE CHEHALIS RIVER BASIN, WRIA-22 and 23

Chapter 173-522 WAC

WAC 173-522-010 GENERAL PROVISION. These rules, including any subsequent additions and amendments, apply to waters within and contributing to the Chehalis River Basin, WRIA-22 and 23 (see WAC 173-500-040). Chapter 173-500 WAC, the general rules of the Department of Ecology for the implementation of the comprehensive water resources program, applies to this chapter 173-522 WAC.

WAC 173-522-020 ESTABLISHMENT OF BASE FLOWS. (1) Base flows are established for stream management units with monitoring to take place at certain control stations 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 Including Tributaries |
|---|--|---|
| 12.0200.00 Chehalis River Conf. w/Elk Creek | 101.8 14-13-5W | From confluence with Elk Creek to head- waters except Elk Cr. |
| 12.0205.00 Elk Creek | 2.5 18-13-5W | From confluence with Chehalis River to head- waters. |
| 12.0216.30 So. Fork Chehalis R. | 0.3 24-13-4W | From mouth to head- waters. |
| 12.0235.00 Chehalis River | 77.6 2-13-3W | From confluence with Newaukum River to con- fluence with Elk Cr., excluding Elk Creek, and Newaukum Rivers. |
| 12.0240.00 S. Fork Newaukum R. | 22.8 28-13-1E | From confluence with Lost Creek to head- waters, excluding Lost Creek. |
| 12.0245.00 N. Fork Newaukum River | 6.6 35-14-1W | From mouth to head- waters. |
| 12.0250.00 Newaukum River | 4.1 9-13-2W | From mouth to con- fluence with Lost Cr. on S. Fork Newaukum River, excluding N. Fork Newaukum River. |
| 12.0253.00 Salzer Creek | 3.8 22-14-2W | From mouth to head- waters. |
| 12.0264.00 Skookumchuck River | 6.4 12-15-2W | From mouth to head- waters. |
| 12.0275.00 Chehalis River at Grand Mound | 59.9 22-15-3W | From confluence with Newaukum River to con- fluence with Prairie Creek. |

| | | |
|--|------------------|--|
| 12.0292.00 Black River | 4.1 33-16-4W | From mouth to headwaters. |
| 12.0305.00 Cedar Creek | 1.1 14-16-5W | From mouth to headwaters. |
| 12.0309.00 Porter Creek | 1.3 22-17-5W | From mouth to headwaters. |
| 12.0310.00 Chehalis River at Porter | 33.3 28-17-5W | From confluence with Prairie Creek near Grand Mound to confluence with Porter Creek including Prairie Creek. |
| 12.0325.00 Cloquallum Creek | 1.9 36-18-6W | From mouth to headwaters. |
| 12.0342.00 East Fk. Satsop R. | 15.9 15-19-6W | From confluence with Dry Run Cr. to headwaters excluding Dry Run Cr. |
| 12.0343.00 Decker Creek | 0.3 31-19-6W | From mouth to headwaters. |
| 12.0345.00 Middle Fk. Satsop R. | 0.4 36-19-7W | From mouth to headwaters. |
| 12.0350.00 Satsop River | 2.3 36-18-7W | From mouth to confl. with Dry Run Cr. on East Fk. Satsop R. |
| 12.0350.02 Chehalis R. below confl. w/Satsop R. | 20.0 7-17-6W | From confluence with Porter Ck. to just below confl. with Satsop River. |
| 12.0374.00 Wynoochee River | 5.9 27-18-8W | From mouth to headwaters. |
| 12.0380.00 Wishkah River | 16.2 22-19-9W | From influence of mean annual high tide at low base flow levels to headwaters. Excluding E. Fk. Wishkah River. |
| 12.0382.90 E. Fk. Wishkah R. | 0.9 36.19-9W | From mouth to headwaters. |
| 12.0385.00 W. Fk. Hoquiam River | 9.4 14-18-10W | From mouth to headwaters. |
| 12.0385.80 Middle Fk. Hoquiam R. | 1.6 4-18-10W | From mouth to headwaters. |
| 12.0386.60 East Fork Hoquiam | 7.1 8-18-9W | From mouth to headwaters. |

| | | |
|--------------------------------|-------------------|---|
| 12.0390.00 Humptulips River | 24.8 17-20-10W | From influence of mean annual high tide at low base flow levels to headwaters. |
| 12.0174.00 Elk River | 3.0 3-16-11W | From influence of mean annual high tide at low base flow levels to headwaters. |
| 12.0175.00 Johns River | 6.0 21-16-10W | From influence of mean annual high tide at low base flow levels to headwaters. |
| 12.0180.00 Newskah Creek | 3.5 32-17-9W | From influence of mean annual high tide at low base flow levels to headwaters. |
| 12.0185.00 Charley Creek | 2.0 21-17-9W | From influence of mean annual high tide at low base flow levels to headwaters. |

(2) Base flows established for the stream management units in WAC 173-522-020(1) are as follows:

BASE FLOWS IN THE CHEHALIS RIVER BASIN
(in Cubic Feet per Second)

| Month | Day | 12.0200.00 Chehalis R. nr. Elk Cr. | 12.0205.00 Elk Cr. | 12.0216.30 So. Fk. Chehalis R. | 12.0235.00 Chehalis R. |
|-------|-----|--|-----------------------|--------------------------------------|---------------------------|
| Jan. | 1 | 260 | 100 | 200 | 700 |
| | 15 | 260 | 100 | 200 | 700 |
| Feb. | 1 | 260 | 100 | 200 | 700 |
| | 15 | 260 | 100 | 200 | 700 |
| Mar. | 1 | 260 | 100 | 200 | 700 |
| | 15 | 260 | 100 | 200 | 700 |
| Apr. | 1 | 260 | 100 | 200 | 700 |
| | 15 | 260 | 100 | 200 | 700 |
| May | 1 | 195 | 76 | 145 | 525 |
| | 15 | 146 | 57 | 105 | 400 |
| June | 1 | 108 | 43 | 75 | 300 |
| | 15 | 82 | 32 | 55 | 230 |
| July | 1 | 62 | 25 | 40 | 175 |
| | 15 | 46 | 19 | 29 | 130 |
| Aug. | 1 | 37 | 16 | 21 | 98 |
| | 15 | 31 | 14 | 15 | 75 |
| Sep. | 1 | 31 | 14 | 15 | 75 |
| | 15 | 31 | 14 | 15 | 75 |
| Oct. | 1 | 39 | 15 | 21 | 92 |
| | 15 | 49 | 17 | 28 | 115 |
| Nov. | 1 | 88 | 31 | 56 | 215 |
| | 15 | 150 | 56 | 105 | 390 |
| Dec. | 1 | 260 | 100 | 200 | 700 |
| | 15 | 260 | 100 | 200 | 700 |

| Month | Day | 12.0240.00 Newaukum R. S. Fork | 12.0245.00 Newaukum R. N. Fork | 12.0250.00 Newaukum R. | 12.0253.00 Salzer Cr. |
|-------|-----|--------------------------------------|--------------------------------------|---------------------------|--------------------------|
| Jan. | 1 | 125 | 62 | 250 | 11 |
| | 15 | 125 | 62 | 250 | 11 |
| Feb. | 1 | 125 | 62 | 250 | 11 |
| | 15 | 125 | 62 | 250 | 11 |
| Mar. | 1 | 125 | 62 | 250 | 11 |
| | 15 | 125 | 62 | 250 | 11 |
| Apr. | 1 | 125 | 62 | 250 | 11 |
| | 15 | 125 | 62 | 250 | 11 |
| May | 1 | 110 | 47 | 210 | 5.8 |
| | 15 | 88 | 36 | 160 | 2.8 |
| June | 1 | 70 | 27 | 118 | 1.4 |
| | 15 | 56 | 21 | 90 | .73 |
| July | 1 | 45 | 16 | 68 | .38 |
| | 15 | 36 | 12 | 52 | .20 |
| Aug. | 1 | 29 | 9 | 38 | .10 |
| | 15 | 27 | 7 | 35 | .05 |
| Sep. | 1 | 27 | 7 | 35 | .05 |
| | 15 | 27 | 7 | 35 | .05 |
| Oct. | 1 | 33 | 8.4 | 43 | .14 |
| | 15 | 40 | 10 | 54 | .40 |
| Nov. | 1 | 58 | 19 | 91 | 1.35 |
| | 15 | 85 | 34 | 150 | 3.9 |
| Dec. | 1 | 125 | 62 | 250 | 11 |
| | 15 | 125 | 62 | 250 | 11 |

| Month | Day | 12.0264.00 Skookumchuck River | 12.0275.00 Chehalis R. at Grand M. | 12.0292.00 Black R. | 12.0305.00 Cedar Cr. |
|-------|-----|-------------------------------------|--|------------------------|-------------------------|
| Jan. | 1 | 160 | 1300 | 200 | 90 |
| | 15 | 160 | 1300 | 200 | 90 |
| Feb. | 1 | 160 | 1300 | 200 | 90 |
| | 15 | 160 | 1300 | 200 | 90 |
| Mar. | 1 | 160 | 1300 | 200 | 90 |
| | 15 | 160 | 1300 | 200 | 90 |
| Apr. | 1 | 160 | 1300 | 200 | 90 |
| | 15 | 160 | 1300 | 200 | 90 |
| May | 1 | 160 | 1000 | 170 | 70 |
| | 15 | 130 | 780 | 145 | 54 |
| June | 1 | 103 | 600 | 120 | 40 |
| | 15 | 83 | 460 | 104 | 31 |
| July | 1 | 67 | 355 | 88 | 24 |
| | 15 | 54 | 275 | 75 | 19 |
| Aug. | 1 | 43 | 210 | 70 | 14 |
| | 15 | 35 | 165 | 66 | 11 |
| Sep. | 1 | 35 | 165 | 66 | 11 |
| | 15 | 35 | 165 | 66 | 11 |
| Oct. | 1 | 35 | 200 | 68 | 13.8 |
| | 15 | 35 | 250 | 70 | 17 |
| Nov. | 1 | 59 | 440 | 100 | 30 |
| | 15 | 96 | 760 | 140 | 52 |
| Dec. | 1 | 160 | 1300 | 200 | 90 |
| | 15 | 160 | 1300 | 200 | 90 |

| Month | Day | 12.0309.00 Porter Cr. | 12.0310.00 Chehalis R. at Porter | 12.0325.00 Cioquallum Creek | 12.0342.00 Satsop R. E. Fork |
|-------|-----|--------------------------|--|-----------------------------------|------------------------------------|
| Jan. | 1 | 90 | 2500 | 150 | 280 |
| | 15 | 90 | 2500 | 150 | 280 |
| Feb. | 1 | 90 | 2500 | 150 | 280 |
| | 15 | 90 | 2500 | 150 | 280 |
| Mar. | 1 | 90 | 2500 | 150 | 280 |
| | 15 | 90 | 2500 | 150 | 280 |
| Apr. | 1 | 90 | 2500 | 150 | 280 |
| | 15 | 90 | 2500 | 150 | 280 |
| May | 1 | 56 | 1900 | 118 | 240 |
| | 15 | 35 | 1420 | 92 | 210 |
| June | 1 | 29 | 1060 | 70 | 175 |
| | 15 | 24 | 800 | 55 | 152 |
| July | 1 | 21 | 610 | 43 | 130 |
| | 15 | 17 | 460 | 34 | 112 |
| Aug. | 1 | 14.2 | 340 | 29 | 104 |
| | 15 | 12 | 260 | 24 | 95 |
| Sep. | 1 | 12 | 260 | 24 | 86 |
| | 15 | 12 | 260 | 24 | 80 |
| Oct. | 1 | 13.3 | 320 | 27 | 80 |
| | 15 | 15 | 400 | 30 | 80 |
| Nov. | 1 | 28 | 760 | 52 | 125 |
| | 15 | 50 | 1380 | 88 | 185 |
| Dec. | 1 | 90 | 2500 | 150 | 280 |
| | 15 | 90 | 2500 | 150 | 280 |

| Month | Day | 12.0343.00 Decker Cr. | 12.0345.00 Satsop R. M. Fork | 12.0350.00 Satsop R. | 12.0350.02 Chehalis R. nr. Satsop |
|-------|-----|--------------------------|------------------------------------|-------------------------|---|
| Jan. | 1 | 130 | 260 | 1100 | 3800 |
| | 15 | 130 | 260 | 1100 | 3800 |
| Feb. | 1 | 130 | 260 | 1100 | 3800 |
| | 15 | 130 | 260 | 1100 | 3800 |
| Mar. | 1 | 130 | 260 | 1100 | 3800 |
| | 15 | 130 | 260 | 1100 | 3800 |
| Apr. | 1 | 130 | 260 | 1100 | 3800 |
| | 15 | 130 | 260 | 1100 | 3800 |
| May | 1 | 115 | 203 | 910 | 2910 |
| | 15 | 103 | 160 | 750 | 2300 |
| June | 1 | 91 | 125 | 600 | 1750 |
| | 15 | 81 | 98 | 500 | 1360 |
| July | 1 | 72 | 78 | 425 | 1085 |
| | 15 | 64 | 61 | 360 | 860 |
| Aug. | 1 | 56 | 48 | 300 | 680 |
| | 15 | 50 | 38 | 260 | 550 |
| Sep. | 1 | 50 | 38 | 260 | 550 |
| | 15 | 50 | 38 | 260 | 550 |
| Oct. | 1 | 54 | 41 | 280 | 640 |
| | 15 | 58 | 45 | 300 | 750 |
| Nov. | 1 | 77 | 83 | 475 | 1305 |
| | 15 | 100 | 145 | 720 | 2220 |
| Dec. | 1 | 130 | 260 | 1100 | 3800 |
| | 15 | 130 | 260 | 1100 | 3800 |

Base flows continued

| Month | Day | 12-0374.00 Wynoochee River | 12-0380.00 Wishkah R. | 12-0382.90 Wishkah R. E. Fk. | 12-0385.00 Hoquiam R. W. Fk. |
|-------|-----|----------------------------------|--------------------------|------------------------------------|------------------------------------|
| Jan. | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 135 | 33 | 32 |
| Feb. | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 135 | 33 | 32 |
| Mar. | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 135 | 33 | 32 |
| Apr. | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 135 | 33 | 32 |
| May | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 113 | 27 | 26 |
| June | 1 | 450 | 95 | 21 | 20 |
| | 15 | 360 | 80 | 17 | 16 |
| July | 1 | 290 | 68 | 14 | 12.8 |
| | 15 | 230 | 57 | 11.3 | 10 |
| Aug. | 1 | 185 | 47 | 9 | 8 |
| | 15 | 150 | 47 | 9 | 8 |
| Sep. | 1 | 150 | 47 | 9 | 8 |
| | 15 | 150 | 47 | 9 | 8 |
| Oct. | 1 | 150 | 53 | 10.4 | 9.4 |
| | 15 | 230 | 60 | 12 | 11 |
| Nov. | 1 | 360 | 91 | 20 | 19 |
| | 15 | 560 | 135 | 33 | 32 |
| Dec. | 1 | 560 | 135 | 33 | 32 |
| | 15 | 560 | 135 | 33 | 32 |

| Month | Day | 12-0385.80 Hoquiam R. M. Fk. | 12-0386.60 Hoquiam R. E. Fk. | 12-0390.00 Humptulips River | 12-0174.00 Elk River |
|-------|-----|------------------------------------|------------------------------------|-----------------------------------|-------------------------|
| Jan. | 1 | 27 | 44 | 600 | 50 |
| | 15 | 27 | 44 | 600 | 50 |
| Feb. | 1 | 27 | 44 | 600 | 50 |
| | 15 | 27 | 44 | 600 | 50 |
| Mar. | 1 | 27 | 44 | 600 | 50 |
| | 15 | 27 | 44 | 600 | 50 |
| Apr. | 1 | 27 | 44 | 600 | 50 |
| | 15 | 27 | 44 | 600 | 50 |
| May | 1 | 27 | 44 | 600 | 43 |
| | 15 | 21 | 38 | 500 | 37 |
| June | 1 | 16 | 33 | 400 | 31 |
| | 15 | 12.2 | 29 | 325 | 26 |
| July | 1 | 9.5 | 25 | 265 | 22 |
| | 15 | 7.4 | 22 | 215 | 19 |
| Aug. | 1 | 5.6 | 19 | 170 | 16 |
| | 15 | 5.6 | 19 | 170 | 16 |
| Sep. | 1 | 5.6 | 19 | 170 | 16 |
| | 15 | 5.6 | 19 | 170 | 16 |
| Oct. | 1 | 6.7 | 19 | 205 | 20 |
| | 15 | 8.0 | 25 | 250 | 25 |
| Nov. | 1 | 15 | 34 | 390 | 32 |
| | 15 | 27 | 44 | 600 | 40 |
| Dec. | 1 | 27 | 44 | 600 | 50 |
| | 15 | 27 | 44 | 600 | 50 |

Base flows continued

| Month | Day | 12-0175.00 Johns River | 12-0180.00 Newskah Creek | 12-0185.00 Charley Creek |
|-------|-----|---------------------------|--------------------------------|--------------------------------|
| Jan. | 1 | 70 | 17 | 14 |
| | 15 | 70 | 17 | 14 |
| Feb. | 1 | 70 | 17 | 14 |
| | 15 | 70 | 17 | 14 |
| Mar. | 1 | 70 | 17 | 14 |
| | 15 | 70 | 17 | 14 |
| Apr. | 1 | 70 | 17 | 14 |
| | 15 | 50 | 17 | 14 |
| May | 1 | 50 | 13.4 | 11 |
| | 15 | 42 | 10.7 | 8.6 |
| June | 1 | 35 | 8.3 | 6.7 |
| | 15 | 29 | 6.5 | 5.4 |
| July | 1 | 24 | 5.2 | 4.2 |
| | 15 | 21 | 4.1 | 3.3 |
| Aug. | 1 | 17 | 3.2 | 2.5 |
| | 15 | 17 | 2.5 | 2 |
| Sep. | 1 | 17 | 2.5 | 2 |
| | 15 | 17 | 2.5 | 2 |
| Oct. | 1 | 17 | 3.2 | 2.6 |
| | 15 | 24 | 4 | 3.5 |
| Nov. | 1 | 35 | 8.4 | 7.1 |
| | 15 | 49 | 17 | 14 |
| Dec. | 1 | 70 | 17 | 14 |
| | 15 | 70 | 17 | 14 |

(3) Base flow hydrographs, Appendix 1, pages 19-23 in the document entitled "Water Resources Management Program in the Chehalis River Basin" dated November, 1975 shall be used for definition of base flows on those days not specifically identified in WAC 173-522-020(2).

(4) All rights hereafter established shall be expressly subject to the base flows established in sections WAC 173-522-020(1) through (3).

(5) At such time as the Departments of Fisheries and/or Game provide specific information substantiating the need for flows higher than the flows set forth in WAC 173-522-020(2), the Department of Ecology agrees to proceed with setting minimum flows as provided under RCW 90.22 within one year from the time of said request, unless agreement to another time frame is reached between parties.

WAC 173-522-030 FUTURE ALLOCATION OF SURFACE WATER FOR BENEFICIAL USES. The department has determined that there are public waters available, subject to base flow, for allocation to beneficial uses from all streams within the Chehalis Basin; except for those streams and times declared closed in WAC 173-522-050. The department shall maintain a current tabulation of the amount of water that is available for appropriation at each stream management unit specified under WAC 173-522-020(1).

WAC 173-522-040 PRIORITY OF FUTURE RIGHTS DURING TIMES OF WATER SHORTAGE. (1) Rights established in the future pertaining to waters available for allocation in WAC 173-522-030 shall be subject to a priority of use. Rights for domestic use, including irrigation of lawn and noncommercial garden not to exceed one-half acre, and livestock use excluding feedlot operation, shall be superior to all other consumptive and nonconsumptive uses.

(2) As between rights established in the future within a priority of use, the date of priority shall control with an earlier-dated right being superior to those rights with later dates.

(3) Additional water use priorities may be promulgated, when required, in the future.

WAC 173-522-050 STREAMS CLOSED TO FURTHER CONSUMPTIVE APPROPRIATIONS. The department, having determined there are no waters available for further appropriation through the establishment of rights to use water consumptively, closes the following streams to further consumptive appropriation. An exception is made for domestic and normal stockwatering where there is no alternative source of water supply.

Surface Water Closures

| STREAM | DATE OF CLOSURE | PERIOD OF CLOSURE |
|--|-----------------|-------------------|
| Beaver Creek, Tributary to S. Fk. Newaukum River | 12-5-52 | 1 May - 31 Oct. |
| Beaver Creek, Tributary to Black River | 10-28-52 | " " |
| Bunker Creek | 1-17-50 | " " |
| Dempsey Creek | 11-15-74 | " " |
| Dillenbaugh Creek | 8-21-72 | " " |
| Hanaford Creek | 5-7-52 | " " |
| Hope Creek & Garrard Creek | 8-28-73 | " " |
| Kearney Creek | 10-27-52 | " " |
| Lincoln Creek | 11-5-48 | " " |
| Middle Fork, Newaukum R. | 4-7-50 | " " |
| Mill Creek | 3-21-52 | " " |
| Mox Chehalis | 4-25-57 | " " |
| Salmon Creek | 12-18-56 | " " |
| Rock Creek | 4-11-73 | " " |
| Scatter Creek | 7-20-50 | " " |

| | | | |
|-----------------------|------------------|--------|------------|
| Stearns Creek | 4-28-53 | " | " |
| Wildcat Creek | 10-28-52 | " | " |
| Williams Creek | 5-6-52 | " | " |
| Wynoochee River | 3-9-62 | " | " |
| Black River | Date of Adoption | 1 July | - 30 Sept. |
| Skookumchuck River | " " | " | " |
| S. Fk. Chehalis River | " " | " | " |
| Salzer Creek | " " | 1 June | - 30 Sept. |

NOTE: Affected reach is from mouth to headwaters and includes all tributaries in the contributing drainage area unless specifically excluded.

WAC 173-522-060 EFFECT ON PRIOR RIGHTS. Nothing in this chapter shall be construed to lessen, enlarge, or modify the existing rights acquired by appropriation or otherwise.

A P P E N D I X B

LAND CLASSES

LAND CLASSES

CLASS I - Soils in Class I have few or no limitations or hazards. They may be used safely for cultivated crops, pasture, range, woodland, or wildlife. (Only small bodies of soils in the Puget Sound area may be classed I because of susceptibility to at least occasional damaging overflow, or other associated hazards.)

CLASS II - Soils in Class II have few limitations or hazards. Simple conservation practices are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

CLASS III - Soils in Class III have more limitations and hazards than those in Class II. They require more difficult or complex conservation practices when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

CLASS IV - Soils in Class IV have greater limitations and hazards than Class III. Still more difficult or complex measures are needed when cultivated. They are suited to cultivated crops, pasture, range, woodland, or wildlife.

CLASS V - Soils in Class V have little or no erosion hazard but have other limitations that prevent normal tillage for cultivated crops. They are suited to pasture, range, woodland, or wildlife.

CLASS VI - Soils in Class VI have severe limitations or hazards that make them generally unsuited for cultivation. They are suited largely to pasture, range, woodland, or wildlife.

CLASS VII - Soils in Class VII have very severe limitations or hazards that make them generally unsuited for cultivation. They are suited to grazing, woodland, or wildlife.

CLASS VIII - Soils and landforms in Class VIII have limitations and hazards that prevent their use for cultivated crops, pasture, range, or woodland. They may be used for recreation, wildlife, or water supply.

A P P E N D I X C

LETTERS OF COMMENT
RECEIVED DURING THE REVIEW PERIOD
FOR THE DRAFT IMPACT STATEMENT
(where appropriate, responses are
included by the Department of Ecology)



Steve Mallum

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Columbia Fisheries Program Office
P. O. Box 4332, Portland, Oregon 97208

December 31, 1975

Mr. John F. Spencer
Washington State Department of Ecology
Water Resources Management Division
Olympia, Washington 98504

Dear Mr. Spencer:

We appreciate the opportunity to review your draft environmental impact statement (DEIS) entitled "Proposed Water Resources Management Program, Chehalis River Basin".

National Marine Fisheries Service commented on your earlier draft report entitled "Water Resources Management Policy for the Chehalis River Basin, November, 1975" (Appendix C, page C-10 of the DEIS). Since this is described as the proposed action in the DEIS, we have no further comments to offer.

Sincerely,

John I. Hodges
Acting Program Director



Jan Mathison

1/16/76

(Date)

RECEIVED

JAN 19 1976

ATTORNEY GENERAL'S OFFICE
ECOLOGY DIV.
OLYMPIA

TO: John A. Biggs, Director
Department of Ecology

FROM: Ann Widditsch
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE

No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

Approved - an impressive job.

A couple of points: If you say the map in Fig. 1 of the basin study includes the "main" towns, (Sunnyside, Hoguam, at least, should be included, maybe others.

Are the priorities on p. 6 the same for all basins in the state? If not, will this cause problems?

I have also reviewed the draft environmental impact statement, which also seems to be a competent job.

Ann Widditsch

Response due January 17, 1976

RESPONSE TO THE COMMENTS FROM ANN WIDDITSCH:

1. Hoquiam is now included as one of the "main" towns, greater than 2,500 population (see Figure 1).
2. The priorities as listed on page 6 in the Program Document are not the same for all of the management programs developed for the various basins throughout the state. The various factors used to develop priorities (i.e., water resources, environmental, socio-economic, etc.) vary from basin to basin. The needs and interests of the local communities, along with water resources and environmental needs, dictate the arrangement and scope of the water priorities developed for each management program.

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Room 360 U.S. Courthouse, Spokane, Washington 99201

January 20, 1976

Mr. Stanley E. Mahlum, P.E.
State of Washington
Department of Ecology
Olympia, Washington 98504

Dear Mr. Mahlum:

The Soil Conservation Service has reviewed the proposed Water Resources Management environmental impact statement for the Chehalis river basin.

The only comment we would have deals with the revised review draft dated November 1975, Basin Program Series, No. 2 (Section II--Basin-wide Findings, Pages 16-19). The discussions of the potential for new irrigation development in Sub-items E and F, Page 17 might more fully address the acreage potential for irrigation development within the Basin.

2 Table 149, Columbia-North Pacific Region, Comprehensive Framework Study, Appendix IX, issued February 1971 lists the potential irrigable land for the Chehalis basin as follows: Class I land - 9600 acres; Class II land - 54,900 acres, and Class III land - 111,400 acres for a total of 175 acres. This report goes on to state that federal studies have identified an area of about 85,000 acres that could be included in long-range plans for irrigation development. While most of these lands are presently forested, expansion of irrigation within the Chehalis basin may be necessary to meet future regional needs for food and fiber. We feel these potentials should be fully recognized along with all the other possible requirements.

We appreciate the opportunity to review this document and fully support a planned program for development and utilization of our water resources.

Sincerely,

Stan H. Bridge

Galen S. Bridge
State Conservationist



RESPONSE TO THE LETTER FROM THE SOIL CONSERVATION SERVICE:

The acreage potential for irrigation development within the basin was fully recognized and considered during the development of the proposed Water Management Program. If future trends indicate that irrigation uses are changing within the basin, these aspects will be evaluated when the Water Management Program is periodically reviewed. Standards, operational procedures and priorities will be updated and modified as needed in the future.

1/12/76

(Date)

TO: John A. Biggs, Director
Department of Ecology

FROM: Wm. G. Wolford
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE

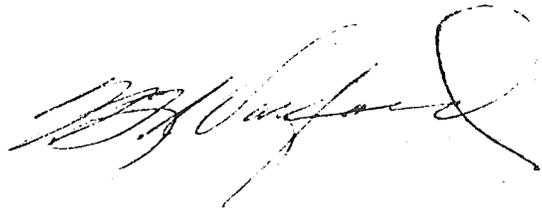
No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

Proposed regulations approved on the condition and assumption that the designation of "base flows" are indeed the reasonable minimum necessary for the preservation of wildlife and fish and that the base flows established for scenic, aesthetic and other environmental values do indeed/the majority best interests of all segments of the public. reflect



RECEIVED

JAN 13 1976

ATTORNEY GENERAL'S OFFICE
ECOLOGY DIV.
OLYMPIA

Response due January 17, 1976

RESPONSE TO THE COMMENT FROM WILLIAM G. WOLFORD:

1. Mr. Wolford's "assumption" is indeed correct.

1/3/75

(Date)

TO: John A. Biggs, Director
Department of Ecology

Star

FROM: Caroleyn J. Haydel
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE

No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

OK, but it is not clear what "use categories" are referred to in 173-522-040(2). It appears there are only two categories - "domestic" and "other." It might be helpful to clarify if and/or how "other" will be broken down.

RECEIVED

JAN-8 1976

ATTORNEY GENERAL'S OFFICE
ECOLOGY DIV.
OLYMPIA

Response due January 17, 1976

RESPONSE TO THE COMMENT FROM CAROLYN HAYEK:

1. Please note the change made on page 7 of the regulation (WAC 173-522-030). We have addressed Ms. Hayek's concern by emphasizing that "additional water use priorities will be promulgated as required." For example, if it is necessary to separate municipal uses from "other" uses in the future as growth trends change in the basin, then "municipal use" will be assigned into a separate priority class.



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
ARCADE PLAZA BUILDING, 1321 SECOND AVENUE M/S 317
SEATTLE, WASHINGTON 98101

January 9, 1976

REGION X
Office of Community
Planning and Development

IN REPLY REFER TO:

10d

Mr. Steve Mitchell
Environmental Review
Department of Ecology
Olympia, Washington 98504

Dear Mr. Mitchell:

Subject: Draft Impact Statement
Water Resources Management Program
Chehalis River Basin

We have reviewed the statement submitted with your December 23, 1975 letter.

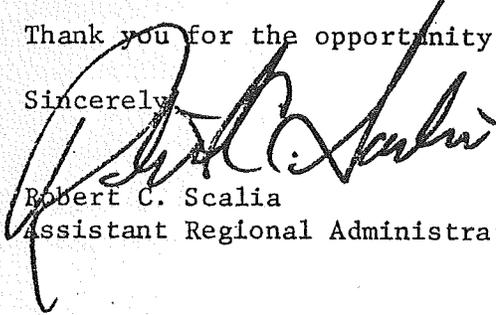
We have the following comments which relate to our areas of interest:

1. Is the Water Resource Management Program consistent with the communities' growth policies?
2. In the event of conflicts between housing developmental water needs and other water needs how will priorities be established?
3. The proposed nuclear plant is only briefly mentioned. Wouldn't this facility pose a potential significant impact on the Water Resources management plan?
4. Shouldn't local flood plain management programs be considered in the Resource Management Programs?

We would appreciate the above concerns being addressed in the final statement.

Thank you for the opportunity to comment.

Sincerely,


Robert C. Scalia
Assistant Regional Administrator

RESPONSE TO THE LETTER FROM THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT:

1. To the best of the department's knowledge, the Chehalis Basin Program is not in conflict with the economic and growth policies of the various communities within the basin. During the development of the program, local officials and leaders from all parts of the community were invited to participate and submit their suggestions and concerns. All of this input was carefully evaluated for any potential conflict with the communities plans and goals.
2. All future consumptive uses, except single domestic and stockwater uses, are presently classed as Priority IV. This would include municipal and urban systems. Single domestic housing development would be as Priority III. Please refer to pages 3 to 6 in the impact statement for an explanation of how the priority system will operate. If it becomes necessary in the future to assign municipal uses into a separate category, a special priority for municipal use will be developed.
3. The proposed water source for the nuclear plant is a well system tentatively located near the extreme downstream reaches of the Chehalis Basin. Present and future water users in the area of the proposed well system as well as "upstream water users" in the basin are not expected to be impacted adversely by the withdrawal of water for the nuclear plant.
4. The proposed water management program is compatible with existing local flood plain management programs such as identification of flood plains and restriction of development on the flood plains. Future flood control programs, such as planned reservoirs to control downstream floods, will be closely coordinated with the water program to insure consistency and compatibility of policies, operations, etc.



IN REPLY
REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR

COLUMBIA-NORTH PACIFIC PLANNING OFFICE

1 COLUMBIA RIVER

VANCOUVER, WASHINGTON 98660

January 7, 1976

Mr. John F. Spencer
State of Washington
Department of Ecology
Olympia, WA 98504

Dear Mr. Spencer:

I have reviewed the Chehalis River Basin Water Resources Management Program documents enclosed with your letter of December 23, 1975. The following comments are offered for your consideration in preparing the final reports:

Water Resources Management Program

In item F.3., page 26, the second sentence states that total irrigation water rights are for 2,216 acres. However, figure 4 indicates all of these lands are covered by surface water rights.

Environmental Impact Statement

On pages 21, 23, and 24 the statement indicates that program restrictions on the use of surface water may result in the consideration of storage facilities to make more surface water available for use. In view of this possibility, it would seem appropriate to discuss the impacts that would result from the construction and operation of such storage.

On page 18, item L., the correct agency title is Bonneville Power Administration.

I appreciate the opportunity to review and comment on this water resource management program and would like to receive a copy of the adopted program.

Sincerely yours,

George E. Van Santen

George E. Van Santen
Planning Officer



Save Energy and You Serve America!

RESPONSE TO THE LETTER FROM THE COLUMBIA-NORTH PACIFIC PLANNING OFFICE:

1. The correct interpretation is: 2,216 acres within the Black River Valley are covered by surface water rights. However, only 650 acres are presently irrigated. In other words, not all of the surface water rights are being used.
2. As explained in the introduction to the impact statement and again on page 20, "impacts to be generated by specific projects proposed in the future are not presently foreseeable." When and if reservoir facilities are proposed they will have to be "evaluated environmentally on a case by case basis as they are being considered. Each reservoir that may be proposed will impact individual areas differently and probably each proposal will require its own EIS.
3. The name "Bonneville Power Authority" has been corrected to read "Bonneville Power Administration" (see page 18).



WASHINGTON Department of FISHERIES

DANIEL J. EVANS
GOVERNOR

ROOM 115, GENERAL ADMINISTRATION BUILDING • PHONE 753-6600
OLYMPIA, WASHINGTON 98504

DONALD W. MOOS
DIRECTOR

February 9, 1976

Department of Ecology
Post Office Box 829
Lacey, Washington 98504

Attention Steve Mitchell
Environmental Review

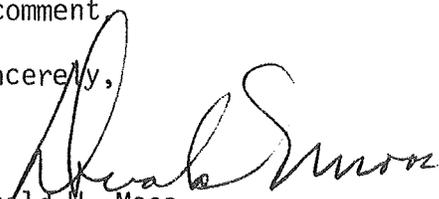
Gentlemen:

Draft Environmental Impact Statement:
Chehalis River Basin
Proposed Water Resource Management Program;
WAC 173-522

We would be pleased if you would make our statement of January 30, 1976 concerning the Chehalis River Basin Proposed Water Resource Management Program an official part and our departmental position on the Draft Environmental Impact Statement concerning the above matter (WAC 173-522).

We appreciate the opportunity to comment.

Sincerely,


Donald W. Moos
Director

bj



DEPARTMENT OF FISHERIES

ROOM 115, GENERAL ADMINISTRATION BLDG.
OLYMPIA, WASHINGTON 98504

Phone: 753-6600

January 30, 1976

DANIEL J. EVANS
GOVERNOR

DONALD W. MOOS
DIRECTOR

Department of Ecology
St. Martin's College
Olympia, WA 98504

Attention Mr. John H. Spencer, Assistant Director
Office of Water Programs

Gentlemen:

Proposed Water Resources Management Program
Chehalis River Basin WRIA 22-23
Chapter 173-522 WAC

The Washington Department of Fisheries appreciates the opportunity to express its views on the proposed Water Resources Management Program for the Chehalis River Basin prepared by the Department of Ecology for the establishment of "base flows" on streams of the basin. We concur with the Water Resources Act of 1971 for the need to declare a base flow level in perennial streams sufficient to provide for the preservation of wildlife, fish, scenic, aesthetic, and other environmental values.

Salmon managed by the Department of Fisheries were declared a food fish by the legislature and are managed in a manner to maintain as high a level of production as possible. Three of the five species of salmon common to this state use the streams of the Chehalis Basin for transportation, spawning, incubation, and rearing. Instream flows of acceptable levels must be maintained or this renewable natural resource valued at over two million dollars annually will suffer serious depletion.

A representative of the Department of Fisheries, along with representatives of other departments, participated in the development of the program. We realized that the methodology being used did not include detailed analysis of the stream flow needs of fish and we were uncertain of what level of fish (and other) values was intended to be preserved but we hoped the final result might provide base flows adequate to preserve basic levels of salmon populations while production (or existing) levels would be protected in selected streams by minimum flows established in accordance with Chapter 90.22 RCW, Minimum Water Flows and Levels.

The Chehalis River system contributes to the Pacific Ocean commercial troll and sport fisheries, the Grays Harbor gill net fishery, the Indian fishery, and the river sport fishery.

Check Draft Note

The 1974 value of the sport fishery was \$1,187,000 and of the commercial catch \$969,000 to the fisherman. The wholesale value of the commercial catch was approximately twice that value and the retail value approximately 2-1/2 times the value to the commercial fisherman. The total 1974 value of Chehalis Basin salmon to commercial and sport fishermen was \$2,156,000. The economic contribution of each of the three salmon species is \$1,383,000 from coho, \$686,000 from chinook, and \$87,000 from chum.

Our analysis of the proposed base flows indicates there will be a reduction in coho salmon production of approximately 26% having an average annual value lost of approximately \$360,000. Losses of other species will be less but have not been quantified.

The Department of Fisheries is responsible for the management of the food fish resource belonging to the people of the State. We recognize, however, that there are other interests and when we consider the broader aspects of surface water allocation in the Chehalis Basin we realize that the proposed base flows may be at the highest acceptable level to preserve general in-stream values.

We ask that three adjustments be made to protect the salmon resource so that the Department of Fisheries may support the proposed Chehalis River Basin Water Resources Management Program:

(1) Upstream adult salmon migration is triggered by fall freshets. Flows must be adequate to permit passage upstream. Virtually all October base flows are grossly inadequate, as are many late August, September, and November base flows. These late summer - early fall inadequate base flows could be improved if the amount of surface water available for appropriation during the low summer month was not increased until November, with the corresponding arithmetic correction to base flows.

(2) Greater flows will be required in selected streams during certain periods to maintain existing fish populations. Unfortunately we cannot state what those flows are at this time so we ask that specific commitment be made to implement the Minimum Flows and Water Levels Statute RCW 90.22. The following paragraph should be added to WAC 173-522:

At such time as the Dept. of Fisheries and/or Game provide specific information substantiating the need for flows higher than the flows set forth in WAC 173-22-020(2), The Department of Ecology agrees to proceed with setting minimum flows as provided under RCW 90.22 within one year from the time of said request, unless agreement to another time frame is reached between parties.

OK →

Department of Ecology
Attention Mr. John H. Spencer
January 30, 1976
Page 3

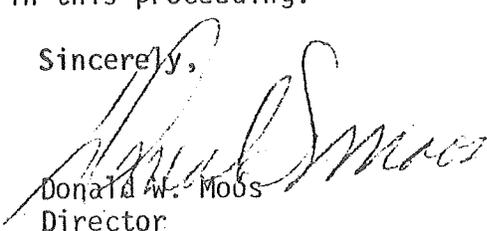
7, 3
(3) The Department of Fisheries is responsible for the management of the food fish resource belonging to the people of the State. We recognize that there are other interests but the public should be fully informed of the impact the proposed base flows will have upon the fishery resource. All documents pertaining to the program should explain the limitations of the program and the emphasis should be shifted from the flows to be retained in the streams to the amounts considered available for appropriation from an already depleted basin.

We also believe that the water quality-quantity aspects should be examined in more detail but this is not one of our requirements. The three adjustments necessary for the Department of Fisheries to recommend acceptance of the proposed Chehalis River Basin Water Resources Management Program are repeated below:

- (1) The amount of surface water considered available for appropriation should not be increased over the lowest summer month until November.
- (2) Minimum flows under RCW 90.22 must be implemented to protect the fishery where base flows are inadequate.
- (3) Descriptions of base flows and their impact should be realistic.

We greatly appreciate the cooperation of Department of Ecology staff members in our efforts to protect the fishery resource. We request that this letter be made a part of the official record in this proceeding.

Sincerely,


Donald W. Moos
Director

sc

RESPONSE TO COMMENTS BY THE DEPARTMENT OF FISHERIES:

In order to address certain concerns from the Department of Fisheries regarding the possibility that specific base flows may not be adequate for in-stream values at certain times of the year, the regulation implementing the management program has been changed to include the following:

At such time as the Departments of Fisheries and/or Game provide specific information substantiating the need for flows higher than the flows set forth in WAC 173-522-020(2), the Department of Ecology agrees to proceed with setting minimum flows as provided under RCW 90.22 within one year from the time of said request, unless agreement to another time frame is reached between parties.

Rt. 2, Box 278
Centralia, Wash. 98531
Jan. 26, 1976

Mr. Dale Ferrier
Hearing Officer
Dept. of Ecology
Olympia, Wash. 98504

Dear Mr. Ferrier:

Below are my comments on the proposed Water Resources Program, Chapter 173-500 WAC, and the Chehalis River Basins, Chapter 173-522 WAC.

1. Change the period of closure of streams in WAC 173-522-050 to only that time when there is no water over the base flows.

Reason: The all year closing of streams is inconsistent with the Water Resources Act of 1971 which states the waters of the State are to be fully utilized for the greatest benefit of the state. For example, WAC 173-522-030 indicates there are 4 cfs of water available for future appropriation in Salzer Creek in May yet this creek is closed to further appropriation all year. It would have been difficult to convince people living along Salzer Creek earlier this month, and last December, with the valley badly flooded, that there was no water in Salzer Creek available for consumptive use at that time. The same factors are applicable to the Skookumchuck River and I presume to all the creeks and rivers proposed to be closed all year.

2. The establishment of Base Flow in WAC 173-522-020 in fact gives wildlife, fish, scenic, aesthetic, other environmental values, and navigational values a right to certain amounts of water. With this right should go certain responsibilities. How is the Department of Ecology going to prevent the diversions of waters from existing channels (therefore creating new consumptive use of water) by the wildlife (beaver)? The present policy or activity by the Game Department is not, in my experience, effective in controlling beaver activity.

3. Include representatives of agriculture, industry, environmental groups, i.e. the public, in setting base flows and, more generally, in establishing the water management program.

The management program of the Chehalis River Basin as presented at the public hearings held in January, 1976, is a typical example of government for the government. I received this impression by reading

in the Draft Environmental Impact Statement that the base flows are set by the Department of Ecology in cooperation with the Dept. of Fisheries, Dept. of Game, Dept. of Natural Resources, Dept. of Highways, Interagency Committee for Outdoor Recreation, and State Parks and Recreation Commission. No farmer, no canoeing club, no fishing club, no hunting club, no forest owner, no one from the private sector of our society! The distribution of the Draft Environmental Impact Statement is a farther evidence of this government for the government policy. One hundred and one copies were distributed according to the list. Ninety-five of those were sent to people identified to be members of some governmental agency. There were no comments included from any private individuals nor any comments reported from the public hearings even though the Environmental Impact Statement reports comments were received.

X
4. Eliminate WAC 173-522-030 because it is redundant. Since a base flow is established for a stream, all waters in excess should be available for allocation. An administrative definition of that amount available for allocation does not allow for seasonal or longer term variation of flow. Nor does it allow for changes which may become apparent as increased data on stream flows are available. If the Department wants to keep a tabulation of what they believe is available for appropriation that is fine. There should be, however, only one criterion for availability for future allocation, namely, the excess over base flow. X

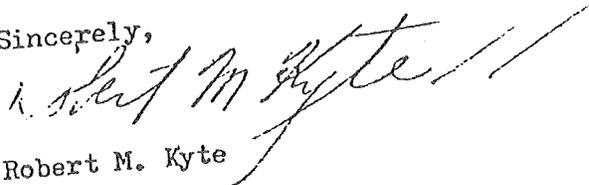
If this argument is not adopted, the specified amounts of water available for allocation should be defined for at least each of the base flow stations defined in WAC 173-522-020 and for each month in the year. This data should be included in the WAC and not be a referenced value from some document not conveniently available to all holders of the WAC.

K
5. In WAC 173-522-020 (3) the base flow hydrographs should be a part of this WAC and not in a referenced document. The reasons are the same as given in point 4 above.

6. WAC 173-500-060 (6) is titled "Base Flow Changes. A better caption would be "Control Station Changes". The paragraph deals with control stations changed and the determination of the base flow at the changed station not the change of any base flow.

I request to be notified of the time and place of the consideration
for adoption of these chapters of the WAC.

Sincerely,

A handwritten signature in cursive script, appearing to read "Robert M. Kyte". The signature is written in dark ink and is positioned above the typed name.

Robert M. Kyte

RESPONSE TO THE LETTER SUBMITTED BY ROBERT M. KYTE:

1. The criteria used to determine closure of streams has now been changed. Streams will not necessarily be closed throughout the entire year. Streams will be closed to further appropriation only during that time of the year when a determination has been made that water is not available for consumptive use. In other words, a water right permit may be issued on a stream which stipulates that water cannot be diverted during specific months of the year.
2. We requested the Department of Game to furnish an answer to Mr. Kyte's second concern. The Department of Game's response follows these comments.
3. The interests of the general public, agriculture, environmental groups, industry, etc., were carefully considered in the establishment of base flows. Their concerns were received at numerous meetings and hearings held during the development of the program. Many of the concerns transmitted to the department have been instrumental in evolving the program. For example, most of the suggestions sent in by Mr. Kyte have been incorporated into the proposed program and some changes have been made in the operations of the program to address Mr. Kyte's concerns.
4. The proposed WAC 173-522-030 has been changed as Mr. Kyte has requested. Please refer to the proposed regulation (Appendix A). "Water available for consumptive use" is determined as described on page 6 in this impact statement. This process appears to be compatible with Mr. Kyte's concepts.
5. The base flow hydrographs are considered too cumbersome to be included in the WAC document.
6. This is an excellent suggestion for a future modification of WAC 173-500-060(6) which has already been adopted. Mr. Kyte's idea will be seriously considered when the WAC is periodically reviewed.

DEPARTMENT OF GAME



600 North Capitol Way / Olympia, Washington 98504

Game Commission
Claude Bekins, Seattle, Chairman
Glenn Galbraith, Wellpinit
Frank L. Cassidy, Jr., Vancouver
Arthur S. Coffin, Yakima
Elizabeth W. Meadocroft, Tacoma
Archie U. Mills, Wenatchee

Director / Carl N. Crouse
Assistant Directors / Ralph W. Larson
Jack S. Wayland

February 3, 1976

Mr. Steve Mitchell
Environmental Review
Department of Ecology
St. Martin's College
Lacey, WA. 98504

Dear Mr. Mitchell:

Your draft environmental impact statement--Proposed Water Resources Management Program, Chehalis River Basin--was reviewed by our staff as requested. Comments follow.

In an administrative sense, the proposed program offers sizeable benefits to fisheries as well as wildlife resources. Perhaps most important is the fact that standards are proposed for instream flows. At present, no effective administrative program seems to exist which insures that instream flows will be maintained at levels capable of sustaining fish life. While the proposed program contains no pat guarantees on this, its adoption and effective implementation would be a major step towards filling the void which now exists.

When viewed strictly from the narrow perspective of fish yields, however, the program has some definite negative aspects. The final draft should acknowledge this, if a complete analysis of impacts on fishery resources is desired. Major among these aspects are reductions in fish production predictable with proposed base flows. In every case, the base flows recommended in this program are below the average low flows now being experienced in basin streams. A long-term net reduction in overall fish production would be expected if the proposed base flows were actually experienced during the period extending from August to October, on a permanent basis. This is explained in more detail in the following paragraphs.

In almost all cases in Chehalis Basin, the low summer flow is the primary limiting factor for maintenance of existing populations of anadromous and resident fish. Low summer flow occurs sometime during the period of the year extending from August to the middle of October. In most cases, these flows are currently not adequate to provide maximum populations of salmonid fish. If instream flows are further reduced, fish population level will be proportionately lower.

September and October flows are especially critical. By this time, fish hatched from gravels (May through July) need more food and space because September and October are the critical growth periods. By withdrawing water during this period, either mortality or reduction in fish size will occur. Salmonids must reach a certain size (varies according to species) in order to migrate the next spring. In addition, reduction in size would seriously affect survival in their downstream migration to the ocean.

By depleting instream flows beyond natural low summer flow, serious water temperature problems could occur. Presently, high summer temperatures in much of the Chehalis system limit fish production. With less water, solar radiation will raise temperatures in many stream sections above 70 F. This would cause fish mortality.

A few additional comments concerning the draft statement and program are included below.

Draft Environmental Impact Statement

Elk should be added to the list of wildlife in Chehalis Basin (V. Existing Environmental Conditions, page 10, paragraph 4).

The discussion of fish and wildlife impacts should acknowledge impacts on fish production, as noted above (VI. Impact of the Proposal on the Environment, C. Fish and Wildlife, pages 21 and 22).

Some impacts on fishery resources were overlooked in the section on water quality (C. Fish and Wildlife, F. Water Quality, page 22). The final draft should acknowledge that allowing additional water withdrawals during summer months could result in higher stream temperatures. This would adversely affect anadromous fish to a serious extent. In addition, any summer withdrawals above those presently experienced would, in many instances, allow higher concentrations of contaminants.

Adverse effects of storage reservoirs on fish and wildlife resources should be acknowledged in the final draft (VII. Adverse Impacts Which May be Mitigated, page 24). Building of storage reservoirs could block anadromous fish passage and limit production of those fish. Storage reservoirs also flood (and thereby eliminate) terrestrial wildlife habitat.

Water Resources Management Program, Chehalis Basin

With regard to the sub-section on basin findings, the following should be noted (pages 16-18). Not only headwater and tributary, but all streams in Chehalis Basin including main rivers are important for spawning, rearing and transportation of anadromous game fish. In addition, many smaller streams are used by anadromous and resident fish (point 0., page 18). The

words "for preservation of anadromous food and game fish, and resident game fish (trout)" should be inserted at the end of point P. It should read as follows: Maintenance of adequate perennial stream flows and water quality is essential for preservation of anadromous food and game fish, and resident game fish (trout).

The information below should be added to the segment, III. Sub-Basin Findings (pages 21-31).

- A. Upper Chehalis--the sixth point made under Newaukum drainage (page 22) also applies to the Upper Chehalis. That is, the Upper Chehalis is important to migrating, rearing, and spawning salmonids. It is also important to the commercial and sport fisheries. In addition, Chehalis Basin is especially important for its production of big game animals (deer and elk) and game birds.
- B. Newaukum--production of big game animals and game birds is important.
- C. Middle Chehalis below Newaukum--production of sea-run cutthroat juveniles is important. Included are transportation, spawning, and rearing areas.
- D. Skookumchuck--Hanaford Creek and the Skookumchuck River are heavily used by anadromous game fish (steelhead and sea-run cutthroat trout).
- E. Middle Chehalis below Grand Mound--anadromous cutthroat are important.
- F. Black--production of anadromous game and food fish is important; wild-life production is important, especially waterfowl and furbearer production; deer are also present.
- G. Cloquallum--production of game animals is important.
- H. Satsop--Satsop River is heavily used by anadromous and resident fish including salmon, steelhead, and cutthroat trout; excellent production of game animals (deer, elk) occurs in this basin also.
- I. to L. Wynoochee, Wishkah, Hoquiam and Humptulips--these drainages have excellent production of game animals (deer, elk).
- M. Lower Chehalis--small creeks are important for production of anadromous cutthroat.

Mr. Steve Mitchell
Page 4
February 3, 1976

Data for R.M. 0.3 of South Fork Chehalis given in Appendix 1 (page 3) should be checked for typographical errors. The $Q_s - Q_b$ figures don't balance with data given for the respective variables. This, of course, affects other figures shown on the chart.

Thank you for sending the draft and proposed program. We hope our comments will be helpful.

Sincerely,

THE DEPARTMENT OF GAME



Eugene S. Dziedzic, Asst. Chief
Environmental Management Division

ESD:jt
cc: Hosea
Agencies

DEC 23 3 52 AM '75

12/26/75

(Date)

TO: John A. Biggs, Director
Department of Ecology

FROM: A. L. MASLEY, MD.
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

Concur

Again an excellent work & congrats to staff involved.

A. L. Masley MD

Response due January 17, 1976

1-8-76

(Date)

TO: John A. Biggs, Director
Department of Ecology

FROM: Neil Newrock
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE

No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

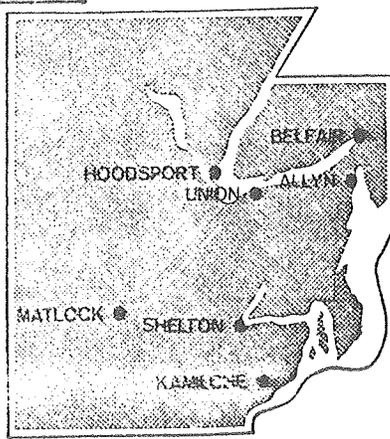
Good Piece of work

*Approved
Neil Newrock
1-8-76*

Response due January 17, 1976

PHONE 426-1351
AREA CODE 206

JAMES E. CONNOLLY
DIRECTOR



MASON REGIONAL PLANNING COUNCIL

P.O. BOX 400 • COURTHOUSE
SHELTON, WASHINGTON 98584

January 14, 1976

Mr. Steve Mitchell
State of Washington
Department of Ecology
Olympia, Washington 98504

Dear Mr. Mitchell:

We have reviewed the draft EIS for the Department of Ecology Water Resources Management Program - Chehalis River Basin.

We have no comments to offer.

Thank you for the opportunity to review this document.

Sincerely,

A handwritten signature in cursive script that reads "James E. Connolly".

James E. Connolly
Mason Regional Planning Director

JEC:ve



UNITED STATES
DEPARTMENT OF THE INTERIOR

DEPT. OF ECOLOGY

GEOLOGICAL SURVEY
Water Resources Division
1305 Tacoma Avenue South
Tacoma, Washington 98402

JAN 20 9 17 AM '76

January 19, 1976

Mr. John F. Spencer
Assistant Director
State of Washington
Department of Ecology
Olympia, Washington 98504

Dear Mr. Spencer:

Subject: Review of the draft environmental impact statement
for the Proposed Water Resources Management Program
Chehalis River Basin

This office has reviewed the subject document and finds it to be generally accurate in its assessment of the impact of the proposed management program on the water resources of the area.

The base flow figures as established were largely based on published streamflow discharges at U.S. Geological Survey gaging stations. There must be some disagreement as to the size of these base flow levels at some sites, and it is reassuring to note that "in the future, the base flow levels will be evaluated periodically. If additional changes are needed to achieve objectives, the base flows will be changed."

Sincerely yours,

J. R. Williams
J. R. Williams
Inquiries Officer

cc:

G. H. Davis, WRD, Reston, Virginia
Attention: G. H. Chase
Acting Regional Hydrologist, WRD, WR,
Menlo Park, California



DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
PO BOX C-3755
SEATTLE, WASHINGTON 98124

NPSEN-PL-ER

12 FEB 1976

Mr. Steve Mitchell
Environmental Review
Department of Ecology
State of Washington
Olympia, Washington 98504

Dear Mr. Mitchell:

We have reviewed your documents on the Water Resources Management Program for the Chehalis River Basin with respect to the Corps of Engineers' areas of responsibility for flood control, navigation and hydropower, and we have the following comments.

Please refer to page 18 of the Revised Review Draft, Chehalis River Basin, Paragraph S. We suggest that this paragraph be rewritten to incorporate the following flood damage information based on 1975 prices and conditions:

| <u>Area</u> | <u>Average Annual Flood Damages</u> |
|-------------------------|-------------------------------------|
| Chehalis (below Satsop) | \$579,000 |
| Wynoochee | 12,000 ^{1/} |
| Satsop | 81,000 |
| Newaukum | 88,000 |
| Skookumchuck | 50,000 |
| Chehalis (above Satsop) | 860,000 |
| Total | <u>\$1,670,000</u> |

1/ With regulation by Wynoochee Dam.

Please refer to page 28 of the same document, paragraph I.1, the last sentence. The Wynoochee Dam is about 52 miles upstream from the mouth of the river instead of 46 miles.

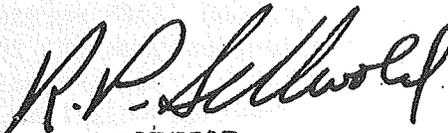
NPSEN-PL-ER

Mr. Steve Mitchell

Since our response was delayed beyond your due date, these comments were transmitted informally to Mr. Stanley Mahlum of your office by Ms. Jean McManus of my staff on 10 February 1976 in accordance with their telephone conversation of 9 February 1976.

Thank you for the opportunity to review these documents.

Sincerely yours,

A handwritten signature in black ink, appearing to read "R. P. Sellevold". The signature is written in a cursive style with a large, sweeping initial "R".

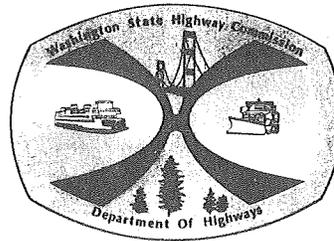
R. P. SELLEVOLD
Chief, Engineering Division

WASHINGTON STATE

HIGHWAY COMMISSION

DEPARTMENT OF HIGHWAYS

Highway Administration Building
Olympia, Washington 98504 (206) 753-6005



Daniel J. Evans - Governor

W. A. Bulley - Director

W. A. Bulley - Director

February 5, 1976

Mr. John F. Spencer
Water Resources Management Program
Department of Ecology
Olympia, Washington 98504

Dear Mr. Spencer:

We have reviewed the November 1975 revised review draft of the proposed water resources management program for the Chehalis River Basin in response to your December 23, 1975 request and have no comments to submit on the program document at this time.

Sincerely,

W. A. BULLEY
Director of Highways

By: 
H. R. GOFF
Assistant Director for
Planning, Research and State Aid

WAB:e1
HRG

Baker Ferguson, Chairman
Walla Walla

A. H. Parker
Bremerton

Howard Sorensen
Ellensburg

Virginia K. Gunby
Seattle

Julia Butler Hansen
Cathlamet

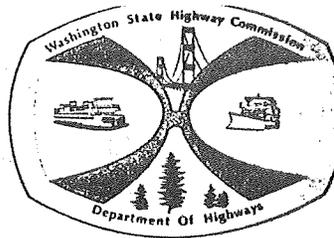
Harold L. Boulac
Secretary

WASHINGTON STATE

HIGHWAY COMMISSION

DEPARTMENT OF HIGHWAYS

Highway Administration Building
Olympia, Washington 98504 (206) 753-6005



Daniel J. Evans - Governor

W. A. Bulley - Director

January 29, 1976

Mr. Steve Mitchell
Environmental Review
Department of Ecology
Olympia, Washington 98504

Department of Ecology
Chehalis River Basin - Water Resources
Management Policy
Draft Environmental Statement

Dear Mr. Mitchell:

We have completed our review of the draft environmental statement for the above project as you requested in your December 23 letter.

The proposal does not conflict with existing or proposed highway facilities in the area.

Thank you for the opportunity to review this information.

Sincerely,

H. R. GOFF
Assistant Director for
Planning, Research and State Aid

Russell Albert
By: RUSSELL ALBERT
Planning Engineer

HRG:eh
RA/RBD

cc: J. D. Zirkle
R. L. Carroll

Jan 10 1976
(Date)

TO: John A. Biggs, Director
Department of Ecology

FROM: C. S. Sargent
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE No. 024

Relating to:

A regulation proposed for the management of the water resources of the Chehalis River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.21A.200 and the request of December 4, 1975, I submit the following views:

I approve.
C. S. Sargent

RECEIVED
JAN 12 1976
ATTORNEY GENERAL'S OFFICE
ECOLOGY DIV.
OLYMPIA

Response due January 17, 1976

JJA

12/31/75
(Date)

Stas

TO: John A. Eidas, Director
Department of Ecology

FROM: *Thomas L. Williams*
Member, Ecological Commission

SUBJECT: REQUEST FOR ADVICE AND GUIDANCE No. 024

Relating to:

A regulation proposed for the management of the water resources of the Cushman River Basin. It consists, among others, of elements pertaining to criteria for use in making decisions on future uses of water, the establishment of flows to protect instream values, and the closure of certain tributary streams to further appropriation, creating Chapter 173-522 WAC.

In accordance with RCW 43.212.200 and the request of December 4, 1975, I submit the following views:

I approve

Thomas L. Williams

RECEIVED
JAN 2 1976
ATTORNEY GENERAL'S OFFICE
ECOLOGY DIV.
OLYMPIA

Response due January 17, 1976

A P P E N D I X D

DEFINITIONS

DEFINITIONS

ACRE FOOT: A unit for measuring the volume of water or sediment. It is equal to the amount of water needed to cover one acre of land with water one foot deep. This is 43,560 cubic feet, or 325,851 gallons.

ALLOCATION: The process of designating specific amounts of the water resource for application to specific beneficial uses or use categories.

APPROPRIATION: The process of legally encumbering specific amounts of the water resource for application to beneficial uses through instruments called water rights.

BASE FLOW: As defined in the Water Resources Act of 1971, 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." RCW 90.54.020 3(a).

CLOSURE: Administrative measure to keep water resources from further appropriation to consumptive uses. Generally, domestic household use and normal stockwatering are exempted when there is no practicable source of supply.

CONFLUENCE: A place of meeting of two or more streams; the point where a tributary joins the main stream; a fork.

CONJUNCTIVE USE: The integrated use of ground and surface water in such a way as to increase the benefits of the use of all the waters of a basin.

CONSUMPTIVE USE: The amount of water used in such a way that it is no longer directly available. Includes water discharged into the air during industrial uses, or given off by plants as they grow (transpiration), or water which is retained in the plant tissues, or any use of water which prevents it from being directly available.

CONSUMPTIVE USE REQUIREMENT (crop): The amount of consumptive use for irrigation each year for a particular type of crop. Measured in acre-feet or feet per acre.

CONTROL STATION: Any measurement site at which a regulatory base flow has been established.

CUBIC FEET PER SECOND (cfs): A unit of measure for the rate of discharge of water. One cubic foot per second is the rate of flow of a stream with a cross section of one square foot which is flowing at one foot per second. It is equal to 448.8 gallons per minute.

DISCHARGE: In simplest form, discharge simply means outflow. The term can describe the flow of water from a faucet or from a drainage basin covering hundreds of square miles.

DIVERSION: Taking water from a stream or other body of water into a canal, pipe, or other conduit.

DOMESTIC USE: Water used by a single household generally including one-half an acre law or noncommercial garden irrigation.

DRAINAGE AREA: The area of land drained by a stream, measured in the horizontal plane. It is the area which is enclosed by a drainage divide.

DRAINAGE BASIN: A part of the surface of the earth that is occupied by a drainage system consisting of a surface stream or a permanent body of water together with all tributary streams and bodies of impounded water (lakes, ponds, reservoirs, etc.).

FLOOD: Any relatively high streamflow or an overflow that comes from a river or body of water and causes or threatens damage.

GAGING STATION: A particular location on a stream, canal, lake, or reservoir where systematic measurements of the quantity of water flowing are made.

GROUND WATER: Water in the ground that is in the zone of saturation. Natural recharge includes water added by rainfall, flowing through pores or small openings in the soil into the water table. Artificial recharge includes adding water to the aquifer through wells.

HYDRAULIC CONTINUITY: A cause and effect relationship between water under the ground with water standing or flowing on the surface.

HYDROGRAPH: A graph showing varying streamflow (or stream discharge) with respect to time during a year as determined at a specific cross sectional location in the stream.

IN-STREAM VALUE: The attitude of society respecting the use of water in-stream for aesthetic, fish and wildlife, recreation, hydroelectric and general environmental purposes.

NONCOMMERCIAL AGRICULTURAL IRRIGATION: Beneficial use of water upon single family tracts of not more than three acres for the purpose of crops and livestock for domestic use.

NONCONSUMPTIVE USE: Use of water in a manner which does not consume the resource. Fishery, aesthetic and hydropower uses are examples of non-consumptive use.

PERENNIAL STREAM: A stream, at any given location, is considered perennial if its natural flow is normally continuous.

PRECIPITATION: The discharge of water, as rain, snow, hail, etc., out of the atmosphere, generally onto land or water surfaces. This is the process which permits atmospheric water to become surface or subsurface water. The term precipitation is often used to describe the amount of water that is precipitated.

PUBLIC WATER SUPPLY: The system for the collection, treatment, storage, and distribution of potable water from the sources of supply to any community, collection or number of individuals, but excluding water supplies serving one single family residence.

RESERVATION: An approved priority claim to water for a future beneficial use.

RETURN FLOW (irrigation): Irrigation water which is not consumed in evaporation or plant growth, and which returns to a surface stream or ground water aquifer.

RELINQUISHMENT: Reversion to the state of a right to divert or withdraw water.

RIPARIAN: Pertaining to the banks of streams, lakes, or tidewater.

RIVER BASIN: The total area drained by a river and its tributaries; watershed; drainage basin.

RUNOFF: That part of precipitation that appears in surface streams. This is the streamflow before it is affected by artificial diversions, reservoirs, or other man-made changes in or on stream channels.

STORAGE: Water naturally or artificially impounded in surface or underground reservoirs.

STREAMFLOW: The discharge or water flow that occurs in a natural channel. The word discharge can be applied to a canal, but streamflow describes only the discharge in a surface stream course. Streamflow applies to discharge whether or not it is affected by diversion or reservoirs.

STREAM MANAGEMENT UNIT: Stream segments, reaches or tributaries, each containing a control station, which are identified as units for defining base flow levels.

WATER RIGHT: A legal right and property interest subject to certain limitations to obtain water from specific sources for application to beneficial use. No water right exists until a permit is issued stating the amount of water and beneficial uses involved. Upon proof of beneficial use, a certificate is issued to the applicant.

WATERSHED: The area drained by a given stream; drainage basin.

WITHDRAW: The administrative procedure of closing a water supply source from further appropriation for an indefinite period of time. RCW 90.54.050(2)

A P P E N D I X E

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