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Instream Flow Protection in the Western United States: A Practical Symposium (March 31-April 1)

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### Protecting Instream Resources in Washington State

Robert F. Barwin

Kenneth Slattery

Steven J. Shupe

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#### Citation Information

Barwin, Robert F.; Slattery, Kenneth; and Shupe, Steven J., "Protecting Instream Resources in Washington State" (1988). *Instream Flow Protection in the Western United States: A Practical Symposium (March 31-April 1)*.

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Robert F. Barwin, Kenneth Slattery & Steven J. Shupe,  
*Protecting Instream Resources in Washington State,*  
*in* INSTREAM FLOW PROTECTION IN THE WESTERN UNITED  
STATES: A PRACTICAL SYMPOSIUM (Natural Res. Law Ctr.,  
Univ. of Colo. Sch. of Law 1988).

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"PROTECTING INSTREAM RESOURCES IN WASHINGTON STATE"

Submitted by

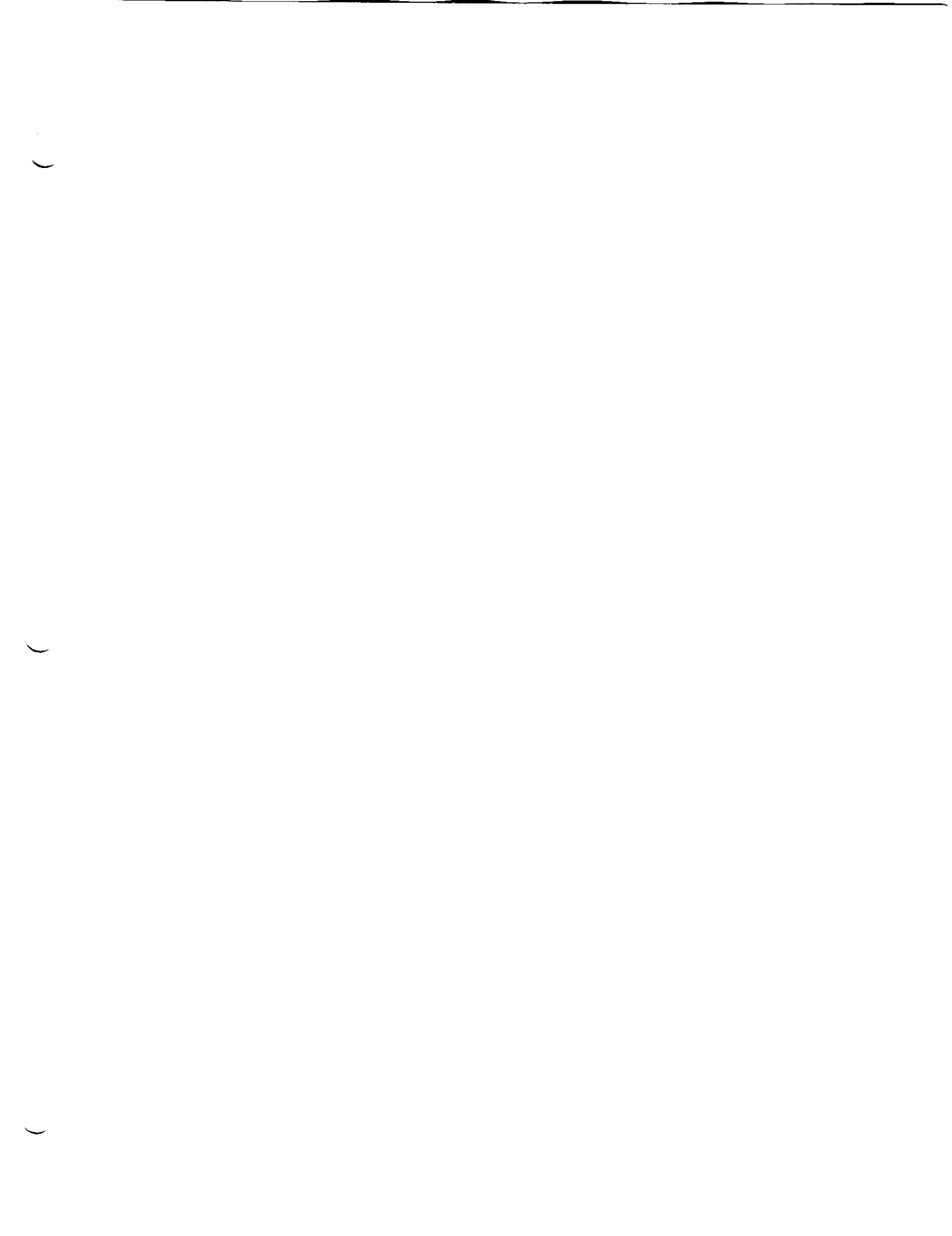
Robert F. Barwin, P.E.1/; Kenneth Slattery 2/; and  
Steven J. Shupe 3/

Prepared for

University of Colorado  
School of Law

Instream Flow Protection in the  
Western United States:  
A Practical Symposium  
March 31 - April 1, 1988  
Boulder, Colorado

March 9, 1988



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## PROTECTING INSTREAM RESOURCES IN WASHINGTON STATE

Instream flow protection statutes have been in existence in Washington state for over 35 years. These laws came about as a result of recognition of losses of important instream resources, and changing perceptions of their value. Historically, many streams in the state, particularly in eastern Washington, were reduced in flow or appropriated to a dry stream bed by extensive diversions of water for consumptive use. Many of these uses were initiated before the state water code established a centralized permit system, and most precede state instream flow laws.<sup>4/</sup> While traditional off-stream uses grew, the in-place values and resources dependent on stream flow, such as fish, wildlife and recreation, have suffered losses.<sup>5/</sup>

These losses have been dramatic in some parts of the state such as the Yakima River Basin where a combination of problems, primarily related to chronic low summer and fall flows, have resulted in near elimination of once large salmon and steelhead trout runs.<sup>6/</sup> Many other Washington stream systems, including the Columbia River itself, have experienced a drastic reduction in the natural in-place values that once thrived. Much of this loss is attributable to unrestricted development of off-stream uses and impediments created by hydroelectric power generation.<sup>7/</sup>

Recognizing these losses, and the benefits to be derived from retaining a balance and diversity of off-stream and instream water uses, the State of Washington began in 1949 to systematically protect instream values through the water rights process. Passage of additional laws since that time have strengthened the status of instream resource values inherent in Washington streams. Under these laws, the Department of Ecology developed a water resources planning and management program that provides substantial protection of instream values. Rapid population growth and the attendant increase in demand for all beneficial uses of water have resulted in heated disputes among competing interests and the state Department of Ecology (Ecology). In late 1985, these disputes resulted in a stalemate regarding instream flow and water allocation

policy setting at the legislative and administrative levels. In 1986, Ecology initiated a comprehensive review of its instream flow and water allocation program. Major changes in the program were proposed that would increase the level of instream protection for most streams, and would require that mitigation be provided by any new water developments that would diminish instream values.

The controversy surrounding Ecology's proposals prompted passage of a legislative bill in March, 1988 that calls for a legislative review of the fundamental water resource policies of the state, particularly in reference to the instream flow and water allocation element of the state water resources management program.

"Protecting Instream Resources in Washington State" looks at recent developments in the context of historical legislative and administrative actions in the state to promote instream flows. Part One presents the legal framework under which Washington state officials have administered water allocation, including instream flow programs. Part Two describes the innovative methods of enforcing instream flow levels in arid central Washington. Such methods include a combination of satellite telemetry, a toll free mandatory call-in number, field checks, and other elements that make this enforcement program an effective model of instream resource protection. The paper concludes in Part Three with an examination of the issues and controversies that are currently at the forefront of instream resource protection in Washington.



## PART ONE: THE LEGAL FRAMEWORK

### I. LEGISLATIVE AUTHORIZATION

Unlike some western states, Washington has long had strong legislative direction to protect instream values. This may be explained in part by political realities in the state. The public in Washington has a high level of interest in and commitment to environmental protection. In addition, Washington's economy has historically depended upon the commercial fishing industry and more recently upon water-based recreational activities. Along with their economic value, there exists a strong emotional attachment to fisheries for sport and commercial purposes.

#### A. The State Water Code

A centralized, state administered water rights system for surface water was established by the State Water Code in 1917.<sup>8/</sup> Under this law, appropriation became the exclusive means of obtaining a new water right. However, existing riparian rights were not eradicated, therefore Washington is viewed as having a dualistic water rights system.<sup>9/</sup> The focus of the State Water Code, like legislation passed in many other western states during the early 1900s, was to provide a state controlled process for allocating water to private use principally for economic development. It did not recognize non-diversionary instream uses as beneficial, nor did it provide meaningful protection of public values other than the general criterion that a new appropriation could be denied if it threatened to be detrimental to the public interest.<sup>10/</sup> Under this code (and aided by development oriented Federal laws such as the Federal Power Act), out-of-stream water development proceeded without regard to preserving instream values.

The natural flow of numerous streams, especially in eastern Washington, became fully appropriated. Large dams for irrigation, flood control and hydroelectric power generation were built on many rivers throughout the state during the first half of the century. This development led to substantial economic and social benefits. However, it also led to an increasing awareness of the losses being suffered by the state's economically significant anadromous fish resources (salmon and steelhead trout). The destruction of habitat and the fish passage difficulties presented by dam development remain a key environmental problem today in Washington and throughout the Pacific Northwest.11/

B. 1949 and 1967 Legislative Acts

The Washington Legislature responded by amending the State Fisheries Code in 1949. Included was a new provision requiring that the state water management agency solicit recommendations from the state departments of Fisheries and Wildlife (formerly the Department of Game) regarding the disposition of proposed surface water appropriations. The statute allowed the water agency (now the Department of Ecology) to deny a permit application if the proposed appropriation would result in lowering the flow of water below that necessary to adequately support food or game fish populations in a stream. Existing water rights were not to be affected.12/

Using general permit conditioning authorities, Ecology and its predecessor agencies have invoked this law to attach low flow conditions on many new water rights in lieu of outright denial. Water rights on approximately 500 streams (mostly smaller streams) have been administratively denied or conditioned with instream flows on a case-by-case basis since 1949.13/ These permits require the curtailment of the off-stream diversion when flows fall below a specified level.

This case-by-case approach was eventually viewed as inadequate by those interests desiring a more systematic, planning oriented approach to water allocation. The 1949 law has no provision for public involvement in the case by case process of establishing flow conditions on water rights or denying them to protect fish.

In 1967, the Minimum Water Flows and Levels Act was passed authorizing Ecology to establish minimum water flows and levels by administrative rule for streams and lakes when requested by the state Departments of Fisheries or Wildlife. A 1969 amendment permits Ecology to establish such flows or levels on the Department's own initiative. Public notice and hearings are required prior to adoption of minimum flows or levels.<sup>14/</sup> Under this statute, Fisheries and Wildlife requested minimum flow establishment on several dozen streams, however, only one minimum flow had been established by the mid 1970s. Ecology and its predecessor agency lacked the necessary resources and expertise to effectively implement this statute.

C. The Water Resources Act of 1971

The Water Resources Act of 1971 is a more comprehensive law than the 1967 Act. It provides specific direction to Ecology for developing a statewide water resources program addressing all beneficial uses including instream flows. It requires that "base flows" be retained in perennial streams except in cases of "overriding considerations of the public interest". The Act also declares a wide variety of water uses including instream uses to be beneficial, and requires that water for future uses be allocated to achieve "maximum net benefits" for the people of the state. It requires that the state water resources program be implemented by Ecology through rule-making procedures. Other important provisions require that

the state vigorously represent its interest before federal and regional authorities, and that the natural interrelationship between surface and ground water be recognized.15/

From 1975 to 1979, Ecology developed a series of comprehensive basin management plans primarily for eastern Washington basins experiencing intense competition for water. Most of these basin plans included establishment of instream flow levels in addition to other water allocation decisions. In 1979, Ecology began the Washington Instream Resources Protection Program, intended to narrowly focus on the establishment of instream flows. These are less comprehensive regulations than the earlier basin management plans in that they do not incorporate water allocation decisions involving any uses other than instream flows. To date, Ecology has adopted six comprehensive basin management plans and eleven instream resources protection programs on some of the most heavily used streams of the state, including the main stem of the Columbia River. A majority of heavily used streams in eastern Washington and the Puget Sound region now have instream flows established for them. These regulations are reviewed periodically, and instream flows may be changed based on new information.16/

## II. PROCESS FOR SETTING FLOW LEVELS

The process outlined in this section generally reflects Ecology's approach to setting flow levels during the period from 1979 through 1985. As discussed in a later section, the establishment of new instream flows has been on hold since late 1985 pending completion of a comprehensive review of the instream flow and water allocation program.

When considering the establishment of instream flows, Ecology assessed the flow needs of fish, wildlife, recreation, scenic, aesthetic, and environmental values, water quality and navigation.

Ecology and the Departments of Fisheries and Wildlife cooperated to carry out Instream Flow Incremental Method (IFIM) studies to determine fish habitat and streamflow relationships.17/ Fish flow recommendations received from agency and tribal biologists were a key consideration. These recommendations were usually at a level that would protect "optimum" habitat conditions for fish.18/

These fish and wildlife recommendations were merged with what was known of the needs for the other instream uses listed above (usually determined through a consultation process with experts). The resulting flows were evaluated with regard to the availability of water to meet these needs (based on discharge duration hydrographs developed by Ecology from stream gaging records). If insufficient water were available to satisfy instream flow needs, Ecology might propose to close the stream to further consumptive appropriation for all or part of the year. Ecology closed numerous streams, especially small ones, on this basis.19/

Alternatively, Ecology often put a hydrologic cap, usually the calculated median flow (50 percent exceedance flow) from a discharge duration hydrograph, on the instream flow levels it was willing to propose for adoption. Generally, Ecology's proposed flows would protect from further degradation at least 90 percent of the optimum habitat for fish species of interest. Ecology's flows were frequently at the "optimum" flow level for a part of the year depending upon a stream's hydrology, and the value of the fishery produced there. Ecology attempted to reach agreement with the fish and wildlife agencies and affected tribes, but this was not always possible. These interests would have preferred that Ecology adopt optimum flows that would protect fish habitat from further degradation.20/

In adopting an instream flow regulation, Ecology followed a standard agency rule-making process involving notice, hearings and a public comment period.21/ The state Ecological Commission also reviewed proposed regulations and could block adoption on a vote of

five or more of the seven members. If approved by the Ecological Commission, the director of the Department made the final adoption decision, and the rules establishing instream flow levels went into effect 30 days after adoption. Aggrieved parties could appeal administrative rules to the state court system.22/

After the adopted rules went into effect, Ecology regional offices commenced with considering water right applications for the affected streams. Any proposed use of water that would result in a diminishment of streamflow (consumptive uses) including wells withdrawing ground water in hydraulic continuity with a stream would be subject to the instream flow levels and stream closures established by the regulation.

Any new consumptive appropriation, storage appropriation, or bypass use (such as a run-of-river hydropower project) would be provisioned to require that the diversion or the capture of water for storage cease when the flow of the stream falls below the instream flow established in the regulation.23/ Applications for consumptive use, storage, or bypass uses on a closed stream would not be approved for the period of closure. A 1979 amendment to the State Water Code clarified that instream flows established by rule are an appropriation with a priority date as of the effective date of their establishment.24/

A number of water uses have been regarded as exempt from instream flow requirements. Applications for non-consumptive, non-bypass uses have been regarded as exempt because they do not have an effect on stream flow.25/ Normally, categorical exemption has also been provided for minor uses such as domestic use by a single residence and riparian stock-watering.26/ In addition, existing water rights have expressly not been affected by newly established instream flow requirements.27/

## PART TWO. INSTREAM FLOW ENFORCEMENT IN THE CENTRAL REGION

### I. SUMMARY OF THE CENTRAL REGION INSTREAM FLOW PROGRAM

The instream flow protection program of Central Washington began with the adoption of basin plans for the Okanogan and Methow River basins in 1976. The plans called for the protection of resident and anadromous fisheries and recreational and aesthetic values in these tributaries to the Columbia River. Under the basin plans, minimum flows were established at several control points on the main stem of each river and on their major tributary streams. In addition, for smaller perennial tributaries where existing water-based development had depleted the flows to zero or near zero levels, new diversions were prohibited seasonally or throughout the year. Ecology adopted an instream flow resources protection program for the portion of the Columbia River from Grand Coulee Dam to the Dalles Dam in 1980. In 1983, a fourth river in Central Washington, the Wenatchee, was included within the instream flow protection program (see Map 1).

The four programs are similar in conception but differ in execution, sometimes strikingly. The minimum flows established in each program reflect the rivers' natural flow hydrograph: Established minimum instream flow levels are at their highest in June or July and their lowest in September or later. The minimum flows adopted by the basin plans and instream resources protection programs in Central Washington have their greatest impact on new irrigation projects.

The Okanogan and Methow River Basin Plans are virtually identical and differ only in the level of the minimum flows adopted (see Table 1). The Wenatchee River program is very similar to the Okanogan and Methow programs but is noteworthy for its case-specific exemption for group domestic and municipal water systems. These uses may be exempted from the minimum flow restrictions if a lengthy list of requirements is met.28/

The Columbia River program is distinguished by an enforcement methodology based upon runoff and power operations forecasts. Enforcement methods for the Columbia River program are triggered by seasonal runoff forecasts and enforcement action is based on weekly operations forecasts (for out-of-stream users) or on instantaneous flow (for in-stream users, e.g. power project reservoir refilling).

If the projected runoff for the Columbia River at the Dalles is below 88 million acre-feet for the April-September period, Ecology requests voluntary conservation by water users. If the projected runoff is 60 MAF or less, water use under permits issued subsequent to adoption of the Columbia River program is restricted if the weekly power operations forecast indicates that minimum flow levels will not be met.



TABLE 1

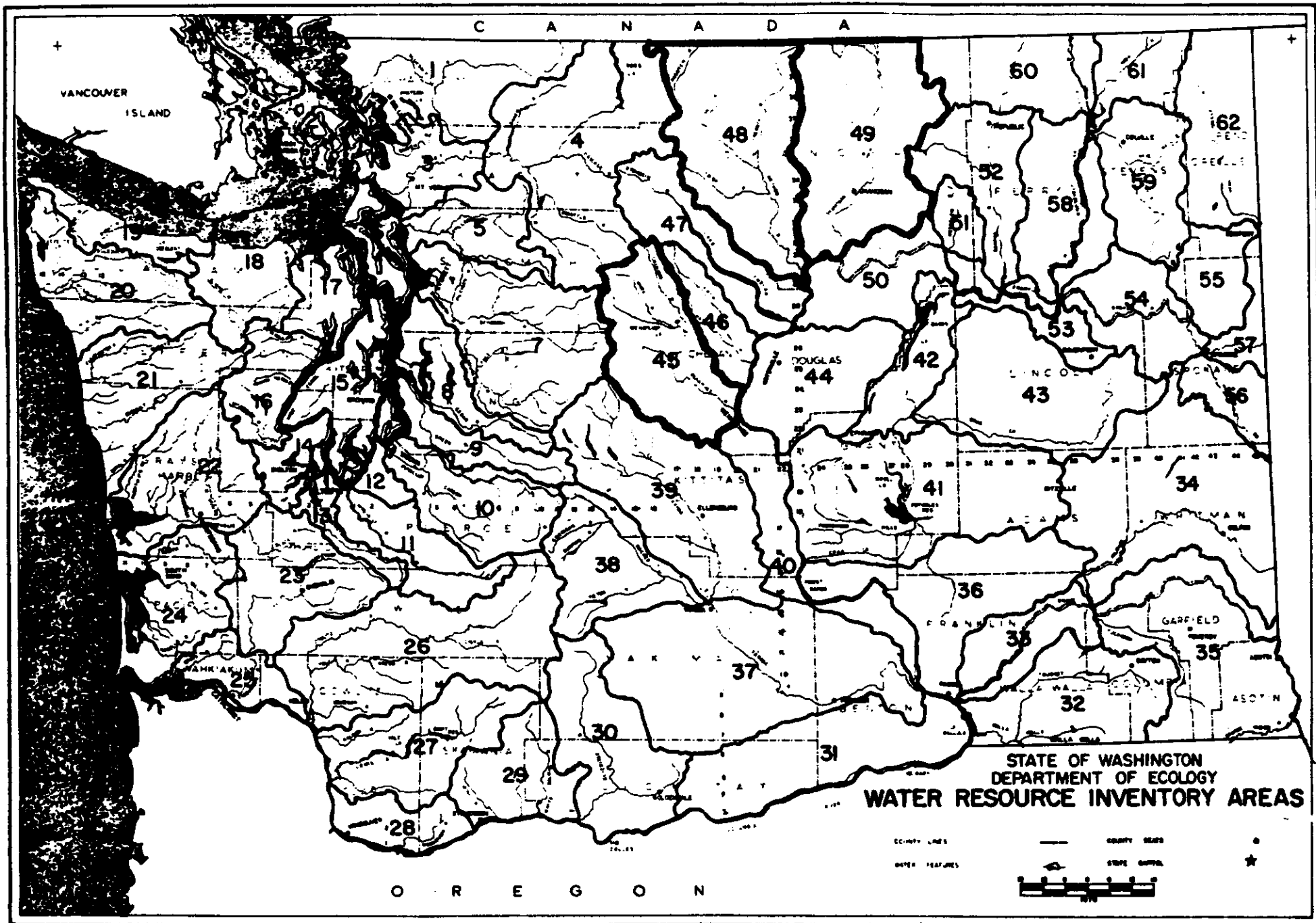
MINIMUM FLOW LEVELS  
 ALL FLOWS IN CUBIC FEET PER SECOND

		OKANOGAN R. nr. Malott	METHOW R. nr. Pateros	WENATCHEE R. nr. Monitor
Jan.	1	860	350	820
	15	830	350	820
Feb.	1	820	350	820
	15	850	350	800
Mar.	1	880	350	800
	15	900	350	1040
Apr.	1	925	590	1350
	15	1100	860	1750
May	1	1750	1300	2200
	15	3800	1940	2800
Jun.	1	3800	2220	3500
	15	3800	2220	2400
July	1	2100	2150	1700
	15	1200	800	1200
Aug.	1	800	480	800
	15	600	300	700
Sept.	1	620	300	700
	15	700	300	700
Oct.	1	750	360	700
	15	960	425	700
Nov.	1	950	425	800
	15	950	425	800
Dec.	1	930	390	800
	15	900	350	800

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MAP 1

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The runoff threshold for triggering curtailment of out-of-stream water users on the Columbia River is set at a level that, based on historic flow-duration data, is expected to be exceeded approximately 95 years in 100. However, the trigger is actually a seasonal forecast and review of the forecasting methodology indicates that in the past 57 years, curtailment of out-of-stream users (under new water rights) would have occurred once.

Historical flow-duration data for the Okanogan, Methow and Wenatchee Rivers indicate that the highest probability for conflict between new irrigation developments and minimum flow protection will occur during August and September. The expected frequency of the minimum flows to be exceeded on these rivers during August and September is approximately 70 years in 100.

After the minimum streamflow levels were established for the Okanogan, Methow, Columbia, and Wenatchee Rivers, each permit for a new water right issued in these areas was made subordinate to instream flow needs. The late 1970s and early 1980s were active times in Washington for new agriculture, and a significant number of water right permits was issued for additional irrigation. In total, more than 300 permits have been issued by Ecology's Central Regional Office subject to instream flow protective conditions. These include 77 in the Okanogan River basin, 61 in the Methow, and 10 in the Wenatchee.

For a number of years, the instream flow conditions on new permits did little to actually protect minimum streamflows in Central Washington. No enforcement attempts were made to shut off junior irrigators during dry times due to limitations in staff, funding, and equipment at Ecology. In 1984, however, the Central Region's ability to effectively conduct an enforcement effort was improved by the purchase of an IBM PC-XT computer. This purchase, combined with telemetered river gaging data available from the U.S. Corps of Engineers, enabled the Central Region to make operational decisions to regulate junior water uses for minimum flow protection. As a

below-average snowpack and a dry summer developed in 1985, Central Region felt ready to initiate its first instream flow enforcement effort.

## II. DIFFICULT LESSONS OF 1985

### A. Overview of the Year's Enforcement Efforts

1985 river flows in Central Washington fell below the designated minimum levels beginning the last week of July. As a consequence, Ecology implemented its instream flow enforcement strategy during the first week of August.<sup>29/</sup> Six Central Region staff began contacting junior water users and posting Notices of State Regulation on their diversion headgates in order to curtail water use. Such postings were the standard way in which Ecology enforces its instructions on rivers and streams to protect senior water rights from injury by junior diversions. These measures to protect stream flows were met with less than full cooperation from water users, and the resultant storm of controversy exceeded expectations. By the end of the month, Ecology faced a class action suit and found itself brought before a hostile public at a meeting called by state legislators.

Many lessons were learned by Ecology during its 1985 enforcement program. A number of technical, legal and procedural limitations made the efforts less than fully successful -- and highly controversial. The lessons of 1985 are reflected in the description of the elements of the program below.

### B. Limitations of Telemetered Monitoring Data

Stream flow data needed for enforcing the minimum flow restrictions was obtained from the Columbia River Operational Hydromet Monitoring System (CROHMS), which is operated by the

U. S. Army Corps of Engineers. This system contains stage and discharge information for many United States Geological Survey (USGS) and public agency gaging stations for the Columbia River and its many tributaries in portions of Oregon, Idaho, and Washington State. The USGS office in Spokane was contacted and ratings for the gaging stations in the Methow, Okanogan and Wenatchee Rivers for the 1985 season were obtained. As Central Region soon learned, these ratings were maintained primarily for flood stage or intermediate river flow stages and in some instances were not accurate for low flow purposes.

Not only were the low flow ratings often inaccurate, but data obtainable through the CROHMS system was typically six to 24 hours old. Only one to three gage heights were available during any 24 hour period, making short-term river flow trends hard to identify and enforcement decisions difficult to formulate. It was sometimes impossible to obtain telemetered stage data for one or more of the stations of interest. Failures sometimes occurred as a result of a problem at the gaging station, but at other times it resulted from a problem with the telemetry system.30/

By August 15, 1985, problems were experienced with the principal stream gage being utilized for making enforcement decisions on the Methow River. The gage near Pateros was not capable of measuring river flows approximately equal to or lower than the adopted minimum flow during the August period, which was 300 cfs. The stilling well at the gage had silted in and the float came to rest on the bottom of the stilling well at approximately the same stage as the river at the 300 cfs level. This made enforcement difficult until the USGS installed a manometer at the gaging station so that flows could be recorded down to approximately 200 cfs.31/

### C. Claims of Prior Water Rights

Many of the water users on the lower Methow River historically had been served by ditches, but with the advent of electrical power in the valley, had converted to individual pump, pipe, and sprinkler systems. When enforcement of the minimum flow limitations began during August 1985, approximately twenty individuals pumping from wells along the river or directly from the river were claiming a right to irrigate their property from a handful of now-abandoned ditches. These individuals had never requested or received an approval of a transfer of their points of diversion from the ditches to their own pumping locations. Instead, many of them filed an application for a new water right, which subsequent to 1976, was conditioned with minimum flow provisions in accordance with the Methow River Basin Plan.

No adjudication to determine the validity and extent of water rights on the Methow River had ever been done, therefore, many of the old water rights that people were alleging to have for their property were based on water right claims. These claims in many instances were documented only by a claim form submitted to Ecology between 1969 and 1974 in response to the Water Right Claims Registration Act of 1969.<sup>32/</sup>

Central Region came under the intense pressure of having to analyze the water conveyance systems for twenty orchards or farms, reviewing documents and statements provided by these water users, and then making an administrative determination as to what the extent of their prior non-interruptible right was. These determinations were administratively handled by having the water users file an application for change of water right. Ecology responded as quickly as possible by issuing temporary changes of point of diversion to transfer their claimed right from the abandoned ditch to the well or river pump in use.



The difficulty with prior water rights was manifest in a different way in the Okanogan Valley. A class action suit seeking an order restraining the Department of Ecology from enforcing minimum flow provisioned permits on the Colville Indian Reservation was brought in the Spokane District Court in August, 1985. A restraining order was issued by that court precluding the Department from taking enforcement action against water users on the reservation without permission having first been granted by the court.33/

The Wenatchee River had its own permutation of the prior rights problem. When Ecology staff posted the diversion of a 1400 acre irrigation district, the District immediately petitioned the Chelan County Superior Court for a stay of the Notice of State Regulation. The District's water right permit had issued during 1984 and was subject to minimum flows because it post-dated adoption of the Wenatchee River Instream Protection Program. It had diverted water continuously since 1906; however, because its Board of Directors had not filed a claim pursuant to the Water Rights Claims Registration Act, the right was deemed to have been forfeit.34/

During the 1985 legislative session a bill was passed that allowed water users a brief period in which to file a claim to any previously unregistered water right.35/ The irrigation district did file a claim subsequent to its request for a stay and appeal of the Notice of State Regulation. The claim of water right was ultimately accepted by the Pollution Control Hearings Board (PCHB).36/ The Chelan County Superior Court granted the petitioner's request for a stay and subsequently, the PCHB ruled in the District's favor 37/ on its appeal of Ecology's Notice of State Regulation.

D. Lack of Prior Public Notice

Another problem with the 1985 enforcement program arose from the fact that advance notice of these actions was not given to water users in the Methow Valley or the Wenatchee Valley. Current property ownership information and telephone numbers of affected Methow Valley water users had not been available. This was not a problem in the Wenatchee Valley (because no interruptible permits were more than 2 years old) or the Okanogan Valley. Advance work in the Okanogan Valley included property ownership research at the County Assessor's Office and compilation of a telephone list of property owners. This work was just completed for the Okanogan Valley when the river flows dropped below the adopted minimum flows. A telephone call during the week prior to posting notices at the pumps of Okanogan Valley water users was generally made. This simple step made a tremendous difference in the attitudes of the regulated water users.

The Methow Valley water users were extremely resistant to our attempts to enforce the minimum flow conditions on their water rights. Sentiment was so strongly against the enforcement program that a number of water users contacted their state legislators. Within ten days of the commencement of the enforcement program on the Methow River, a state legislator called a public meeting for the purpose of having Ecology explain its minimum flow enforcement program. Ecology was intensely criticized for its lack of public participation and public notice of the impending enforcement program.

Wenatchee River water users did not express similar criticisms. This is most likely because no interruptible permit was greater than two years old and the permit holders were well aware of the significance of the minimum flow conditions on their permits. In comparison to many Methow River water users who acquired their permits during 1977, the Wenatchee

River water users received a higher degree of practical and technical information relating to minimum flows when receiving their permits.

E. The Need for Changing Instructions as Conditions Change

During 1985, the total duration when minimum flows were not met on the Okanogan and Methow Rivers extended from the last week of July until September 6, a period of approximately six weeks. The Wenatchee River was below the minimum flows from the first week of August until September 6 and again from the last week of September until the middle of October. For three or four days during mid-August, the Okanogan, Methow, and Wenatchee Rivers rose above the adopted minimum flows.

These fluctuations brought to light the difficulty of advising affected water users that they could resume their water use during the days of higher flows. Central Region's advanced preparation on the Okanogan River did allow contact with water users by telephone to be made in an efficient manner. However, the lack of preparation on the Methow and Wenatchee Rivers left the region without phone numbers to contact those individuals. In many cases, by the time individuals were contacted to tell them they could resume irrigating, river flows fell below the adopted minimum flows and the curtailments again were in effect.

F. Inadequate Civil Penalties

Not all water users abided by enforcement orders issued in 1985 to protect instream. For example, an individual using the Okanogan River to irrigate a 100 acre apple orchard openly resisted attempts to regulate his diversion. Ecology penalized this individual \$1,300 over 13 days. Recognizing that he was perfectly willing to pay the State's maximum penalty of \$100 per day for violating the Notice of State Regulation,

Ecology petitioned the Okanogan County Superior Court for a temporary restraining order. Immediately upon issuance of the temporary restraining order, the individual did, in fact, stop providing water to the orchard.<sup>38/</sup> However, some three to four weeks elapsed between the time of initial enforcement action and when compliance was ultimately achieved.

A second water user diverting from the Lower Methow River was penalized for violation of the Notice of State Regulation posted at his pump on August 2, 1985. The penalty levied for violations during August was \$400. The water user appealed the penalty. A hearing before the PCHB was not held until September 1986.

The PCHB issued a decision upholding the full amount of the penalty and, in addition, was very supportive of the concept that instructions given to water users by Ecology representatives must be followed explicitly. The appellant was claiming a prior water right and therefore chose to ignore the notice placed at his pump and verbal instructions given by Ecology staff. After further research it was determined that a right did exist for a portion of the property but the PCHB found that the appellant should not have ignored Ecology's instructions. Instead, the PCHB stated that the appellant should have worked with the regional office to resolve the difference of opinion.

This very favorable opinion (which has since been reiterated in other appeals) is compromised to the extent that a penalty affirmed more than one year after it is levied does not provide an effective deterrent to violators. Civil penalties with a maximum amount of \$100 per violation were not effective as a tool to stop minimum flow violators during 1985.

### III. IMPROVEMENTS TO THE ENFORCEMENT STRATEGY

#### A. Summary of the 1986-87 Modifications

With the lessons of 1985 behind it, the Central Region set to work to improve its enforcement program in anticipation of the next dry year. Its opportunity to implement a new strategy arrived quickly, as 1986 and 1987 both proved to be years in which minimum streamflow levels were not met in Central Washington.

The foundation of the modified enforcement program was improved information -- both better data for use at the Central Region and better information for the public. Ecology implemented a number of additional steps in its enforcement process to facilitate this flow of information primarily to the junior water users regulated under the program. The goal was to educate the affected water users so that they would understand their responsibilities under the program, appreciate the public values protected by the minimum flows, and have sufficient hydrologic data to manage their water use within the constraints of their interruptible water rights. The new elements in the enforcement procedures, as discussed in the following sections, include:

- a better database for adjusting quickly to changes in the flow regime.
- a semi-monthly letter sent to water users to provide hydrologic data and enforcement information.
- a toll free telephone line for daily updates to river flow and enforcement information.
- public meetings prior to initiation of enforcement measures.

- mailing of regulatory orders to each water user rather than posting notices at headgates.
- field checks supplemented by Notices of Violation issued to non-complying water users.

B. Better Data Management

In order to improve implementation of the minimum flow enforcement program, Central Region expanded its river flow and water use information related to the streams and water users subject to minimum flows. This required an investment in hardware for data acquisition and also labor to review county records to determine the current property owners' names, addresses and telephone numbers so that they could be contacted efficiently.

During 1986 and 1987 Central Region worked with program staff in Olympia to extend Ecology's cooperative program with the USGS to include funding for a GOES Telemetry platform for one gaging station in each of the three river basins.<sup>39/</sup> The lowermost gaging station on each river was selected for installation of a GOES platform. The coop program provides a 50% cost share for the capital expenditure and annual operation and maintenance. The capital cost, including installation, of each platform was approximately \$5,000. The cost of annual operation and maintenance is approximately \$1,200.

The expenditure allows Central Region access to the USGS computer in Tacoma, Washington. Telemetry data from GOES platforms at more than 100 hydrologic stations reside in a users file for USGS cooperators. Stage or discharge data is typically available within two hours of current and can be accessed on a unit value, average daily, maximum, or minimum basis. The unit values are presented at 15 minute intervals

which is useful for determining river flow trends or operational changes by major water users.

Overall reliability of the telemetry system is very high and there were only a few times during 1987 that both stage and discharge data for Ecology's three stations were not available. The CROHMS or TELEMARK systems were also available for acquiring stage data at other gaging stations in the river basins.

Two data management systems are used by Central Region for the direct support of the minimum flow enforcement program. One system utilizes the stage and discharge data acquired through the various telemetry systems and stores the river, reach, date, stage, and discharge for later use to print tabular reports or create hydrographs. The second system contains information relating to the water right permits subject to minimum flow enforcement. The data contained in the file describes the water right, current property owner, mailing address, and telephone number. The file provides the capability to quickly create a telephone list, mailing list, or report pertaining to the physical character of the water rights subject to enforcement. Maintaining the accuracy of the data in this system requires cooperation with the county assessor's office to obtain updated property ownership information.

#### C. The Semi-monthly Letter

A semi-monthly letter is mailed to all affected water users, local government officials, and media. These letters are sent during the period from April through July. Each letter provides a summary of information contained in the most recent U.S. Weather Service and Soil Conservation Service Water Supply Outlook. Also included is general river flow trend information for the preceding two weeks. With this

information, the affected water users can formulate a strategy for the upcoming 30 to 60 days. Each letter is also tailored to a single river basin; therefore, three different letters are used to inform all of the potentially regulated water users of the current conditions.40/

D. The Toll-Free Information Telephone Line

If the river flow forecasts indicate the probability of actual river flows falling below the adopted minimum flows, the toll free information line is activated during June and is operated through October. The information line provides a pre-recorded message which advises water users of the actual gaged flow, the minimum flow, instructions as to whether water users with minimum flow provisioned rights may divert water or not, and when the message will be updated next.

During the early part of the summer, the information line is utilized to make daily river flow data available to anyone interested. The "800" telephone number is contained in every semi-monthly advisory letter mailed during the April through July period. A simple telephone answering machine is utilized and a prerecorded message is placed on the answering machine every afternoon between 4 PM and 5 PM. The message is kept to a 2 minute maximum length so that callers will not be required to wait an excessive amount of time. A consistent format is maintained throughout the year to allow callers to become familiar with the message and immediately recognize what portion of it is pertinent to them. A principal concern for the consistent format is that the message becomes a part of the enforcement program when minimum flows are not met; every attempt is made on Ecology's part to minimize confusion that could form the alleged basis for noncompliance by an interruptible permit holder with the instructions contained in the message.



Utilizing the present day river flow trend and the USWS weather forecast, instructions are generally given to the water users one day in advance. Many of the water users in the Okanogan, Methow, and Wenatchee River basins hold off-farm jobs during the day. By providing the updated message every afternoon, these water users can call the information line after work and make whatever adjustments are necessary that night or before leaving for work the following day.41/

#### E. Public Meetings

Public meetings are held each year during June or July in each of the basins likely to be subject to water use curtailments. The purposes of the meeting are to provide information about the basin plan or instream flow program, explain the methods of enforcement, review the most recent runoff forecast and recent river flows, and to provide the affected water users, local officials and legislators an opportunity to question the Department staff.

Notice of the public meetings is provided in two ways. First, the date and place of a meeting is given in one or two of the semi-monthly letters preceding the meeting. Second, one of Ecology's press information officers prepares a press release for distribution to local media and also prepares a notice which Ecology pays to have run for two weeks prior to the meeting.

The public meetings are conducted in a semi-formal manner and are moderated by one of Ecology's public information officers. Ecology makes a two part presentation: An overview of the purpose and statutory authorities of Ecology's minimum flow and basin planning program by Water Program staff, and an overview of the minimum flow enforcement program by Central Region staff. After Ecology's presentation, an opportunity is

given to any attendees who wish to make a statement or to ask questions pertaining to procedures, policies, or technical issues. Local elected officials and legislators commonly attend and have been active meeting participants at the 1986 and 1987 meetings.<sup>42/</sup> Fisheries biologists from the Department of Wildlife and Department of Fisheries have also attended to assist Ecology representatives with technical biology and fishery management questions.

#### F. Regulatory Orders

Regulatory orders are sent to water users when it appears likely that river flows will fall below the adopted minimum flows.<sup>43/</sup> These orders require the water user to follow the instructions provided by the toll free information line. Mailing the administrative orders to all of the water users with interruptible permits subject to instream flow provisions saves approximately four staff-weeks of labor when compared to the 1985 practice of posting Notices of State Regulation at each diversion point. The savings realized by the regional office are sufficient to offset a large fraction of the time spent on the informational letters, public meetings, and daily updates to the river flow information line.

Preparation of the orders is straightforward because each order is different only to the extent that it identifies the water user, the water right the order pertains to, and the river and reach at which the minimum flows on each water right permit are measured. Identification of the water user and the mailing address is easy because it is merely a subset of the mailing list maintained for mailing of the semi-monthly advisory letters. The total time required by two professional staff to prepare more than 100 orders issued for the 1987 program was approximately one day. Document processing and mailing requires an additional two days by one word processing operator.

#### G. Field Checks and Notices of Violation

During periods of water use curtailment, one or two Ecology personnel contact regulated permit holders to discuss and observe their actual water use.<sup>44/</sup> If the water use is not consistent with the minimum flow curtailments then in effect, the problem is discussed with the water user and a Notice of Violation is issued. Based upon the response of the water user to the Notice of Violation, further enforcement steps or a penalty may be issued.<sup>45/</sup>

#### IV. CONCLUSION

It is clear that a minimum flow enforcement program cannot realize its full potential without a permitting program that informs prospective water users of the need for minimum flows and their responsibility to follow directions given by Ecology staff in order to comply with the permit requirements. Similarly, strong statutes and permits without an appropriate enforcement program will fail to protect minimum instream flows. An effective minimum instream flow protection program is one that has adequate legislative "backbone", an open process for development of rules and regulations, a thoughtful water right permit process that identifies and resolves questions relating to existing claims and rights, and an enforcement program that has maximum civil penalties sufficiently high to act as a deterrent to flagrant violators.

V. 1987 ENFORCEMENT CHRONOLOGY IN THE OKANOGAN VALLEY

- March 1 April-September forecast for Columbia River runoff at the Dalles released indicating low flow conditions. Ecology required to encourage voluntary conservation. Columbia River restrictions affect the lowermost 17 miles of the Okanogan River, which is backwatered by Wells Dam.
- March 31 Completion of water user database updates that catalogue the owners of the interruptible water right permits and related data.
- April 14 News release issued advising Columbia River water users of low runoff forecast and request for voluntary conservation.
- April 15 -  
June 10 A series of five runoff forecast advisory letters is sent to permit holders describing current low flow conditions and elements of the instream flow program.
- June 15 Toll free telephone line is activated, providing daily river flow messages to callers.
- June 19 Okanogan River approaches minimum flow enforcement level.
- June 24 Enforcement orders sent to interruptible permit holders in the Okanogan Valley.
- June 29 Okanogan River falls below minimum flow enforcement level. Message on the Toll-free line instructs interruptible permit holders to cease diversion.
- July 2 Sixth runoff forecast advisory letter mailed.

July 7 Okanogan River rises above the minimum flow enforcement level. Interruptible permit holders allowed to resume diversion.

July 7 Okanogan public meeting held to discuss the instream flow enforcement procedures. Approximately 40 people attend.

July 21 Four Notices of Violation sent to water users found not in compliance with conditions on their water right(s).

July 25 Okanogan River falls below minimum flow enforcement level. Message on the Toll-free line instructs interruptible permit holders to cease diversion.

July 28 Okanogan River rises above the minimum flow enforcement level. Interruptible permit holders allowed to resume diversion.

August 5 Okanogan River falls below minimum flow enforcement level. Message on the Toll-free line instructs interruptible permit holders to cease diversion.

August 14 Letter describing Ecology policy regarding water right transfers sent to all Okanogan River interruptible right holders.

August 17 Okanogan River rises above the minimum flow enforcement level. Interruptible permit holders allowed to resume diversion.

August 25 Similkameen River (tributary to Okanogan) falls below minimum enforcement level. Message on the toll-free line instructs interruptible permit holders to cease diversion.

August 27 - Okanogan River falls below minimum flow enforcement  
October 31 level. Message on the Toll-free line instructs  
interruptible permit holders to cease irrigation.

November 3 Toll free telephone line inactivated following the  
end of the irrigation season.

December 31 Penalty sent to one water user. (\$100)

### PART THREE: ISSUES AND CONTROVERSIES

Instream flows have become a controversial, divisive issue in Washington during the 1980s. As Ecology proceeded to establish increasingly higher instream flows and new stream closures on a basin-by-basin basis, prospective out-of-stream water users became increasingly concerned about securing water supplies to meet projected future needs. These users argue that the state's rapid population growth (about twice the national average) portends a need for more, not fewer, options to secure water for human domestic needs, energy, industries, commercial use and agriculture. They are concerned about the higher cost of water and energy that will result if they are forced to rely on sources other than natural flows (e.g. storage or ground water). They advocate that Ecology balance the allocation of remaining surface waters between instream and out-of-stream use.

Fisheries, tribal, recreational and environmental interests on the other hand view Washington's growth and the new demands associated with it as a threat to important instream uses. These interests argue that out-of-stream use has historically received more than its fair share of water without regard to losses of instream values, and that the remaining instream resource should be fully protected from further impacts. They are concerned that Ecology has proposed and adopted instream flows at a level lower than the optimum flow for fish, wildlife, recreation and aesthetics. They assert that this will eventually result in further incremental losses of the instream values that a growing population will need to perpetuate the quality of life that attracts people to the state in the first place. They do not accept the suggestion that a balance be struck in allocating remaining surface waters between instream and out-of-stream uses. They assert that historically allocation has been unbalanced in favor of out-of-stream use in that growth of these uses should be met through stringent conservation of existing appropriations.

Washington's instream flow statutes contain ambiguities making it unclear what level of protection should be provided by instream flows.

Use of the words "minimum flow" and "base flow" in the statutes seems to imply that a relatively low level of flow should be maintained. However, the statutory objective of such flows is the "protection" or "preservation" of instream resource values.<sup>46/</sup> With the advent and use of the Instream Flow Incremental Method, it has become increasingly clear that full protection or preservation of fish habitat (and by implication fish populations) is not possible if only a relatively low level of flow is protected from diversions. The use of undefined terms, in the legislation thus creates a difficult paradox. It is also unclear in the statutes whether Ecology is required to balance among uses. Ecology's interpretation is that the law requires that instream flows be regarded as a higher priority than future out-of-stream uses. All existing rights are a higher priority than either new instream flows established by regulation or future out-of-stream rights. In attempting to strike a balance in the past, it is evident that Ecology has satisfied neither prospective water users nor fisheries and environmental interests.<sup>47/</sup>

The state legislature considered, but did not pass, instream flow legislation during three recent legislative sessions that would have addressed these ambiguities.<sup>48/ 49/ 50/</sup> Several of these bills supported by fisheries and environmental interests would have required Ecology to set instream flows at optimum levels for fish and other instream uses. These bills were met with very strong opposition from agricultural, municipal and hydropower development interests. Even a relatively innocuous study bill failed to pass the 1986 session.<sup>51/</sup>

#### I. A COMPREHENSIVE PROGRAM REVIEW

In January 1986 Ecology suspended establishment of new instream flow regulations and initiated an in-depth administrative review of its instream flow and surface water allocation program. A broad-based advisory committee representing the spectrum of water resource interests was established to assist in the review and to seek agreement on recommendations to Ecology on the course and form



of future surface water planning in the state. Due to the divisiveness of the issues, the advisory committee was unable to reach consensus recommendations although a number of ideas were recommended for Ecology's further consideration.52/

Early in the program review process, Ecology decided to prepare a programmatic (non-project) environmental impact statement for the planning program under the authority of the State Environmental Policy Act (SEPA) and its implementing regulations.53/54/ The rationale for this decision was that the SEPA process provides an excellent vehicle for identifying and evaluating alternatives and for involving the public in agency decision-making. An additional consideration was that compliance with SEPA would be necessary when it became time to implement program changes through adoption of state administrative rules.

Ecology published a Draft Environmental Impact Statement (DEIS) for the program review in February, 1987. The DEIS evaluated five alternative planning approaches, including options for instream flow standards. These alternatives are summarized in the following section.

#### A. Initial Alternatives

Each of the five conceptual alternatives was based on different objectives, standards and criteria. Implementation of some of these alternatives could require statutory changes as well as changes in existing Ecology regulations. The alternatives included 1) continuation of the status quo (no action), 2) emphasis on water supplies for out-of-stream development, 3) emphasis on instream resource protection, 4) a balanced assessment and allocation approach, and 5) an approach emphasizing coordination and consistency with other resource management plans.

Alternative 1 - The no action (status quo) alternative would continue the current (pre 1986) allocation system and instream flow protection objectives. The present program focuses on preservation of instream flows to protect no less than 90 percent of optimum habitat for fish as indicated by an Instream Flow Incremental Methodology study, with instream flows generally not to exceed the 50 percent exceedance flow on a discharge duration hydrograph. Other instream resources are also informally assessed and factored into this flow determination. Under Alternative 1, planning would continue on the basis of individual water resource inventory areas. Consideration of future out-of-stream needs would be minimal and water conservation would not be emphasized. The maximum net benefits test, required by the Water Resources Act for allocating water to future uses, would not be precisely defined and would be considered case by case.<sup>55/</sup>

Alternative 2 - The out-of-stream use alternative would emphasize water availability for diversion. Instream resources would be addressed by adopting a "survival" level of instream flow predicated on preventing extinction of fish and other instream resources. Maximum net benefits would determine the preferred future uses of water remaining in excess of existing rights and the survival instream flows. Water conservation measures would be financed by the state.

Alternative 3 - The instream protection alternative would emphasize preservation and enhancement of instream resources. Optimum instream flows would be set based on fisheries needs and those of other instream resources. Conservation measures would be required for new and existing uses of water. A maximum net benefits test which incorporated environmental as well as socioeconomic criteria would be developed and applied only to water allocations for future use in excess of the optimum instream flow.

Alternative 4 - The needs assessment and allocation alternative would assess and provide for the needs of both instream and out-of-stream uses. This strategy would emphasize a three-tiered planning approach. Statewide policies, guidelines and priorities would be established, regional plans would assess water needs and evaluate use preferences, and basin plans would set instream flows consistent with the regional plans. No use priorities or criteria are included in the alternative. Instream flow levels could vary from survival to optimum levels depending on the outcome of regional and basin planning. A statewide conservation program would be implemented. Criteria for applying a maximum net benefits test would be developed and applied to allocations of water to future uses (including instream flows) in excess of the "survival" flow level.

Alternative 5 - The coordinated resource planning alternative would establish instream flows consistent with the policies and resource management activities of agencies responsible for those instream resources. This alternative would focus on interaction with other agencies' planning for fish, wildlife and other instream resources. Instream flows would be set at optimum only when needed to support other agencies' management plans. On streams for which management plans do not require these levels, instream flows could be set as low as the survival level. If, at the time an existing instream flow was under review, full beneficial utilization of the instream flows had not occurred as a result of the management practices of the responsible resource management agency, Ecology could revise flows downward to as low as survival levels. Voluntary water conservation would be encouraged. A maximum net benefits test would be developed, but would not be applied to instream flows regardless of the level established.

Ecology did not select a preferred alternative in the DEIS. Expected environmental and socioeconomic impacts of the five

alternatives were evaluated and the DEIS also contains a detailed analysis of alternatives on specific water resources issues.56/

Approximately seven hundred copies of the DEIS were distributed to interested persons. Ecology received a large volume of public commentary regarding the DEIS alternatives through seven public hearings and by mail. Environmental groups, Indian tribes and fish and wildlife agencies generally supported alternative 2 (instream emphasis). Water and electrical utilities for the most part supported alternative 4 (needs assessment and allocation). Agriculture generally preferred alternative 1 (status quo).

#### B. The Preferred Alternative

After a careful assessment of the public comments, Ecology decided to publish a proposed preferred alternative as an intermediate step before publishing a final EIS. The proposed preferred alternative, published in November 1987, consists of a combination of elements taken from several of the original DEIS alternatives. The objective of the proposed preferred alternative is to protect existing instream resources while addressing future off-stream needs and to promote conservation and efficiency of use in the management of state waters. Key elements of this alternative include the following:

- 1) Current levels of instream resources will be maintained through establishment of instream flows providing for full protection of these resources.
- 2) A strong conservation and efficiency program will be an integral part of the state's water resources program.
- 3) Both instream and off-stream needs will be assessed through regional or basin plans (as appropriate).

- 4) All reasonable alternatives to establishing new surface water diversions (such as ground water and efficiency improvements) will be assessed before diversions are approved.
- 5) If approval of a new surface water diversion is necessary that would be subject to instream flows lower than those that would provide full protection of existing instream resources, the proponent shall provide acceptable mitigation for the loss of instream resources.

This approach would incrementally increase the level of protection for instream values from future surface water development compared to the status quo. It would attempt to direct new development to ground water and to increasing the efficiency of use under existing water rights. Where no alternative source were available, Ecology could approve a new surface water diversion with lower instream flows if it found that "overriding considerations of the public interest would be served".57/

Under the preferred alternative, Ecology would develop basin and regional water resources management plans. It would be assisted in this by advisory committees consisting of representatives of a cross section of water interests in a basin or region. The advisory committee would be used to attempt to seek consensus on a broad range of issues including specific instream flow levels, preferred sources for new water developments, and preferred mitigation strategies.58/

Two public workshops and numerous meetings with interested groups were held in late 1987 to discuss the proposed preferred alternative. Ecology has received numerous comment letters from a full range of water interests. The preferred alternative is generally supported by environmentalists,

recreation interests, tribes, and fish and wildlife agencies. Objections have been raised primarily by water supply utilities. Utilities believe the proposal could result in higher costs for development of new water sources due to the higher instream flow levels, the requirement to exhaust alternatives before considering new surface water development, and the requirement to mitigate for losses of instream resources if new development is approved subject to flow that provide less than full protection.

Until February 1988, when legislative action became likely, it was Ecology's intention to refine the preferred alternative for inclusion in the final EIS. After the final EIS was published, Ecology would have begun development of a statewide implementing regulation. This probably would have involved amendment of an existing outdated regulation that implements the 1971 Water Resources Act.<sup>59/</sup>

#### C. 1988 Legislative Actions

In February 1988 agricultural and municipal interests were influential in having a legislative bill introduced that would block implementation of the preferred alternative pending a process of mediation among all water interests and a subsequent legislative review of the fundamental water resources policies provided in the Water Resources Act of 1971.

Environmental and fisheries interests opposed the bill, preferring that Ecology proceed with implementation of the preferred alternative. A compromise was struck in early March 1988 that changed the process from one of mediation to "fact-finding" with more direct involvement of a joint select committee of legislators. The joint select committee will examine the fundamental water resources policies of the state,

review Ecology's implementation efforts and proposals, and will recommend any necessary statutory changes by the end of 1988.

Under the amended bill, Ecology is prohibited from altering the current guidelines, standards and criteria governing the instream flow and water allocation program. In addition, the bill prohibits Ecology from adopting any new water supply reservations (for future use) and issuing any new permanent surface water rights. These provisions expire after June 30, 1989.

The bill passed the State House of Representatives unanimously and received the strong concurrence of the Senate. Governor Booth Gardner is expected to sign the bill into law. Ecology expects to work closely with the joint select committee in the fact-finding process and subsequent efforts.60/

To help implement the objective of increased efficiency of water use, Ecology drafted a legislative bill for consideration during the 1988 legislative session. The bill authorizes and funds a nine month water use efficiency study for the state. The focal point of the study is to identify incentives and disincentives in the law that affect the state's ability to achieve improved efficiency of use. The study will result in recommendations to the legislature and the governor for fostering greater water use efficiency. The bill was amended and passed by both houses of the State Legislature. The Governor is expected to sign the bill into law.61/

## II. CONCLUSIONS

Washington's Instream Resources Protection Program and more generally its water allocation program face some difficult issues that have required a reexamination of the statutory foundations of the program, and a redefinition of water planning and management objectives. The central question the state is attempting to answer is what is its water future to be. It has become clear that further surface water development without full protection of instream values will incrementally reduce those values, thus impacting economies and life-styles. Loss of instream resources is a cost that has been traditionally borne by the public at large.

On the other hand, stricter controls on future water diversions could make expensive and environmentally problematic storage more necessary, would transfer development pressure to already hard-pressed groundwater resources, and could substantially increase the cost of water for out-of-stream water users, with those costs ultimately borne by consumers.

Ecology's Instream Flow and Water Allocation Program Review began that needed reexamination. What emerged was an identified need for better and more comprehensive water planning at three levels; statewide, regional and local. Ecology evaluated five alternative water planning and management strategies, published a preferred alternative, and was preparing to make major changes in the program during 1988.

As a result of passage of new legislation in 1988, the state legislature will be undertaking its own examination of these issues for the remainder of 1988. A separate bill was passed authorizing a thorough examination of water use efficiency in the state. Changes in the state's fundamental water resource policies could occur in 1989 as a result of these efforts.



FOOTNOTES

- 1/ Robert F. Barwin is the supervisor of the Technical Investigations and Enforcement Section, Central Regional Office of the Washington State Department of Ecology, Yakima, Washington.
- 2/ Kenneth Slattery is an Environmental Planner, Water Resources Program, Washington State Department of Ecology, Olympia, Washington.
- 3/ Steven J. Shupe is the President of Shupe & Associates and combines an engineering and legal background as a water consultant based in Santa Fe, New Mexico.
- 4/ Irrigation is the predominant consumptive use of water in semiarid eastern Washington (about 1.5 million acres), while increasing municipal, domestic, energy and industrial demand for surface water is occurring in western Washington.
- 5/ Washington State Departments of Ecology, Fisheries and Game, Instream Resources Protection Study Report (Olympia, WA: Department of Ecology, January, 1986), p. 1.
- 6/ Northwest Power Planning Council, 1987 Columbia River Basin Fish and Wildlife Program (Portland, OR: February, 1987), p. 109.
- 7/ Washington State Department of Ecology, Columbia River Instream Resources Protection Program (Olympia, WA: June, 1980), p. 25.
- 8/ Washington, Chapter 90.03 Revised Code of Washington.
- 9/ Ralph W. Johnson, "Riparian and Public Rights to Lakes and Streams" Washington Law Review 35 (1960), p. 586.
- 10/ Washington, Revised Code of Washington 90.03.290.

- 11/ Northwest Power Planning Council, 1987 Columbia River Basin Fish and Wildlife Program, p. 3.
- 12/ Washington, Title 75 Revised Code of Washington.
- 13/ Washington State Department of Ecology, Washington's Water Resources Program: Eighth Biennial Report to the Legislature (1985 and 1986) (Olympia, WA: January 1987), p. 5.
- 14/ Washington, Chapter 90.22 Revised Code of Washington.
- 15/ Washington, Chapter 90.54 Revised Code of Washington.
- 16/ Washington State Department of Ecology, Washington's Water Resources Program: Eighth Biennial Report to the Legislature (1985 and 1986), (Olympia, WA: January, 1987) p. 6-10.
- 17/ The Instream Flow Incremental Method (IFIM) was developed by the U.S. Fish and Wildlife Service, Aquatic Systems Branch in Fort Collins, Colorado. It is a method calling for development of a hydraulic model of a stream and relating hydraulic conditions at various discharge rates to the known habitat preferences (for depth, velocity, substrate and cover) of fish species and lifestages of interest. The result of this analysis is a table or curve relating a habitat index to discharge for each species and lifestage.
- 18/ "Optimum" flow is term used by fishery biologists to denote the peak of a curve relating a fish habitat index to discharge. It is a term of convenience that evolved as a shorthand way of saying "the discharge that would result in the maximum amount of available fish habitat over the range of possible discharges, according to an IFIM study."

- 19/ Stream closures are not specifically authorized by statute. The basis of authority claimed by Ecology for closing streams is the State Water Code (RCW 90.03.290) wherein it is provided that an appropriation permit may be denied if it would be detrimental to existing water rights or the public interest. On streams that have been closed, Ecology is still obligated to fully evaluate and address appropriation applications, though they would normally be denied.
- 20/ Washington State Departments of Ecology, Fisheries and Game, Instream Resources Protection Study Report, p. 10-11. On several occasions, fisheries agencies and individuals have attempted independently to obtain appropriative water rights for instream flows. There is also a contention that instream flow rights could be created by purchasing or condemning off-stream water rights and applying for a change of use. Ecology has opposed these approaches in the past because, 1) by providing a process, the Legislature apparently prefers that instream flows be established by rule, 2) the customary requirement that a storage or diversion works be installed to establish a water right, and 3) the requirement that a point of diversion and specific place of use be specified (for a conventional water right).
- 21/ Although Ecology has preferred to set instream flows by administrative rule, new water diversion applications continue to be conditioned for instream flow protection on a case-by-case basis in accordance with the Department's discretionary powers under the State Water Code and State Fisheries Code. This is necessary in areas of the state not yet addressed by instream regulations.
- 22/ Ecology has successfully defended its adopted instream flows in several court challenges before the state Pollution Control Hearings Board.

- 23/ Ecology would not ordinarily require that water be drafted from storage to benefit instream flows unless flow augmentation was a specific project purpose.
- 24/ Washington, Revised Code of Washington 90.03.345. This was passed as an amendment to clarify the legal status of adopted instream flows relative to junior water rights.
- 25/ Washington, Revised Code of Washington 90.22.010 and 90.54.020 (3) (a).
- 26/ Washington, Revised Code of Washington 90.22.040. This specifically provides that riparian stock-watering is a use for which instream flows are to be established. Single domestic uses are normally granted for only 0.01 or 0.02 cubic feet per second and are regarded as having an insignificant effect on stream flow.
- 27/ Washington, Revised Code of Washington 90.22.030 and 90.54.900. These statutory provisions provide that existing water rights are to be unaffected by the establishment of "minimum" or "base" flows.
- 28/ Washington, Chapter 173-545 Washington Administrative Code, and Standard Operating Procedures for Implementation. An applicant for group domestic use or municipal supply may request exemption from the instream flows contained in Chapter 173-545 WAC. To be considered, the request must be in writing and signed by the applicant. The request must include the following: a) A listing of other existing sources and quantities withdrawn by the supplier; b) The water supply service area and the number and type of customers to be served by the proposed withdrawal; c) A water conservation plan outlining means for effecting a significant reduction of water demand during low flow periods; d) Alternative sources of water considered and the analysis performed leading to rejecting alternatives in favor of the applied for withdrawal; and e) All other data

necessary, as determined by the Washington Department of Ecology, to evaluate the merits of the requested exemption.

29/ Based on SCS water supply forecasts for the 1985 irrigation season, Central Region had reason to believe that the Okanogan River and Methow River would fall below the adopted minimum flows. Without any prior experience, the Region did not have a sufficient feeling for how severe the shortfalls would be, or how long the rivers were likely to remain below minimum flows. Over a period of less than two weeks, during late July, Okanogan River flows fell from more than 2,000 cfs to below 700 cfs. The adopted minimum flow for the Okanogan River during late July is approximately 800 cfs. The Methow River fell in a similar fashion during the same two week period.

30/ The method of obtaining river flow information for the 1985 season was to utilize a Hayes modem with the IBM PC-XT computer to dial a remote access number for the CROHMS system. Once into the CROHMS system, portions of the data file with river stage data for the Okanogan, Methow and Wenatchee Rivers were captured and placed into a disk file on the IBM PC-XT. The stage data was then converted to river discharge utilizing the USGS rating curves for the particular stations of interest. TELEMARK installations were available at two gaging stations. The installations allow determination of the river stage by direct dialing to a telephone at the gaging station and, by counting the number of beeps transmitted over the phone to determine the river stage. This provided a useful backup to stage data obtained over the CROHMS system when a failure was a result of the same problem with the telemetry system. The TELEMARK installations allowed monitoring on a frequent basis providing the region with stage data sufficient to observe even minor trends in river flow.

31/ The USGS installed the manometer even though Ecology was providing no funding at that time for the Pateros gaging station.

32/ Washington, Chapter 90.14 Revised Code of Washington. Approximately 165,000 water right claims were received during the five year period statewide. No determination or judgments were made by the Department when these claim forms were submitted. They were simply stamped with a number, if complete, and filed in the State's Water Claims Registry. While these claims do not constitute prima facie evidence of the existence of a right, it does require the Department of Ecology, when attempting some type of enforcement action, to make an administrative judgment as to the extent and validity of that particular water right claim.

33/ United States District Court for Eastern Washington, Louis Crowder, ET UX, ET AL v. Department of Ecology, No. C-85-650-RJM, 1985. The Eastern District Court's order affected three different classes of water users. Class "A", were the four water users who brought the class action suit. Class "B" consists of all property owners within the reservation boundaries who withdraw water from or contiguous to the Okanogan River who are successors in interest to former Indian allotments, and who were acted against by Ecology. Class "C" is comprised of all property owners within the reservation boundaries withdrawing water from or contiguous to the Okanogan River who are successors in interest to Indian allottees who had not been specifically acted against by notice or other enforcement action of Ecology.

The order granted the plaintiff's motion for preliminary injunction and required Ecology to contact each of the Class "A" and "B" water users to advise them that they may have a water right above and beyond that granted under state law. If water was put to beneficial use at the time the land passed from Indian ownership to non-Indian ownership or was put to use with reasonable diligence thereafter and the right had not been forfeited or relinquished, the water user was instructed to contact Ecology. Field inspections were then conducted to verify the water users' statement and a title history was obtained from the Portland Office of the Bureau of Indian Affairs. Prior to attempting any enforcement action for

minimum flow conditions on permits held by Class "A" and "B" water users, Ecology was required to file with the court a report setting forth the water use history and property title history.

34/ Washington, Revised Code of Washington 90.14.071.

35/ Washington, Revised Code of Washington 90.14.044. This 1985 amendatory act authorized the acceptance of a petition for certification of claims filed during the period beginning on July 28, 1985 and ending on September 1, 1985.

36/ Washington, Chapter 43.21B Revised Code of Washington -- created the Environmental Hearings Office, Pollution Control Hearings Board to hear appeals of all Ecology decisions and orders. The Hearings Board consists of three members, one of which shall be an attorney engaged in the legal profession at the time of appointment. The board is appointed by the Governor with the advice and consent of the Senate.

37/ Washington Pollution Control Hearings Board, Wenatchee Chiwawa Irrigation District v. Department of Ecology, PCHB No. 85-215.

38/ It is noteworthy in this case that the Department did not have to make a showing of specific damages as a result of this individual's diversion practices. The Superior Court found that by the adoption of the Okanogan River Basin Plan in 1976, it had met its requirements for establishing the benefits of those minimum flows adopted as a part of the basin plan. The court implied that if there were benefits associated with the minimum flows, there were damages associated with violation of the water right conditions when minimum flows were not met.

39/ Geostationary Orbital Environmental Satellite (GOES). The satellite is owned by the National Oceanic and Atmospheric Administration (NOAA) National Environmental Satellite Service (NESS). Individual transmitters are owned by the USGS and the cooperating

agencies. The USGS owns and operates the ground station and computer system required to capture transmitted data and make it available to the cooperating agencies.

40/ The local newspapers, radio stations, and television stations have shown consistent interest in the semi-monthly advisory letters. The newspapers and radio stations commonly call the regional office to conduct an interview for a print article or later on-air broadcast. The only television station broadcasting to the North-Central Washington area is located in Wenatchee. Taped television interviews are more difficult than taped radio interviews because it is necessary to schedule a meeting time and place in the Wenatchee area, which is two hours distant from Yakima. During 1987, approximately 10 newspaper, 10 radio and three television interviews pertaining to Ecology's minimum flow program were conducted by Central Region staff. The television station has also interviewed several of the regulated water users to present their perspectives.

41/ The message is updated every afternoon between 4 and 5 PM primarily for the convenience of the water user. When the disparity between actual river flows and the minimum flows is large and the trends are parallel or divergent, instructions will be given for three days, if necessary, to cover a weekend or holiday.

42/ The meetings at Okanogan (for the Okanogan River) and Twisp (for the Methow River) are typically attended by 50 to 60 people, of which 50% are water users with minimum flow provisioned water rights. This type of meeting was also held in Leavenworth (for the Wenatchee River) in 1986 with an attendance of 15 to 20 people. None of the individuals attending the Leavenworth meeting were water users with minimum flow provisioned rights; instead, they were people not directly affected who were concerned about minimum flows for the Wenatchee River. Because there are only eight water users subject to Wenatchee River minimum flows and none attended



the 1986 meeting in Leavenworth, a decision was made not to conduct a public meeting in Leavenworth during 1987.

- 43/ Washington, Chapter 43.27A Revised Code of Washington.
- 44/ Field books were prepared to assist Ecology staff when conducting compliance inspections. The loose leaf binders contain copies of 7.5 minute USGS quad sheets with the point(s) of diversion for each water right identified. A page for each right describes the instantaneous and annual quantities of the right, legal descriptions of the point of diversion and place of use, pump and distribution system descriptions, directions to the pump, a narrative description of the place of use, and photographs of the diversion facilities. The books provide sufficient information for the compliance inspectors to be conversant with the water user about the water right and provide the basis for providing confident on-the-spot instructions to the water users to obtain compliance with the minimum flow provisions on the permit.
- 45/ Washington State Department of Ecology, Guidelines For Enforcement, 1985.
- 46/ Washington, Revised Code of Washington 90.22.010 and 90.54.020  
(3) (a).
- 47/ Washington State Departments of Ecology, Fisheries and Game, Instream Resources Protection Study Report, p. 11.
- 48/ Washington State Senate, Senate Bill No. 4664, 1984.
- 49/ Washington State House of Representatives, House Bill No. 1633, 1984.
- 50/ Washington State House of Representatives, House Bill No. 757, 1985.

- 51/ Washington State House of Representatives, Substitute House Bill No. 223, 1985.
- 52/ Janet Chalupnik, Report of the Instream Flow and Water Allocation Advisory Committee to the Washington State Department of Ecology (Olympia, WA: Department of Ecology, December 1986).
- 53/ Washington, Chapter 43.21C Revised Code of Washington.
- 54/ Washington, Chapter 197-11 Washington Administrative Code. Section 442 provides guidance on preparing of a non-project environmental impact statement.
- 55/ Washington, Revised Code of Washington 90.54.020(2).
- 56/ Washington State Department of Ecology, Instream Resources and Water Allocation Program Review: Draft Environmental Impact Statement (Olympia, WA: February 1987).
- 57/ Washington, Revised Code of Washington 90.54.020(3)(a). This section allows Ecology to waive instream flow conditions adopted under this statute. Ecology would develop administrative rules to guide the consideration of such waivers.
- 58/ Washington State Department of Ecology, Preferred Alternative: Instream Resources and Water Allocation Program Review (Olympia, WA: November 1987).
- 59/ Washington, Chapter 173-500 Washington Administrative Code.
- 60/ Washington State Senate, Senate Bill 6724 - Water Resources Policy (Olympia, WA: March 1988).
- 61/ Washington State House of Representatives, House Bill 1594 - Water Use Efficiency Study (Olympia, WA: March 1988).