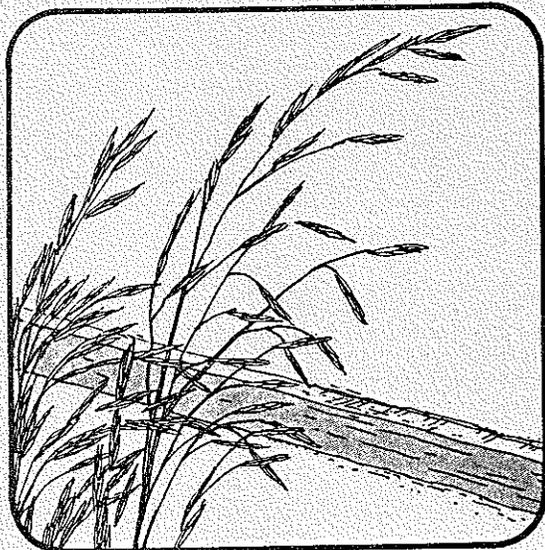
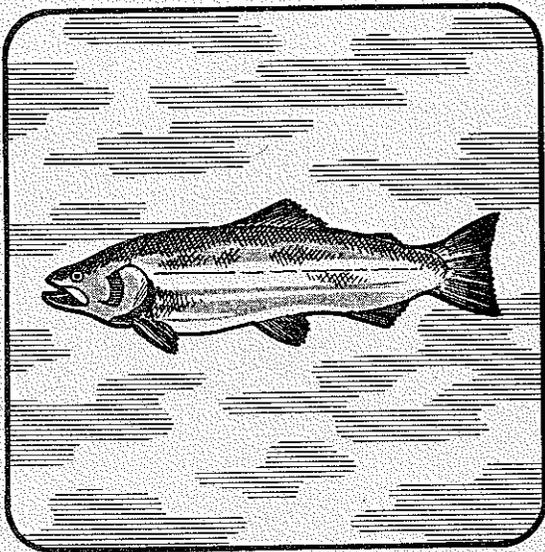
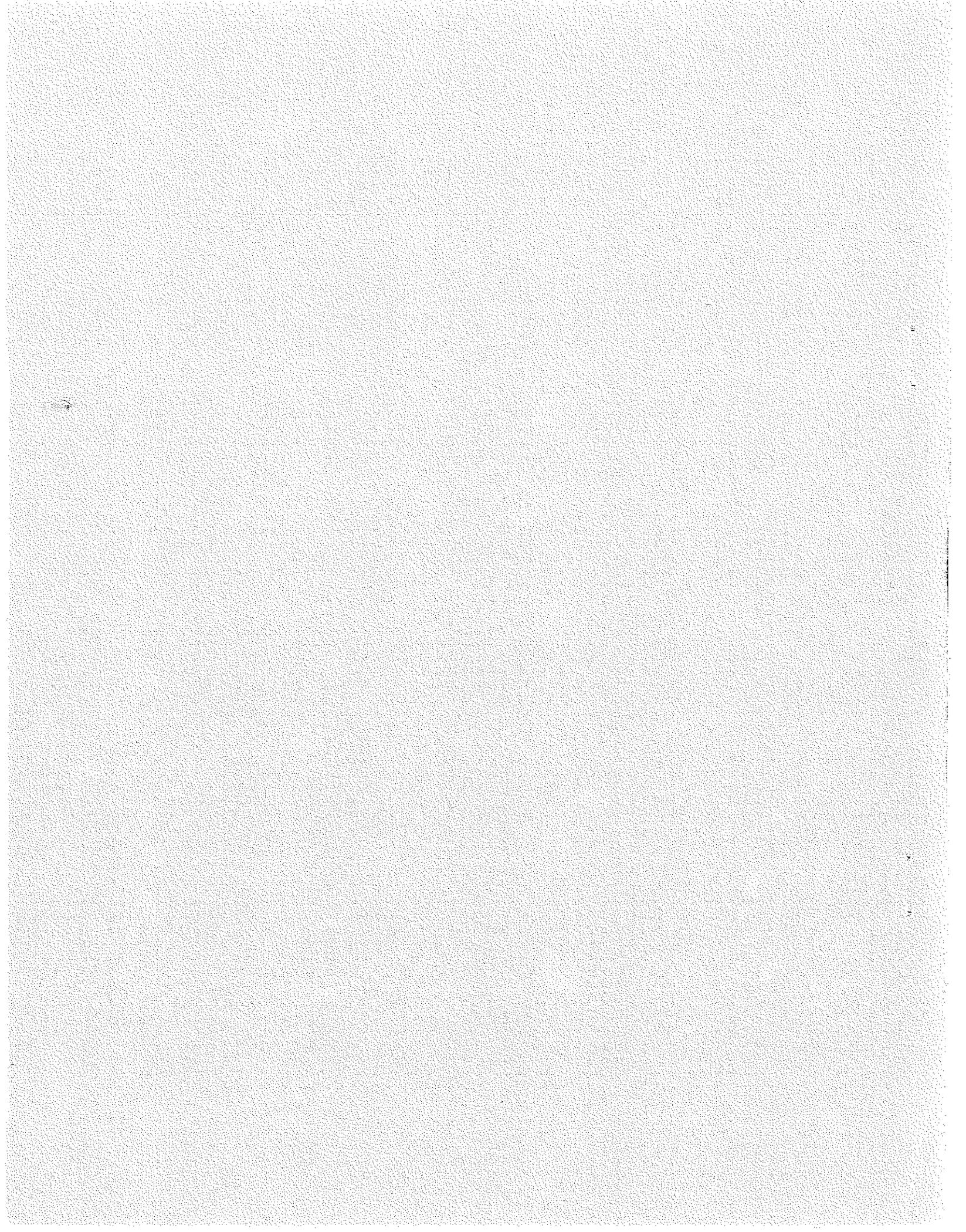


# Washington's Water Resources Program



Eighth Biennial Report to the Legislature  
Department of Ecology  
1985-1986



# Water Resources Staff For Team Building Assignment

## "Our Mission"

Attachment # 1

### PRIMARY GOAL:

- \* To manage the state's water resources to ensure that the waters of the state are properly allocated, developed, and protected to promote wise and efficient use of water for the greatest benefit to the people of the state, now and in the future. \*

### PRIMARY OBJECTIVES:

To assess the availability, distribution, and condition of the state's ground and surface water supplies to provide a basis for other water resource-related activities. (esg # 3)\*

To quantify the need for, and use of, the state's water resources for instream and out-of-stream uses through the conduct of water rights adjudications, instream flow studies, the issuance of water right permits, and other means. (esg # 3)

To foster the development of economically and environmentally sound water resource development projects. (esg # 4)

To develop comprehensive ground water management programs in partnership with other state and local interests. (esg # 3)

To develop and administer policies, plans, and programs to address short- and long-term issues (e.g. water conservation, drought management) related to the allocation, development, and protection of the state's surface and ground water resources. (esg # 1)

To develop and manage a comprehensive data base regarding the state's surface and ground water resources to serve as a basis for water resources-related decisions. (esg # 3)

To increase the public's awareness of, and involvement in, the state's water resources program. (esg # 2)

To represent the interests of the state and coordinate with other agencies of state, local, and federal governments. (esg # 5)

To foster good working relationships with Indian tribes on water resources-related matters. (esg # 6)

To recruit, develop, and retain high quality personnel. (esg # 7)

To provide administrative support to the state Water Resources Program (including budgeting, annual program planning, audits of regional activities, etc.) (NA)

\* esg = Ecology strategic goal



# Washington's Water Resources Program

## EIGHTH BIENNIAL REPORT TO THE LEGISLATURE

---

Fiscal Year 1985-1986

State of Washington  
Booth Gardner, Governor



Department of Ecology  
Andrea Beatty Riniker, Director



Olympia, WA

---

January, 1987

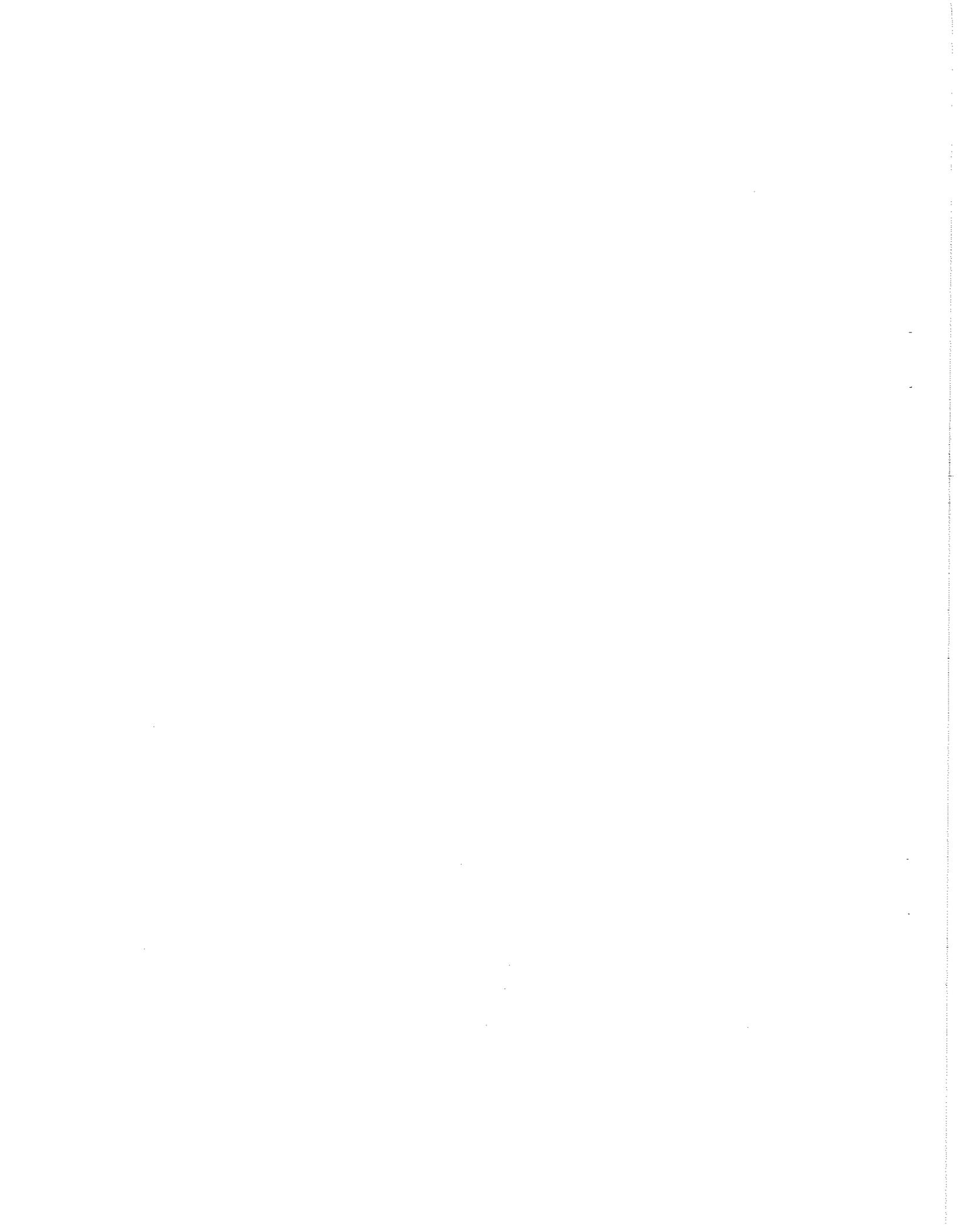


TABLE OF CONTENTS

	<u>Page</u>
List of Tables . . . . .	iii
List of Figures . . . . .	iv
Executive Summary . . . . .	v
INTRODUCTION . . . . .	1
MAJOR WATER RESOURCES PROGRAM ELEMENTS . . . . .	4
BASIN/INSTREAM RESOURCES MANAGEMENT . . . . .	5
Instream Resources Protection Program . . . . .	5
Instream Flow and Water Allocation Program Review . . . . .	9
Review/Revision of Existing Programs . . . . .	12
Little Spokane River Basin Program . . . . .	12
Chehalis River Basin Program . . . . .	12
Other Basin Programs . . . . .	12
Planning Efforts Related to Instream Flow Planning . . . . .	12
Central Puget Sound Water Supply . . . . .	12
U.S.-Canada Pacific Salmon Treaty . . . . .	13
Northwest Power Planning Council . . . . .	13
State Scenic Rivers Program . . . . .	14
Puget Sound Water Quality Authority . . . . .	14
Hood Canal Coordinating Council . . . . .	15
Watershed Planning . . . . .	15
Forest and Range Management Plans--National	
Forest Plans . . . . .	16
Coordinated Water System Planning . . . . .	16
Program Implementation and Enforcement . . . . .	17
Problems Encountered . . . . .	19
Issues Resolved . . . . .	19
GROUND WATER MANAGEMENT . . . . .	20
Protection of Works . . . . .	20
Protection of Shallow Aquifers . . . . .	20
Seawater Intrusion . . . . .	21
Ground Water Management Areas (SHB 232) . . . . .	21
Ground Water Subareas . . . . .	24
Ground Water Investigations . . . . .	25
Public Water Supply Reservations . . . . .	29
Well Drillers and Construction Program Licensing . . . . .	30

TABLE OF CONTENTS (Continued)

	<u>Page</u>
REPRESENTING THE STATE'S INTERESTS . . . . .	32
Northwest Power Planning Council . . . . .	32
Testimony on Federal Water Policy Legislation . . . . .	34
Hydropower Licensing by the Federal Energy Regulatory Commission . . . . .	34
Coordination with other Federal Agencies . . . . .	36
Corps of Engineers Water Resources Projects . . . . .	36
Representation on Regional and Interstate Organizations . . . . .	37
Relationship with Canada . . . . .	38
Interbasin Transfers of Water . . . . .	39
PROJECT DEVELOPMENT AND REHABILITATION FINANCING . . . . .	40
Referendum 27 . . . . .	41
Emergency Water Supply . . . . .	41
Referendum 38 . . . . .	41
Reclamation Revolving Account . . . . .	42
Yakima River Basin Water Enhancement Project . . . . .	42
Columbia Basin Project, 2nd Half Development . . . . .	43
Problems Encountered . . . . .	44
NEW HYDROELECTRIC DEVELOPMENT . . . . .	46
ADJUDICATION OF WATER RIGHTS . . . . .	52
Yakima River Basin Administration . . . . .	57
WATER ALLOCATION . . . . .	60
OTHER WATER RESOURCES MANAGEMENT . . . . .	63
Water Rights Information System . . . . .	63
Water Resources Laws and Regulations . . . . .	63
Washington Conservation Corps . . . . .	63
Regional Aquifer System Analysis . . . . .	64
Relinquishment . . . . .	64
Reserved Rights . . . . .	64
Office Automation . . . . .	67
DAM SAFETY . . . . .	68
PUBLIC INVOLVEMENT . . . . .	71
APPENDIX I and II	

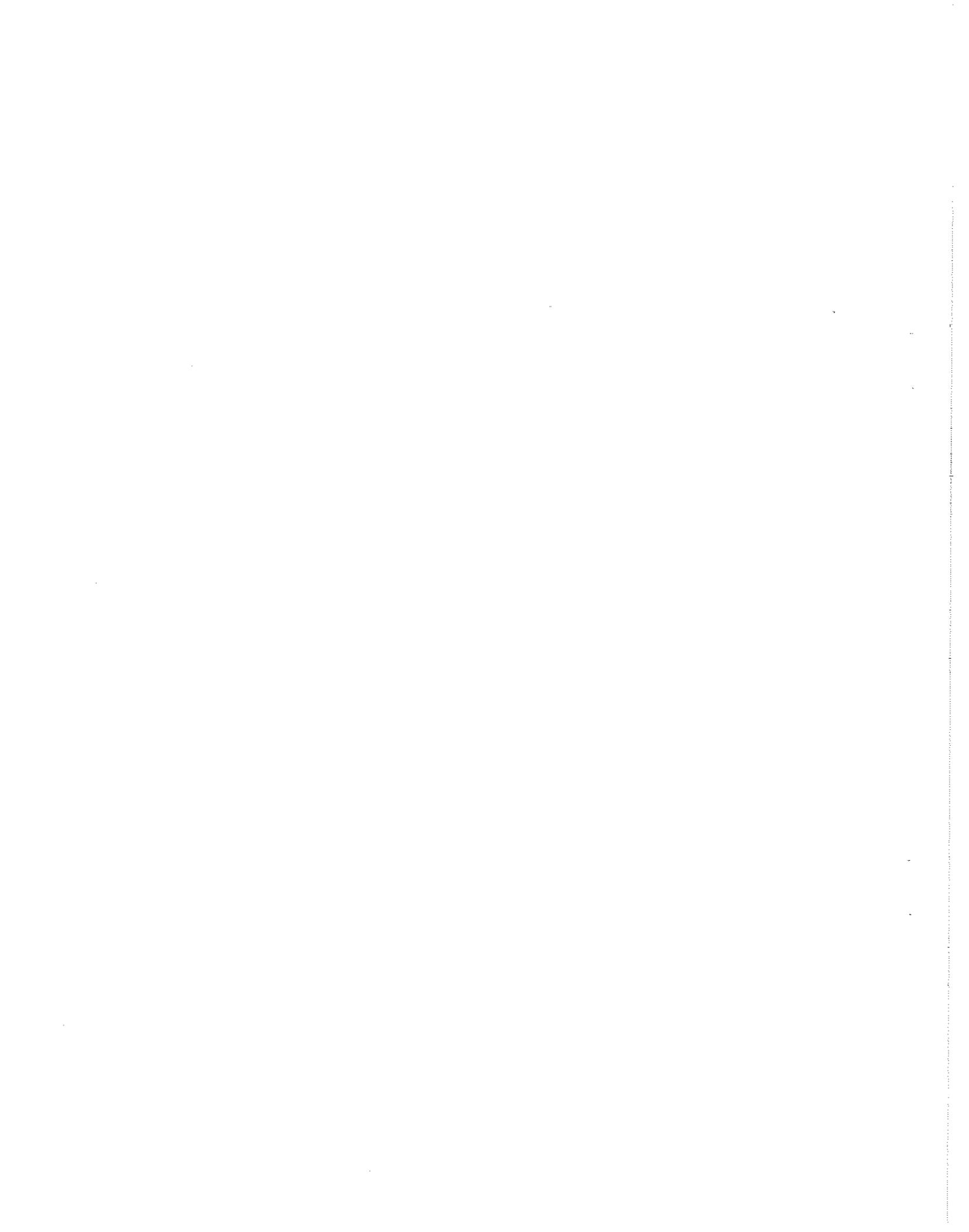
LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page</u>
1.	Agricultural Water Supply Projects Financed with Referendum 27 Bond Proceeds . . . . .	Appendix I
2.	Emergency Agricultural Water Supply Projects Financed with General Obligation Bond Proceeds . . . . .	Appendix I
3.	Agricultural Water Supply Projects Financed with Referendum 38 Bond Proceeds . . . . .	Appendix I
4.	Status of Reclamation Revolving Account Bond Investments . . . . .	Appendix I
5.	Active Reclamation Revolving Account Advances to Districts . . . . .	Appendix I
6.	Status of Agricultural Water Supply Funds . . . . .	Appendix I
7.	Planned Agricultural Water Supply Projects . . . . .	Appendix I
8.	Observation Wells . . . . .	29
9.	Distribution of Proposed Hydroelectric Projects in Washington State . . . . .	50
10.	Completed Adjudications . . . . .	55
11.	Instream Flow Issues Identified at Ecological Commission Meeting November 13, 1985 . . . . .	Appendix II
12.	Membership of the Instream Flow and Water Allocation Advisory Committee . . . . .	Appendix II
13.	Report of the Instream Flow and Water Allocation Advisory Committee to the Washington State Department of Ecology . . . . .	Appendix II



LIST OF FIGURES

<u>Figure No.</u>		<u>Page</u>
1	Water Resource Inventory Areas . . . . .	7
2	Status of Basin Planning . . . . .	10
3	Ground Water Management Areas . . . . .	23
4	Wilderness Areas, National Parks, and National Monuments . . . . .	48
5	Adjudication Procedure . . . . .	53
6	Geographic Locations of Adjudications . . . . .	54
7	Water Right Applications and Permits . . . . .	61
8	Regional Index . . . . .	74



## EXECUTIVE SUMMARY

This report summarizes the status of the Department of Ecology's (Ecology) Water Resources Program for the period July 1, 1984 through December 31, 1986. It reviews past activities, explains current programs, discusses problems that have been encountered, and provides a summary of the major accomplishments.

### Background

Chapter 90.54 RCW directs Ecology to develop a comprehensive state water resources program. The primary goal of this program is to ensure that the waters of the state are properly allocated to achieve full utilization for the greatest benefit to the people of the state and to regulate uses in accordance with established rights.

### Organization and Personnel

Ecology's Water Resources Program employs approximately 90 staff members and is divided into several groups. Three sections, with a total of 40 employees, are located at Ecology's headquarters office in Lacey, Washington.

These sections are responsible for matters such as surface and ground water planning and management, water right adjudications, project assistance, and water well technology. The remaining 50 employees are shared by the four regional offices in Redmond, Yakima, Tumwater and Spokane. These offices are responsible for daily contact with the public or local governments, the issuance of water rights, water right investigations, and enforcement of water right laws and permit conditions.

### Program Highlights

#### Instream Flows/Program Review

Because of the continuing controversy about the adoption of instream flow requirements, Ecology delayed its work on its Instream Resources Protection Program and convened a 20-member advisory committee to discuss and recommend solutions to these issues. The committee's full report to Ecology is included in Appendix II of this report. As a part of the program review effort, Ecology staff wrote a programmatic EIS which describes alternative water resource management programs and their impacts. The EIS will be available to the public in January, 1987, and will be the subject of public meetings/hearings later in the year.

#### Ground Water

In 1985, the Legislature enacted SHB 232 which amended the Ground Water Code of 1945 and directs Ecology to establish ground water management areas and programs. Late in 1986, Ecology adopted eight ground water

management areas and is working with local committees to develop ground water management plans to solve the ground water problems. Ecology also adopted two ground water management regulations related to the protection of the ground water resource.

#### Yakima River Basin Water Enhancement Program (YRBWEP)

This program is a feasibility investigation study authorized by Congress to determine ways to create more water storage and improve the reliability of existing water in the Yakima River Basin. Initial work was started in 1981 by a study team comprised of the US Bureau of Reclamation and Ecology personnel. A "Plan Formulation" report was issued that contained four alternative plans to satisfy the Yakima program's objectives. These plans included additional storage proposals, measures for water conservation, more efficient water supply management, and early implementation. Early implementation measures were incorporated into a proposed senate bill (S 2519) that is now under consideration in the U.S. Congress. With authorization and funding from the state legislature (ESSB 4418-April 1986), the YRBWEP is entering the final stage where a recommended plan will be developed that can be accepted by all involved interests.

#### Yakima River Basin Adjudication

In addition to trying to create more water storage through the YRBWEP process, Ecology is also determining the legal water rights and their quantification for the Yakima River Basin. It is a complex adjudication process because there are an unusually large number of claimants. The adjudication referee is attempting to expedite the process by dividing the claims into manageable groups. The most difficult group is the federal reserved water rights for Indian claims. Ecology and the United States of America have been granted a stay from the Yakima County Superior court on the water rights for Indian claims proceedings for 12 months. This will allow the Yakima Indian Nation to focus its efforts on the YRBWEP.

#### New Lake Osoyoos Control Structure

Work is nearing completion on the replacement of the old Zosel Dam at the outlet of Lake Osoyoos on the Okanogan River. After many years of overcoming obstacles, the old structure is being replaced with a new dam which will provide improved lake level maintenance and flood control benefits. Costs of the project are being shared equally by the state of Washington and British Columbia.

#### Water Well Construction Program

Ecology's well construction program has received more staffing and a higher profile in the last two years. This program provides necessary testing and licensing of local well drillers as well as increased inspection and enforcement capabilities.

## Dam Safety

Historically, unless there has been a recent major disaster as the result of a dam failure, the general level of public interest in dam safety problems tends to be minimal. The state of Washington experiences fluctuations in its interest in dam safety, with the result that its dam safety program has undergone corresponding changes in emphasis. The program took a positive direction during the 1985-86 period with the addition of two engineers to the previous staff of three, but changes in Ecology's priorities since the end of the biennium have again resulted in fluctuating interest.

In the last biennial period, the Dam Safety Section of the department of Ecology made substantial progress in its efforts to correct previously identified safety problems at high hazard dams. During this time, corrective action was initiated on about 65 projects. Actual construction work on repairs or modification was started or in progress on about 30 of these structures. All work is now completed on 12 of these facilities. Through fiscal year 1986, a total of about 1,200 projects had been documented in the inventory of dams for the state.

The Dam Safety program continues to assist dam owners in maintaining safe dams. But often Ecology's suggestions are ignored or resisted because private dam owners must pay for improvement out of their own funds. Enforcement actions occasionally alleviate critical safety problems.

## State's Interest

In addition to the activities discussed above, Ecology routinely works with other entities such as the Northwest Power Planning Council, the Federal Energy Regulatory Commission, the U.S. Bureau of Reclamation, the Western States Water Council, the Western Governor's Association, the U.S. Geological Survey, and other entities to present the views of the State of Washington and represent its interests.

## Columbia Basin Project Studies

Ecology is participating in investigations relating to the proposed completion of the second half of the Columbia Basin Project. About one-half of 1,095,000 acres authorized for project development is now irrigated.

An environmental impact study (EIS) of the second half of the Columbia Basin Project is being conducted by the U.S. Bureau of Reclamation to resolve environmental issues, determine economic feasibility and compare alternative plans. As part of this process, Ecology funded a preliminary socioeconomic study to update and evaluate the socioeconomic aspects of the proposed second half development. Both input/output and benefit/cost information are included in Ecology's socioeconomic analysis. Ecology's study is being used to help write the federal environmental impact statement. However, the Bureau recently announced a delay in the EIS so that it could conduct a water conservation study to more accurately determine project water needs. This water conservation study will be done by a steering committee of which Ecology will be a member. Completion of the EIS is now anticipated about July, 1988.

The federal EIS and public involvement process is designed to give the U.S. Bureau of Reclamation and Ecology an indication of how society, the economy, and the environment are affected. If the project is to be constructed, federal, state, and local funds must be available to construct the project and the need for the project must be demonstrated.

This is a summary of the full report which is 73 pages long. If you would like a copy of the full report, please contact: Ms. Nina Carter, Department of Ecology, Mail Stop PV-11, Olympia, WA 98504-8711 or phone (206) 459-6113.

## INTRODUCTION

To many people, Washington State appears to have an abundance of water. In the rain forests of the Olympic Peninsula and the lush green landscape of western Washington, visitors see a land with many lakes and streams, most of which flow year round. Even in eastern Washington, a river the size of the Columbia River does much to discourage thoughts of a water shortage. But things are not always what they seem.

Although most prevalent in eastern Washington, water shortages and competition for available water resources affects the entire state. As population and land development have increased, so has the demand for water. An awareness for the need to protect instream resources (fish, recreation, etc.) has also increased. Pressure on water resources has grown to the point where serious conflicts and competition for the water arise on many streams. This increasing demand has made it even more critical that the Washington State Department of Ecology (Ecology) continue to carry out the legislative mandate of RCW 90.54.040 to develop and implement a comprehensive state water resources program.

The purpose of this report is to provide an overview of Ecology's water resources program during the FY 85-86 biennium and to report on the progress of our Water Resources Program as required by the Legislature, including RCW 90.03.247, 90.54.070, 90.54.090, 90.54.100, and 90.54.160.

The primary goal of the water resources program is: to ensure that the waters of the state are properly allocated to achieve full utilization for the greatest benefit to the people of the state and to regulate uses in accordance with established rights.

The primary objectives of the program are:

To manage the state water resources program consistent with state law to ensure that existing water rights are determined and protected through adjudication and enforcement.

To assure full utilization of the state's water resources through issuance of permits and the assessment and funding of economically feasible and environmentally sound water resources projects.

To protect and preserve instream values through the definition and establishment of instream flow requirements.

To preserve the integrity of the state's water resource policies through representation of the state's interests before federal and interstate agencies.

To provide for expeditious processing of water right applications through technical investigations, data collection, and development of program policies.

To preserve and protect adequate supplies of water to satisfy domestic needs through reservations of water, water right permit conditions, or otherwise.

To assure public safety through a dam safety program.

To promote proper water well drilling and construction through the administration of water well drilling examinations to water well contractors and enforcement of regulations.

Ecology's Water Resources Program employs approximately 90 staff members and is divided into several groups. Three sections, with a total of 40 employees, are located at Ecology's headquarters' offices in Lacey, Washington while the remaining 50 employees are located at four regional offices. The headquarters' staff have the following responsibilities:

#### Planning and Management Section

The Water Resource Planning and Management Section is responsible for the development of water resources management programs including basin management programs and instream resources protection programs. These programs identify water resource issues in the basins and result in the adoption of regulations establishing, among other things, minimum instream flow requirements. This section is also involved in the determination of instream flow requirements for proposed hydropower projects, the public water supply reservation program, and representing the water resources interests of the state before other state and federal entities, and administration of the ground water management area planning program established by SHB 232 in the 1985 legislative session.

#### Project Assistance/Investigations/Water Well Technology

The Water Resources Project Assistance/Investigations/Water Well Technology Section is responsible for the following: collection of hydrologic field data, technical surface and ground water investigations, hydrologic analysis, and water well construction and licensing of drillers, and coordination with regional offices on water well construction standards. This unit also provides technical reports on basin streams to support the instream resources protection program, develops the Ecology-U.S. Geological Survey (USGS) cooperative agreement and coordinates with the USGS on the co-op projects and administers and collects power license fees. This section also administers grant and loan programs for water resources project development and rehabilitation under Referendum 27, the Emergency Water Supply Program, Referendum 38, and the Reclamation Revolving Account and coordinates and works with the U.S. Bureau of Reclamation (USBR) on water resources project development.

#### Water Rights Adjudication Section

The Water Rights Adjudication Section and referee are responsible for the determination of existing rights to use surface and ground water by conducting general adjudications. Such adjudications are a judicial determination of the nature and extent of water rights in a specific area.

## Regional Offices

Water resource activities are also carried out through Ecology's four regional offices in Redmond, Tumwater, Yakima, and Spokane. Regional offices are responsible for issuing water right permits to the public or local governments, investigating technical problems with local water resources (wells, water supplies) and providing assistance and advice to headquarters' staff as they work on management plans. The regional water resources staff have the majority of contact with the public regarding water supplies or water rights. They handle complaints and enforce water right permit conditions. Proposed hydropower projects are also investigated by regional staff who then issue a water right and a water quality certification if the project is approved. Approximately 50 people are employed in the four regional offices to carry out water resources activities.







## MAJOR WATER RESOURCES PROGRAM ELEMENTS

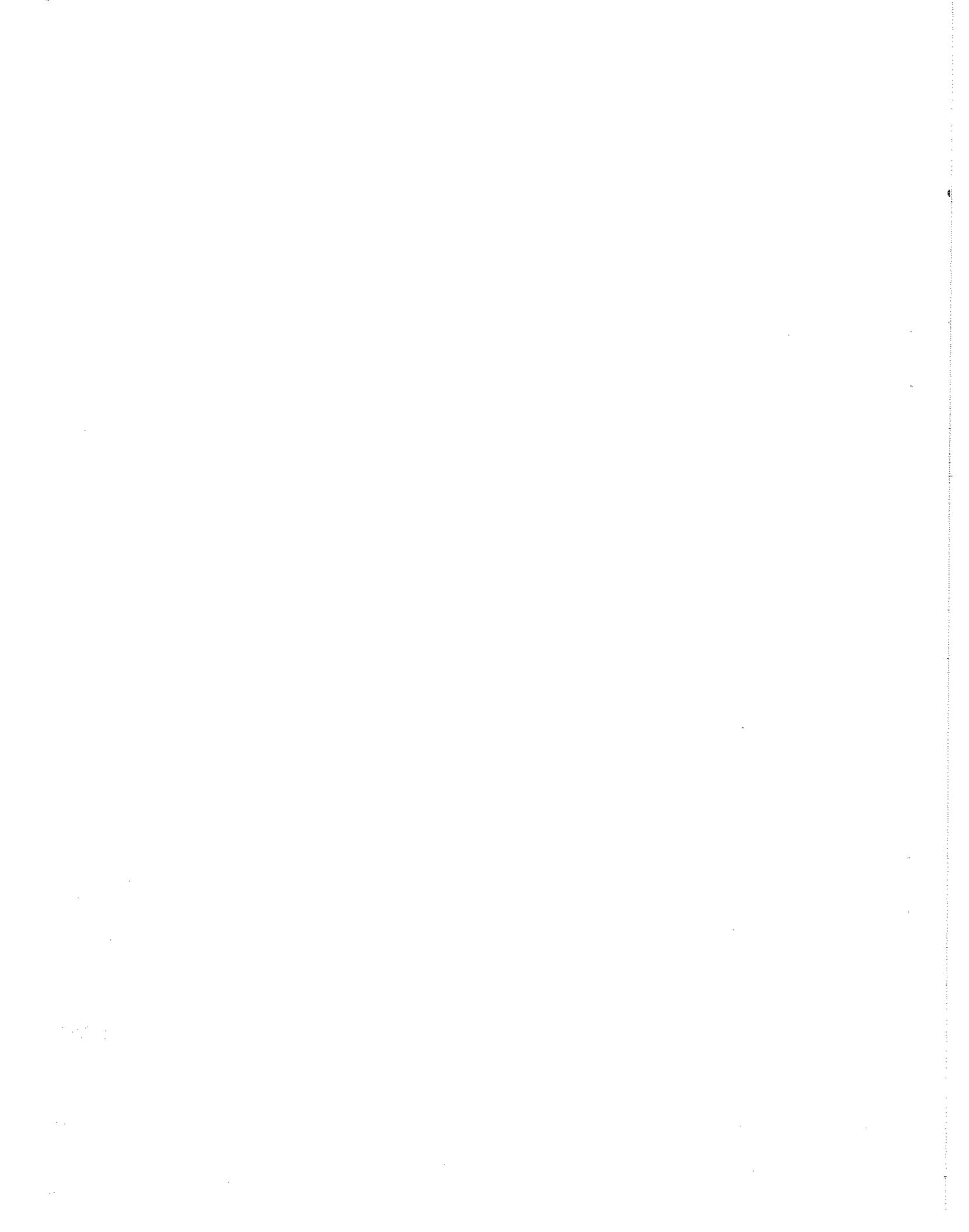
RCW 90.54.040 directs Ecology to develop and implement a comprehensive state water resources program which will provide a process for making decisions on future water resource allocation and use. The purpose of the program is to ensure that the waters of the state are protected and utilized for the best interests of the people of the state.

Since the enactment of the Water Resources Act of 1971, the department's water resources program has evolved into a functional planning and management tool. One of the best features of the program has been that it is not totally static. It has changed as the needs and priorities of the state have changed and it continues to do so. However, in spite of the changes, there are a number of major program elements that have been developed which have remained fairly constant, although their relative priorities within the overall program have changed over time.

The following discussion is a review of the major program elements. For each of these elements the discussion will include: a description of the element, the statutory authority requiring (or enabling) the activity and/or the background of the activity, major accomplishments during the reporting period, problems that have been encountered, and how Ecology is dealing with these problems.

The major elements of the state water resources program are:

- Basin/Instream Resources Management (including the adoption of new programs and regulations and the review and revision of existing programs and regulations)
- Ground Water Management (including Reservations of Water for Public Water Supplies, the Well Construction Program and ground water management programs)
- Representing the State's Interests
- Project Development and Rehabilitation Financing (including the Yakima River Basin Water Enhancement Project and the Second-Half of the Columbia Basin Project)
- New Hydroelectric Development
- Adjudications of Water Rights
- Water Allocation Activities
- Other Water Resources Management Activities
  - Water Rights Information System
  - Water Resources Laws and Regulations
  - Washington Conservation Corps
  - Relinquishment
  - Reserved Rights
  - Office Automation
- Public Safety
- Public Involvement







## BASIN/INSTREAM RESOURCES MANAGEMENT

### INSTREAM RESOURCES PROTECTION PROGRAM

Major Issue: Waters in the western states, including Washington, are allocated according to the appropriation doctrine. Until 1949, no authority existed to protect instream uses of water from development of appropriative rights. Historically, many streams, particularly in eastern Washington, were reduced in flow or appropriated to a dry stream bed due to extensive diversions of water for consumptive use. Many of these diversions occurred prior to the establishment of the water rights permit system in 1917.

Irrigation is the predominant consumptive use of water in Eastern Washington, while increasing municipal, domestic, energy and industrial demands for surface water affect many Western Washington streams.

While these out-of-stream uses of water have grown, those values dependent on a flow instream, such as fish and wildlife and recreation, have suffered losses. These losses have been rather dramatic in some parts of the state such as the Yakima River Basin where a combination of problems, including chronic low flows, has resulted in a significant decrease in the number of salmon and steelhead successfully returning to the Yakima system to spawn. Recognizing these losses, and the benefits to be derived from retaining a balance and diversity of water uses, the State of Washington began to protect instream values through the water rights process in the 1950s.

Authority/Background: In 1949, the Legislature declared it to be the policy of the state " . . . that a flow of water sufficient to support game fish and food fish populations be maintained at all times in the streams of this state." This legislation, codified as RCW 75.20.050 in the State Fisheries Code, provided that the water rights administrator, upon the advice of the directors of the departments of Game and Fisheries, may refuse to issue a permit which might result in lowering the flow of water below that necessary to adequately support fish populations. As an alternative to denial of the permit, the water rights administrator may issue a permit conditioned to a low flow provision.

Under this legislation, approximately 250 streams (nearly all very small) have been closed to further appropriation, and low flow provisions have been applied to individual permits on approximately 250 other streams.

The Minimum Water Flows and Levels Act (Chapter 90.22 RCW) was enacted in 1967 and amended in 1969 to provide a more formal process to protect instream flows. Under this act, Ecology may establish minimum streamflows and lake levels to protect fish, game, birds, other wildlife resources, recreational or aesthetic values, to preserve water quality or for riparian stock watering purposes. The act sets forth public hearing procedures for the establishment of minimum streamflows and lake levels, but does not define criteria for the determination of such flows or levels. The Department of Ecology utilized this authority in 1971 to adopt minimum flows for the Cedar River, a major source of water supply for the Central Puget Sound region.

The Water Resources Act of 1971 (Chapter 90.54 RCW) provides that, "Perennial rivers and streams of the state shall be retained with base flows necessary to provide for the preservation of wildlife, fish, scenic, aesthetic and other environmental values, and navigational values." The act further provided that lakes and ponds shall be retained substantially in their natural condition. (RCW 90.54.020(3)(a))

Anticipating the potential for conflict between instream and offstream water uses, the act states that "Withdrawals of water which would conflict therewith (with the base flows) shall be authorized only in those situations where it is clear that overriding considerations of the public interest will be served." (RCW 90.54.020(3)(a)) (parenthetical material added).

Ecology is vested with exclusive authority to establish instream flows and levels on state waters. (RCW 90.03.247) Under this and the authorities noted above, the department has established instream flows on 172 major streams of the state and closed over 300 streams and lakes to further consumptive appropriation.

For planning and management purposes, the state is divided into 62 Water Resource Inventory Areas (WRIAs) (see Figure 1). Chapter 173-500 WAC, adopted by Ecology in 1976, provides for the formulation of a water resources management program for each WRIA or group of WRIAs. During the early 1970s, Ecology initiated a basin planning process to address basin specific water allocation policies including instream flows. Between 1974 and 1978, Ecology adopted eight basin management programs for some of the more serious water problem areas of the state. These programs addressed instream water needs and analyzed the level of existing demand in order to define the quantity of water remaining available for further appropriation.

To meet changing priorities in 1979, the department began developing modified basin planning programs. This new effort, the Washington Instream Resource Protection Program, is a water resources planning effort that develops and adopts Washington State Administrative regulations designed to preserve and protect instream resource values. Program measures include minimum instream flows and closure of streams and lakes to further consumptive water rights appropriation. Water rights existing at the time that regulations are adopted are not affected by the regulations. Because of their importance for fish and wildlife and growing demand for off-stream water use, many western Washington streams and the main stem of the Columbia River have been addressed by this program.

After Ecology establishes minimum instream flows for a stream or river, the instream values (eg. fish, aesthetics, recreation) are protected, at a minimum level, from subsequently established consumptive uses, (municipal drinking water, industrial needs, agriculture). If the flow of the stream falls below a specified minimum instream flow, those water uses are subject to the curtailment. The out-of-stream water users curtail their diversions until the instream flow is restored or exceeded.

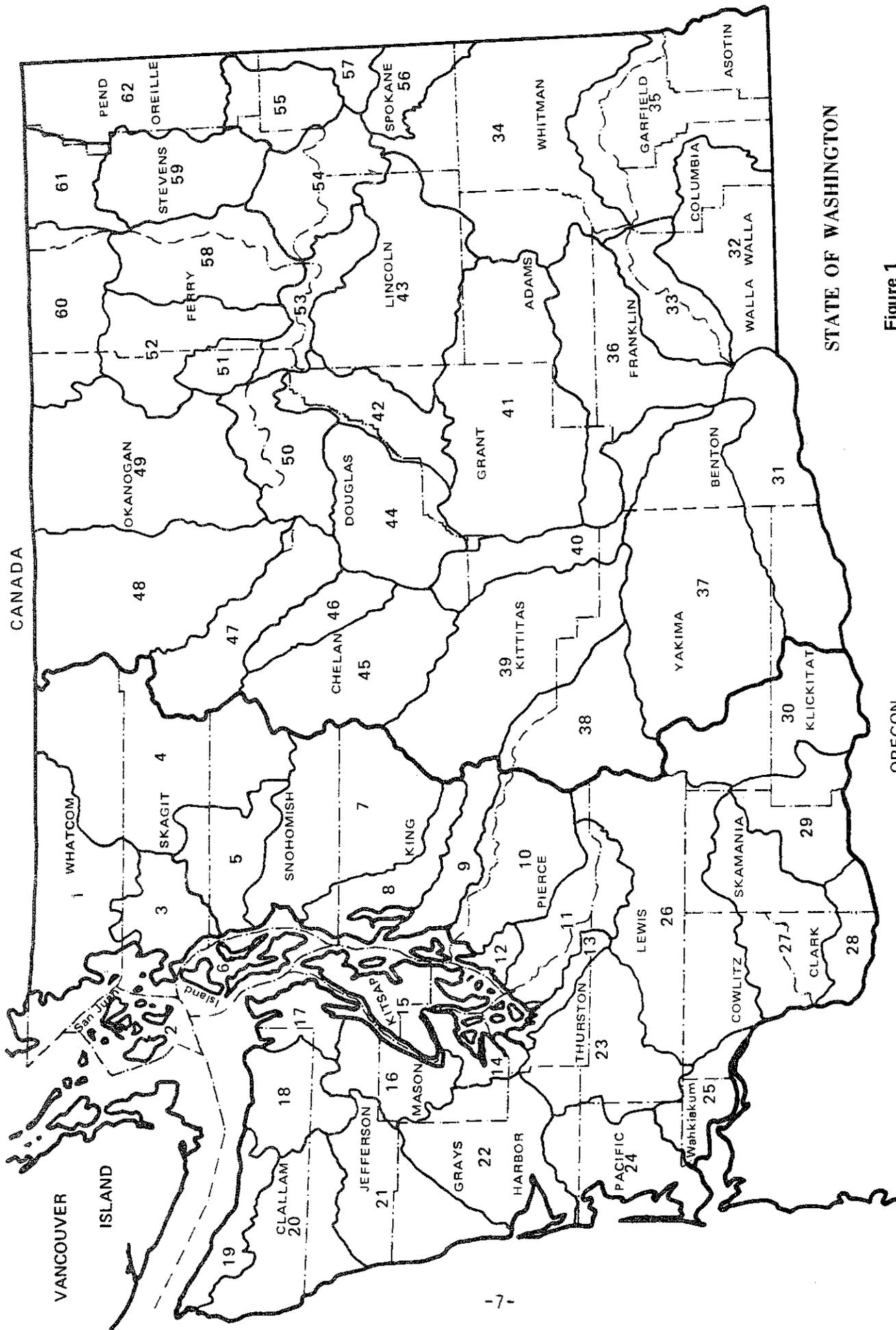


Figure 1  
 WATER RESOURCE INVENTORY AREAS

When a stream is closed to further consumptive appropriation, no further consumptive use water rights will be issued for water diversion during the period of closure. Closures are normally necessary only for the low flow period of the year (generally midsummer to early fall in Washington streams), but may cover the entire year depending on the level of existing use and availability of remaining water.

Whenever possible, the department prefers to establish minimum instream flows on streams rather than closing them altogether to future uses. However, when Ecology determines that the level of existing diversions seriously affects the welfare of instream values, where any new diversions from small streams would irreparably harm instream values, or where the public interest would be harmed by additional appropriations, then the stream is closed to further consumptive appropriation.

Ecology works with a number of interested groups and agencies and the public in developing instream protection measures which are tailored to the specific conditions and needs of the individual basins. Public workshops are held by Ecology prior to formulation of instream measures. Ecology's water resources staff then develops a regulation incorporating minimum instream flows and other measures. Ecology's Water Resource Program applies the requirements of the Administrative Procedures Act Ch. 34.04 RCW to decisions about program statutes and regulations; newspapers are notified; mailing list are compiled; notices of hearings are sent to interested parties and Ecology holds public hearings and receives written comments. Ecology responds to all substantive public or agency comments and incorporates them into final proposals which are considered for adoption by the director at a final adoption proceeding. The department's public participation activities are discussed in more detail in the section of this report entitled "Public Involvement."

Accomplishments: As of December 31, 1986, instream resource protection programs and basin programs that include instream protection measures have been completed for the following Water Resource Inventory Areas:

- Nooksack Basin (WRIA 1)
- Snohomish Basin (WRIA 7)
- Cedar-Sammamish Basin (WRIA 8)
- Green River Basin (WRIA 9)
- Puyallup River Basin (WRIA 10)
- Nisqually River Basin (WRIA 11)
- Chambers-Clover Creek Basin (WRIA 12)
- Deschutes River Basin (WRIA 13)
- Kennedy-Goldsborough area stream systems (WRIA 14)
- Kitsap Peninsula stream systems (WRIA 15)
- Chehalis Basin (WRIA 22 and 23)
- Wenatchee River Basin (WRIA 45)
- Methow (WRIA 48)
- Okanogan (WRIA 49)
- Little Spokane (WRIA 55)
- Colville (WRIA 59)
- Columbia Main Stem

The status of Basin Planning, Figure 2, shows the areas of the state where basin management programs have been developed and where the instream resources protection programs are established, in progress, or scheduled. Basin instream programs were in progress in Willapa River Basin (WRIA 24), the Stillaguamish River Basin (WRIA 5), and the Skokomish-Dosewallips Inventory Area (WRIA 16).

#### INSTREAM FLOW AND WATER ALLOCATION PROGRAM REVIEW

Because establishing minimum instream flows and levels and closing certain streams may halt or alter future water development opportunities, these measures can generate considerable controversy. Seldom are any single purpose entities or interest groups fully satisfied with the final adopted regulation. In late 1985, the Department of Ecology decided to conduct a thorough program review and prepare an Environmental Impact Statement for the instream flow and water allocation program.

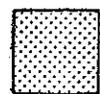
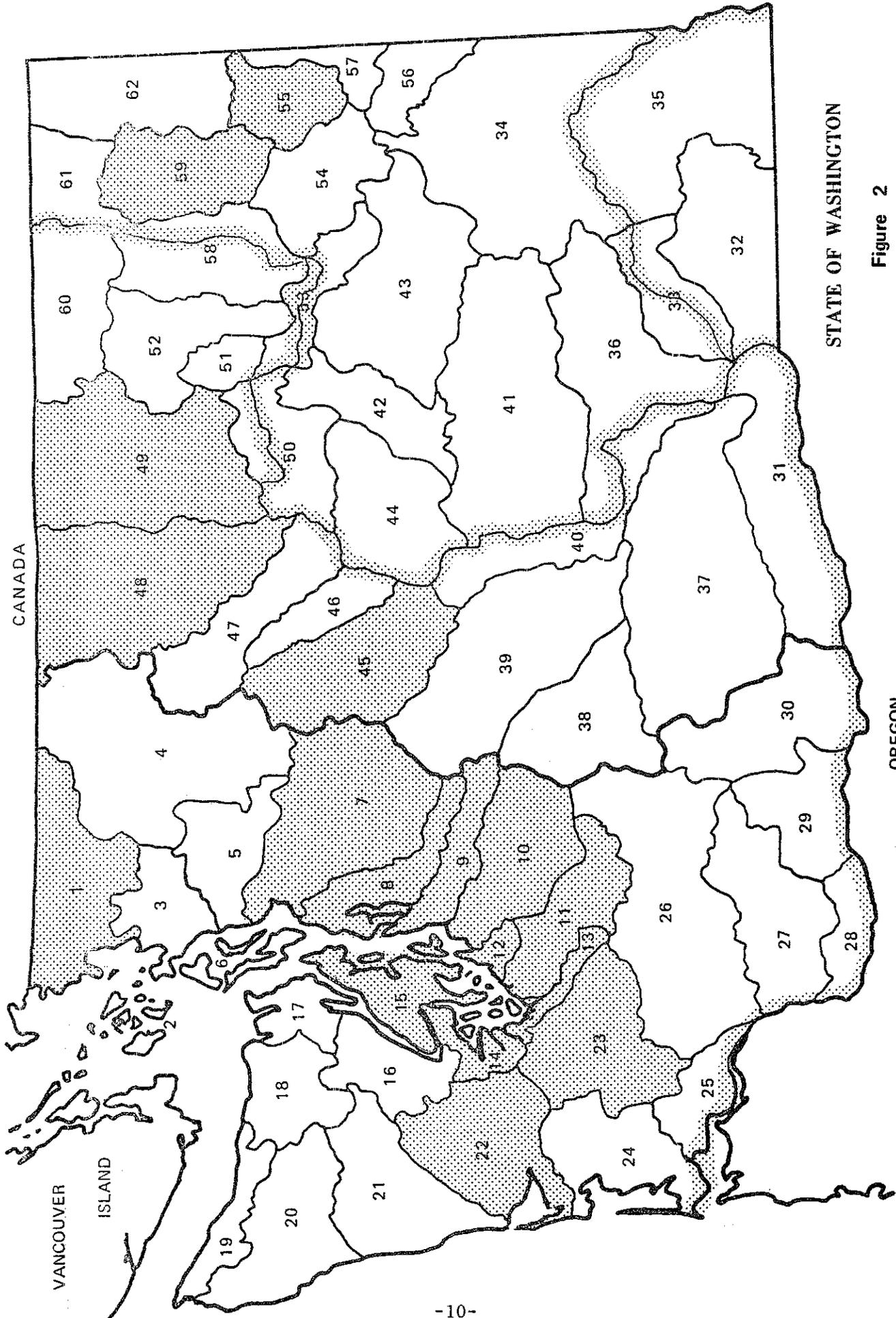
The historical developments leading to the program review have roots in 1976 when Chapter 173-500 WAC was adopted by Ecology to guide the department in its basin planning programs. Since that time, basin planning changed from developing comprehensive basin management programs to developing more narrowly scoped instream resources protection programs. The emphasis shifted to a more limited instream flow program because the department's resources were diminished and priorities changed. As the program's focus changed, the instream flow statutes, policies, and procedures came under closer scrutiny and became a continuing source of controversy.

There had been no significant changes in the instream flow program since 1979 when Ecology issued a Program Overview and Environmental Impact Statement and initiated the Western Washington Instream Resources Protection Program. Since that 1979 report, the department's emphasis has been on establishing instream flows for specific streams.

Following their disapproval of the Skokomish-Dosewallip program, the state Ecological Commission sponsored a public workshop on instream flows in November, 1985. Workshop participants and Ecology staff identified 37 major issues that have caused difficulties among interest groups and the agencies involved in setting instream flows. (See Appendix II for list of 37 issues.) Ecology's Director established a commitment to address these issues through a comprehensive administrative review of the instream flow and water allocation program.

Following the workshop, Ecology developed a program review workplan which called for the establishment of an advisory committee and for Ecology to write a programmatic environmental impact statement. In February, 1986, the department appointed a 20-member Instream Flow and Water Allocation Advisory Committee to discuss the issues raised at the workshop. (See list of Committee members in Appendix II.) The Advisory Committee was to assist Ecology in evaluating issues and identifying alternatives. In addition it was asked to attempt to reach a consensus on solutions to the instream flow and water allocation problems and then make recommendations to Ecology on how to best design and implement the instream flow and water allocation program.

AREAS WITH ADOPTED INSTREAM FLOWS IN WASHINGTON



Areas with adopted instream flows

STATE OF WASHINGTON

Figure 2

WATER RESOURCE INVENTORY AREAS

Concurrent with the Advisory Committee's discussions, Ecology's water resources staff began scoping a programmatic Environmental Impact Statement (EIS). Ecology's Water Resource Program staff consulted with the Advisory Committee regarding the scope of the proposed program review EIS. The staff indicated that Advisory Committee recommendations would be incorporated into the EIS alternatives.

Between April and September 1985, the Advisory Committee held five meetings during which they discussed numerous instream flow and water allocation issues. Full Consensus on a comprehensive solution for all issues was not reached. However, the common ground found by the smaller subcommittees provided the department with some significant and promising concepts (few of these points received support by all committee members). The full final report of the committee is included in Appendix II.

Ecology will publish its draft programmatic environmental impact statement (DEIS) in January 1987. The DEIS will describe several alternative instream flow programs. Public review and comment will be solicited in January and February 1987. Copies of the DEIS may be obtained from the Department of Ecology's Water Resources Program.

When the instream flow and water allocation program DEIS is finalized and a revised instream flow program is agreed upon by interested parties, the Water Resources Program will then resume its water resources planning work. Until then, water allocation planning will be postponed except for data gathering.

## REVIEW/REVISION OF EXISTING PROGRAMS

Major Issue: There is a need to periodically review existing water resource management regulations to determine their effectiveness and, when appropriate, make any necessary changes.

Authority/Background: The Water Resources Act directs Ecology to modify existing regulations and adopt new regulations when needed (RCW 90.54.020(2)).

### Little Spokane Basin Management Program

Water Resources planning staff started to review and revise the Little Spokane River Basin Water Resources Management Program in 1986. Originally adopted in January 1976 as Chapter 173-555 WAC, this program has been used to guide the department's water resource activities in that basin. However, further action in this program is being delayed because of substantive public comments about the level of flows to be set by Ecology, and the instream flow program review process. This basin plan review will be addressed after the program review is completed.

### Chehalis River Basin Management Program

The Chehalis River Basin Water Resources Management Program was adopted in March 1976, as Chapter 173-522 WAC. A review of this program was begun late in 1984 but was delayed because the Department of Fisheries decided to collect additional information on stream flows. Ecology also decided to delay reviewing this program basin with the onset of the Instream Flow and Water Allocation Program Review.

### Other Basin Programs

Review of other adopted programs such as the Snohomish River Basin (WRIA 7), the Cedar-Sammamish Basin (WRIA 8), and the Duwamish-Green River Basin (WRIA 9) have been delayed by the program review and the programmatic EIS, although extensive data collection work is underway in each of these basins. Ecology is carrying out detailed instream flow studies in the Snohomish and Duwamish/Green basins. The City of Seattle recently initiated similar studies for the Cedar River.

## PLANNING EFFORTS RELATED TO INSTREAM FLOW PLANNING

### Central Puget Sound Water Supply

Cities of Seattle and Bellevue must plan for future water supplies for residents in the Central Puget Sound area. In 1985, Seattle's comprehensive water supply plan projected that regional needs would exceed current supplies "very shortly". The problems of water demand and supply are not that water in the Central Puget Sound region is decreasing in real terms but, as the population grows, more user groups make more demands on the existing clean water supplies.

To meet short term water needs, a series of small ground water wells were drilled to supply water to Seattle and Bellevue. These projects, however, did not resolve the need for a long range water supply.

To address the long term water supply needs, Seattle studied the possibility of using water from the north fork of the Tolt River. Bellevue began studying the availability of water in the north fork of the Snoqualmie River.

#### U.S.-Canada Pacific Salmon Treaty

The U.S.-Canada treaty became law on March 18, 1985. The treaty commits both countries to the conservation and rational management of salmon stocks, prevention of overharvesting and providing for optimum salmon production. The treaty aims to stop overharvesting and for each country to rebuild naturally spawning salmon stocks by 1998.

The need for this treaty had been evident for many years prior to its ratification. The United States and Canada had been discussing salmon fishery controls since the 1950s. A potential agreement between the two countries was scuttled in 1982 by Alaska's refusal to participate. There were obstacles to further pursuing negotiations due to the inability of various interests to work together. The formation of the Pacific Salmon Treaty Coalition eventually led to the Pacific Northwest interests being able to work together. This effort reportedly took 18 years to succeed.

Several steps are necessary to fulfill the treaty's potential. Each party must control interceptions and overfishing. The depressed stocks of chinook salmon are to be rebuilt to the maximum sustainable level by 1998. The treaty provides the first step in rebuilding the runs by controlling interception. Once this step is accomplished, rebuilding the runs will require that habitat be available for use by the salmon. Therefore, the availability of surface water to meet habitat requirements will be important.

#### Northwest Power Planning Council

In 1980, Congress passed the Pacific Northwest Electric Power Planning and Conservation Act (PL 96-501). The Act created the Pacific Northwest Electric Power and Conservation Planning Council, now referred to as the Northwest Power Planning Council (Council or NPPC) to serve as a publicly accountable body to provide the states and ratepayers of the region a voice in the region's energy planning and related fish and wildlife activities. The Council's eight members are appointed by the Governors of Washington, Oregon, Idaho and Montana (2 each). (See page 32 for more information on the Council.)

The Council developed the Columbia River Basin Fish and Wildlife Program in 1982 (revised 1984) to guide efforts to restore Columbia River fish runs, as well as improving conditions of resident fish and wildlife. The Council first adopted the Northwest Power Plan in 1983 (revised in 1986) to plan for an adequate and reliable supply of electrical power over the next 20 years at the lowest cost to the region.

Current Council activities under the Fish and Wildlife Program include:

1. A study of the salmon and steelhead losses resulting from hydropower development
2. The Hydropower Assessment Study which includes collection of available data on anadromous fish, other fish and wildlife resources, and recreational, and cultural or historical resources to be protected from development. The portion addressing resident fish, wildlife, and other river values is called the Pacific Northwest Rivers Study. A following effort, called the protected areas study, is just beginning.
3. Actions taken as part of the Council's Five-Year Action Plan.
4. Publication of various issue papers including those on: mainstem spill at U.S. Army Corps of Engineers dams; hydropower responsibility for salmon and steelhead losses, salmon and steelhead planning, research, and computer modeling; and genetic considerations in salmon and steelhead planning.

#### State Scenic Rivers Program

The state Parks and Recreation Commission has reinitiated efforts in its State Scenic Rivers program. The State Scenic Rivers Act (Chapter 79.72 RCW), passed in 1977, authorizes the establishment of a committee to participating agencies (Ecology is on the committee) to work with the Parks Commission to identify public lands that could be included in a river area of the state scenic rivers system, the boundaries of such areas, and policies for such areas (including management plans). Stream reaches recommended for inclusion are submitted to the legislature for consideration. To date only portions of the Skykomish and several tributaries have been included in the system.

State Parks' renewed efforts are aimed at identifying additional segments for designation and development of a management plan for the existing Skykomish and tributaries segments. This relates to a number of programs administered by Ecology including instream flows and water allocation, water appropriation, water quality, and shoreline management. The State Scenic Rivers Act requires that state agencies pursue policies designed to conserve and enhance the conditions of rivers included in the system (RCW 79.72.050).

#### Puget Sound Water Quality Authority

The Puget Sound Water Quality Authority (PSWQA) was created by the Washington State Legislature in 1983. The original Authority consisted of 21 members from various interested parties. It was charged with conducting several studies of Puget Sound's water quality to determine sources and risks of water pollution. The authority was to give the State Legislature reports of its findings and recommend legislative and regulatory changes to improve Puget Sound's water quality.

In 1985, the State Legislature reexamined the Authority's structure, funding and mandate. They revised the Authority's enabling legislation, reduced the Authority membership to 7, gave the Authority a funding source and staff and provided the following mandate:

"...to develop a comprehensive plan for water quality protection in Puget Sound to be implemented by existing State and Local governments..." (RCW 90.70.001)

Throughout 1986, the Authority has researched, drafted, discussed, and publicized its plan for the Sound. The plan will be sent to the governor and the legislature on January 1, 1987. It will state goals and objectives for short and long term management of Puget Sound's water quality. It will recommend the research needed to develop guidelines, standards and timetables necessary to protect and clean up the Sound. The plan will be revised periodically and the Authority will publish biennial "State of the Sound" reports.

#### Hood Canal Coordinating Council

The Hood Canal Coordinating Council (HCCC) was established through an agreement among Jefferson, Mason and Kitsap counties in the fall of 1985 to develop recommendations for accomplishing the goals outlined in the Washington State Ecological Commission's (WSEC) report "The Future of Hood Canal". The HCCC was established as a result of Governor Booth Gardner's 1984 request that the WSEC develop a regional planning policy for Hood Canal.

One concern of the HCCC is the enhancement and protection of water resources in the Hood Canal watershed. This could include the lands and activities that occur from the crest of the Olympic Mountains and uplands of the Kitsap Peninsula to the shorelands of the canal, as well as all other lands which drain into the canal. The first goal of the HCCC is to "maintain and improve the water quality in Hood Canal". Other goals include preserving and enhancing aquaculture, shellfish, and fishing industries, preserving and enhancing recreational activities, preserving natural habitat areas and ensuring that upland management remains compatible with HCCC policy.

From December, 1985, to the present, the HCCC has met regularly in communities around Hood Canal. These public meetings were organized around these general topics: intergovernmental organization, nonpoint source pollution, land use, forest management practices, and physical properties (soils, hydrology) of Hood Canal. The result of these meetings was the Hood Canal Regional Planning Policy. This policy was reviewed by all interested parties. It was adopted by the HCCC in November 1986. The policy includes sections on agricultural practices, shoreland and upland development, wetland protection and public education.

#### Watershed Planning

Washington State courts have ordered that the state and tribes develop Comprehensive Resource Production and Management Plans (CRPMPs). These plans are to be developed by fisheries managers for each watershed and

are intended to enhance fish production, harvest and management. To help develop these plans, the Washington State Legislature called for a watershed planning and fisheries enhancement program in Substitute Senate Bill 3384 (Chapter 75.50 RCW).

The Watershed Planning Project for the State of Washington is coordinated and staffed by the Washington Department of Fisheries, Department of Game, and Indian tribes. During the planning process, planners will list constraints and opportunities for habitat protection, production and harvesting of fish, and institutional aspects of fish management. By early 1987, Fisheries will propose a strategy listing options to overcome constraints or ways to take advantage of the opportunities in watershed planning and management. As a critically important component of habitat, instream flows may become a focus of watershed plans.

Staff in both Ecology's Instream Flow Program and Fisheries' watershed planning effort share information about the status of watersheds throughout the State. Ecology will review proposed comprehensive watershed plans and strategies proposed by watershed planners in early 1987.

#### Forest and Range Management Plans--National Forest Plans

The 1974 Forest and Rangeland Renewable Resources Planning Act (RPA) and the 1976 National Forest Management Act (NFMA) directed the USDA Forest Service to evaluate its resources and develop plans which would look at environmental consequences of alternative standards and guidelines for resource management. The NFMA requires development of alternative guidelines for seven specific management practices. These relate to silvicultural systems, size and dispersal of openings, biological growth potential, management intensity and utilization standards, unit of measure, air quality, and utility and transportation corridors. Forest plans in the Pacific Northwest Region, (Region 6), are also required to analyze alternative management strategies for the northern spotted owl.

The Regional Plan guides planning at the Forest level, identifying issues and alternatives. The Forest Plans analyze the consequences of implementing various management strategies, looking at the impacts on different outputs. Forest Plans contain the provisions of NFMA, the implementing regulations, the Regional Guide, and other documents. Land use determinations, prescriptions, and standards and guidelines are a statement of the Plan's management direction.

Each Plan contains an analysis of the management situation, which analyzes benchmarks of resources such as timber, present net value, forage, wildlife habitat and recreation.

#### Coordinated Water System Planning

Coordinated water system planning is authorized by the Public Water System Coordination Act (Chapter 70.116 RCW) and is administered by the Department of Social and Health Services' Drinking Water Program. It is a process for public water suppliers (two or more service connections) in an area to consider common water supply problems. The coordinated water

system plan, adopted by the local water utilities, covers one or more public water systems. It identifies present and future needs of the participating water systems and the most efficient means to meet those needs. The plan must contain the elements of a comprehensive water plan, as required by the Department of Social and Health Services, with the addition of future service area designations, assessment of the feasibility of shared source, transmission, and storage facilities and other mutual or regional concerns.

The first step in the development of a coordinated water system plan is the declaration of a critical water supply area. This designation follows a survey of the status of water system source of supply and distribution systems. A critical water supply area is one experiencing supply problems or conflicts between competing public water suppliers. One of the purposes of the coordinated water system planning process is to resolve service area conflicts. It allows service areas to be delineated and conflicts resolved in a planning process with adequate public review. County approval of the coordinated water system plan is sought and, when received, the plan is sent to Ecology for review. Final approval is by the Department of Social and Health Services

Any person desiring to reserve water for future public water supply may file a petition with the Department of Ecology requesting establishment of a reservation for future public water supply, provided they have a Coordinated Water System Plan approved by the secretary of the Department of Social and Health Services (Chapter 173-590 WAC). (See page 29 for more information on Public Water Supply Reservations.)

#### PROGRAM IMPLEMENTATION AND ENFORCEMENT

After Ecology adopts regulations, they are normally implemented by Ecology's four Regional offices. Conditions or restrictions are placed on water right permits issued after the date that the program is adopted. If stream flows fall below any instream flow requirements, Ecology can enforce the restrictions on the water right. In the last biennium, Ecology initiated several such enforcement actions.

During the summers of 1985 and 1986, the Okanogan, Methow, and Wenatchee rivers in north-central Washington each experienced low flows resulting from below normal precipitation. Each of these basins have in place a basin plan or instream resources protection program adopted under Chapter 90.54 RCW. Since the adoption of the respective programs, the department has issued approximately 65, 60, and 12 water rights respectively, for permits with minimum flow conditions within the Okanogan, Methow, and Wenatchee River Basins.

Water diversions had to be curtailed during August of 1985 in all three river basins. The Central Regional Office regulated water use in the Okanogan River Basin to protect the instream flows established in Chapter 173-549 WAC. This was the first time water users in this basin had been regulated for instream flow restrictions. Thirty-nine had minimal impact due to nonuse or the existence of other nonprovisioned water rights. Three of the regulatory orders were violated, resulting in penalties being assessed. Five water right holders were within the Colville

Reservation; two of them filed suit in federal court claiming the possibility of "moccasin" rights which are water rights for non-Indians after they bought tribal lands. These "moccasin" rights are being investigated, with regulation of the state rights suspended until the outcome of the investigation. Ecology also regulated water rights in both the Methow and Wenatchee river basins. In the Methow, 64 provisioned rights were affected. The regulatory orders were violated three times in 1985 and twice in 1986, with penalties assessed. In the Wenatchee, 11 rights carry instream flow provisions. One user, Wenatchee-Chiwawa Irrigation District, got a temporary restraining order against Ecology and later established a pre-1917 water right claim.

Through these enforcement actions, the Central Regional Office staff ensured that the minimum flows were maintained in the basins. They used the customary fashion to stop water uses: When the river flows dropped below the minimum flows, department staff met the property owners, posted a notice that the state regulates the diversion works, and instructed the property owner to discontinue irrigation under their conditional or interruptible water right. Some water users resisted this approach and complained that there was no advance notice allowing them to prepare for the impending water curtailment.

In 1986, once again, Ecology had to curtail water uses because of low instream flows. The department attempted to improve its relationship with local water users by distributing hydrologic forecasts and data to water users. The information prepared water users for possible water curtailment if river flows again dropped below the minimum flows established for the Okanogan, Methow, and Wenatchee Rivers. During April, May, and June, staff at Ecology's Central Regional Office sent letters every two weeks to all landowners with interruptible water rights. These letters summarized the most recent water supply forecasts and the then-current river flows. Public meetings were conducted during the first week of July in Okanogan, Twisp, and Leavenworth to discuss the method of enforcing the minimum flow provision on the interruptible rights and to present the most recent hydrologic data pertaining to the three river systems.

To make the hydrologic information available to an even wider audience, a toll-free telephone line was installed at the Central Regional Office. The toll-free line was operated from July 15 to October 15. Callers could listen to a two minute recording of the actual flows for that day, the minimum flow for that day, and a statement of whether or not landowners with interruptible rights could irrigate.

Affected water users expressed a considerable amount of approval for the information-intensive approach taken in 1986 to the minimum flow enforcement programs. This approach allowed water users to know in advance when it was likely that their water use could be curtailed. From the department's standpoint, the toll-free message line allowed daily changes to be communicated to approximately 130 water users. This could not reasonably be accomplished any other way. For added publicity about the need to control water uses, some radio stations called the toll-free number, recorded the message, and played it as a part of their daily news programs. This further expanded the audience receiving the river flow

and minimum flow information. The regional offices also carried out more limited enforcement actions on a number of smaller streams.

#### PROBLEMS ENCOUNTERED

The biggest challenge for Ecology's basin/instream planning program during the 1985-86 biennium was maintaining reasonable progress on program development due to the Instream Flow and Water Allocation program review. (See pages 9-11.)

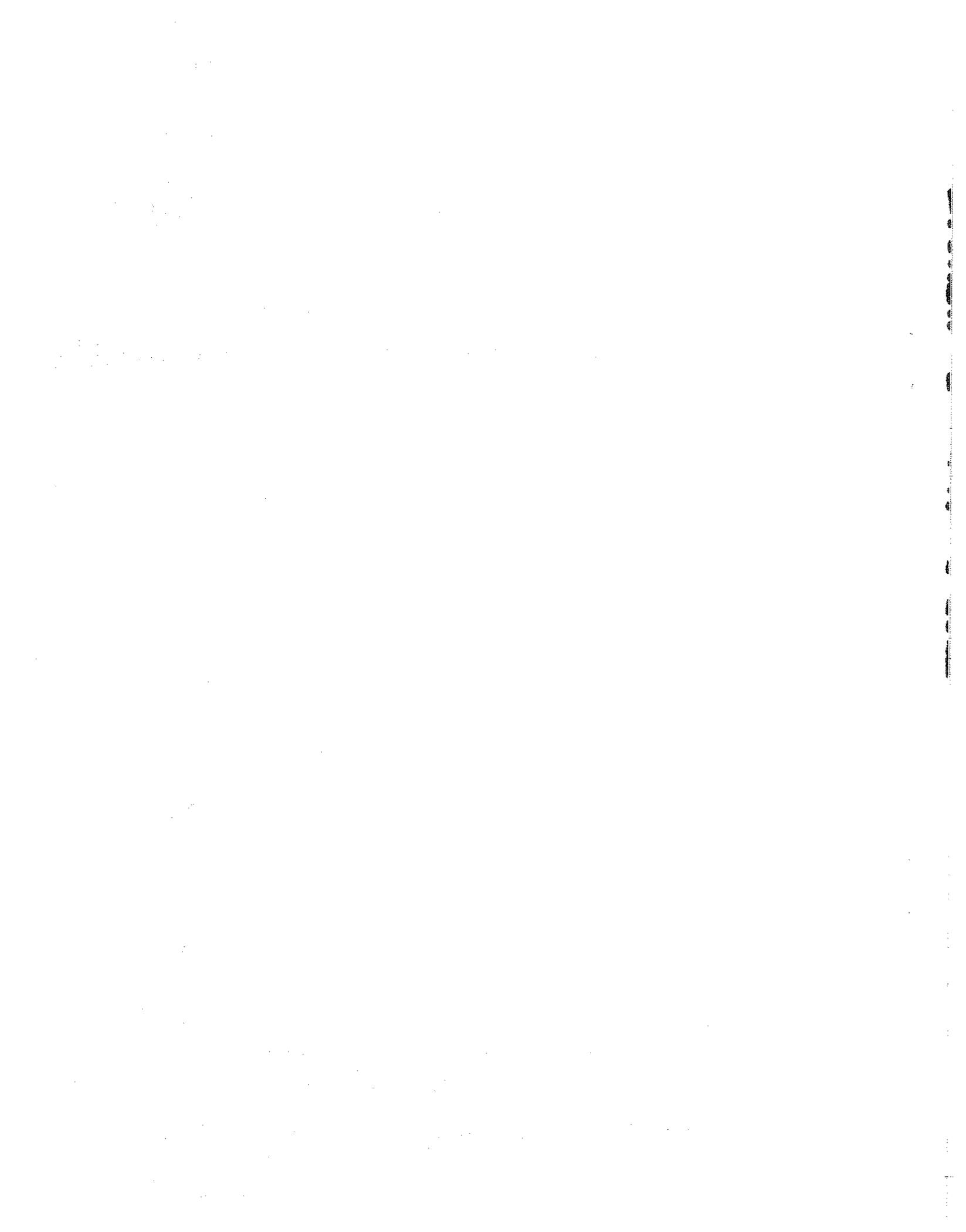
The instream flow and water allocation program review precluded adopting or reviewing minimum flows on streams and rivers across the state due to the necessity of allocating personnel to the program review. In addition, program development was held up pending resolution of difficult issues through the program review. On the positive side, however, it has brought together diverse and conflicting water user groups. Although they did not reach consensus on many issues, participants in the program review process helped Ecology evaluate and identify possible solutions to water allocation and instream flow issues.

#### ISSUES RESOLVED

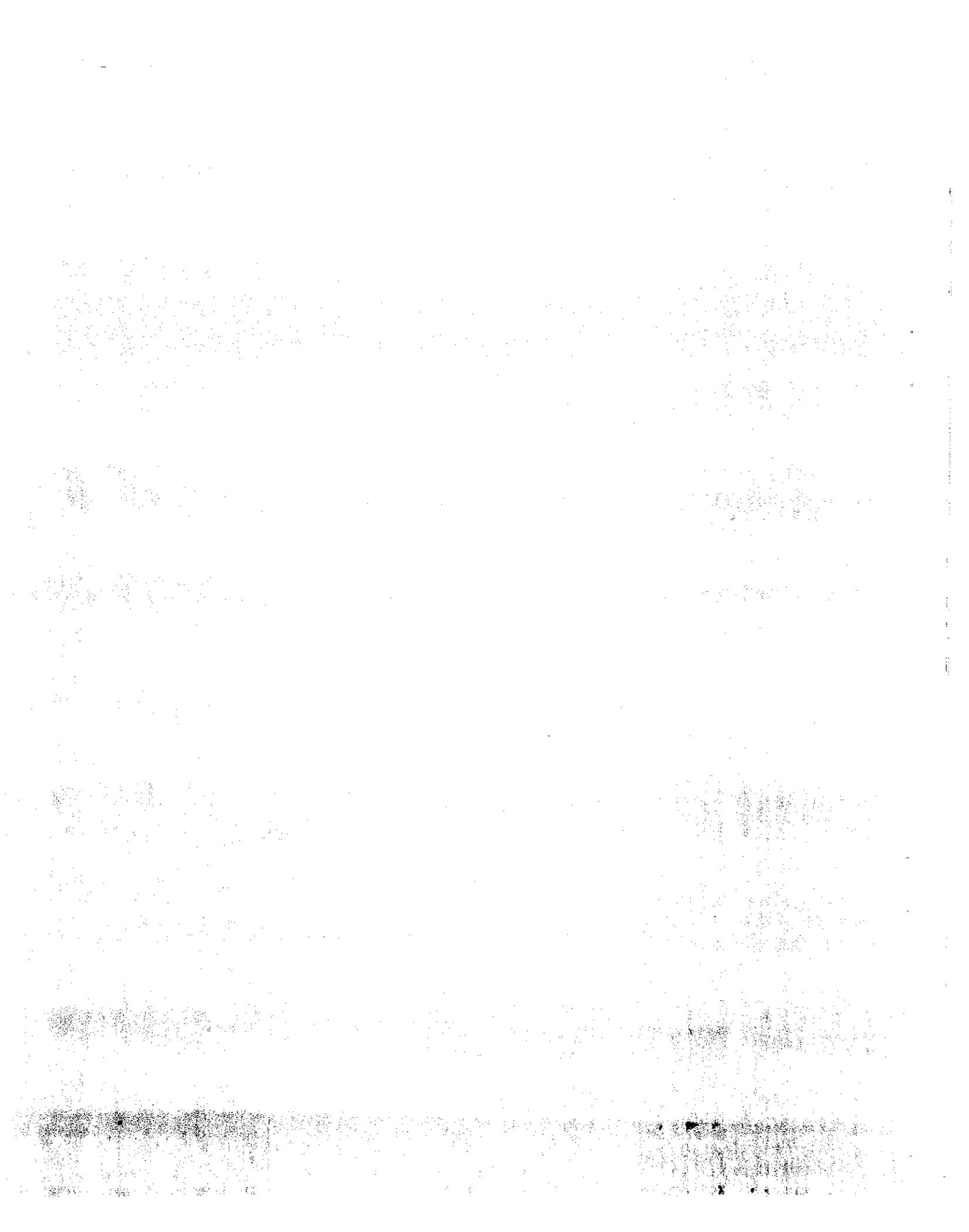
1. In 1980, the Department of Ecology adopted minimum instream flows for the Green River. These flows generally met the approval of the state Game and Fisheries departments at that time. Subsequently, Ecology proposed to issue a water right permit (conditioned to the adopted flows) to the City of Tacoma to divert up to 100 cubic feet per second of water from the Green River for the purpose of municipal water supply. This action was appealed to the state Pollution Control Hearings Board (PCHB) by the Northwest Steelhead and Salmon Council and the state departments of Game and Fisheries. The instream flow levels adopted in 1980 were one of the key issues in the case.

In August 1983, the PCHB rendered its decision following nearly 30 days of testimony. An appeal of the PCHB decision has been resolved through a settlement agreement that allows Tacoma to develop the additional water diversion, and provides additional protection of aquatic resources.

2. A long-standing dispute concerning Ecology's instream flows for the Tolt River has been resolved through interagency negotiations among state resource agencies and the City of Seattle. An agreement has been reached regarding revised instream flow releases from Seattle's Tolt River water supply reservoir with respect to Seattle's proposed hydropower project on the South Fork. Remaining issues will be resolved through future revisions to Chapter 173-507 WAC (Snohomish Instream Resource Protection Program).







## GROUND WATER MANAGEMENT

Major Issue: Proper development, use, protection, and regulation of our ground waters is a key to further economic growth and retention of a high quality of life for residents of many areas in Washington.

Authority/Background: Historically, ground water use and development occurred slowly where surface water was more accessible and less expensive to develop. As a result, the Ground Water Code (Chapter 90.44 RCW) was not enacted until 1945, nearly 30 years after the enactment of the Surface Water Code.

The Ground Water Code provides a means for regulating, controlling, and managing ground water through the issuance of water rights. Ground water management is becoming a major issue as surface waters approach full appropriation. In many areas of our state, the only source of water for increased irrigation and municipal supply is ground water. Specific examples are the Walla Walla area and the Eastern Columbia Basin. In many locations in our island counties, surface waters are not available, and limited ground waters provide the only available water source.

Accomplishments: Comprehensive ground water resources management was initiated by predecessor agencies of Ecology with enactment of the 1945 Ground Water Code. The earliest work on ground water consisted of investigations of its availability, demands on the resource, and potential problems. Investigations under a cooperative program between Ecology and the U.S. Geological Survey (USGS) have resulted in numerous water supply bulletins and other technical reports published by the USGS. Ecology has developed and adopted many administrative regulations and standard procedures for the management and allocation of ground waters.

Protection of Works: In 1985, Ecology adopted Chapter 173-150 WAC, Protection of Withdrawal Facilities Associated With Ground Water Rights. The purposes of the regulation are to clarify relevant ground water management policies contained within existing statutes and to establish specific procedures to be followed in the protection of ground water withdrawal facilities. Washington's water laws, which are based on the prior appropriation doctrine, resulted in some uncertainties and controversies regarding the consequences of water users' ground water withdrawal facilities (water wells) interfering with one another, causing a reduction or loss of production from water wells. In some instances, ground water quality as well as quantity may be affected by withdrawals. The regulation is intended to clarify the extent of statutory protection of water users' withdrawal facilities and to establish the procedures for obtaining and enforcing such protection. In addition, Ecology relies upon the regulation for the allocation of ground waters to applicants for new ground water permits. The development of the regulation was a controversial issue. However, no water users have yet applied for protection of their facilities through the adopted regulatory procedures.

Protection of Shallow Aquifers: Ecology adopted Chapter 173-154 WAC, Protection of Upper Aquifer Zones, in 1985. The purpose of the regulation is to establish policies and procedures for the protection of the availability of ground water within upper aquifers in areas where there

are multiple aquifer systems. The regulation states that Ecology will manage the state's ground water resources in a manner that protects, to the extent practicable, the upper aquifers from depletions, excessive water level declines, or reductions in water quality. This policy recognizes that the highest and best use of the waters of limited capacity shallow aquifers may be for domestic, stockwater and other similar uses which require only minimal water supplies and for which it is not cost effective to tap deeper aquifers. Typically, the upper aquifers were developed earlier with later development occurring in the deeper aquifers by larger users. The upper aquifers also commonly contribute to springs and stream flows. The withdrawal of water from lower aquifers can also cause the depletion or degradation of upper aquifers. The regulation implements portions of chapters 90.44 and 90.54 RCW. Adoption and use of the regulation by Ecology has the effect of reducing allocations of shallow ground waters for large withdrawals and often requires facilities tapping deeper aquifers to be specially constructed to avoid interference with shallow aquifers. The regulation is used in making decisions on new applications for ground water permits.

Seawater Intrusion: Seawater intrusion problems are becoming more common along our coastal and island areas as the population expands and ground water withdrawal and use increases. In the 1970s, Ecology adopted a standard office procedure for evaluating individual applications for the construction and use of water wells in these areas. The U.S. Geological Survey and Ecology have recently completed cooperative studies of seawater intrusion problems in San Juan and Island Counties. Many test wells were drilled to locate and monitor the water levels and chloride levels in aquifers at various depths. In addition, USGS developed a computer model to assist in predicting regional seawater intrusion problems in Island County. As a result of these efforts, Ecology is developing a regional management policy for the allocation and protection of ground waters within coastal and island areas. This policy may result in the adoption of agency regulations during the next biennium.

Ground Water Management Areas: In response to growing concern about our state's ground water resources, the 1985 Legislature passed landmark legislation that sets up a comprehensive process for more effective ground water management. SHB 232 directed Ecology to adopt implementing regulations for the statute by January 1, 1986. Ecology adopted Chapter 173-100 WAC, Ground Water Management Areas and Programs, in December, 1985. This regulation fulfills the legislative directive by translating the management process set forth in the statute into procedures for identifying and designating ground water management areas, subareas and zones, and for developing ground water management programs that address both ground water quality and quantity.

The purpose of the regulation is to establish procedures for the development of ground water management programs to protect ground water quality, to assure ground water quantity, and to provide for efficient management of water resources for meeting future needs while recognizing existing water rights. Local agencies or water users may submit requests to Ecology for the designation of ground water management areas. Ecology ranks the probable areas based upon the threat to water quality, the significance of the problems identified, and the availability of

resources to develop and implement a management program, and places the areas on a General Schedule for designation. The General Schedule serves to guide Ecology in the designations and in the allocation of Ecology's available funding and staffing for such areas. Ecology then designates the areas and appoints a lead agency for the development of the ground water management program and a ground water advisory committee to oversee the development of each program. Following completion of the program, (which may take from one to three years depending on the amount of data collection and program planning required within the areas) and a public hearing conducted by Ecology, the program must be certified as consistent with the intent of Chapter 173-100 WAC and local, state and federal laws. The program will then be implemented through state and local policies and regulations. The program must contain provisions for monitoring its effectiveness and for periodic review.

Ecology received requests for the designation of ten ground water management areas during 1986. Two of the requests were not acceptable and were returned for further substantiation and review at the local level. Eight requests were accepted and ranked on the General Schedule. In October 1986, Ecology designated the eight ground water management areas and established the general planning boundaries for each area. In November 1986, Ecology appointed the advisory committees for each area. These committees consist of local and state agency representatives (including Ecology), federal and tribal representatives where necessary, local water users, and representatives of local interest groups. The lead agency appointed for each area to date is an agency of county government, such as the planning or health department. The lead agencies and the advisory committees held their first meetings during November, 1986. One of their initial tasks is to develop a scope of work and grant application to submit to Ecology. Planning grants for these programs are available under the Centennial Clean Water Funding Act passed in 1986. Approximately \$1.5 million is available in FY 1987 specifically for these programs, while additional amounts are earmarked for ground water management and protection programs in future years (\$2.6 million in FY 1988 and 1989, and \$3.0 million in following years).

The eight areas designated to date, which contain a total area of approximately 1200 square miles, are listed below in the order ranked on the General Schedule and are shown in Figure 3:

1. Clover-Chambers Creek Basin (Pierce County)
2. Island County
3. South King County
4. Vashon/Maury Islands (King County)
5. Gig Harbor Peninsula (Pierce County)
6. Kitsap County
7. Redmond-Bear Creek (King County)
8. Issaquah Creek Valley (King County)



Local agencies in many additional areas across the state are working on requests for designation of ground water management areas. Ecology expects to receive at least twelve more requests during the next biennium. This program is expected to be a major workload for the Water Resources Program, which has the lead for Ecology and coordinates with other Ecology programs and offices.

Ground Water Subareas: The Ground Water Code provides that Ecology may designate ground water areas and subareas, may designate depth zones within these areas, and may regulate withdrawals to maintain a safe sustaining yield of ground water. Ecology has designated three such ground water subareas by regulation: the Odessa, Quincy and Duck Lake subareas in Eastern Washington. Ground water management regulations have been adopted for the Odessa subarea and the Quincy subarea.

The Odessa subarea contains approximately 2200 square miles located within parts of Grant, Lincoln, Adams, and Franklin counties. The Odessa subarea management regulation (Chapter 173-128A WAC) was revised and updated in 1982. Ecology uses a computer model in conjunction with annual measurements of changes in ground water levels to predict the effects of proposed ground water withdrawals on existing water rights and ground water level declines. As a result of continuing declines in the ground water levels, few new permits are being issued. At this time, 185 active permits and certificates covering a total permitted area of about 84,500 acres have been issued by the department since the adoption of the original subarea regulations in 1974. An additional 265 permits for the irrigation of approximately 97,500 acres predated the adoption of the subarea. The total authorized irrigation from ground water sources within the Odessa subarea is now approximately 182,000 acres.

The Quincy subarea, containing approximately 1100 square miles, is located within Grant County and includes the cities of Ephrata, Moses Lake, and Quincy. The Quincy subarea management regulation (Chapter 173-134A WAC) was revised in 1986. This regulation defines artificially stored ground waters, public ground waters, and shallow and deep management units within the subarea, and sets forth policies for their management. The artificially stored ground waters occur from seepage and percolation of Columbia Basin Irrigation Project waters originating from the Columbia River. The recent revisions identified an area within the subarea where limitations on the total amount of ground water withdrawals apply. This area is the somewhat smaller geographic area within the subarea that contains artificially stored ground waters. In addition, the revisions corrected two minor errors in the legal description of areas where withdrawals are limited in order to protect recharge to the Potholes Reservoir. The effect of the changes was to remove certain restrictions on ground water withdrawals within some portions of the subarea. Through March 31, 1986, the department had issued a total of 1,113 permits for the withdrawal of approximately 168,500 acre-feet of artificially stored ground water for the irrigation of 47,817 acres, which is very close to the maximum limits set by the regulation (177,000 acre-feet and 50,570 acres). However, only 34,200 acres have actually been developed, primarily due to low crop prices and rising power costs.

For lands within the Columbia Basin, Ecology revised the regulation (Chapter 508-14 WAC) describing the interim policies which guide the agency in granting permits for ground water withdrawals within the Columbia Basin Irrigation Project but outside the established Odessa and Quincy ground water subareas. Beneath the surface of the lands within the Project are large quantities of naturally occurring and artificially stored ground waters. The source, extent, volume and flow characteristics are largely unknown. The regulation is to guide Ecology until studies have been completed and/or ground water subareas have been established within the remainder of the Project area. The 1986 amendments to the regulation deleted certain lands which are now within the Odessa subarea (which was expanded in 1982) and lands along the Columbia River in the vicinity of Priest Rapids Dam, for which studies by Ecology and the U.S. Bureau of Reclamation shows that the underlying ground waters are public waters and not artificially stored ground waters. The effect of these changes was to remove some restrictions on withdrawals within the subject areas.

The Duck Lake subarea (Chapter 173-132 WAC) was established to develop a management program for artificially stored ground water. This subarea in Okanogan County contains about 5 square miles. In a 1985 order, the department determined the amount of artificially stored ground water to which the Okanogan Irrigation District is entitled. Water rights are now being determined through a general adjudication process in order that the department can evaluate water availability and use in the subarea to administer pending and future state water right applications.

Ground water management policies are a major element of the basin management program adopted in 1977 for the Walla Walla River Basin. This was the first river basin management program to treat ground water management in detail. It applied the concept of conjunctive use of surface water and ground water where the use of water during the low flow period may be augmented by the use of ground water which, in turn, is recharged during the higher flow periods of the year. The program established a provisional designation of the ground waters in the basalt aquifer for municipal water supply systems only. This expired on October 1, 1984 although Walla Walla County has requested Ecology to extend this designation until the year 2032 to ensure that the decline in the aquifer level is minimized. They also requested a surface water reservation for Mill Creek, a tributary to the Walla Walla River. This reservation, if approved and ultimately developed by a new storage reservoir, would help supply the future municipal water supply needs of the Walla Walla urban area. These requests will be considered during a general review of the Walla Walla Basin Management Program which should be initiated in the FY 87-89 biennium.

Ground Water Investigations: The Investigations Work Unit within the Project Assistance/Investigations/Water Well Technology Section has been involved in the preparation of the following water resource and ground water related reports for the period of January 1985 - December 1986:

1. Power license fee microcomputer database, cross referenced to state water rights: Collection of power license fees from hydropower operators was organized for the first time using a microcomputer.

Hydropower licenses were cross-checked against Ecology hydropower water rights records to correct inconsistencies.

2. Odessa Subarea water right applications processing by computer model: The computer model of the ground water flow system is used several times each year to analyze the effects of issuing new water rights.
3. Seafarm of Norway aquifer test, Thurston County: A test was conducted to determine the effects of pumping a well at 2,000 gallons per minute for fish propagation water supply.
4. Principal Aquifers Map Production Plan: This is an EPA funded project to create a statewide set of maps showing the uppermost principal aquifers at 1:250,000 scale. These maps are part of Ecology's aquifer classification efforts.
5. Roza Irrigation District Ground Water Availability: This is an analysis of ground water supply potential for supplemental irrigation waters during years of low stream flow.
6. Interagency test/observation drilling contract for 10 wells, between Ecology and Edmonds Community College (drilling program): This is part of Ecology's test/observation well drilling program. Wells are being drilled in the Scatter Creek aquifer in south Thurston County to obtain additional data for a water resources study of the heavily pumped aquifer.
7. Skokomish Valley Well - Interference Analysis, Mason County: This is an analysis of the effects of pumping a well for a new fish hatchery to be located adjacent to an existing state fish hatchery in Mason County.
8. Hydrologic Functions of Wetlands in the Pacific Northwest: A paper was written and presented at an Ecology sponsored conference on Wetland Values.
9. Geohydrologic Review for Proposed Superconducting Supercollider Facility - Governor's Task Force: This is an analysis of the hydrology of three proposed sites for locating the federally funded high energy physics research facility.
10. Sequim Bay Marina Aquifer Test, Clallam County: This was a test to determine the effects of pumping a new public water supply well near Sequim.
11. Ecology - Department of Natural Resources - U.S. Geological Survey Hydrologic Data Base Project (statewide Geographic Information System): Ecology participated in writing the planning document for developing a statewide hydrologic database and mapping capability using Geographic Information Systems computer techniques.

12. Sinking Creek area well interference analysis, Lincoln County: This study analyzed the effects of pumping 12 irrigation wells as proposed in various water rights applications.
13. Rettkowski Aquifer Test, Lincoln County: This was a test pump of a large irrigation well to determine the effects of pumping an increased quantity of ground water.
14. Loma Vista aquifer test, Clallam County: This was test pump of a public water supply well to determine the effects on existing water rights and ground water availability.

Additional ground water studies by Investigations Work Unit:

1. Drought wells of 1977 - report: Completion report on 37 wells drilled in 1977 for monitoring effects of severe drought on ground water supplies.
2. Ground water and lake level monitoring, Duck Lake Subarea: Ecology is monitoring water levels for management of water supply within the subarea.
3. Microcomputer database design to establish interchange with USGS WATSTORE database: This is the first attempt to establish a ground water data base for Water Resources Program and Regional Office staff use. Design is similar to U.S. Geological Survey's computer database in order to enhance data transfer between Ecology and the USGS. This will avoid duplication of effort. Most of the data will reside on the USGS computer.
4. Lopez Island test/observation well drilling, San Juan County: This is part of the test/observation well drilling project. Three to five wells are to be drilled on Lopez Island to gather data on salt-water intrusion in the island aquifers.
5. Schreiber aquifer test analysis, Spokane County: This will test a small irrigation and multiple domestic supply well for ground water availability and effects on existing water rights.
6. Skokomish River Basin Geographic Information System (GIS) project: This is a cooperative study with the U.S. Geological Survey and the Washington Department of Natural Resources. It is the first project under the statewide hydrologic database plan (completed in 1986), and utilizes GIS computer techniques for surface water modeling of rainfall-runoff relations and land-use effects on stream flow.
7. Statewide observation well network: This is a planned expansion of the water level measurement network for monitoring ground water supplies statewide.

Current cooperative Ground Water Investigations between Ecology and the U.S. Geological Survey:

1. Ground Water Pumpage: This study will test methods for determining ground water use for irrigation on the Columbia Plateau of eastern Washington. Methods to be tested include direct measurements of pump efficiencies and estimates of pumping rates using electric power consumption records. Ecology's Eastern Regional Office is cooperating in the program and participates in data collection of well water levels and field verification of crop types. The measurement of ground water levels involves visiting up to 250 wells, once in the spring and again in the fall, each year of the program.
2. Crop Water Remote Sensing: The crop verification data will be used as part of the cooperative program to determine the applicability of remote sensing to meet the informational needs of the department. Remote sensing techniques will be used to estimate water application rates and crop acreage. These estimates will be combined with soil types to enable the calculation of actual water use for irrigation. These data will allow the department to better manage the ground water available for appropriation.
3. Southwest King County: This is a basic water resources availability study in an area of rapidly expanding population and growing water supply needs.
4. Model Transfer and Training: The U.S. Geological Survey will train Ecology staff in the use of ground water computer models which have been constructed for various aquifers in recent cooperative studies.
5. Observation Well Program: This is another ongoing, cooperative activity with the USGS. Observations at a network of wells monitor changes in ground water levels in many of the state's principal aquifers. Since the beginning of the program in 1938, the number of wells in the network has varied. Currently, there are 18 wells in the network. Table 8 lists the number of observation wells in the state network by county. The water levels in these wells are monitored by the USGS. The USGS also monitors the water levels in a great many additional wells within specific project areas.

Table 8

## OBSERVATION WELLS

County	1985-86	County	1985-86
Adams	2	Kittitas	3
Benton	1	Klickitat	2
Douglas	3	Lincoln	4
Grant	1	Walla Walla	1
Grays Harbor	1		

TOTAL = 18

In addition to the observation wells listed above, the Department of Ecology monitors the water levels in over 800 privately owned wells (most in Eastern Washington) and also in 37 test wells which were drilled by the state in response to the drought in 1977. These test wells are located in the following counties: Benton (1), Douglas (1), Grant (1), Grays Harbor (1), Island (3), Kitsap (3), Lewis (12), Pacific (1), San Juan (1), Skagit (1), Snohomish (1), Spokane (2), Whatcom (2), Yakima (7).

Public Water Supply Reservations: A fundamental concern expressed in the Water Resources Act of 1971 is that an adequate and safe supply of water be preserved and protected for human domestic needs. Under the present water appropriation system, a permittee is given specific time limits to complete a water supply project and to put the water to full beneficial use. As a result, public water supply utilities have either been unable to ensure adequate future water supplies or have filed applications for permits with no intent to develop the source immediately. The department, in cooperation with the Department of Social and Health Services (DSHS), has adopted regulations which establish a process whereby any person may petition Ecology to reserve surface or ground water for future public water supply (Chapter 173-590 WAC). It is anticipated that most petitions will be for reservation of ground waters.

The public water supply reservation program is the preferred method to secure future water rights when currently planned public water supply facilities are adequate, but long range capacity is in doubt. A regulation establishing a reservation for future public water supply and rights subsequently issued under that reservation will have a priority of the date of adoption. All subsequent rights issued after that date for other uses are junior in priority to rights issued under the reservation.

Reserving waters through regulation is considered the same as an appropriation of water by permit under the Water Code (RCW 90.03.345 RCW). For that reason the department must be sure that the waters will be available and will be put to beneficial use. Both surface and ground waters may be reserved for any beneficial use, including domestic, industrial, irrigation and other uses.

Coordinated Water System Plans (CWSPs), which are required by Ecology prior to the submittal of a petition for reservation of public waters, are presently being developed in conjunction with ground water management programs within several of the Ground Water Management Areas discussed above. Ecology expects to receive petitions for reservations of water from these areas upon the completion of the programs. (See page 16 for more information on coordinated Water System Planning.)

The department expects petitions for reservations of public water supply to be submitted for the following areas:

1. Tri-Cities
2. Spokane
3. Burbank (Walla Walla Co.)
4. Skagit County (Fidalgo Bay)
5. Island County
6. San Juan County
7. King County
8. Pierce County
9. Pacific County (Long Beach Peninsula)

The department received petitions from the Thurston County metropolitan area (Lacey, Olympia, and Tumwater) and Clark County. An environmental impact statement (EIS) was prepared by Olympia, on behalf of the three cities, in compliance with the State Environmental Policy Act. The EIS was used by Ecology in evaluating the petition and in deciding whether to proceed with the development of a proposed regulation to reserve the requested ground waters. Clark County also petitioned for a reservation program. Water supply reservation regulations were developed in early 1985 for both Thurston and Clark counties and were adopted as Chapters 173-591 and 173-592 WAC in 1986.

Well Drillers Licensing and Well Construction Program: There is a need to protect the public health, welfare, and safety of Washington's citizens through licensing and regulating water well contractors and operators and by regulating water well construction as it relates to the protection of the ground water resource.

In 1971, the Legislature passed the "Washington Water Well Construction Act," codified as Chapter 18.104 RCW. This act established procedures to license and regulate water well contractors and operators. The law directed Ecology to adopt rules and minimum standards for constructing water wells. These rules were adopted in 1973.

During the 1984-86 biennium, the Legislature approved funding for four full time employees, one for each of Ecology's regional offices. They administer the well construction standards contained in Chapter 18.104 RCW, Chapter 173-160 WAC, and Chapter 173-162 WAC. They also respond to complaints against well drillers, conduct inspections of wells during construction and after completion, enforce the minimum well construction standards, and proctor various licensing examinations conducted around the state. The addition of these staff has markedly improved the department's effectiveness in this program, which was previously funded at a level of one employee. Headquarters administers the licensing and coordinates the rules and regulations and tracks the program for effectiveness.

Examinations for licenses are given on a quarterly basis. Licenses are issued to successful applicants and are renewed yearly. Currently, there are approximately 800 licenses.

Within the first six months of calendar year 1986, 31 well drilling complaints were investigated and acted on, resulting in 14 Notices of Violations and Enforcement Orders. In comparison, no action occurred during the prior six months when only 1 position was funded. Although the increase of funding has been very beneficial to the program, it appears that additional staffing may still be required to keep up with the workload.

New emphasis on protecting the public's health and safety through an improved well construction program has helped communication with the well drilling industry and the State Well Drillers Association. There has been an increased awareness of the need to protect ground water resource.

The lack of public knowledge relating to the well drilling industry and the importance of proper well construction is a continuing problem. As the demand for more wells increases, there will be a greater need for additional staff and associated funding for further program development and enforcement of the law and regulations.

Ecology will continue to audit and make changes to the minimum construction standards regulation if it needs to be improved. Special wells such as monitoring wells may require different construction standards. Ecology's well drilling staff are updating standards to address current drilling techniques and practices.





## REPRESENTING THE STATE'S INTERESTS

Major Issue: Water resource concerns do not begin and end at the border of the state. Washington's water is affected by activities in neighboring states, the Province of British Columbia, and by the policies and actions of the federal government and regional entities. The State of Washington must have its water resources policies and programs adequately represented before state, regional, federal, and international entities and must be a full partner in regional water resources decision making.

Authority/Background: The Water Resources Act requires that "The state shall vigorously represent its interests before water resource regulation, management, development, and use agencies of the United States, including among others the Federal Power Commission (now the Federal Energy Regulatory Commission), Environmental Protection Agency, Army Corps of Engineers, Department of the Interior, Department of Agriculture, and the Atomic Energy Commission (now the Nuclear Regulatory Commission), and of interstate agencies with regard to planning, licensing, relicensing, permit proposals, and proposed construction, development, and utilization plans. Where federal or interstate agency plans, activities, or procedures conflict with state water policies, all reasonable steps available shall be taken by the state to preserve the integrity of this state's policies." (RCW 90.54.080) (Additional authority is found in RCW 43.27A.090).

Accomplishments: Northwest Power Planning Council Activities: The Northwest Power Act, (Public Law 96-501) enacted December 5, 1980, established a new regional body called the Pacific Northwest Electric Power and Conservation Planning Council, commonly referred to as the Northwest Power Planning Council (Council). The Act mandates the Council to work with the Bonneville Power Administration (BPA) and other agencies and the public to plan for and deliver energy to the Pacific Northwest. The Council is considered the "planning arm" for the Northwest's energy needs whereas the Bonneville Power Administration is considered the "implementing arm."

Officially formed on April 28, 1981, the Council is composed of eight members, two from each of the four states of Idaho, Montana, Oregon, and Washington. The Council's primary mandate under the Northwest Power Act is to develop a 20-year regional power plan to ensure the Northwest an adequate and reliable electrical power supply at the least cost. The regional energy plan was adopted on April 27, 1983 and revised in 1986.

A second major provision, Section 4(h) of the Northwest Power Act, directs that before the regional energy plan is developed, the Council must develop a program "to protect, mitigate, and enhance fish and wildlife, including related spawning grounds and habitat, on the Columbia River and its tributaries." This fish and wildlife program, designed to compensate for losses to fish and wildlife caused by the Columbia River hydroelectric system, was formally adopted by the council in November 1982 and was amended in October 1984. A second round of amendments will be considered during 1987.

Ecology has provided comments to the Council during the formulation of both the Fish and Wildlife Program and the Northwest Power Plan and their amendments and continues to review and comment on Council activities and issue papers including those relating to fish and wildlife and hydro-power. In conducting its planning efforts for the Pacific Northwest, the Council has consistently recognized the role of states. Section 10(h) of the act states that:

"Nothing in this Act shall be construed as authorizing the appropriation of water by any Federal, State, or local agency, Indian tribe, or any other entity or individual. Nor shall any provision of this Act or any plan or program adopted pursuant to the Act (1) affect the rights or jurisdiction of the United States, the States, Indian tribes, or other entities over waters of any river or stream or over any groundwater resource, (2) alter, amend, repeal, interpret, modify, or be in conflict with any interstate compact made by the States, or (3) otherwise be construed to alter or establish the respective rights of the States, the United States, Indian tribes, or any person with respect to any water or water-related right."

Although Ecology's water resource planning, allocation and management functions are not bound by the Council's programs, Ecology endeavors to be consistent with them to the extent possible within the constraints of state laws.

The Northwest Power Act required that the Council be provided with accurate information about energy demands, energy supplies and the impacts of energy development, in particular hydropower, on fish and wildlife. The Hydropower Assessment Steering Committee (HASC) was established by the Council to conduct several studies which would give the Council more information about the effects of hydropower development on fish and wildlife. In turn, HASC commissioned BPA to establish a regional Rivers Assessment Task Force (RATF) to survey rivers of greater than 35 cubic feet per second mean annual flow, in each state. The Washington State Energy Office has assessed our state's rivers and created a comprehensive computerized data base incorporating existing river uses, water quality, the quantity of water found in and appropriated from each river, resident fish utilization, wildlife present, and cultural values. The RATF data base will be combined with a second study conducted by the Council's staff on anadromous fish in the Pacific Northwest. Following the merger of information from RATF and the anadromous fish study, the Council will work with states to develop criteria to designate areas to be protected from hydropower development along rivers in the Pacific Northwest.

Another study commissioned by the Council is the Hydropower Site Ranking Study which allows better prediction of the availability of new hydro-power generation resources. Site rankings made through this study will consider fish, wildlife, and cultural impacts of hydroelectric power development. Any new hydroelectric power development must now abide by the federal 1986 Electric Consumers Protection Act S. 426 (amending the Federal Power Act) which gives fish and wildlife more legal standing during the Federal Energy Regulatory Commission's (FERC) licensing process.

Ecology staff have attended and participated in most HASC and RATF meetings. Ecology's role is principally one of monitoring the Council's study activities, coordinating with other state agencies, providing data, reviewing studies and reports, and making appropriate recommendations as the state water resources agency.

Testimony on Federal Water Policy Legislation: During the past two years, Ecology has continued its role of monitoring federal legislation and presenting its views. In many cases, the provision of state comments is through bodies such as the Western State's Water Council or the Interstate Council on Water Policy (formerly the Interstate Conference on Water Problems). Both of these organizations closely monitor federal water resource policy development and frequently solicit comments from their state members. In formulating such comments, the department takes the position that the state is the proper authority for the allocation of waters and opposes any federal policies that might endanger such a policy.

Hydropower Licensing by the Federal Energy Regulatory Commission:

Section 9(b) of the Federal Power Act of 1920 requires each applicant to the Federal Energy Regulatory Commission (FERC) for a license to build a hydroelectric project to ". . . submit . . . satisfactory evidence that the applicant has complied with the requirements of the laws of the state or states within which the proposed project is to be located with respect to bed and banks and to the appropriation, diversion, and use of water for power purposes. . . ."

Although it would appear that this language would require a FERC license applicant to first obtain a water right permit from the state, the U.S. Supreme Court ruled otherwise in 1946 in the case of First Iowa Hydroelectric Cooperative v. Federal Power Commission (328 U.S. 152). Subsequent cases involving hydropower projects in Washington (i.e. Mayfield and Mossyrock dams on the Cowlitz River) and in other states have supported the holding that FERC has authority to preempt state law under authority of the Federal Power Act.

Because new hydropower project development occurred slowly during the 1960s and 1970s, this issue was relatively unimportant. However, with the renewal of interest in developing hydropower during the 1980s, the threat became more imminent that development and management of many of Washington State's streams and rivers could be determined by FERC.

Congress passed the Electric Consumers Protection Act of 1986 which amends the Federal Power Act under which FERC operates. This Act generally improves the ability of the state to impact FERC's decision making process. It particularly strengthens provisions for the protection of fish and wildlife. Several key provisions are summarized as follows:

1. In deciding whether to issue a license, FERC is to give equal consideration to energy conservation, mitigation, and enhancement of fish and wildlife, protection of recreational opportunities, and preservation of other environmental aspects.

2. The act strengthens requirements to protect fish, wildlife and recreation, and other nonhydropower purposes such as irrigation, flood control, and water supply.
3. FERC is more strongly required to consider the recommendations of Federal and state agencies exercising administration over flood control, navigation, irrigation, recreation, cultural, and other relevant resources.
4. FERC must consider the extent to which a proposed project is consistent with a comprehensive plan for the affected waterway. Comprehensive plans would have to be prepared by an agency established pursuant to Federal law (e.g. Federal agencies and the Northwest Power Planning Council) or by the state in which the project would be located.
5. FERC must consider electrical consumption and efficiency improvement programs of applicants involved in the generation and sale of power.
6. Small power production benefits established by the federal Public Utility Regulatory Procedures Act are not allowed unless a project would have no substantial adverse environmental effects, would not be located on a federal or state designated wild or scenic river, or would not adversely affect state-determined unique natural, recreational, cultural, or scenic attributes.

The amendments should strengthen the state's voice in regard to hydroelectric development within Washington and provide some needed limits on the extent of federal preemption of state authority. They will also provide the state with enhanced standing to seek legal redress of adverse FERC decisions.

Ecology has worked for a number of years with the Western States Water Council in developing or supporting new legislation to amend and clarify the Federal Power Act to give the states greater authority to regulate hydropower projects within their borders. In addition, Ecology has commented on various regulations proposed by FERC that would tend to further impair state water agency authority over hydropower.

Members of the Western State's Water Council, including Ecology and the Washington State Attorney General's office, are also interested in finding an appropriate case to relitigate the issues it is believed were wrongly determined in the First Iowa Hydroelectric case. State attorneys have some confidence that such a challenge could successfully reverse First Iowa due to other recent legal decisions and trends in the federal courts that are redefining federal-state relationships and responsibilities over water resources.

Ecology has filed numerous petitions to intervene in the FERC licensing process for specific projects in order to adequately represent the state's interest and to preserve legal options to object or otherwise participate in licensing proceedings at a later date. (When Ecology "intervenes" in a project going through FERC's licensing process, Ecology

is seeking legal standing in any court cases that may arise regarding that specific hydroelectric project.)

Ecology continues its activities to monitor and communicate with FERC. Although FERC continues to claim authority to override state law, in practice it has expressed support for the state's efforts to resolve environmental problems prior to licensing. FERC will accept and consider Ecology recommendations regarding water rights, minimum flows, and water quality protection, but has been less receptive to Ecology's shoreline management authority. Within the limits of staff availability, Ecology will continue to present its view to FERC on significant hydropower projects. (See also discussion entitled "New Hydroelectric Development" on page 46.)

Coordination with other federal agencies: Ecology deals extensively with federal agencies involved in water related projects and programs. Principal among these agencies are the Bureau of Reclamation and the Army Corps of Engineers. Among the projects in which Ecology is involved with the Bureau of Reclamation are the Yakima River Basin Water Enhancement Project and the second half of the Columbia Basin Project. These are described more fully on pages 42-45. Ecology has also been actively coordinating with the Corps of Engineers on several projects listed below.

Corps of Engineers Water Resources Projects: The Corps of Engineers has traditionally been involved in development and operation of federal water projects for flood control, water supply, hydroelectric energy, and conservation purposes. The Corps built and operates five dams on the mainstem Columbia River and four dams on the lower Snake River in Washington. In Western Washington, the Corps owns and operates Howard A. Hanson Dam on the Green River, Mud Mountain Dam on the White River, and Wynoochee Dam on the Wynoochee River. The Corps has also constructed navigation improvements and flood control works on many streams in the state.

The following are current Corps activities involving either existing or new dams:

1. Storage of additional water for conservation and water supply purposes is being addressed in a study of Howard A. Hanson Dam and reservoir on the Green River which began in September 1984. Ecology has worked closely with the Corps in developing the scope of studies. The dam has presently unused storage capacity outside the normal flood season that could be used to augment instream flows and municipal water supplies. The Green River is the major source of municipal and industrial water supply for the city of Tacoma and is proposed as a water source for the rapidly growing South King County area. The river also supports anadromous fish runs of statewide significance and regionally important recreational use. The Duwamish River (of which the Green River is the major tributary) experiences serious water quality problems related to instream flows due to municipal sewage discharges, industrial development, and stormwater runoff.

Since 1984, the Corps has concentrated its efforts on evaluating the hydrology of the Green River basin. This will help determine how much water is available for storage and release at various levels of reliability. In 1986, the Corps and other agencies involved in the study, including Ecology, identified the need for a thorough instream flow study before water allocation alternatives can be evaluated.

Because the Corps lacks funding for such a study in the near term, and because of the important need to do the study, Ecology agreed to carry out an Instream Flow Incremental Method study in cooperation with other agencies. During 1986, Ecology completed several phases of the instream flow study. The study should be completed by July 1987. It will serve as the basis for evaluating the effects of storage alternatives on fish habitat in the Green River.

Scarce federal funding has hampered progress on the additional storage study. Technical problems include passage of juvenile salmon and steelhead and water quality if the reservoir is filled earlier than is presently the case.

2. Development of hydroelectric generation facilities and construction of a large salmon and steelhead hatchery at Wynoochee Dam in Grays Harbor County has been studied and recommended by the Seattle District of the Corps of Engineers. The project proposal is under review by the Chief of Engineers in Washington, D.C. Ecology has discussed with the Corps the maintenance of a minimum flow below the project. Detailed studies will be carried out if the project is authorized by Congress. A fish hatchery would provide mitigation for lost fisheries resulting from the dam and reservoir.
3. Okanogan PUD No. 1 and the Oroville and Tonasket Irrigation District are sponsoring reconnaissance and feasibility studies being conducted by the Corps for a multipurpose project on the Similkameen River in Okanogan County. Potential project purposes include hydroelectric power, flood control, irrigation, recreation, and fisheries enhancement. A 220-foot high dam is being evaluated. Instream flow studies for areas downstream have been completed and wildlife studies are underway. Whether local and state sponsorship for this major project will be forthcoming is an unresolved, but critical, issue.
4. Development of projects on the South Fork Skokomish River and Icicle Creek were studied by the Corps during the last two years. The South Fork Skokomish project was not feasible and the Icicle Creek project lacked local sponsorship.

Representation on Regional and Interstate Organizations: A number of organizations provide communication and coordination between federal and state governments and among states in water resource matters. Membership in these organizations greatly facilitates the state's efforts to solve mutual problems and to represent its interests with respect to the federal government.

Ecology is an active member of the Western States Water Council, a 13-state organization that has been highly effective in facilitating the exchange of information on water problems of interest to western states, and in representing the states' interests. Ecology is also a member of the Columbia River Water Management Group, an organization of federal and state agencies involved with operation of the Columbia River basin dams.

Ecology also participates in the activities of the Interstate Council on Water Policy, the Association of Western State Engineers, the National Governor's Association - Water Management Subcommittee, and the Western Governor's Association (WGA).

WGA is an independent, nonpartisan organization of 16 western states, one Pacific commonwealth, and two territories. Established in 1984 as a result of the merger between the Western Governor's Policy Office (WESTPO) and the Western Governor's Conference (WGC), its purpose is to strengthen the policy making and management capacity of member states and their role in the federal system. It is involved in a broad range of functional concerns, including energy, agriculture, water, natural resources, international trade, fiscal policy, economic development, and related issues.

One of the major topics of interest to the Governors is "the scarcity of water supplies." WGA published a report in 1986 entitled "Western Water: Tuning the System" which discussed the needs and opportunities for water conservation and efficiency improvements in the Western states. The report concluded that voluntary transfers of water from one use to another through water markets are an important mechanism to enhance water use efficiency.

As means of exploring water transfers, WGA formed the Water Efficiency Working Group (WEWG). The WEWG held its first meeting in September 1986, with subsequent meetings in October and November. At these meetings, WEWG discussed water transfer case studies that were prepared by the members. This resulted in a determination of the most significant issues related to water transfers. At the WGA's winter meeting in December, WEWG presented this list of issues to the Governors and presented a progress report on WEWG activities. Following the December meeting, the WGA sent a questionnaire on the water transfer-related issues to a variety of water users and interest groups. The responses will be used by WGA in continuing its work. WEWG expects to provide a usable final product to the Governors at their next annual meeting in July 1987. WEWG's report will identify changes needed to address some of the problems of water conservation. In the meantime, WEWG will continue studying water conservation and efficiency issues.

Relationship with Canada: The fact that nearly 25 percent of the surface water available in Washington originates in Canada provides some measure of the significance of our relationships with our northern neighbor. The foundation for these relationships is provided by the Boundary Waters Treaty of 1909. Among other features, this treaty established the International Joint Commission (IJC) with jurisdiction over certain questions involving use, obstruction, and diversion of boundary waters.

In 1961, the United States and Canada signed a treaty relating to the development and management of the Columbia River system. Under the provisions of this treaty, dams have been constructed in Canada at Arrow Lake, Duncan Lake, and Mica Creek, and in Montana at Libby.

On February 11, 1982, Senate Bill 4846 became law. This measure provided \$3 million and authorized construction of a new control structure (to replace the existing Zosel Dam), which is located in the Okanogan River and controls the lake levels in Osoyoos Lake which straddles the U.S.-Canada border. The legislation also stipulated that the state's funds could be used only when 50 percent matching funds are committed by British Columbia.

On December 8, 1982, the IJC issued an Order of Approval to Washington State for construction of a new control structure to control the international waters of Osoyoos Lake. The Province of British Columbia supported the state's application to the IJC and the state and province jointly issued a cooperation plan which contains operational procedures for Osoyoos Lake to be implemented upon completion of the new control works. In early November 1984, British Columbia announced that the provincial Treasury Board had approved the appropriation of matching funds for construction of the Osoyoos Lake control works.

Construction is expected to be completed in early 1987 on the new control facility, and it will replace the old, deteriorated Zosel Dam. The structure controls the lake levels, transborder flows, and discharge from Osoyoos Lake into the Okanogan River. Construction work for the new facility was financed equally by the State of Washington and the Province of British Columbia. Total cost of the structure and associated activities is estimated to be \$6 million when completed. The work also includes channel restoration and shorelines stabilization work in the Okanogan River between the lake outlet and the old Zosel Dam.

Restoration of flow capacity in the Okanogan River will enable the new lake control facility to operate at peak efficiency. Additional work is also being conducted at the outlet of Osoyoos Lake along the shorelines of the Osoyoos Lake State Veteran's Memorial Park.

Interbasin Transfers of Water: In the 1970s, the late Senator Henry M. Jackson sponsored amendments to federal legislation which established a moratorium prohibiting the study of out-of-basin diversions of Columbia River water. This moratorium was scheduled to end on November 2, 1988. However, in 1986, H.R. 6, the Water Resources Development Act of 1986, became law. Section 715(a) reads as follows:

SEC. 715. COLUMBIA RIVER/ARKANSAS RIVER BASIN TRANSFERS.

(a) No Federal agency shall study or participate in the study of any regional or river basin plan for any Federal water and related land resource project which has as its objective the transfer of water from the Columbia River Basin to any other region or any other major river basin of the United States, unless such study is approved by the Governors of all affected States.





## PROJECT DEVELOPMENT AND REHABILITATION FINANCING

Major Issue: The Department of Ecology is continuing to evaluate the needs for water resources development and alternative methods of financing. The state's constitutional debt ceiling may be a key to any new proposals of state general obligation bonds. With the federal water resources development funding programs being reduced, the importance of state financing has dramatically increased in recent years. The need for a greater proportion of state financing to secure federal funds for water projects has created an urgent need for the development of alternative methods of financing. The state must take the lead in this activity to ensure that our waters are beneficially used and conserved for the people of the state and to maintain and enhance the state's economic condition.

Authority/Background: "The Department of Ecology shall as a matter of high priority evaluate the needs for water resource development projects and the alternative methods of financing of the same by public and private agencies, including financing by federal, state, and local governments and combinations thereof."--Water Resources Act of 1971, RCW 90.54.100.

The State of Washington currently has four separate funding sources for financing water resources project development and rehabilitation. The three primary sources for the past 12 years have been Referendum 27, Referendum 38, and the Emergency Water Supply Program. The primary source is presently Referendum 38. The fourth source, the Reclamation Revolving Account, was established in 1919 by the Legislature and was the only source of funding prior to 1972. There has been very little activity in the Reclamation Revolving Account in recent years due to the availability of other monies with the initiation of the Washington Futures Program in 1972.

Referendum 27, now codified in Chapter 43.83B RCW, was part of the Washington Futures bond package approved by the voters in 1972. It authorized the issuance of \$75 million in general obligation bonds for planning, acquisition, construction, and improvement of water supply facilities in Washington. One third of this (\$25 million) was used for agriculture water supply facilities.

During the 1977 session of the Legislature, the Emergency Water Supply Bond Issue was authorized and also codified in Chapter 43.83B RCW. It authorized \$18,000,000 of general obligation bonds for planning, acquisition, and improvement of water supply facilities to alleviate unsatisfactory water supply conditions arising from the 1977 drought. The Emergency Water Supply Laws of 1977 were amended in 1979 to allow the use of these funds to help alleviate the continuing water shortage in many areas of the state.

Referendum 38 is a \$125 million water supply bond issue approved by the voters in 1980. It is codified in Chapter 43.99E RCW. It authorized \$50 million of the bond issue for agricultural water supply alone or in combination with fishery, recreational, or other beneficial uses. The funds can be used for planning, design, acquisition, and construction of new, or improvement of existing, water supply facilities.

Accomplishments: A summary of each program including the dollars expended and the projects or irrigation/reclamation districts benefited follows:

1. Referendum 27

Out of the \$75 million Referendum 27 bond issue, \$25 million was designated for agricultural water supply. Bonds are sold based upon the estimated needs and deposited into the State and Local Improvement Revolving Account. Legislative appropriations are made to the Department of Ecology from this account. Ecology may make grants and loans to irrigation districts or may make direct expenditures. As of October 31, 1986 eighteen projects have been financed through cost-sharing grants and/or loans and direct department expenditures with irrigation districts and/or the federal government. These contracts total \$23,545,852 (\$19,336,302 in grants and \$1,209,550 in loans). Seventeen irrigation districts are benefited affecting approximately 252,705 acres (one of the 16 projects affects two irrigation districts). (See Table 1 in Appendix I.)

2. Emergency Water Supply

Under the Emergency Water Supply Program, bonds are sold and deposited in the State Emergency Water Project Revolving Account. Eighteen million dollars were authorized for emergency water supply projects. Legislative appropriations are made to the Department of Ecology from the emergency revolving account for grants and loans to irrigation districts or for direct expenditures.

Approximately \$2.5 million was expended on 14 projects to alleviate the effects of the 1977 drought. Five irrigation districts benefited, affecting approximately 3,763 acres.

Contracts totaling \$13,733,246 (\$6,876,681 in grants, \$6,180,291 in loans and \$676,274 by direct expenditures) have been executed as of October 31, 1986. Twelve projects have been financed in total or through cost-sharing with irrigation districts and/or the federal government, benefiting seven irrigation districts and affecting approximately 45,000 acres. (See Table 2 in Appendix I.)

3. Referendum 38

Out of the \$125 million bond issue, \$50 million was designated for agricultural water supply alone or in combination with fishery, recreational, or other beneficial uses. Bonds are sold based upon estimated needs and deposited in the State and Local Improvement Revolving Account. Legislative appropriations are made to the Department of Ecology for grants and loans to irrigation districts or for direct expenditures.

Contracts totaling \$14,597,833 (\$9,629,234 in grants, \$4,526,440 in loans and \$442,159 by direct expenditures) have been executed as of October 31, 1986. Twenty-three projects have been financed in total or through cost-sharing with irrigation districts and/or the federal

government, benefiting fourteen irrigation districts and affecting approximately 73,000 acres. (See Table 3 in Appendix I.)

#### 4. Reclamation Revolving Account

This account was the only source of state financing for irrigation development and rehabilitation for 53 years. Financing was available to irrigation districts through loans and purchase of district bonds. The amount of money available in the account varies from paybacks, bond redemptions, and power license fees collected.

Since Referendum 27 and 38 and the Emergency Water Supply Programs have been available, very little financing from this account has occurred. Prior to 1972, approximately 68 projects were completed with funds from the Reclamation Revolving Account. None are presently pending or under construction under this account.

The original dollar amount for the bond investment projects was \$2,813,500 benefiting 20 irrigation districts. The present bond indebtedness is \$1,099,300. (See Table 4 in Appendix I.)

The original dollar amount for the advances (loans) was \$67,500 benefiting two irrigation districts. The present loan balance is \$63,836. (See Table 5 in Appendix I.)

The present status of the agricultural water supply funds (as of October 31, 1986) is summarized in Table 6 in Appendix I.

Table 7 in Appendix I shows the planned Agricultural Water Supply projects.

Yakima River Basin Water Enhancement Project: The Yakima River Basin Water Enhancement Project (YRBWEP) is a feasibility investigation study authorized by Congress in Public Law 96-162 on December 23, 1979. The study was initiated in April 1981. The State of Washington supports the study and has provided \$500,000 to help fund the investigation (Substitute Senate Bill 2504, Chapter 263, Laws of 1979, 1st Extraordinary Session). The study team conducting the work is comprised of U.S. Bureau of Reclamation and Ecology personnel. The purposes of the study are to (1) provide firm water supplies to presently irrigated lands; (2) provide water supplies for irrigation of new lands on the Yakima Indian Reservation; (3) provide adequate minimum streamflows for fisheries, game, and recreation; and (4) develop a comprehensive plan for the basin to foster efficient management of existing water supplies.

YRBWEP has continued on the level of feasibility study/project development. A "Plan Formulation" report was issued that contained four alternative plans for satisfying the objectives of YRBWEP. These plans included additional storage proposals, and measures for water conservation and more efficient water supply management. The YRBWEP also made some progress through the efforts of the Department of Ecology and the U.S. Bureau of Reclamation in working with the U.S. Congress in developing measures for early implementation. These measures were incorporated into a proposed senate bill (S.2519) that is now under

consideration. With authorization and funding from the state legislature (ESSB 4418-April 1986), the YRBWEP is entering the final stage where a recommended plan will be developed that can be accepted by all involved interests.

The Department of Ecology is presently completing two cost-sharing projects which include the design and construction of fish ladders and screens as part of the YRBWEP. These projects are: (1) the City of Yakima's Naches River diversion dam (fish ladder and screens as part of the dam rehabilitation) and (2) the Columbia Irrigation District's Horn Rapids diversion dam on the Yakima River (fish ladders and screens). The estimated cost of state cost-sharing on these two projects is approximately \$1,112,000. Federal approval has been received for credit on this amount as part of the state's share on future YRBWEP costs.

YRBWEP will change slightly in the next two years. Future actions for the YRBWEP were determined on December 10, 1986. Yakima County Superior Court Judge Walter Stauffacher granted a motion filed jointly by the State of Washington and the U.S. Department of Justice that initiated the final phase of the Enhancement Study. The court granted a request originating with the Yakima Indian Nation that results in a one-year delay in processing of Tribal claims in the Yakima River adjudication proceedings. (See page 57 for more information about the Yakima Basin adjudications.) As a condition of the delay, the Tribe is to actively participate in the further conduct of the study. A time schedule identifying study activities is referenced in the Order and quarterly progress reports are to be submitted to the court by the state and federal government.

Over the 12-month period ending December 10, 1987, the study will focus on developing and evaluating alternative plans for surface and/or ground water development on the Yakima Indian Reservation for irrigation of additional lands and improving the operational efficiency of existing systems. At the same time, studies of projects and activities within the basin, but outside the Reservation, that provide for supplemental irrigation water for existing lands, increased streamflow for fisheries and other instream uses and improved water management will be conducted.

It is not expected that the study will be concluded by December 10, 1987. Under the Order, a report is to be submitted to the court by that date which evaluates work completed, describes study progress, reports on Yakima Indian Nation participation and provides recommendations for continuation or termination of the stay of the adjudication.

Columbia Basin Project, Second Half Development: Ecology has been actively involved in the investigation and planning for completion of the second half of the Columbia Basin Project. About one-half of 1,095,000 acres authorized for project development is now irrigated. Approximately 20 percent, or 100,000 acres of the second half are now irrigated from ground water pumping. State cost-sharing in the construction of the water supply facilities to bring water to the second half will play a very big role in the process to start new development. Fifteen million dollars of state funds were used to share the cost of construction for the second Bacon Siphon and Tunnel which was completed in 1980.

An environmental impact study (EIS) is needed to resolve environmental issues, determine economic feasibility and compare alternative plans. As part of this process, Ecology funded a preliminary socioeconomic study to update and evaluate the socioeconomic aspects of the proposed second half development. This \$207,000 study is being used as part of the federal (U.S. Bureau of Reclamation) EIS and credit for this amount has been given to the State of Washington for cost-sharing in the preconstruction project work.

The preliminary socioeconomic analysis indicates that there may be future potential for enhancing the state's agricultural economy and general economic climate through the proposed development of the second half of the Columbia Basin Project. However, this would not be realized without costs to the state, including the costs relative to the loss of an increment of Columbia River hydropower production. There would also be inherent risks associated with future agricultural markets.

A benefit/cost "sensitivity analysis" was performed using a variety of parameters to test the project's efficiency. The result was a range of benefit and cost ratios favoring and rejecting the project varying from a high of 1.16:1 to a low of 0.43:1.

Thus, from a benefit/cost perspective which includes a broad range of social as well as economic indicators, the development may be marginal. Conversely, an analysis performed using an input/output model (which only contains economic indicators) at The University of Washington showed that as far as the economic activity is concerned, the proposed project is expected to create new jobs mainly in farm labor, agricultural processing, and trade. Wages usually paid by these industries are middle to slightly below average and a significant portion of the employment will be seasonal. The expansion of economic activities will bring a greater variety of employment options and opportunities, thus possibly reducing some out migration.

The U.S. Bureau of Reclamation recently announced a delay in the EIS so that it can evaluate a conservation alternative which could decrease the water needs and thus lower the diversion needs from the Columbia River. The conservation study will be completed by a steering committee of which Ecology will be a member. Completion of the EIS is now anticipated about July 1988. If the project is to be constructed, the federal EIS and public involvement process will give the U.S. Bureau of Reclamation and Ecology an indication of how society, the economy, and the environment are affected. Federal, state, and local funds must be available to construct the project and citizens must show that they need and want the project.

On May 10, 1938, 11,550 cfs of water was withdrawn from appropriation as a means of setting aside water for the second half development. The withdrawal period has been extended several times with the current period ending on December 14, 1989. At that time, decisions will be needed on whether the withdrawal should again be extended.

Problems Encountered: As previously discussed, the YRBWEP and the completion of the Second Half of the Columbia Basin Project are, and will

likely continue to be, the most pressing water resource development issues to be addressed in the next few years. The completion of the YRBWEP feasibility study will provide guidance and direction on the feasibility of new storage, how much water is needed, and where it will be used. Likewise, the socioeconomic study and upcoming federal EIS on the completion of the Columbia Basin Project will provide options for decision makers on which direction to follow. Probably the most important aspect of either of these two projects will be the role of state funding. It is becoming increasingly apparent and important that the state will have to take a leadership role and provide a certain amount of cost-sharing before any federal funds are to be made available in the future. This is due to federal policies regarding the relative priority and funding of water supply projects.

Ecology's coordination and input to the Western State's Water Council and the state's Congressional Delegation consistently urges that the states' cost-sharing proportion be held within reason commensurate with the states' abilities to raise funds and that federal appropriations be maintained at an adequate level. Other mechanisms being investigated as possible state alternative funding sources include debt financing, user fees, and bond banks.

To assure that the irrigated agricultural economy in the state remains intact, continual efforts must be made to rehabilitate and replace water supply facilities where needed. State financing of a share of the costs is the key to this effort. The problems of limited local and federal funds are difficult to overcome in light of the present farm economy and federal policies.

Ecology provides project planning and technical assistance to help irrigation districts apply not only for state funds but for federal funds. Other guidance is provided to local irrigation districts when possible, including financial analysis and engineering reviews for cost-effectiveness. All assistance is intended to relieve the districts' financial burdens and to reduce costs through new and improved facilities. Monitoring the irrigation districts' and U.S. Bureau of Reclamation's planning and budget efforts in water resources development and rehabilitation projects has worked quite well and is returning dividends to the state. By working closely with the districts on proposed projects, Ecology has the opportunity to show how reductions in labor requirements, energy savings, water conservation, and improved water management can result in lower costs. These incentives lead to better financial planning and close coordination and cooperation with the Bureau of Reclamation which, in turn, spurs federal appropriations for potential projects.





## NEW HYDROELECTRIC DEVELOPMENT

Major issue: Over the past 50 years, development of the state's hydroelectric power potential has greatly benefited the citizens of Washington. But this development has not come without some substantial damage to fish, wildlife, and other resources dependent upon free-flowing rivers. In some cases, efforts to compensate for these damages are only now being undertaken. In the 1980s, there has been an overwhelming resurgence in interest in new hydroelectric development. Ecology is concerned about how to achieve appropriate hydroelectric development without additional environmental impacts, and how to efficiently carry out its regulatory responsibilities in view of an increased workload in this area.

Authority/Background: As the state's primary water planning, allocation, and management agency, Ecology is charged with administration of laws which place permit requirements on hydro project development. Major Ecology approvals include water rights, water quality certifications, modification of state water quality standards, annual power license fees and oversight of local government shoreline decisions. Moreover, state law also sets forth the following powers and duties of the department:

"To prepare the views and recommendations of the state . . . on any project . . . relating to the . . . development . . . of any waters located in or affecting the state . . . , including any federal permit or license proposal . . ." (RCW 43.27A.090, see also RCW 43.21A.060).

Because nearly all new hydroelectric projects intended for commercial power production require a license or other approval from the Federal Energy Regulatory Commission (FERC), this is a significant responsibility.

Interest in new hydroelectric development was stimulated by various federal tax and regulatory incentives enacted since 1978. Adverse court and regulatory decisions have reduced interest in development somewhat. Perhaps more important is the lack of a market for new power, because of the current electrical energy surplus in the region. Development activity is still well in excess of that which occurred during the 1960s and 1970s. As of November 1986, Ecology is aware of approximately 232 proposals for new hydro development in Washington State.

Hydroelectric development proposals range in size from "back yard" systems of a few kilowatts to additions at major existing dams of several hundred megawatts of capacity. Proposed small hydroelectric development tends to be focused in the mountainous regions of the state drained by steep gradient rivers and streams. Very few reservoir projects involving a high dam and significant storage are being proposed for nonfederal development. Most of the projects proposed in Washington State are run-of-river designs involving a new or existing low dam with little or no usable storage, a pipeline or penstock of some length, and a new powerhouse.

Ecology considers these projects to be consumptive water uses with respect to the bypassed reach of stream, though they are nonconsumptive for the stream below the powerhouse. The most critical issue affecting the economic feasibility of these projects is often the level of instream flow to be bypassed to protect fish, wildlife, recreation, aesthetics, water quality, and navigation. Most hydropower proposals are located on smaller streams where minimum flows have not been adopted as part of Ecology's instream resource protection programs. Thus, minimum flows often must be determined on a case-by-case basis.

Projects that are most likely to encounter resource agency resistance in Washington are those located within or affecting portions of a stream accessible to anadromous fish and those within national parks, wilderness areas, or national monuments. See Figure 4 for a map of these areas.

Accomplishments: Ecology's accomplishments during the past biennium generally fall into two categories:

1. Project review, evaluation, coordination, permit issuance, and;
2. Revision of a hydropower licensing guidebook.

Project Review: Ecology plays an important role in the review and approval of proposed hydropower projects. Ecology's goal has been to seek early identification and resolution of potential problems with proposed hydro projects. Experience has shown that inexpensive design changes can often be made at the early stages of project planning. Such changes often avoid unnecessary environmental impacts and vastly simplify the licensing process.

Because hydropower development may result in substantial alteration of the natural environment, many proposals are controversial. The state departments of Game and Fisheries are often involved in many difficult legal and technical issues regarding projects that would be injurious to fish and wildlife resources. Ecology is currently involved in litigation regarding four proposed projects. Two of these are appeals of Ecology shoreline decisions and two are appeals of Ecology water quality certifications containing instream flow provisions.

In South Fork Resources v. Riniker, Ecology's actions denying approval of shoreline conditional use permits for a proposed hydropower project on the South Fork Snoqualmie River have been appealed by the applicant. The project would be located on a pristine reach of that stream within state park lands that are designated "conservancy" by the King County Shoreline Master Program. Ecology's decision is based on a determination that the project would be inconsistent with the master program and the state Shoreline Management Act. The matter is pending before federal district court on the question of whether the State Shoreline Act is preempted by the Federal Power Act. A similar issue is under litigation regarding a proposed project at Little Palouse Falls on the Palouse River.

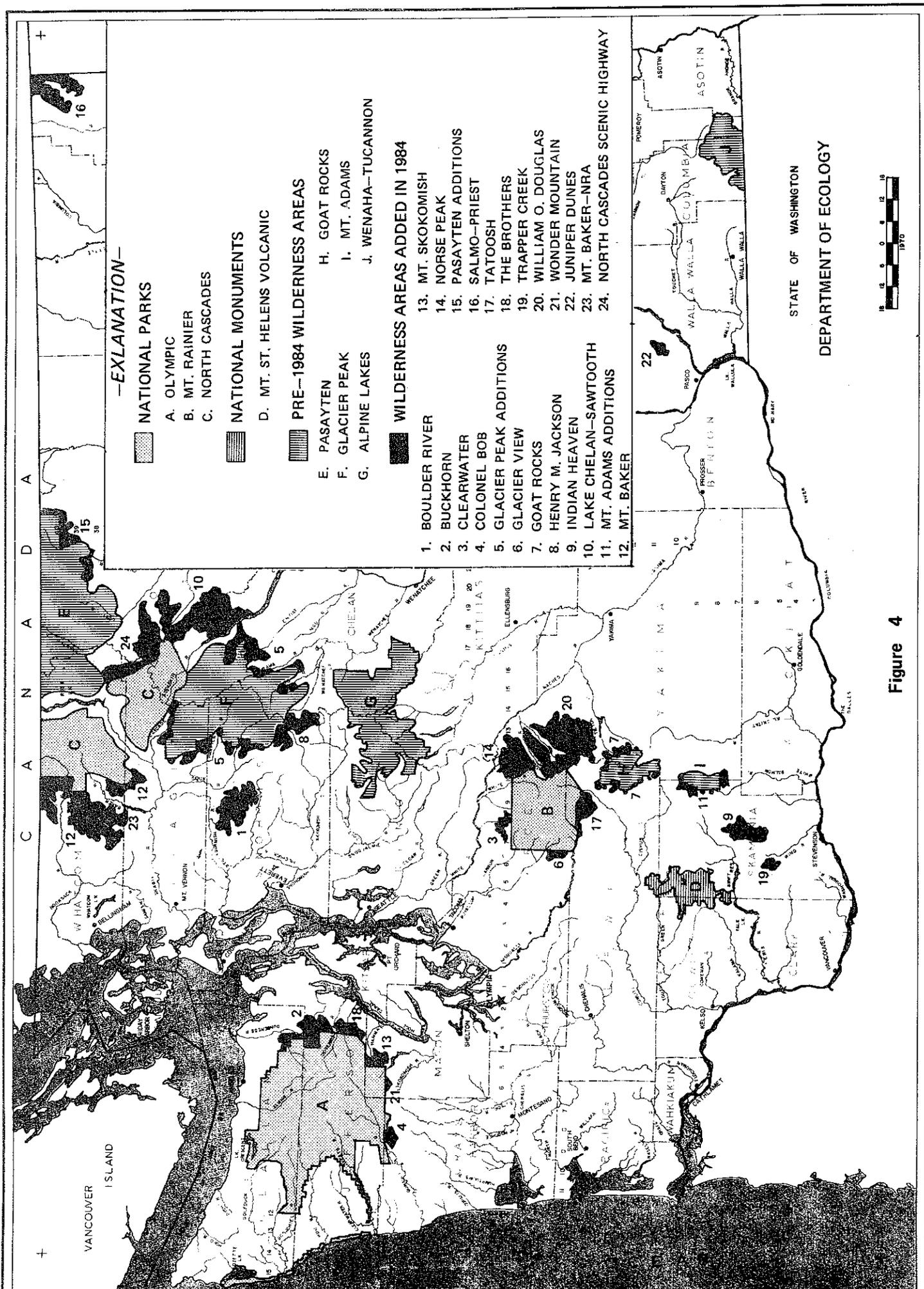


Figure 4

WILDERNESS AREAS, NATIONAL PARKS AND NATIONAL MONUMENTS.

In City of Tacoma v. Department of Ecology, the City appealed Ecology's water quality certification for the federal relicensing of Tacoma's Cushman hydroelectric project on the North Fork of the Skokomish River. The project was constructed in the 1920s and 1930s under a federal license. The license did not require that a minimum flow be maintained below the lower of the dams. The project diverts all waters of the North Fork (except flood flows) into a tunnel and penstock that feed a power-generating plant at Potlatch where water is discharged from the power house into Hood Canal. This has effectively reduced the lower 8.3 miles of the North Fork Skokomish River to a trickle supported only by seepage and springs. This has created problems for remnant fish runs, including high temperatures that exceed state water quality standards.

Ecology's water quality certification requires that instream flows be released into the river below the project. These are modest flows ranging from 30 to 75 cfs. The city appealed Ecology's certification to the state Pollution Control Hearings Board. Settlement discussions are nearing completion between Tacoma and Ecology to terminate the litigation and provide instream flows for water quality improvements. Tacoma has filed a similar appeal of Ecology's water quality certification for a proposed hydropower project on the Dosewallips River.

Licensing Guidebook: In recognition of the complexity of the hydropower licensing process, Ecology, in cooperation with the Washington State Energy Office, published a guidebook in 1981 to aid prospective developers in understanding the licensing process and the key areas of environmental concern that must be considered in project design. Titled Developing Hydropower in Washington State - A Guide to Permits, Licenses, and Incentives (Ecology 81-1), this guide proved to be very popular. The Washington State Energy Office and Ecology published a revised edition of this report in early 1985 (WAOENG-85-01).

Table 9 shows the location by WRIA of proposed hydropower projects in Washington. Data is current as of July 1986.

Table 9

Distribution of Proposed Hydroelectric Projects  
in Washington State

<u>WRIA*</u>	<u>WRIA Name</u>	1986 <u>No. of Projects</u>	<u>Percent of Total Projects Statewide</u>
1	Nooksack	59	12.5
2	San Juan	1	0.4
3	Lower Skagit	2	0.8
4	Upper Skagit	33	14.2
5	Stillaguamish	5	2.1
6	Island	0	0.0
7	Snohomish	23	9.9
8	Cedar-Sammamish	1	0.4
9	Duwamish-Green	7	3.0
10	Puyallup-White	7	3.0
11	Nisqually	1	0.4
12	Chambers-Clover	0	0.0
13	Deschutes	1	0.4
14	Kennedy-Goldsborough	4	0.7
15	Kitsap	1	0.4
16	Skokomish-Dosewallips	11	4.7
17	Quilcene-Snow	5	2.2
18	Elwha-Dungeness	8	3.4
19	Lyre-Hoko	2	0.8
20	Soleduck-Hoh	1	0.4
21	Queets-Quinalt	0	0.0
22	Lower Chehalis	2	0.8
23	Upper Chehalis	1	0.4
24	Willapa	2	0.8
25	Grays-Elockoman	0	0.0
26	Cowlitz	14	6.0
27	Lewis	4	1.7
28	Salmon-Washougal	1	0.4
29	Wind-White Salmon	5	2.2
30	Klickitat	1	0.4
31	Rock-Glade	1	0.4
32	Walla Walla	0	0.0
33	Lower Snake	0	0.0
34	Palouse	1	0.4
35	Middle Snake	0	0.0
36	Esquatzel Coulee	8	3.4
37	Lower Yakima	3	1.3
38	Naches	6	2.5
39	Upper Yakima	13	5.6
40	Alkali-Squilchuck	2	0.8
41	Lower Crab	7	3.0
42	Grand Coulee	0	0.0
43	Upper Crab-Wilson	0	0.0
44	Moses Coulee	0	0.0
45	Wenatchee	4	1.7

Table 9 (continued)

<u>WRIA*</u>	<u>WRIA Name</u>	1986 <u>No. of Projects</u>	<u>Percent of Total Projects Statewide</u>
46	Entiat	1	0.4
47	Chelan	2	0.8
48	Methow	3	1.3
49	Okanogan	3	1.3
50	Foster	0	0.0
51	Nespelem	0	0.0
52	Sanpoil	0	0.0
53	Lower Lake Roosevelt	0	0.0
54	Lower Spokane	0	0.0
55	Little Spokane	0	0.0
56	Hangman	0	0.0
57	Middle Spokane	1	0.4
58	Middle Lake Roosevelt	0	0.0
59	Colville	0	0.0
60	Kettle	0	0.0
61	Upper Lake Roosevelt	4	1.7
62	Pend Oreille	<u>1</u>	<u>0.4</u>
	Total	232	100.0

\* See WRIA map on page 7.





## ADJUDICATION OF WATER RIGHTS

Major Issue: To determine and quantify the existing rights to use the public waters of the State of Washington. Such rights are determined by conducting general adjudications.

Authority/Background: The Legislature first established specific procedures for the general adjudication of surface water rights in 1917 by enacting the state's Water Code (Chapter 90.03 RCW). The 1945 Ground Water Code (Chapter 90.44 RCW) provided that such procedures were also applied to adjudicate rights to use the ground waters of the state.

With legislative enactment of the Water Resources Act of 1971 (Chapter 90.54 RCW) the department embarked on a program to develop water management plans for all drainage basins in the state. This program establishes quantities of water available for proper utilization of the state's water resources. In areas where there are many "vested claims" for water use, the actual total quantities of water available for use are tenuous until established by due process. (See Figure 5 for Adjudications Procedures.)

Water rights adjudications accomplish the following:

1. Determine the validity and define the relative priorities, quantities, and various uses of claims to use water;
2. Aid in planning, allocating, and managing the public waters by improving the necessary water rights records and information base.

Accomplishments: During the current biennium two cases have been completed with entry of Court Decrees and issuance of 94 percent of the Certificates of Adjudicated Water Rights confirmed by these decrees. Supplemental Reports of Referee have been prepared and filed with the courts on three cases. The Report of Referee was completed and a hearing was held for exceptions in one case. An evidentiary hearing was held on another case with the Report of Referee currently being written. A Report to the Referee on one subbasin has been completed and filed with the court.

The current status of the six active adjudications is summarized as follows: (Figure 6 illustrates geographic locations of adjudication activities. Table 10 lists the status of adjudications.)

1. Cow Creek, Sprague Lake and tributaries (Adams, Lincoln, Spokane and Whitman counties): All issues except for establishing a water level on Sprague Lake appear to have been resolved, with an agreement expected to be reached on this matter in the near future. The court will then hold hearings and final decree can be entered.
2. Deadman Creek (Spokane County): Hearings were held on the Supplemental Report of Referee and a draft decree was prepared as directed by the court. A hearing on this matter was held and a decree entered on November 26, 1986.



# Geographic Locations of Adjudications

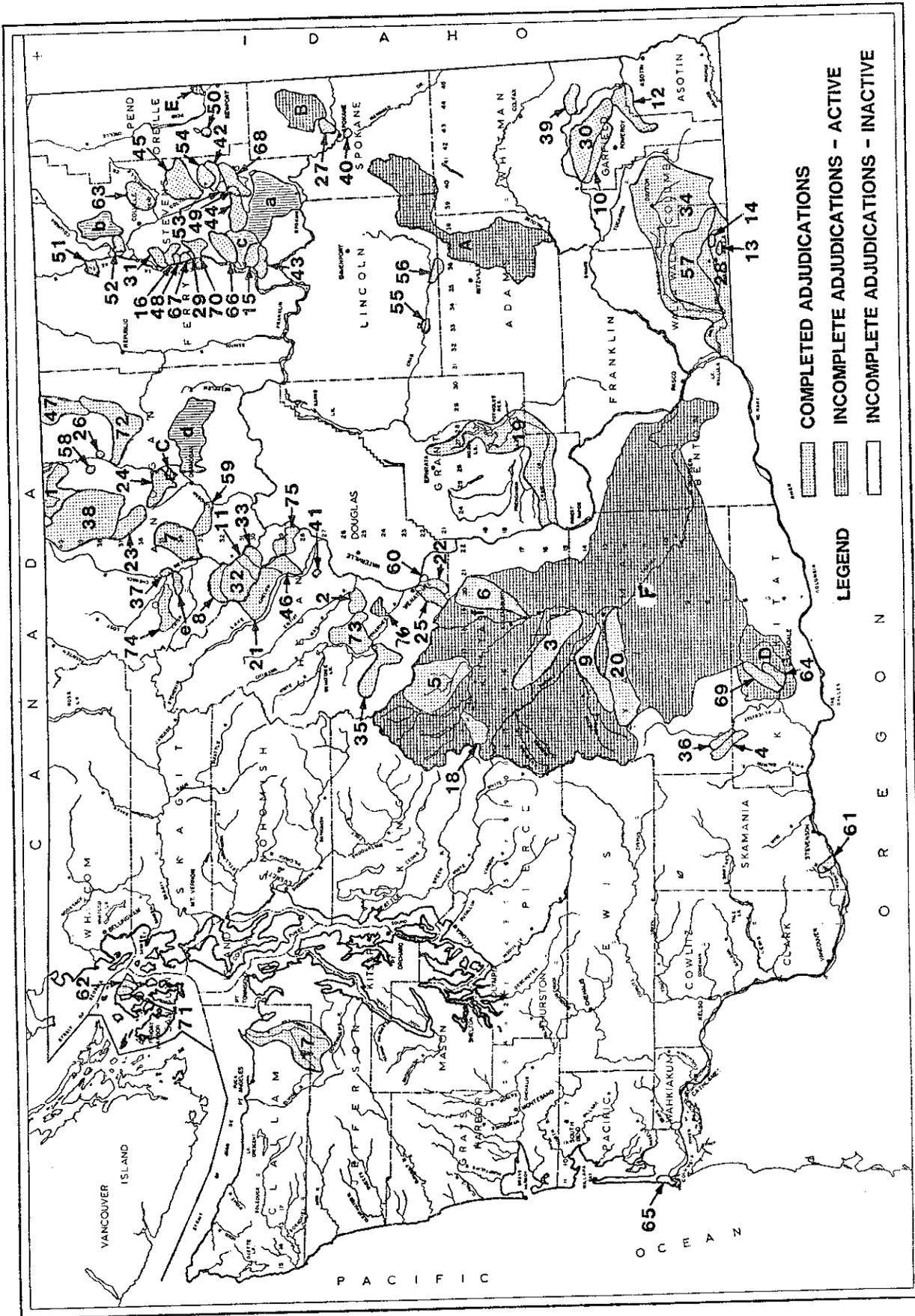


Figure 6

# Completed Adjudications

# Table 10

<u>Name of Watercourse</u>	<u>Date of Decree</u>	<u>County</u>
01 Similkameen River	11/26/18	Okanogan
02 Roaring Creek	10/24/19	Chelan
03 Wenas Creek	02/23/21	Yakima
04 Bird & Frazier Creeks	03/14/21	Klickitat & Yakima
05 Teanaway River	06/16/21	Kittitas
06 Cooke Creek	08/12/25	Kittitas
07 Beaver Creek	09/20/21	Okanogan
08 Libby Creek	11/18/21	Okanogan
09 Cowiche Creek	05/18/22	Yakima
10 Meadow Gulch Creek	06/12/22	Garfield
11 McFarland Creek	11/16/22	Okanogan
12 Alpowa Creek	03/23/23	Asotin & Garfield
13 Upper Stone Creek	07/10/23	Walla Walla
14 Doan Creek	11/01/23	Walla Walla
15 Alder Creek	02/19/24	Stevens
16 Cheweka Creek	02/19/24	Stevens
17 Dungeness River	03/07/24	Clallam
18 Big Creek	03/27/24	Kittitas
19 Crab Creek & Moses Lake	05/05/24	Adams & Grant
20 Ahtanum Creek	05/07/25	Yakima
21 Safety Harbor Creek	06/20/25	Chelan
22 Stemilt Creek	01/22/26	Chelan
23 Salmon Creek, North Fork	04/06/26	Okanogan
24 Johnson Creek	05/20/26	Okanogan
25 Squillchuck Creek	06/14/28	Chelan
26 Lower Antoine Creek	07/09/28	Okanogan
27 Bigelow Gulch Creek	08/31/28	Spokane
28 Walla Walla River	08/12/28	Walla Walla
29 Corus Creek	10/03/28	Stevens
30 Deadman Creek	01/04/29	Garfield
31 Quiliscut Creek	01/19/29	Stevens
32 Gold Creek	05/07/29	Okanogan
33 Black Canyon Creek	06/20/29	Okanogan
34 Touchet River	09/19/29	Columbia & Walla Walla
35 Icicle Creek	10/28/29	Chelan
36 Bacon Creek	02/20/30	Klickitat & Yakima
37 Bear Creek & Davis Lake	05/14/30	Okanogan
38 Sinlahekin Creek	05/20/30	Okanogan
39 Wawawai Creek	03/03/31	Whitman
40 Crystal Springs	03/05/31	Spokane
41 Johnson Creek	05/23/31	Chelan
42 Sherwood Creek	06/13/31	Stevens
43 Oropahan Creek	10/31/31	Stevens
44 Deer Creek	01/16/32	Stevens
45 Chewelah Creek	10/15/32	Stevens
46 Joe Creek	11/26/32	Chelan
47 Myers Creek	11/26/32	Okanogan
48 Jennings Creek	06/26/33	Stevens
49 Hoffman Creek	08/18/34	Stevens
50 Little Calispel Creek	06/12/35	Pend Oreille
51 Twin Creek	05/29/36	Ferry
52 Pingston Creek	07/01/36	Stevens
53 Bull Dog Creek	03/09/38	Stevens
54 Thomason Creek	05/11/38	Stevens
55 Crab Creek, between Sylvan Lake & Odessa	06/21/39	Lincoln
56 Crab Creek, South Fork	07/06/39	Lincoln & Adams
57 Dry Creek	05/20/52	Walla Walla
58 Whitestone Lake	05/21/56	Okanogan
59 Chiliwist Creek	05/16/67	Okanogan
60 Cummings Canyon	08/21/67	Chelan
61 Spring Creek	10/20/70	Skamania
62 Mountain Lake & Cascade Creek	12/08/70	San Juan
63 Narcisse Creek	02/28/72	Stevens
64 Blockhouse Creek	06/01/72	Klickitat
65 Black Lake-Tarlatt Slough	11/09/73	Pacific

<u>Name of Watercourse</u>	<u>Date of Decree</u>	<u>County</u>
66 Harvey Creek	01/04/74	Stevens
67 Magee Creek	01/04/74	Stevens
68 Grouse Creek, Jumpoff Joe Creek, Jumpoff Joe Lake	07/25/75	Stevens
69 Mill Creek	10/19/76	Klickitat
70 Stranger Creek	07/14/78	Stevens
71 Cascade Lake	08/31/78	San Juan
72 Bonaparte Creek & Lake	12/14/79	Okanogan
73 Chumstick Creek	04/12/83	Chelan
74 Wolf Creek	03/13/84	Okanogan
75 Antoine Creek	04/16/84	Chelan & Okanogan
76 Nahahum Canyon	05/10/85	Chelan

INCOMPLETE ADJUDICATIONS: ACTIVE

<u>Name of Watercourse</u>	<u>County</u>
A Cow Creek & Sprague Lake	Adams, Lincoln, Spokane, Whitman
B Deadman Creek	Spokane
C Duck Lake Ground Water Subarea	Okanogan
D Little Klickitat River	Klickitat
E Marshall Lake & Marshall Creek	Pend Oreille
F Yakima River	Benton, Kittitas, Klickitat, Yakima

INCOMPLETE ADJUDICATIONS: INACTIVE

<u>Name of Watercourse</u>	<u>County</u>
a Chamokane Creek	Stevens
b Clugston Creek	Stevens
c Hunters Creek	Stevens
d Omak Creek	Okanogan
e Thompson Creek	Okanogan
f Wilson-Naneum Creek	Kittitas

PEITIONED AREAS

<u>Name of Watercourse</u>	<u>County</u>
Aeneas Creek	Okanogan
Brender Canyon	Chelan
China Creek	Stevens
Clover Creek	Pierce
Crab Creek	Adams, Grant, Lincoln, Spokane
Eagle Creek	Clallam & Jefferson
Hawk Creek	Lincoln
Little Spokane River	Pend Oreille, Spokane, Stevens
Marshall Creek	Spokane
Mattson Creek	Ferry
Minter Creek	Kitsap & Pierce
Mission Creek	Chelan
Moses Coulee	Douglas & Grant
Ohop Creek and Lake	Pierce
Palouse River	Adams, Franklin, Grant, Lincoln, Spokane
Snow Creek	Clallam & Jefferson
South Prairie Creek	Pierce
Tenmile Creek	Whatcom
Wilson Creek	Grant & Lincoln
Unnamed Spring	Pierce

3. Duck Lake Ground Water Management Subarea (Okanogan County): The referee has conducted the evidentiary hearing and is preparing the Report of Referee which will be submitted to the Okanogan County Superior Court.
4. Little Klickitat River and tributaries (Klickitat County): A Hearing on the Supplemental Report of Referee is scheduled for December 1986.
5. Marshall Lake, Marshall Creek and tributaries (Pend Oreille County): An exception to the Report of Referee was filed regarding the setting of a lake water level and the construction of a control structure. The Department is negotiating an agreement of these issues and when they are resolved, a court decree will be entered and Ecology will issue certificates of adjudicated water rights.
6. Yakima River and tributaries (Benton, Kittitas, Klickitat, and Yakima counties): Due to the vast area of the Yakima River Drainage Basin, (9.2 percent of the state's land area) and the large number of claimants (approximately 2,000), it has been necessary to approach this particular adjudication with a totally different perspective.

The Referee is attempting to expedite the procedural method of evaluating claims by dividing them into the four discrete, manageable groups as follows:

- A. Federal reserved rights for Indian claims.
- B. Federal reserved rights for non-Indian claims.
- C. State-based rights of major claimants.
- D. State-based rights for other claimants, by subbasin.

In regard to Federal Reserved rights for Indian claims, the department and the United States of America have presented a motion to the court to stay proceedings in this category for one year to allow the Yakima Indian Nation to devote time and energy to the Yakima Enhancement Study. The hearing on this motion was held in the Yakima County Superior Court on December 10, 1986 and the motion to stay was granted. (See page 42 for details about the Yakima River Basin.)

Work is continuing with representatives of several agencies of the United States of America with the aim of reaching an agreement on Federal reserved (non-Indian) and state based rights. A joint report is scheduled to be submitted to the Court by February 3, 1987.

State-based rights of major claimants include all claimants who were parties to the 1945 Consent Decree, and other major users. These claims will be examined and processed using the standard procedure for the adjudication of water rights.

The Yakima Basin has been divided into 31 smaller distinct subbasin drainage areas which have been named and numbered for identification. These subbasins are more easily managed during field examinations and evidentiary hearings.

In the Yakima River adjudication, three pre-trial conferences were held on procedural matters and were followed up by appropriate court orders. Ecology's adjudication staff started five subbasin field investigations of claims within Yakima's drainage basin and completed two.

The department's Report to the Referee on Subbasin Number 16 (for both recommended and nonrecommended rights) has been filed with the court. The department's Report of Referee for Subbasin Number 17 is scheduled to be filed on or before February 23, 1987. Water rights records, water rights registration claims (Chapter 90.14 RCW) and court claims for Subbasins Number 1 and 31 are currently being compiled to prepare for field work. During the past biennium the adjudication section developed and implemented a computerized claimant data base system for use in field investigation of court claims.

Adjudications staff continue updating records on substitution of parties, addition of parties, changes of address, and responding to inquiries from attorneys and defendants. A monthly court ordered notice is also mailed to all parties of record listing court filed documents. The court calendar is sent out along with special mailings of notices on upcoming hearings, reports and other legal documents.

Diamond Creek, in Pend Oreille County, also has been the source of regulation problems and will also be adjudicated. Because of the small drainage basin involved it is anticipated that work will begin in late 1986 in this area.

Problems Encountered: Legal obstacles continue to impede and forestall issuance of certificates of adjudicated water rights for most of the adjudications listed as incomplete but active in Table 10. It appears that all except the Yakima River Basin will be completed during the upcoming biennium.

The primary problem encountered in the present pursuit of adjudication activities is the magnitude of the Yakima River Basin Adjudication which had approximately 5,000 named defendants and has approximately 2,000 claimants currently named in the action. This is by far the largest adjudication ever undertaken by the state. The Yakima River Basin Adjudication case was filed in 1977.

A monthly notice is being mailed to each of the approximate 2,000 claimants and is intended to serve as an informational document providing changes and updates in status of the case; however, most individuals receiving this document appear to be overwhelmed by the flow of paper. Although it is the claimants responsibility to notify the court of any changes in claim status, such as sale of property or substitution of

party, this is not occurring, resulting in the department being unable to track many claimants.





## WATER ALLOCATION

Major Issue: The major issue is a need for a continuing program to allocate and manage public surface and ground waters through issuance of water rights. Water in Washington State is allocated according to the appropriation doctrine.

An appropriative right is an exclusive right to take:

- a specific amount of water (or less)
- from a specific source
- for a specific use or uses
- at a specific location
- during a specific period of time
- for use on specific lands.

The right may allow for the immediate use or seasonal storage of water. Development of a new appropriative right requires a permit from Ecology.

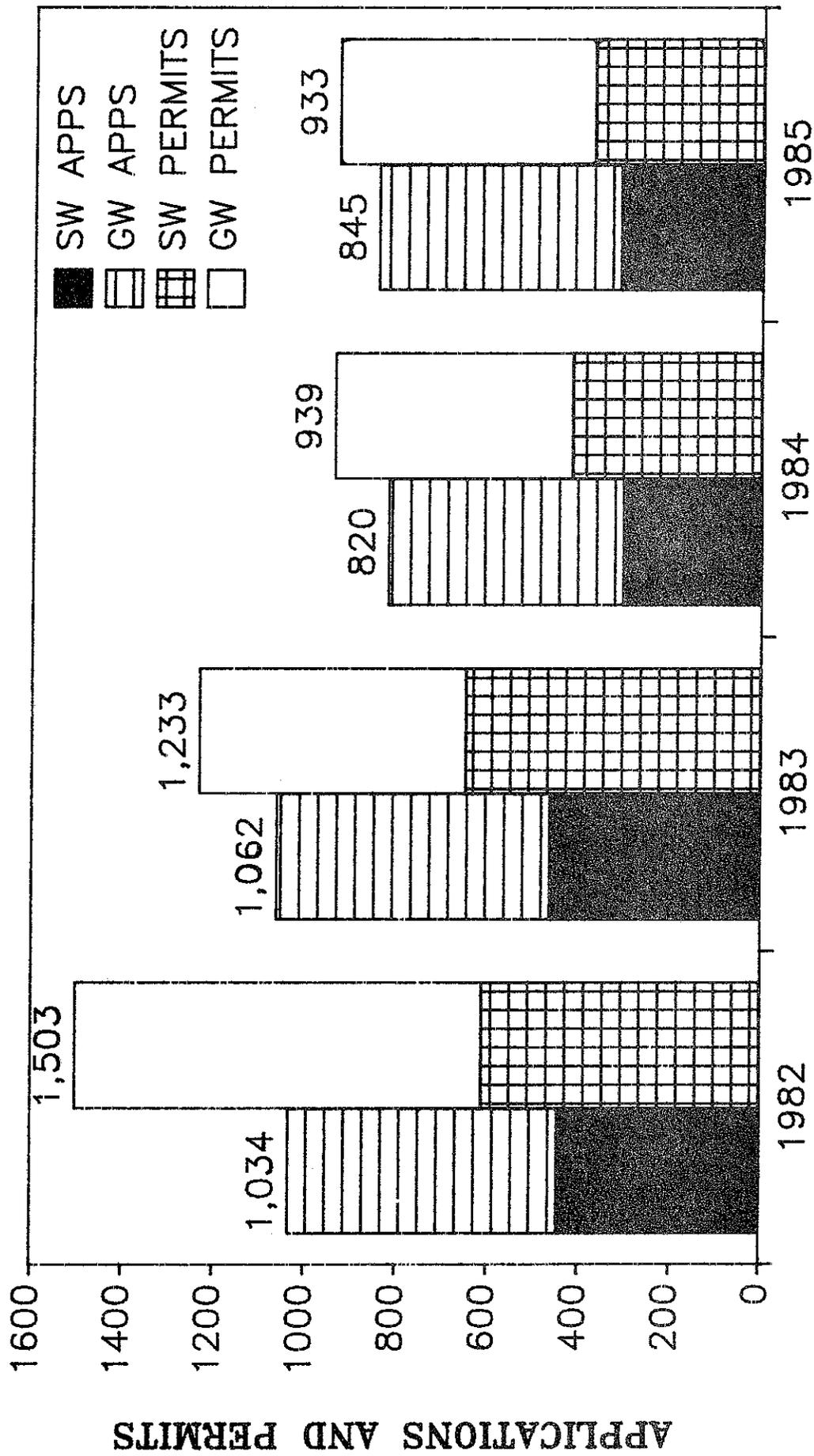
The right carries a priority in relation to other appropriative rights. The water user who is "first in time" is "first in right". This means a senior right holder is entitled to the full quantity of water specified under the right before junior appropriators may exercise their rights. Just as appropriative rights are obtained by water use, they are lost by nonuse or abandonment. Appropriative rights are appurtenant to specific lands. Subject to Ecology's approval, appropriative rights may be transferred from one parcel of land to another. Changes in point of diversion and purpose of use may also be granted.

Authority/Background: The primary authority for this program element is the 1917 Surface Water Code (Chapter 90.03 RCW), and the 1945 Ground Water Code (Chapter 90.44 RCW). The Water Resources Act of 1971 (Chapter 90.54 RCW) as well as other statutes and regulations, is also used in the administration of this program.

Accomplishments: During fiscal years 1985 and 1986, the department received 1807 water right applications and issued 1412 reports of examination, 1665 permits, and 1539 certificates for the appropriation of water. See Figure 7 for a graph of surface and ground water applications and permits.

There were many other specific accomplishments in the water allocation program which relate to other programs that are discussed elsewhere in this report. Many of these activities pertain to evaluation of surface water and ground water availability in specific areas of the state. When this information is compiled, it is used in the evaluation process prior to taking action on water right applications. In addition, many enforcement actions were initiated to protect the water rights of senior water users.

DEPT. OF ECOLOGY  
 WATER RIGHTS RECORDS  
 APPLICATIONS AND PERMITS



SW: surface water  
 GW: ground water

CALENDAR YEAR

Source: WRIS, AUG. 13, 1986

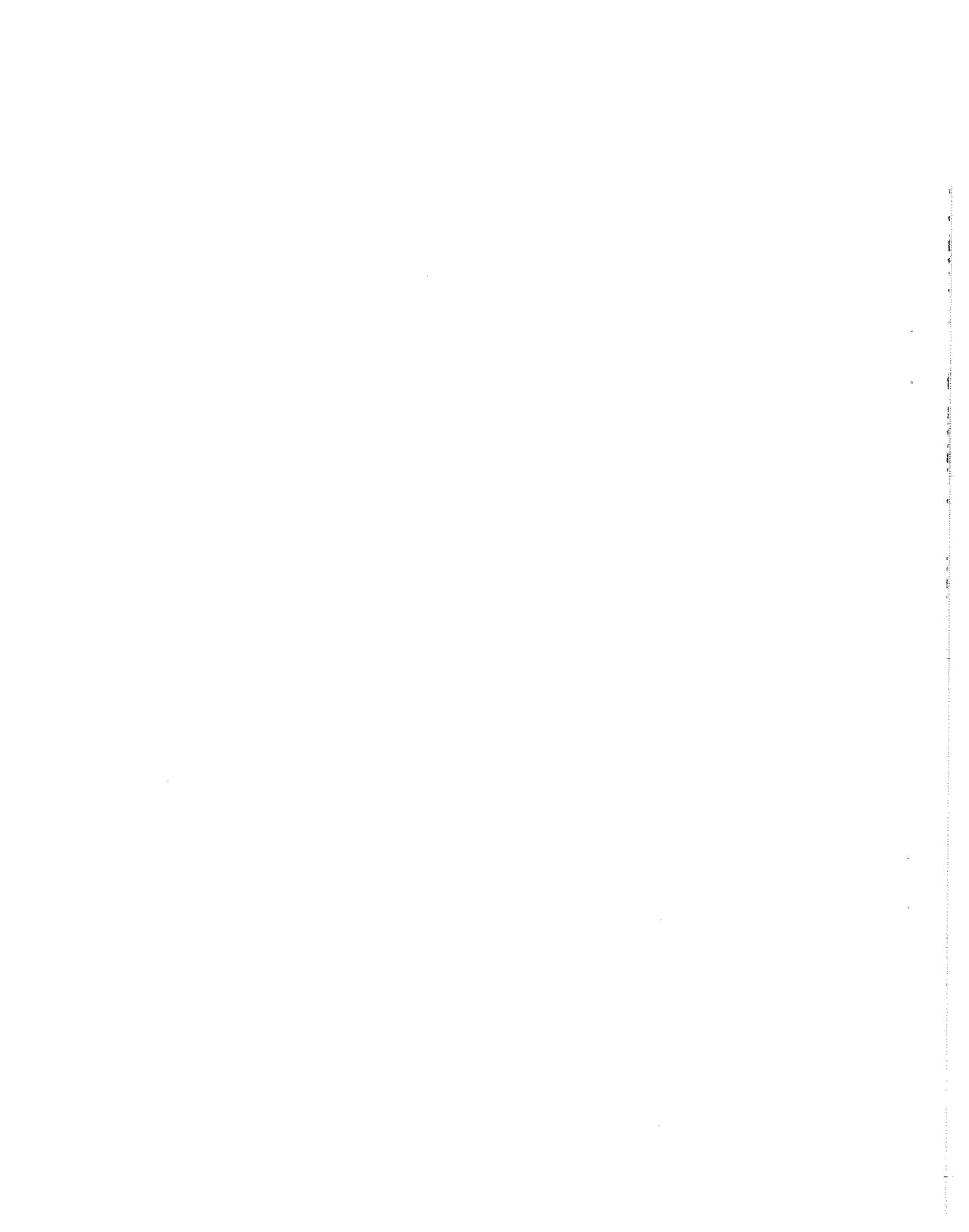
Figure 7

Problems Encountered: One of the continuing problems is the backlog which has developed in the processing of water rights. The backlog is a large number of water right applications which have been received and for which a decision has not been made regarding whether or not a permit should be issued. The Department presently has a backlog of about 2600 applications.

The major problem which results from a large backlog is the extended time involved before action can be taken on new applications for water rights. This delay may cause financial hardship for the individual applicant and for the state as a whole. This often results in inquiries and/or complaints from applicants.

Not all of the backlog is a result of the large number of applications. Many of the applications considered in the backlog are being held for various reasons relating to water availability determinations, adjudications, instream flow considerations, Indian reservations, etc. Only when the reasons for these "holds" are removed can these applications be processed.

Effective ground water management requires investigations of the resource available for future use and the monitoring of existing use. Funding cuts have reduced the cooperative effort with the USGS in areas where intensive ground water management is expected to be needed in the future. Previous experiences have clearly shown that problems develop where ground water permits have continued to be issued without a thorough knowledge of the resource available.







## OTHER WATER RESOURCES MANAGEMENT ACTIVITIES

Water Rights Information System: The department is required to maintain records of all water right transactions related to the appropriation, diversion and use of all public waters of the state. In order to effectively conduct these activities, which currently involve more than 230,000 water rights and water right claim records, it was necessary to utilize computers to manage the data.

The department's Water Rights Information System (WRIS) has been in existence since the early 1970s. The 65,000 records it contains may each have up to 200 individual data fields (pieces of information) describing water right applications, permits and certificates. The WRIS database is used to provide data summaries of the total water rights issued for various uses statewide or in any basin or geographic area, in addition to printouts of the water rights records by location.

In addition to the WRIS, Ecology has a separate database consisting of approximately 165,000 Water Rights Claims records. The claims were filed during the period from July 1, 1969 to June 30, 1974, and two subsequent shorter open periods, pursuant to Chapter 90.14 RCW (commonly known as the Water Rights Claims Registration Act). These records are updated as adjudication actions either confirm or reject the water right claims.

The department is presently engaged in a study to determine the best long range solution to problems encountered with entering, editing, retrieving, tracking and summarizing the state's water rights and water right claims. Our goal is to provide a reliable tool for future water management and planning which can also be accessed for daily decision making needs, and which will be compatible with other Ecology computer operations.

Water Resources Laws and Regulations: In September, 1985 the department published a loose leaf manual containing the major statutes and regulations pertaining to management of the state's water resources. The Water Resources Laws and Regulations manual contains 19 separate statutes and 40 implementing regulations, as well as a table of contents and an index. The loose leaf manual can be updated as statutes or regulations are adopted or amended; the department maintains a list of manual holders who are periodically sent updates. Copies of the manual are available upon request.

Washington Conservation Corps: Under the auspices of this program Ecology's Eastern Region has hired students from the Water Resources Program at Spokane Community College. The summer of 1986 was the third season for the program. Five students were employed to conduct stream flow measurements within Pend Oreille, Stevens and Ferry Counties. Over 700 individual measurements were made during the 1986 summer season. Without this program, the department would not be able to collect these very valuable data which are used in evaluating new applications for water rights and when regulation is required to protect senior water right holders.

Regional Aquifer System Analysis (R.A.S.A.): This program is a United States Geological Survey (USGS) activity. The Tacoma office of the USGS has been assigned the Columbia Basalt Plateau aquifer system and is charged with defining the geology and hydrology of the project area which includes most of eastern Washington south of the Spokane River, northeastern Oregon and the Pullman-Moscow Basin. Ecology's Eastern Regional Office is cooperating in the program and participates in data collection of well water levels and field verification of crop types. The measurement of ground water levels involves visiting up to 250 wells, once in the spring and again in the fall, each year of the program.

Relinquishment: Relinquishment is a process whereby water rights which are no longer used revert to the state. Relinquishment of unused water rights will become more important as more streams approach full appropriation and population increases and/or shifts.

Chapter 90.14 RCW (1967) provides procedures to formally record such relinquishments and defines how and when rights revert to the state. The relinquishment provision of the statute provides that if any person entitled to divert or withdraw waters voluntarily fails, without sufficient cause, to divert or withdraw waters during any five or more successive years, he/she relinquishes all or part of the right. The right then reverts to the state, making those waters available for reappropriation in accordance with RCW 90.03.250.

Due to other higher priority tasks, the department has pursued relinquishment only when such actions are incidental to other water right activities. Future relinquishment activities are anticipated to continue in the same way. During the FY 85-86 biennium, about 42 water rights have been relinquished through the implementation of Ch. 90.14 RCW. Most of these have been ground water rights.

Reserved Rights: During the last few years, a number of changes have occurred in the area of federal reserved water rights. These changes are generally the result of court cases. While court decisions do not always involve Ecology or Washington State directly, the decisions reached in them (especially in federal courts) clearly do affect the state water resources management activities and policies. Because of this, the department feels that a thorough discussion of this topic is warranted.

The federal reserved water rights doctrine holds that when the federal government reserves land for a federal purpose, the government, by implication, reserves unappropriated water to the extent needed to accomplish the principal purposes of the reservation. The doctrine applies to Indian reservations and other federal reservations, including military reservations, national parks, monuments, forests, and wilderness areas. The priority date for federal reserved rights is the date the reservation was created, even if the rights go unexercised for many years.

With approximately 15 million acres (or 35 percent of the state's total land area) within federal reservations in Washington, the existence of these generally unquantified and unrecorded federal and Indian rights creates serious water allocation and management problems, whether these rights are exercised or remain unexercised. If these rights become fully

exercised by the federal government in the future, an unknown proportion of the state's water will be under federal jurisdiction and the state will lose control over these waters within the borders of the reservations. Long established water rights and priorities established under state law could be terminated or otherwise impaired without compensation. Even if federal reserved rights remain unquantified and unexercised, the uncertainty concerning the quantity of water encumbered by federal reservations impedes effective, coordinated state water resource planning and management. The state cannot prepare long-term plans with any certainty without knowing when or if the federal government or tribes will preempt water resources for use on federally reserved lands.

Throughout the west, the trend in reserved rights disputes is increasingly to attempt negotiation rather than litigation. A major question that clouds the potential success of negotiated reserved rights claims is who will be responsible for the costs of providing new water or for compensation of those parties whose existing water uses are displaced.

Indian reserved rights are generally a greater concern in Washington than other federal reserved rights. Most federal lands are in mountainous, headwaters areas (i.e. national forests, parks, monuments, and wilderness areas) and the nature of these reservations is such that water uses are relatively modest in scope with little or no consumption (for example, fire control and recreation). Several Indian reservations encompass great expanses of potentially irrigable land and land that could support other tribal sponsored development. These uses could involve considerable volumes of water if brought under development. Because these rights would carry a priority date as of the date of the treaty establishing the reservation (generally the 1850s), these new uses could dislocate non-Indian water rights without compensation that have been long established under state appropriation procedures.

Generally, reserved rights appear to be limited by the courts to the original principal purposes of the reservation. (For Indian reservations, this would probably include domestic and agricultural water supply but perhaps also water for fish propagation and industrial purposes.) By implication, rights for secondary purposes are to be obtained from the state. Which purposes are primary and which are secondary for any reservation depends upon the language of the treaty or legislation establishing the reservation.

Two principal related issues in the swirl of controversy over federal and Indian reserved rights in the western United States are jurisdiction and quantification. Courts have consistently ruled that reserved rights are to be determined through the state general adjudication proceedings under the jurisdiction of state courts when state proceedings are currently in process and are capable of quantifying federal reserved rights. In the absence of a state adjudication, quantification may be sought through federal courts. Recent court decisions affirm that the state has jurisdiction over non-Indian water and water users within an Indian reservation. An ongoing case in Washington may determine whether Indian tribes may establish their own water codes affecting non-Indian water and water users on the reservation (Holly v. Watson Totus).

Federal reserved rights may be quantified by three different mechanisms: litigation, negotiation, or legislation (federal). Of these, litigation has been the most common. Negotiation or legislation may arise from the agreeable settlement of litigation or, more rarely, in the absence of litigation. A major difficulty in quantification is the continuing uncertainty as to the extent and applicability of the reserved rights. In cases arising in the arid southwestern U.S., quantification has frequently been based on an amount of water adequate to irrigate the "practicably irrigable acreage" on a reservation. Some observers argue that this is not the final word or ultimate standard on quantification. They believe this unreasonably limits Indian water rights and that the rights should also account for other Indian needs such as municipal, domestic, stock watering, fish propagation, recreation, instream flow, industrial and energy development uses. Under this view, Indian rights would be considered to be "open-ended." Quantification issues can probably only be settled by further litigation and evolution of case law or by national legislation to establish guidelines for determining the extent of reserved rights.

The Department of Ecology and the Attorney General's Office have been active in developing proposed federal legislation to resolve the friction between the United States and the states over the management and regulation of water resources. The thrust of this legislation as it relates to non-Indian federal reserved water rights is to (1) require binding quantification, (2) terminate unexercised reserved rights, (3) expand mechanisms and provide funding to states for adjudicating federal reserved rights, primarily in state courts, (4) integrate all federal reserved rights under the regulatory programs of the states, (5) pay compensation in certain cases to water right holders whose rights are impaired by a reserved water right, and (6) establish a detailed procedural mechanism for creating new reserved rights. An inventory and binding quantification of federal reserved claims would eliminate fears and uncertainties about federal reserved water rights, promote more effective water resource planning, and promote more equitable treatment of holders of water rights granted under state law.

While developing and promoting a proposed legislative solution to the reserved rights issue, Ecology has also actively participated in the activities of several interstate organizations (particularly the Western States Water Council) in seeking resolution of the problem.

In order to expedite quantification of federal water claims, as well as clarification of water rights generally, it is recommended that state funding for general adjudications of water rights by Ecology be maintained at a satisfactory level. The adjudication process is the only mechanism under existing state law which results in quantification of all rights in a basin, including federal and Indian reserved rights. (See page 52 for the Adjudications section of this report.)

Washington will continue to participate in the activities of interstate organizations such as the Western States Water Council, Interstate Conference on Water Problems, Association of Western State Engineers, and the Western Governor's Association. These organizations are very effective in disseminating information and in representing unified state

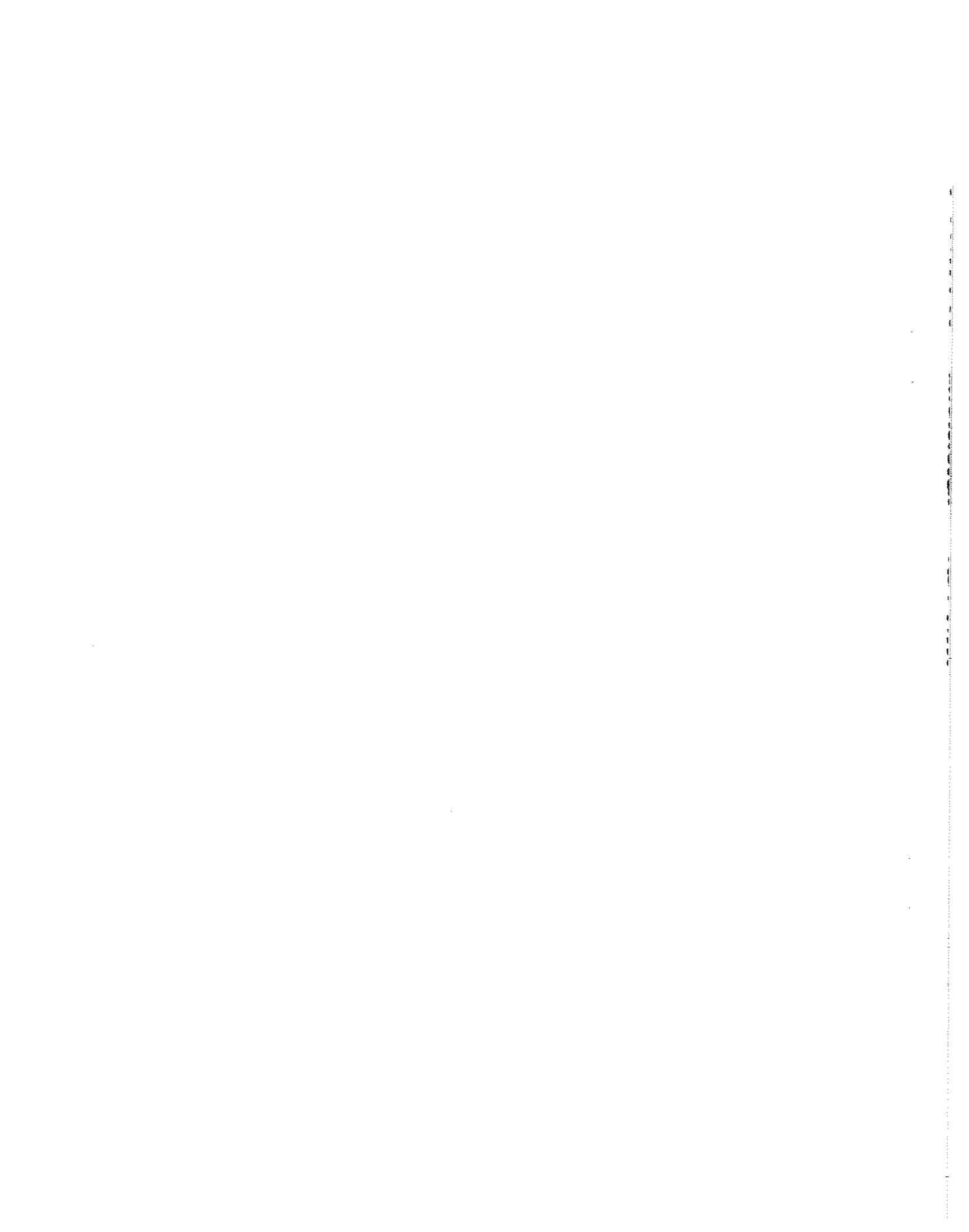
positions on issues such as federal reserved water rights. (See page 32 for the section of this report entitled "Representing the State's Interests.")

In addition, in 1985 and 1986, the Department of Ecology was involved in several court cases related to various types of claims by Indians or the United States' claims for Indians.

Office Automation: The State Legislature allocated funds to the Department of Ecology for office automation during the 85-86 biennium. Much of the funding was spent in Ecology's regional offices where the routinized processing of paper work needed to be automated. Two IBM personal computers (PCs) were purchased for the Central Regional Office's Water Resource Division. A data base file was created for tracking water right activities. Records are created for each water right application when it is accepted. Dates are entered when the applicant or the permittee must meet a requirement and monthly reports are generated listing applications or permits that are not in compliance. Reports are also generated by WRIA listing active applications needing field examinations and applications. A similar data base file has been created for tracking relinquishment activities, regulatory files and flood control applications.

Since October 1984, field examiners in Ecology's Regional Offices have been using a PCs to prepare their Reports of Examination on water right applications. The PC has been very effective in preparing concise, legible reports for review and simplifies the revision process. We are now able to link one IBM PC to one of the Displaywriters in Word Processing. This allows for transferring the report from the PC disk to the Displaywriter, eliminating the need to retype the entire report. Minor corrections are made by the typist and a final report is printed. By the end of calendar year 1986, all field inspectors should be writing their reports on the computer.

Over the last two years water resources staff, in both regional and headquarter's offices have started automating their work. Automation means that more professionals are using personal computers to prepare correspondence, memoranda or reports, design spread sheets and graphics. Access to PCs has encouraged staff to become "computer literate" so that they can develop computer skills beyond word processing (or simple editing) and explore other, more complex computer programs. PCs are also being used for a number of technical applications, including instream flow studies, stream hydrology analysis, and ground water analysis. Office automation will continue in the Water Resources program and with it will come greater efficiency and accuracy.







## DAM SAFETY

Major Issue: Historically, unless there has been a recent major disaster as the result of a dam failure, the general level of public interest in dam safety problems tends to be minimal. Following news of a dam failure, public concern usually reaches a peak for a short period of time, but then, as memory fades, the interest in correcting dam safety problems recedes at a rate comparable to that of the flood waters. During the short periods of high interest, government sometimes responds with an effort to address the total problem, but this energy is all too often diverted elsewhere as other perceived higher priority matters become prominent.

In the past, the state of Washington has experienced similar fluctuations in interest, with the result that its dam safety program has undergone corresponding changes in emphasis. Such changes are neither conducive to efficiency nor helpful in solving the many existing and evolving problems. It is, therefore, important that the state establish and maintain a stable, continuing and competent dam safety effort. The program took a positive direction during the 1985-1986 period with the addition of two engineers to the previous staff of three, but changes in priorities since the end of the biennium necessitated a reduction in personnel.

Such a reduction is not consistent with the current national awareness and trend toward improving and increasing dam safety efforts. The recent enactment of the federal "Dam Safety Act of 1986" embodied in H.R. 6, provides substantial grant funding and incentive for improving our state's dam safety program. In order to participate, however, it will be necessary to maintain the same aggregate level of state expenditures for the program as that which existed during fiscal years 1985 and 1986.

Although significant progress was made during the past biennium, the specific program element needs remain essentially the same as outlined in the previous biennial report to the legislature.

Authority/Background: RCW 43.21.130 - Provides the department of Ecology with powers and duties, insofar as it may be necessary to assure safety to life and property, to inspect the use of water and to require necessary changes in construction or maintenance to reasonably secure safety to life and property.

RCW 86.16.035 -- Control of Dams and Obstructions -- provides that the Department of Ecology shall have supervision and control over all dams and obstructions in streams and may make regulations concerning the flow of water as necessary for the protection of life and property below these works from flood waters.

RCW 90.03.350 -- Plans and Specifications -- provides that anyone intending to construct or modify any dam or controlling works for the storage of 10 acre-feet or more of water shall submit plans and specifications to the Department of Ecology for approval as to safety. Any dam not constructed according to plans and specifications or not maintained as may be ordered shall be presumed to be a public nuisance and may be abated.

It shall be the duty of the county prosecuting attorney to institute abatement proceedings against the owner when so requested by the department of Ecology.

RCW 90.03.470(8), (9) -- Fees for Inspection and Plan Approval -- provides for the collection of fees for dam inspections, based on the cost of the inspection, and fees for dam plan approvals, based on a minimum of ten dollars or the actual cost.

RCW 90.54.160 -- The Water Resources Act of 1971 -- requires an annual report to the legislature to identify unsafe dams, the attitude of the owners to correct the problems, and the costs of the modifications and/or repairs.

Accomplishments: In the last biennial period, the Dam Safety Section of the department of Ecology made substantial progress in its efforts to correct previously identified safety problems at high hazard dams. During this time, corrective action was initiated on about 65 projects. Actual construction work on repairs or modifications was started or in progress on about 30 of these structures. All work is now completed on 12 of these facilities.

Including the plan review activities associated with the rehabilitation of these projects, a total of about 80 project plans for dam construction were processed during the two year period from July 1, 1984, through June 30, 1986. Among these were plans for the enlargement of Culmback Dam in the Sultan River Project, modifications of the City of Seattle's Tolt, Masonry, and Crib Dams, and major repairs of damage to the City of Spokane's Upriver Dam.

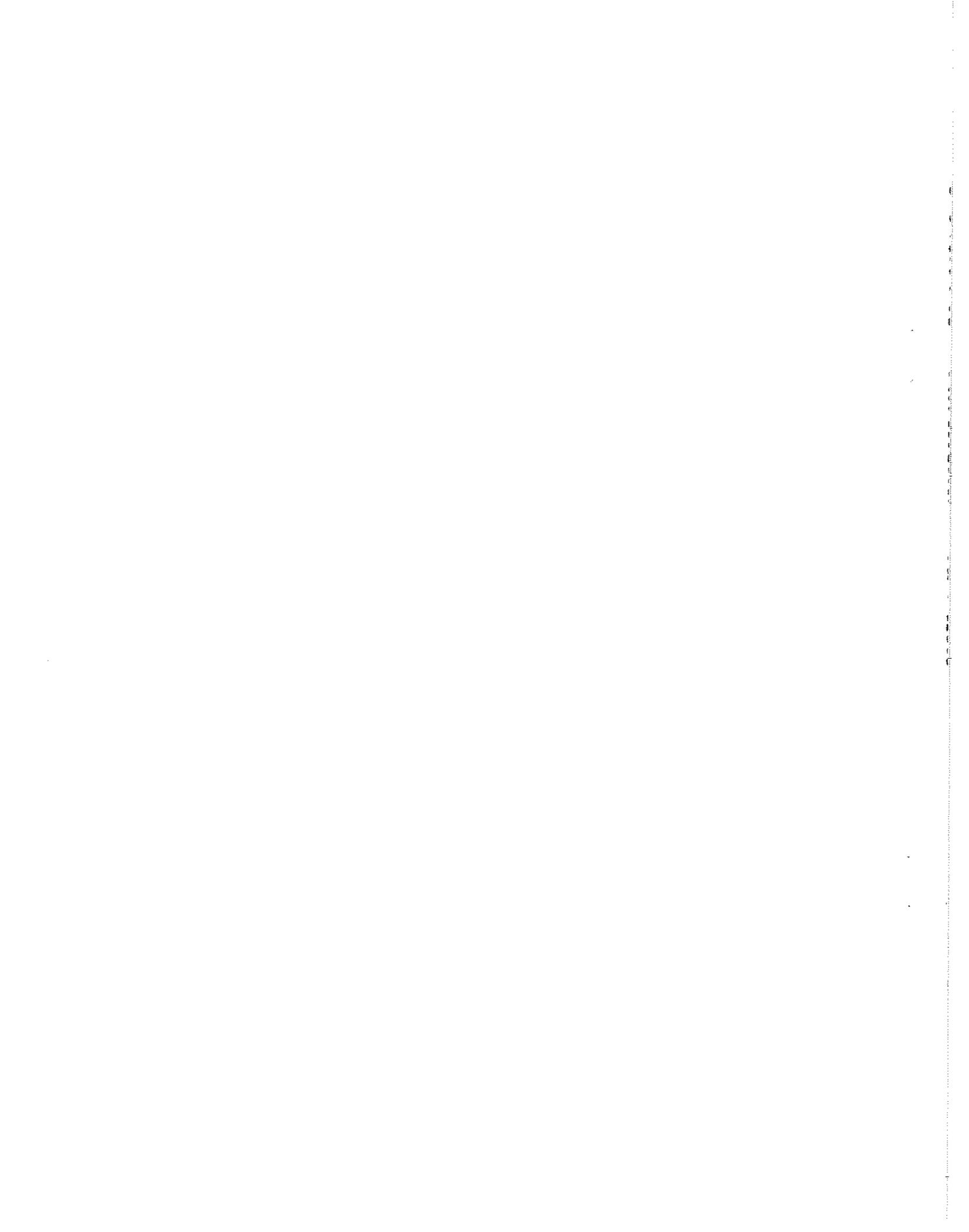
Through fiscal year 1986, a total of about 1,200 projects had been documented in the inventory of dams for the state. This inventory includes dams that can store 10 or more acre-feet of water or that can impound water to a depth of 10 feet or more. Of the total, about 570 meet the size requirements specified for the National Dam Inspection Program (i.e. dam is 25 feet or more in height and impounds at least 15 acre-feet of water, or reservoir contains a volume of 50 acre-feet or more and has an impounding structure at least 6 feet high).

Through a grant from the Federal Emergency Management Agency, the Dam Safety Section entered into three contracts in February 1984 to continue and complete a program of aerial surveillance to locate previously unknown dams. This effort was started during the national dam inspection and inventory program but was interrupted in 1981 when Corps of Engineers funding was terminated. Once identified from the air, dam safety section personnel visited, inspected, and inventoried the dams found through this work. Approximately 100 previously unknown dams have been identified in this effort.

The addition of two positions also permitted a substantial increase in inspection activity during the biennium. In total, the section performed about 200 reconnaissance level investigations, 100 more detailed periodic inspections and about 170 inspections of dams under construction.

Problems Encountered: Although some dam owners have been able to address the outstanding safety problems, there remains a tendency for many to procrastinate, principally for financial reasons. The Dam Safety Section continues to assist and explore innovative solutions to these various problems, but in most cases the options are limited. Government funding programs are only available to dam owners in the public sector. Private owners must obtain their funds elsewhere.

Although enforcement action is warranted in some cases to alleviate critical safety concerns, in most cases, short of abatement, it does little to bring about an expeditious solution to the total problem.







## PUBLIC INVOLVEMENT

Major Issue: There is a need to adequately involve the public in water resource program development and implementation.

Authority/Background: The Water Resources Act of 1971 provides that:  
"(1) The department shall make reasonable efforts to inform the people of the state about the state's water and related resources and their management. The department . . . shall not only invite but actively encourage participation by all persons and private groups and entities showing an interest in water resources programs. . . .  
(2) The department shall similarly invite and encourage participation by all agencies of federal, state, and local government, . . . having interests or responsibilities relating to water resources. . . ." (RCW 90.54.060)

The department has attempted to conform to this mandate in several ways. As a means of disseminating information, a department newsletter, BASELINE, is published every month and distributed to more than 2,000 readers. Many articles have appeared in Baseline about the Water Resources Program. The newsletter provides information on departmental accomplishments such as the completion of a major project or adoption of administrative regulations under the Washington Administrative Code and provides information on upcoming events such as public meetings and hearings. Normally, the name, address, and telephone number of the staff contact is provided so that interested readers may obtain additional information or have their names placed on project-specific mailing lists.

With the exception of the newsletter, Ecology's emphasis on water resources public participation is through the individual water resources management or planning programs. Typically, this process begins with the compilation of a mailing list of interested individuals and agency and tribal representatives. These people are then sent information on the proposed program and invited to public meetings, workshops, and/or hearings to discuss the issues and are invited to provide both informal comments and formal testimony. In addition, all administrative rules proposed for adoption under the Washington Administrative Code are published in the Washington State Register in accordance with the Administrative Procedures Act (Ch. 34.04 RCW). Legal notices are also printed in newspapers in accordance with Chapter 90.22 RCW. The department has found these procedures to be quite effective in obtaining review and comment by interested people.

Since July 1, 1985, the department has conducted a number of public hearings related to its water resources management activities. Public hearings or workshops have been held in the following locations on the following subjects:

Instream Flow and Water Allocation Program Review:

November, 1985	Seattle	Workshop
April 10, 1986	Olympia	Meeting
May 8, 1986	Olympia	Meeting
June 11, 1986	Seattle	Meeting
August 1, 1986	Seattle	Meeting
September 4, 1986	Olympia	Meeting

Little Spokane River Basin Management Program Revision:

July 30, 1986	Chatteroy	Public Hearing
---------------	-----------	----------------

Nooksack Instream Resource Protection Program:

September 19, 1985	Bellingham	Public Hearing
December 3, 1985	Olympia	Adoption

Skokomish-Dosewallip Instream Resources Protection Program:

July 11, 1985	Hoodspport	Public Hearing
May 23, 1984	Brinnon	Public Hearing
March 7, 1985	Hoodspport	Workshop
April 18, 1985	Brinnon	Workshop

Groundwater Management:

January 8, 1986	Moses Lake	Public Hearing
September 4, 1986	Vashon/Maury Islands	Public Hearing
September 8, 1986	Kitsap County	Public Hearing
September 9, 1986	South King County	Public Hearing
September 10, 1986	Clover-Chambers Creek Basin	Public Hearing
September 15, 1986	Redmond-Bear Creek	Public Hearing
September 17, 1986	Gig Harbor Peninsula	Public Hearing
September 18, 1986	Island County	Public Hearing
September 23, 1986	Issaquah Creek Valley	Public Hearing
October 7, 1986	Olympia	Adoption of rules to designate ground water areas

Notifying Landowners of Interruptible Water Rights:

July 1986

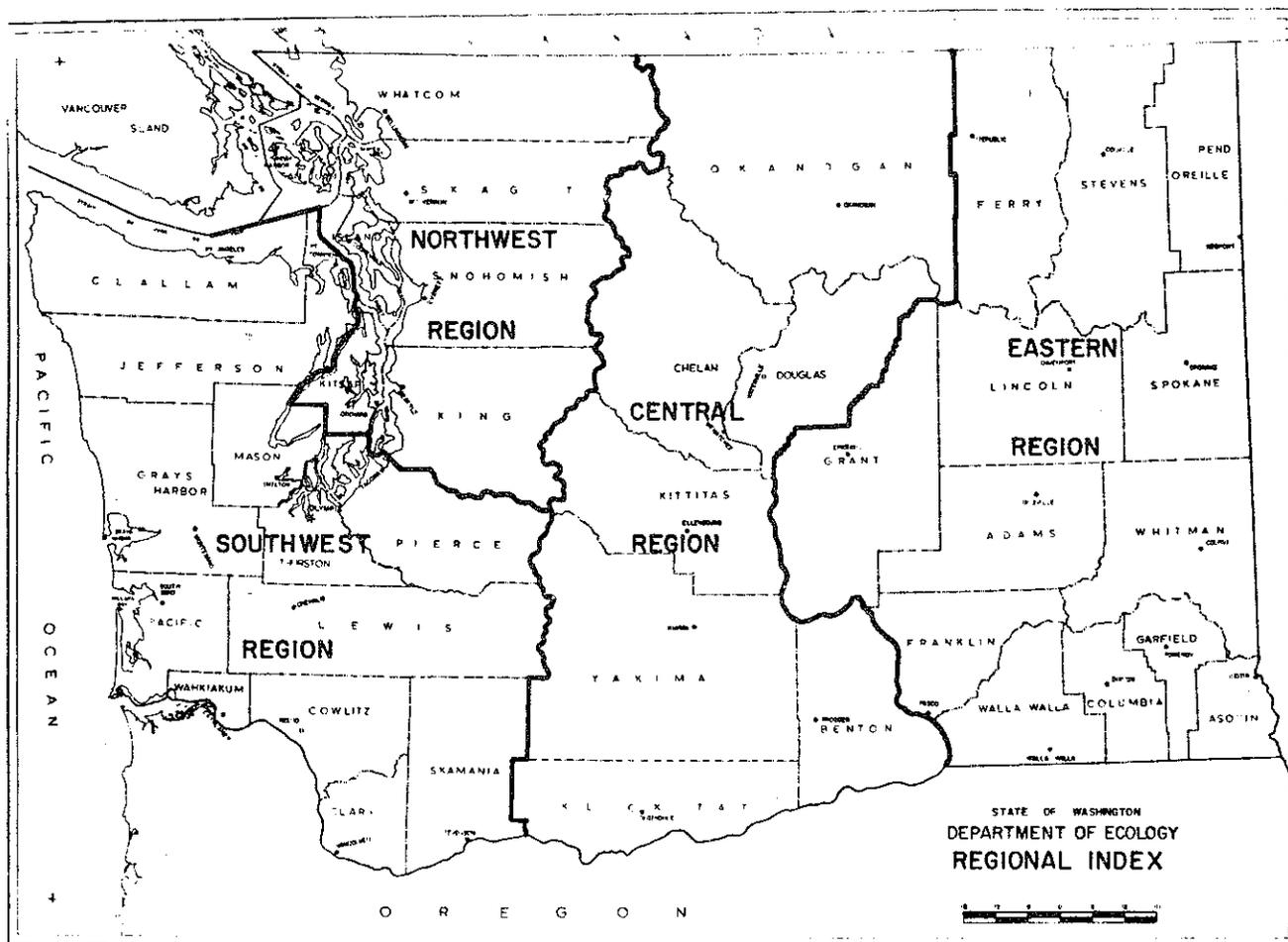
Okanogan,  
Twisp,  
Leavenworth

Public Meetings

Department staff are also asked to make presentations to the Washington State Ecological Commission at its quarterly public meetings. These meetings provide an opportunity for public involvement in, and awareness of, the department's programs.

In November 1986, staff from the Water Resources Program presented information about water resources to a teacher's training workshop on environmental education. Water Resources staff shared information about the hydrologic cycle, ground water contamination, instream flows and water conservation with the teachers. The environmental education curriculum workshop was a success and will be repeated in the Spring of 1987.

Figure 8



Northwest Regional Office

4350 - 150th Avenue N.E.  
Redmond, WA 98052  
(206) 885-1900 SCAN 731-1111  
Regional Manager - Nancy Ellison  
Water Resources Supervisor -  
Herman Huggins

Central Regional Office

3601 W. Washington  
Yakima, WA 98903  
(509) 575-2491 SCAN 558-2491  
Regional Manager - Russ Taylor  
Water Resources Supervisor -  
Doug Clausing

Southwest Regional Office

7272 Cleanwater Lane  
Olympia, WA 98504  
(206) 753-2353 SCAN 234-2353  
Regional Manager - Clark Haberman  
Water Resources Supervisor -  
Gary Hanson -- (206) 753-2977

Eastern Regional Office

N. 4601 Monroe St., Suite 100  
Spokane, WA 99205  
(509) 456-2926 SCAN 545-2926  
Regional Manager - John Arnquist  
Water Resources Supervisor -  
Ted Olson

## **APPENDIX I**



Table 1

AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH REFERENDUM 27 BOND PROCEEDS (Continued)

Name of Agency and Project	Purpose of Project	Total Project Cost (Approx)	State Assistance		Direct Department Expenditures	Status of Project	Acres Affected
			Grant	Loan			
11. Peshastin Irrigation District.	Replace diversion dam.	\$ 64,000	\$ 9,500	\$ ----		Complete	2,365
12. Granger Irrigation District.	Feasibility Study.	24,000	3,950	8,050		Complete	----
13. Outlook Irrigation District.	District Rehabilitation.	2,900,000	433,751	----		Complete	4,613
14. Roza Irrigation District.	Replace nonpressurized conveyance system with pressurized pipe.	608,730	66,424	----		Complete	1,700
15. Okanogan Irrigation District.	District Rehabilitation.	11,669,000	1,731,600	----		80% Complete	5,030
16. Roza Irrigation District	Replace nonpressurized conveyance system with pressurized pipe.	1,233,800	140,685	----		70% Complete	2,700
17. Roza Irrigation District	Replace nonpressurized conveyance system with pressurized pipe.		147,000	----		40% Complete	1,800
18. Lake Osoyoos Control Structure	Replace Zosel Dam with new new Lake Osoyoos Control Structure.	6,000,000	----		<sup>2,500,000</sup> \$3,000,000	50% Complete	----
SUBTOTAL			\$19,336,302	\$1,209,550	<sup>2,500,000</sup> \$3,000,000		252,705
TOTAL			\$23,545,852		24,045,852		

AV/WQ2/86/120146(2)

Table 1

## AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH REFERENDUM 27 BOND PROCEEDS

Name of Agency and Project	Purpose of Project	Total Project Cost (Approx.)	State Assistance		Direct Department Expenditures	Status of Project	Acres Affected
			Grant	Loan			
1. Second Bacon Siphon and Tunnel with main conveyance facilities, U.S. Bureau of Reclamation, East Columbia Basin Irrigation District, and Quincy Irrigation District.	Second Main Siphon and Tunnel for conveyance of water to supplement Columbia Basin project and develop East High area.	\$117,000,000	\$15,000,000	----		Complete	136,000-200,000
2. Snipes Mountain Irrigation District.	Replace mainline Penstock to pumping plant and mainline discharge and parts of pressure distribution system.	550,000	192,500	----		Complete	2,000
3. South Columbia Basin Irrigation District Local Improvement District No. 2.	Construct and install pumping plant and pressure distribution pipe.	686,428	102,965	\$240,250		Complete	2,000
4. Wenatchee Heights Reclamation District.	Rehabilitate and replace pressure distribution system. Construct stabilization reservoir.	1,437,000	493,500	----		Complete	600
5. Okanogan Irrigation System.	Replace pumping plant on Okanogan River. Replace and rehabilitate mainline from pump and pressure pipeline laterals. Construct and install main concrete division box.	2,275,000	525,000	----		Complete	5,040
6. Agnew Irrigation District.	Replace portion of main canal with pipe.	168,434	55,677	----		Complete	7,198
7. Selah and Moxee Irrigation District.	Replace 3 wood flumes on main canal with 3 concrete pipe siphons.	225,000	33,750	78,750		Complete	4,600
8. Benton County PUD.	Horse Heaven Hills reconnaissance study.	30,000	15,000	----		Complete	----
9. Wenatchee Reclamation District.	Replace 2 wood flumes with steel and timber flumes. Replace segments of mainline wood stave pipe.	2,250,000	337,500	787,500		Complete	12,459
10. Icicle Irrigation District.	Replace lateral flume.	527,500	47,500	95,000		Complete	600

Table 2

EMERGENCY AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH GENERAL OBLIGATION BOND PROCEEDS

I. 1977 Drought Alleviation

Name of Agency and Project	Purpose of Project	State Assistance		Total Project Cost	Direct Department Construction	Acres Affected
		Grant	Loan			
1. Stemilt Irrigation District.	Emergency drought alleviation.	\$ 17,950.53	\$ 289,400.00	\$ 307,350.53	\$ ----	300
2. Wenatchee Heights Reclamation District.	Emergency drought alleviation.	25,065.94	167,132.00	192,197.94	----	660
3. Lower Stemilt Irrigation District.	Emergency drought alleviation.	28,342.00	160,602.62	188,944.62	----	400
4. Roza Irrigation District LID Well Construction.	Emergency drought alleviation.				----	
a. Able Oil LID		22,800.00	136,000.00	158,800.00	----	153
b. Stout LID		31,590.80	168,078.86	199,669.66	----	492
c. Kershaw LID		28,933.69	169,624.27	198,557.96	----	132
d. Johnson LID		34,656.63	196,387.59	231,044.22	----	225
e. Charron LID		18,979.77	107,522.00	126,501.77	----	268
f. White LID		21,411.04	124,127.89	145,538.93	----	126
g. Hanrahan LID		13,939.08	78,801.81	92,740.89	----	162
5. Naches-Selah Irrigation District.	Emergency drought alleviation.	17,825.39	101,010.58	118,835.97	----	325
6. WSU and DOE Well Prosser Experiment Station	Emergency drought alleviation.	----	----	----	241,528.00	520
7. Test Well #16, Kittitas County.	Emergency drought alleviation.	---	----	----	115,940.00	----
8. Test Well #17, Douglas County.	Emergency drought alleviation.	---	----	----	113,172.00	----
1977 Drought Alleviation TOTAL		\$261,494.87	\$1,698,687.62*	\$1,960,182.49	\$470,640.00	3,763

AV/WQ2/86/120146(3)

\$1,147,704.42 paid back leaving \$550,983.20 outstanding in loans as of January, 1978.  
(These figures apply only to the 1977 Drought Alleviation funds.)

EMERGENCY AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH GENERAL OBLIGATION BOND PROCEEDS (Continued)

II. Alleviate Unsatisfactory Water Supply Conditions 1979 through 1986

Name of Agency	Purpose of Project	State Assistance		Total Project Cost (Approx)	Status of Project	Direct Department Construction	Acres Affected
		Grant	Loan				
1. Wenas Irrigation District	Rehabilitation and enlargement of dam and reservoir.	\$ 500,000	\$ 500,000	\$ 2,000,000	Construction 99% complete	\$ ----	2,500
2. Icicle Irrigation District	Replace lateral flume and rehabilitate lateral system.	212,500	165,000	527,500	Completed	----	600
3. U.S. Bureau of Reclamation	Yakima enhancement feasibility study.	500,000	----	500,000	Phase I complete	----	----
4. Agnew Irrigation District	Replace siphon.	100,000	100,000	200,000	Complete	----	4,800
5. Sunnyside Valley Irrigation District	Relace 4 siphons.	1,223,000	1,223,000	2,446,000	Complete	----	7,000
6. Yakima Tieton Irrigation District	Construct dam and reregulation reservoir and replace open channel with pressurized system.	4,138,000	4,138,000	75,900,000	90% complete	----	25,500
7. Department of Ecology	Klickitat County Test Well No. 18.	----	----	----	Complete	196,000	----
8. Department of Ecology	Benton County Test Well No. 15.	----	----	----	Complete	101,500	----
9. Department of Ecology	Island County Test Wells.	----	----	----	Complete	327,000	----
10. Grandview Irrigation District	Rehabilitation of Conveyance System.	193,600	----	1,355,000	Complete	----	3,771
11. Zosel Dam Repair	Riprap Replacement	----	----	----	Complete	1,942	----
12. Methow Valley Irrigation District	Flume Repair	9,581	54,291	----	80% complete	----	1,500
13. Department of Ecology	Scatter Creek Test Wells.	----	----	75,000	99% complete	49,832	----
SUBTOTAL		\$6,876,681	\$6,180,291			\$676,274	45,671
TOTAL		\$13,733,246					

Table 3

October 1986

## AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH REFERENDUM 38 BOND PROCEEDS

Name of Agency and Project	Purpose of Contract	Total Project Cost (Approx)	State Assistance		Direct Department Expenditures	Status of Contract	Acres Affected
			Grant	Loan			
1. Menas Irrigation District	Rehabilitation and enlargement of dam and reservoir.	\$2,000,000	\$ 150,000	\$ 850,000	\$ ----	Complete	2,500
2. Columbia Irrigation District	Replace 42" siphon.	200,000	30,000	----	----	Complete	3,900
3. Columbia Irrigation District	District rehabilitation of conveyance system.	115,000	17,359	----	----	Complete	----
4. Brays Landing Irrigation District	Feasibility study for irrigation of "new" lands.	16,400	2,400	14,000	----	Complete	----
5. Agnew Irrigation District	District rehabilitation of diversion structure.	65,278	39,242	22,900	----	Complete	700
6. Brays Landing Irrigation District	Construction of new irrigation system.	1,017,100	152,565	864,535	----	Complete	446
7. Stemilt Irrigation District	Feasibility study for proposed rehabilitation project.	10,000	1,500	8,500	----	Complete	----
8. U.S. Geological Survey Basalt Pumpage Sodium Study	Define those aquifers and ground water flow systems where dissolved sodium presents irrigation problems.	845,000	633,082	----	----	Complete	----
9. Department of Ecology East Selah Reregulation Reservoir Design, CH2M Hill	Design, preparation of plans and specifications for proposed reregulating reservoir in the Yakima Project system.	----	----	----	235,009	Complete	----
10. Columbia Irrigation District, R and B Project	District conveyance system rehabilitation.	4,079,000	434,975	----	----	Complete	9,880
11. Columbia Irrigation District, Horn Rapids Fish Ladders and Screens	Design and install two fishways and screen intakes.	1,500,000	1,254,930	----	----	90% Complete	----
12. Wenatchee Reclamation District	District rehabilitation of conveyance system.	360,000	53,883	----	----	Complete	8,635

AV/WQ2/84/120146(5)

AGRICULTURAL WATER SUPPLY PROJECTS FINANCED WITH REFERENDUM 38 BOND PROCEEDS (Continued)

Name of Agency and Project	Purpose of Contract	Total Project Cost (Approx)	State Assistance		Direct Department Expenditures	Status of Contract	Acres Affected
			Grant	Loan			
13. Kennewick Irrigation District	Canal lining and culvert replacement.	\$1,100,582	\$145,497	\$ ----	\$ ----	Complete	19,000
14. Stenilt Irrigation District	District rehabilitation of conveyance system.	474,177	71,127	403,050	----	Complete	1,121
15. City of Yakima	Design and install a fishway and screen intake.	863,174	398,434	----	----	Complete	----
16. Yakima-Tieton Irrigation District	Construct dam and reregulating reservoir and replace open channel with pressurized system.	75,900,000	4,532,503	----	----	95% Complete	25,500
17. Methow Valley Irrigation District	Replacement of flume.	25,594	3,839	21,755	----	Complete	1,500
18. Department of Ecology/2nd Half Columbia Basin Project	Socioeconomic study/2nd half Columbia Basin Project	----	----	----	207,150	Complete	----
19. Naches-Selah Irrigation District	Siphon replacement	----	60,300	341,700	----	75% Complete	----
20. Greater Wenatchee Irrigation District	Total district rehabilitation	----	1,212,669	----	----	20% Complete	----
21. Sunnyside Board of Control (Sunnyside Valley Irrigation District)	Headworks replacement	----	362,989	----	----	70% Complete	----
22. Sunnyside Valley Irrigation District	Pipeline replacement	----	71,940	----	----	70% Complete	----
23. Yakima-Tieton Irrigation District	Construct dam and reregulating reservoir and replace open channel with pressurized system	75,900,000	----	2,000,000	----	90% Complete	----
		SUBTOTAL	\$9,629,234	\$4,526,440	\$442,159		73,182
		TOTAL		\$14,597,833			

AV/WQ2/86/120146(6)

Table 4

## STATUS OF RECLAMATION REVOLVING ACCOUNT BOND INVESTMENTS

October 31, 1986

District	Original Amount	Issue Date	Maturity	Interest Rate (%)	Indebtedness as of 5/31/86
Aeneas Lake Irrigation District	\$ 220,500.00	1/1/71	1/1/76-1/1/10*	5	\$ 190,500
Chelan River Irrigation District	52,000.00	1/1/76	7/1/77-7/1/00*	4	38,000
Columbia Irrigation District	125,000.00	1/1/69	1/1/70-1/1/09*	4	51,000
Entiat Irrigation District	210,000.00	1/1/73	1/1/74-1/1/13*	5	179,000
Gardena Farms Irrigation District	200,000.00	7/1/56	1/7/57-7/1/96	3	78,500
Lower Stemilt Irrigation District	207,000.00	7/1/80	1/1/84-1/1/11*	6-1/4	193,000
Lower Squilchuck Irrigation District	70,000.00	1/1/76	1/1/80-1/1/10*	4	60,000
Methow-Okanogan Reclamation District	45,000.00	7/1/66	1/1/70-1/1/87	3	1,500
Methow Valley Irrigation District	58,000.00	7/1/48	1/1/53-1/1/87	1	2,000
Moab Irrigation District	160,000.00	1/1/69	7/1/72-1/1/09*	4	133,000
Moab Irrigation District	21,000.00	1/1/71	7/1/80-7/1/10*	4	19,800
Naches-Seiah Irrigation District	480,000.00	1/1/57	1/1/62-1/1/90	3	94,000
North Dalles Irrigation District	50,000.00	1/1/62	1/1/62-1/1/02*	3	26,000
White Salmon Irrigation District	50,000.00	1/1/62	1/1/63-1/1/02*	7	26,000
Whitestone Reclamation District	25,000.00	1/1/49	1/1/54-1/1/88	2	2,750
Whitestone Reclamation District	40,000.00	1/1/48	1/1/53-1/1/87	2	1,250
Wolf Creek Reclamation District	60,000.00	1/1/48	1/1/49-1/1/88	1	3,000
TOTAL	\$2,073,500.00				\$1,099,300

\*Bond maturity in the year 2000 or later.

AV/WQ2/86/120146(7)

Table 5  
ACTIVE RECLAMATION REVOLVING ACCOUNT ADVANCES TO DISTRICTS  
June 30, 1984

District	Original Amount	Contract Date	Interest Rate (%)	Current Balance
Selah and Moxee Irrigation District	\$42,500.00	12/10/78	5-1/2	\$63,836.08
Snohomish Drainage District No. 6	25,000.00	7/22/64	3	39,758.59
TOTAL	\$67,500.00			\$63,836.08

AV/WQ2/86/120146(8)

TABLE 6  
 AGRICULTURAL WATER SUPPLY PROGRAM  
 STATUS OF WATER SUPPLY FUNDS  
 (As of October 31, 1986)

Program	Authorized Bond	Appropriated to 6/30/87	Expenditures to 10/31/86	Number of Projects Assisted & Completed	Contract Obligations to 10/31/86	Number of Projects Under Contract (Not Completed)	Balance Authorized Bond	Pending* Obligations	Number * of Projects Pending	Unobligated
Referendum 27	25,000,000	25,000,000	22,769,090	14	2,069,107	4	161,803	0	0	161,803
Emergency Water Supply	18,000,000	18,000,000	15,881,931	23	108,308	3	2,009,761	800,000	3	1,209,761
Referendum 38	50,000,000	36,770,000	12,652,798	16	2,038,662	7	35,308,540	17,624,990	8	17,683,550

\* Pending Projects/Comments - See Table 7.

These projects may or may not be funded in the 87-89 biennium.

AV/WQ2/86/120146(9)

Table 7

## PLANNED AGRICULTURAL WATER SUPPLY PROJECTS

	<u>Project</u>	<u>Estimated Cost</u>
A.	Referendum 27	
	Nothing anticipated as of October 31, 1986	-0-
	TOTAL REFERENDUM 27	-0-
B.	Referendum 38	
	Department of Ecology/East Selah Reregulating Reservoir	\$14,264,990
	Wenatchee Reclamation District	400,000
	Oroville-Tonasket Irrigation District	400,000
	East Columbia Irrigation District	1,000,000
	Peshastin Irrigation District	400,000
	Kennewick Irrigation District	500,000
	South Columbia Irrigation District	600,000
	Methow Valley Irrigation District	60,000
	TOTAL REFERENDUM 38	\$17,624,990
C.	Emergency Water Supply	
	Granger Irrigation District	\$200,000
	Selah Moxee Irrigation District	300,000
	Icicle Irrigation District	300,000
	TOTAL EMERGENCY WATER SUPPLY	\$800,000

## **APPENDIX II**



## APPENDIX II

### INSTREAM FLOW ISSUES IDENTIFIED AT THE ECOLOGICAL COMMISSION WORKSHOP NOVEMBER 13, 1985

1. Appropriate Level to Establish Flows - Is the level the legislature intended a high(optimum), medium (sustaining), or low(survival) standard? Are Ecology's current criteria appropriate?
2. Maximum Net Benefits - Should minimum or base flows be subject to a maximum net benefits test? Should instream flows above the minimum or base flow level be subject to a maximum net benefits test? Should procedures for carrying out a MNB analysis be developed? How should a maximum net benefits test be done? (Quantitative and/or qualitative)
3. Balanced Assessment of Priorities - In establishing instream flows, should offstream needs be assessed coincidentally with instream needs and as a coequal priority.
4. Procedures for Establishing Flows - Should both the process and the specific technical procedures for establishing instream flows be reexamined and better documented?
5. Comprehensive Regional Planning - Would a comprehensive regional or subregional water planning approach addressing all uses be a better approach than the present approach which addresses only instream needs on a stream by stream, basin by basin basis?
6. Indian Rights - Should uncertain Indian water claims for instream and offstream uses be factored into the water planning process? If so, how?
7. Intangible Values - How can intangible values be factored into instream flow setting and other water allocation decisions in a more systematic way?
8. Public Participation Process - Is the current public participation process adequate? If not, what improvements can be made?
9. Future Changes to Instream Flows - Adopted instream flows could be lowered after review, but appropriated water can't readily be recovered if it is later determined that higher instream flows are needed. Does this require a more conservative approach to setting instream flows?
10. Burden of Proof - Should the burden of proof of the need for an instream flow level rest with instream water interests or with offstream interests?
11. Conservation - Should more emphasis be placed on conservation of water within existing supplies before allocating additional water?

12. Improved Data Bases - Can the data base for water allocation decisions including establishment of instream flows be improved? Can existing data be better shared/accessed?
13. Undefined Terms - Should numerous undefined terms in the statutes be defined to reduce uncertainty and inconsistency, (eg: minimum flow, base flow, protection, preservation, maximum net benefits.)
14. Protection of Existing Rights - Should existing water rights be given greater recognition and deference in the water allocation process? Should proposed changes of senior water rights in point of diversion, place of use, or purpose of use be subject to junior priority minimum flows?
15. Different Instream Flow Standards For Different Streams - Should different instream flow standards be used for different streams on a case by case basis depending upon the resources present, competing uses, and the public interest?
16. Consider Long Term Needs - Should the long term needs of both instream and offstream uses be thoroughly examined before making any water allocations?
17. Enforcement - Should enforcement of instream flow provisions be given more emphasis? Are statewide procedures needed to assure consistent enforcement across the state? Should related issues such as relinquishment and wasteful practices be addressed?
18. Quantification of Instream Values - Should procedures be defined to enable quantification of noneconomic values so that they may be fairly compared to economic uses of water?
19. Instream Flow Waiver - Under what conditions should minimum flows be waived in order to respond to "overriding considerations of the public interest?" (RCW 90.54.020(2)) Should criteria be developed to guide waiver decisions?
20. Measuring Flows - Are improved procedures needed for measuring/monitoring streamflows or estimating stream hydrology where data is unavailable?
21. Single Domestic and Stock Exemption - Should minor exempted uses be more carefully evaluated for their effects on existing rights including instream flows?

ADDITIONAL WATER RESOURCES PLANNING ISSUES  
NOT IDENTIFIED AT THE NOVEMBER, 1985  
ECOLOGICAL COMMISSION WORKSHOP

22. State Interagency Coordination - What should be the relationship of Ecology to the departments of Game, Fisheries, Agriculture, and Energy and other interested state agencies?
23. Federal Agency Coordination - What should be the relationship of state water rights, instream flows, and other state authorities to the activities and authorities of federal agencies?
24. Local Government Coordination - What should be the relationship of Ecology to local government water interests?
25. Instream Flows as Water Rights - How should the date of priority for instream flows, priority date when revised, and relationship to changes in place or purpose of use, or point of diversion for out-of-stream uses be addressed? Can instream flows be established through appropriation or by purchase of existing out-of-stream rights.
26. Applicability of RCW 75.20.050 - How should new surface water source limitations (SWSLs) be established after adoption of instream flows? Should this include establishment of low flows as well as denial of rights? Should it include a review of SWSLs and adoption as rules including specifying closure periods?
27. Surface and Ground Water Continuity - Should Ecology establish analytical procedures and standards for determining hydraulic continuity between surface and ground water? What is the state's policy for allocating ground water in hydraulic continuity with surface water?
28. Hydropower - Is hydropower use consumptive if it alters the natural flow regime or bypasses a significant length of stream? How should minimum flows be established for hydropower (regulation or case by case)? Should the applicant be required to conduct necessary studies?
29. Adjustable Instream Flows - Should adjustment mechanisms be incorporated in instream flow regulations for certain use classes (normal and critical flows)? If so, for what uses and using what criteria?
30. Water Reservations - Should water reservations be subject to instream flows (even if flows are not set at the time a reservation is established or petitioned)?
31. Applicability of Instream Flows - What types of water rights are subject to instream flow conditions? What is the applicability of a new instream flow to existing water right applications and permits?

32. Stream Closures - Under what conditions should new stream closures be established? Should closure periods be specified for existing unadopted closures?
33. Ponds and Lakes - Should the setting of pond and lake levels be included as a discretionary element of a basin plan?
34. Waterfalls and Exceptional Stream Reaches - Should special water features receive consideration for preservation in their natural state?
35. Periodic Regulation Review - Should a periodic review period be specified in Ecology regulations?
36. Representing the State's Interest - What should be the scope of activities of Ecology in "vigorously representing the state's interest?"
37. Appeals - What is the appropriate avenue of appeal of Ecology water regulations, orders or decisions?

APPENDIX II

Membership of the  
Instream Flow and Water Allocation Advisory Committee

Honorable Forest Baugher  
House Agriculture Committee

Dr. Hal Beecher  
Department of Game

Mary Burke  
Washington Cattlemen's Assn.

Polly Dyer  
Olympic Park Associates

Mike Hambrock  
Department of Ecology

Gil McCoy  
State Energy Office

Dennis McDonald  
Northwest Indian Fisheries  
Commission

Tom Miller  
Trout Unlimited

Richard Siffert  
Water Supply and Waste Section  
Department of Social and Health  
Services

Patricia Sumption  
Friends of White Water

Ron Van Gundy  
Washington State Water  
Resources Assn.

Honorable Karla Wilson  
House Natural Resources Committee

Robert Barnes  
Puget Sound Power and Light

John Kirner  
Association of Washington  
Cities

Honorable Dean Sutherland  
House Natural Resources  
Committee

Ed McCleary  
Washington Aquaculture Council

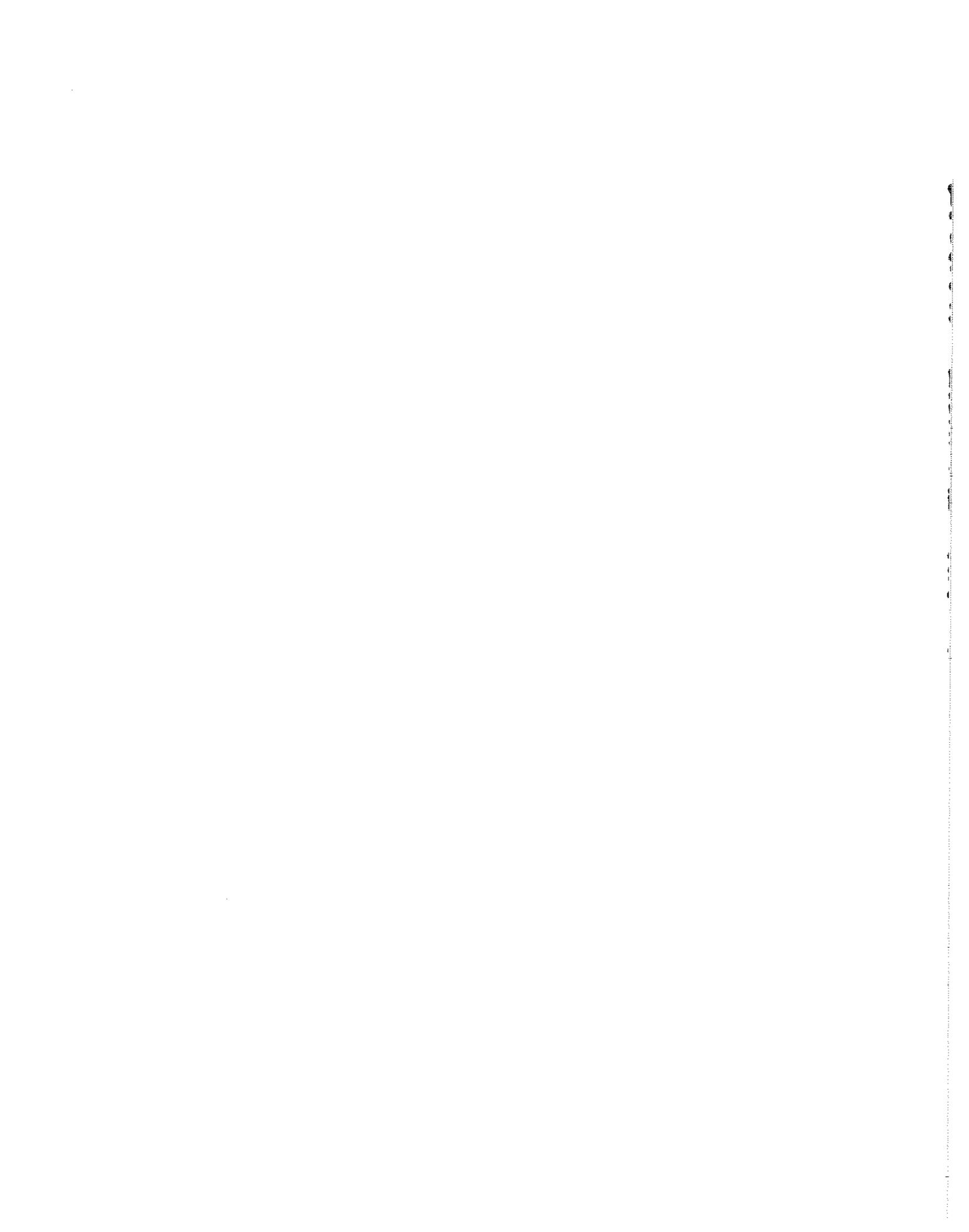
Janet Chalupnik, Chairperson  
Water Resources Advisory  
Committee

Robert Wubbena  
American Water Works Assn.

Gordon Zillges  
Department of Fisheries

Bob Lee  
Department of Agriculture

Stan Cecil  
Washington Environmental Council



REPORT OF THE INSTREAM FLOW AND  
WATER ALLOCATION ADVISORY COMMITTEE

To

The Washington State Department of Ecology

by Janet Chalupnik, Chair

December 15, 1986

SUMMARY

This report documents the work performed by the Instream Flow and Water Allocation Advisory Committee. The committee was established by the Department of Ecology to assist in the sorting and evaluation of many difficult instream flow and water allocation issues currently facing the department. Unfortunately, the committee was unable to agree on a comprehensive resolution to these issues. However, the committee did discuss a number of promising potential solutions that Ecology should further evaluate.

In addition, the five committee meetings provided an unprecedented forum for the expression of views on these issues. I believe this process could lead to a better understanding of the needs of the widely varied interests that were represented, and could help defuse future conflicts. At the end of this report is a set of committee recommendations, given from my perspective as committee chair, for improving Ecology's Instream Flow and Water Allocation Program and to resolve to the extent possible the ongoing controversy surrounding the program.

BACKGROUND

Following is a brief description of the events leading to the formation of the committee and the process the committee followed in its work. The committee worked closely with staff members of the Water Resources Program, who provided materials and presentations for the committee.

In early 1986, Ecology's Water Resources Program initiated a comprehensive review of its surface water resources planning program. The planning program is based on The Water Resources Act of 1971 (Chapter 90.54 RCW), the Minimum Water Flows and Levels Act (Chapter 90.22 RCW) and the Water Resources Management Program regulation (Chapter 173-500 WAC adopted in 1976). There have been no significant changes in the program since 1979 when Ecology issued a Program Overview and Environmental Impact Statement for the Western Washington Instream Resources Protection Program.

Since then, the department's emphasis has been on establishing instream flows on a basin by basin basis.

In recent years instream flow statutes, policies and procedures have been scrutinized and have become a continuing source of controversy both legislatively and administratively, and occasionally in the courts as well. Neither existing instream flow statutes nor regulations provide adequate definitions for key water resource terms and concepts embodied in the law. Much of the ongoing conflict is the result of differing interpretations of statutory language.

In September, 1985 the State Ecological Commission advised against adoption of Ecology's proposed instream flow regulations for the Skokomish-Dosewallips Water Resource Inventory Area because its members believed the regulations would not be protective enough of the pristine streams in the east Olympics area. In response to public concerns, the state Ecological Commission sponsored a public instream flow workshop in November, 1985. Workshop participants and Ecology staff identified 37 major issues that have caused difficulties among interest groups and the agencies involved in setting instream flows. Ecology Director Andrea B. Riniker established a commitment to address these issues through a comprehensive administrative review of the instream flow and water allocation program.

Following the workshop, Ecology developed a work plan for the program review which called for the establishment of an advisory committee. In February, 1986, the department appointed a 20 member Instream Flow and Water Allocation Advisory Committee to discuss the issues raised at the workshop. (See attached for list of members.) Janet Chalupnik was asked to serve as chairperson for the committee. The Advisory Committee was to assist Ecology in evaluating issues and identifying alternatives. It would also make recommendations to Ecology on how to best design and implement the instream flow and water allocation program.

Concurrent with the Advisory Committee's discussions, Ecology's water resources staff began scoping a programmatic Environmental Impact Statement (EIS) for the program. Ecology's Water Resource Program staff consulted with the Advisory Committee regarding the scope of the proposed program review EIS. Water Resources staff indicated that Advisory Committee recommendations would be incorporated into the EIS alternatives.

Over the last eight months, the Advisory Committee has held five meetings during which they discussed the instream flow and water allocation issues. These meetings were open to the public, and notices were sent to those persons and organizations on Ecology's program review mailing list. The 37 issues identified at the November 1985 workshop were synthesized into 10 "issue clusters" to make Ecology's and the Committee's work more manageable.

During the first Committee meeting on April 10, 1986, the committee agreed on ground rules under which it would operate. One important rule was that there would be no voting, and the group would operate on a consensus basis. (It was recognized there might be irreconcilable differences on some issues) Another ground rule was that existing water rights were not to be affected by any solutions the committee might recommend.

Ecology staff presented issue papers and an outline of possible solutions to the issues, and answered general from the Committee. The committee made recommendations regarding the scope of Ecology's proposed environmental impact statement.

The second committee meeting on May 8, 1986 had three objectives: to agree on the scope of the committee's work; to review the alternatives outlined by Ecology at the first meeting; and to agree on a process to reach consensus on recommended solutions to the issues. In addressing the first task, the Committee used an issue ranking sheet, devised by Ecology staff, to determine issue priorities for discussion. Out of the ten issue clusters (covering 37 issues) the Committee decided to focus its attention on the following priority issues and defer discussion of the others until later if time allowed:

Planning scope:

Should the state's water allocation planning be done on a statewide, regional, or local basis or a combination of these?

Should different instream flow standards for be used for different streams?

Instream Flow Standards and Process:

What should be the appropriate level for stream flows?

Water Allocation Policies and Procedures:

How should instream flow requirements be balanced with new water rights issued in the future?

Maximum Net Benefits:

Should a maximum net benefits test include economic factors only or should it include social and environmental indicators as well?

What level of instream flow (if any) should be subject to a maximum net benefits test.

To work toward a consensus on solutions for these issues, the Committee divided into five interest-based subcommittees (fisheries, non fish instream, instream development, municipal and industrial and agriculture). Each group was asked to independently formulate an "ideal" water resource allocation program around the issues listed above. They were asked to devise an instream flow and water allocation program they thought could be acceptable to the other interests represented by the committee. Ecology was also asked to draft three alternatives representing the "status quo", "environmental", and "development" viewpoints. The intent of this work was to determine if there was common ground among the interests on which a comprehensive solution could be based.

The Committee met for the third time on June 11, 1986 to discuss the subcommittee alternatives. To help the Committee review each other's ideal programs Ecology presented a matrix of the issues and the recommendations of each subcommittee. The matrix proved helpful in understanding what each subcommittee wanted as a solution to each issue, but no consensus could be reached on which program or mix of programs was the most acceptable.

It was apparent that consensus would be difficult in such a large group, so it was agreed that each subcommittee would nominate a representative and an alternate to participate in a smaller work group. The work group was charged by the larger committee to recommend solutions to the issues that could be considered for adoption by the larger committee. The work group met twice before the fourth meeting and discussed a number of solution concepts. The most significant and promising concept aired was the idea that Ecology should broaden its water allocation planning by using a three tiered planning approach. The work group also discussed the issue of interim procedures for new water right requests during the planning process. No consensus was reached on a set of recommendations to the larger committee.

In the fourth meeting on August 1, 1986, the committee was briefed on the work group's efforts. Again no comprehensive consensus on solutions was reached, but Committee members agreed to defer some issues and focus on: the scope of planning, levels of instream flows and application of maximum net benefits. The committee did agree to the following recommendations:

- Definitions of key terminology should be developed and incorporated into administrative rules.
- Ecology should develop statewide priorities and policies to guide state water resource planning.
- Ecology should develop a list of priority basins and streams that it would address first during statewide planning.

The committee also discussed but did not fully agree on the following general proposals:

- No new water resources legislation would be submitted by any party during the 1987 session.
- Support for an Ecology budget increase for water resource planning.
- The need for interim procedures for new water right requests during planning.

The Committee met for the final time on September 4, 1986. Ecology staff presented educational information on the water rights process and a possible three tiered planning process. A major portion of the meeting was devoted to a survey designed by Ecology to assess the Committee's opinion about the three key issues. Some Committee members had difficulties with the survey because they felt it excluded some concerns. In addition, key definitions and concepts contained in the survey had not been fully discussed and approved by the Committee.

With the understanding that there were several reservations about the survey, the Committee completed the survey during the meeting. The tentative results showed:

1. Consensus on the need for a three tiered planning process.
2. No consensus on the level of instream flows, and whether different instream flow standards should be used on different streams.
3. No consensus on whether to apply a maximum net benefits test for the setting of instream flows.

The Committee had many questions and explanations of their own while completing the survey. Rather than officially agreeing with the tentative results arrived at during the meeting, the Committee decided to take the survey back to their respective organizations, discuss it and return it to Ecology. The survey and comment letters were to provide the basis for the development of this report on the committee's work. Almost all committee members returned a survey.

#### RECOMMENDATIONS

I have reviewed the committee submittals and was present at all of the committee meetings. Following is my sense of the recommendations that would be supported by most of the advisory committee members. These are arranged by issue cluster per Ecology's issue papers.

## I. Planning Approach and Scope

Generally, Ecology should broaden its scope of planning beyond the current emphasis on instream flows, although establishing instream flows should remain one of the central objectives of the water allocation program. A more comprehensive approach should assess needs for both instream and out-of-stream uses. Ecology should consider long term needs for all uses, and should devise strategies for quantifying, verifying, and meeting future demands.

Ecology should adopt a hierarchical three tiered planning process. This would involve first establishing statewide policies, procedures, priorities and definitions; then making regional assessments of existing water use, future needs and water availability, and general stream by stream use preferences; and finally adopting basin-specific instream flows, allocations and reservations for future use. Regional and basin plans need to be closely coordinated with ongoing resource planning by other agencies and local government. Regulations and policies at all three levels should be reviewed periodically.

About half of the committee, especially municipal water users, strongly supported the concept of different instream flow standards for different streams, depending on the value of instream resources and out-of-stream needs in streams as determined in the three tiered planning process. This concept would allow Ecology to fully allocate water to instream values on some very valuable streams for instream use. Conversely, Ecology could set lower instream protection levels on other streams whose waters could then be allocated to out-of-stream uses. Instream use interests are uncomfortable with this idea because they feel that instream values will be harmed if there is less than full protection for even a limited number of streams. Concern was expressed by some water users and instream interests that this would result in inequitable treatment of people interested in different streams.

Another concept discussed, but not agreed on, is the idea of meeting future municipal demands from one of the larger rivers in the Puget Sound region through a regional interbasin transfer project. Some believe that larger streams are better able to satisfy diversions without harm to instream values.

Some committee members believe that Ecology should document and protect intangible instream flow values, waterfalls and other exceptional stream reaches. Methods should be developed for assessing the flow needs of these values. Some support was expressed for full preservation of scenic stream segments. It was suggested this be done by establishing closer linkages to the State and Federal Wild and Scenic Rivers programs, and by providing full protection against development for streams listed in the Nationwide Rivers Inventory as having outstanding

characteristics.

## II. Instream Flow Standards and Process

Ecology should not allow any stream to be dried up by future appropriations. However, no clear committee consensus or preference was reached on the level of flow that should be preserved. As noted above, some support (but no consensus) was expressed for the concept of different instream flow standards for different streams.

Ecology should seek to clarify key terms and concepts in existing instream flow laws through administrative or legislative action. Undefined terms used in the context of instream flows include "minimum flows", "base flows", "protection", "preservation", "maintenance", "where possible enhance", "overriding considerations of the public interest", and "maximum net benefits".

The current practice of capping instream flows with the 50 percent exceedance flow is unacceptable to some committee members. On the other hand, other members object to instream flows being set above a low "survival" level without an analysis of maximum net benefits to the people of the state.

Many (but not all) on the committee would like to see the concept of different instream flow standards for different streams evaluated as an alternative in Ecology's Draft EIS. Criteria for instream flows should be determined through legislative or administrative action (as part of the statewide planning recommended in Issue Cluster I above).

No agreement was reached on the issue of who should have the burden of proof for determining the level at which instream flows should be protected. Ecology should address this issue in future efforts.

Ecology should attempt to improve instream flow conditions on overallocated streams without impacting existing water rights.

## III. Water Allocation Policies and Processes

The committee agreed that existing water rights should not be affected by Ecology's water planning programs. Most of the issues in this cluster are very specific, and somewhat technical water right matters that the committee did not spend much time on.

The committee did discuss two issues from time to time: instream flow exemptions and waivers, and stream closures. The committee generally agrees that Ecology's current and past practice of exempting small, individual diversionary consumptive uses should

be discontinued. Ecology should adopt rules to implement the temporary waiver provision for instream flows (criteria for invoking "overriding consideration of the public interest") in the Water Resources Act of 1971. The Committee supports development of criteria for temporary instream flow waivers on the basis of health emergencies. The Committee believes that only temporary waivers should be considered; permanent waivers were not supported.

As with high instream flows, stream closures limit future water source options and in effect allocate any remaining water to instream flows. Closures may be an appropriate action to protect existing rights and instream flows, to protect the public interest, or to recognize that no water remains available for appropriation. Criteria for stream closures should be established by rule.

#### IV. Data and Technical Analysis

Ecology should improve its data collection and analysis capabilities and procedures. Data collection should be scheduled well in advance of the start-up of regional or basin planning. Some committee members doubt the reliability of Ecology's existing water rights information system in determining the level of existing use from a stream. Ecology should assemble a technical advisory committee consisting of agency and non-agency representatives to assist it in improving data collection and analysis procedures.

#### V. Maximum Net Benefits

The committee did not fully agree on very much in this issue area. Water use interests generally support the use of an economic test to determine water allocations, including the establishment of instream flows above a minimal level. Fish and environmental interests fear such a test would be biased toward developmental uses of water to the detriment of instream values. Most committee members agreed that as long as the provision exists in the law, Ecology should establish, by rule-making with full public review, criteria, methods and procedures for the maximum net benefits test incorporating both socioeconomic and environmental factors. Some would prefer that it be replaced with a public interest test that would include these factors.

No agreement was reached on the critical issue of which level of instream flow (if any) should be subject to a test of maximum net benefits. Some water use interests advocate use of the test for any allocation, including instream flows, above a "survival" (low) level of instream flow. Fish and environmental interests would generally accept use of the test for allocations in excess of the "optimum" (high) instream flow level. If maximum net benefits is

to be a viable management concept, this is a key issue that must be resolved, perhaps through legislation or an in depth study followed by administrative regulations.

A few members advocate elimination of the concept of maximum net benefits from the law, because they believe that it will not be possible to fairly incorporate intangible values in the analysis. If the concept is retained, some way of incorporating intangible values must be found.

#### VI. Conservation

Ecology should develop an effective water conservation program as an integral part of both its water resource planning and water appropriation functions. Additional legislative authority should be sought if necessary, and administrative rules should be adopted to establish standards and procedures. Existing water rights should be recognized. Water made available by conservation should be allocated to priority instream or out-of-stream needs in accordance with the regional and basin plans affecting the stream. Water users advocate that conservation principles apply to instream as well as out-of-stream allocation and use.

#### VII. Public Involvement and Information

Ecology should develop a public involvement and information plan for the instream flow and water allocation program to encourage greater public participation in the three tiered planning framework recommended above. The public, including landowners, needs better notification of participation opportunities. Regional and basin citizen advisory committees should be considered during the scoping of planning activities. Ecology should consider establishing public involvement guidelines by administrative rule.

#### VIII. Interagency Coordination

Improved coordination is needed between Ecology's water resource planning and the resource planning being done by other agencies and local government. Ecology should attempt to foster the integration of various planning efforts so that they do not work at cross purposes and confuse the public.

When evaluating instream flows to be set, Ecology should involve more than the four state agencies and affected tribes with which consultation is required by statute. Interagency coordination should be addressed as part of the public involvement and information plan recommended in the previous section.

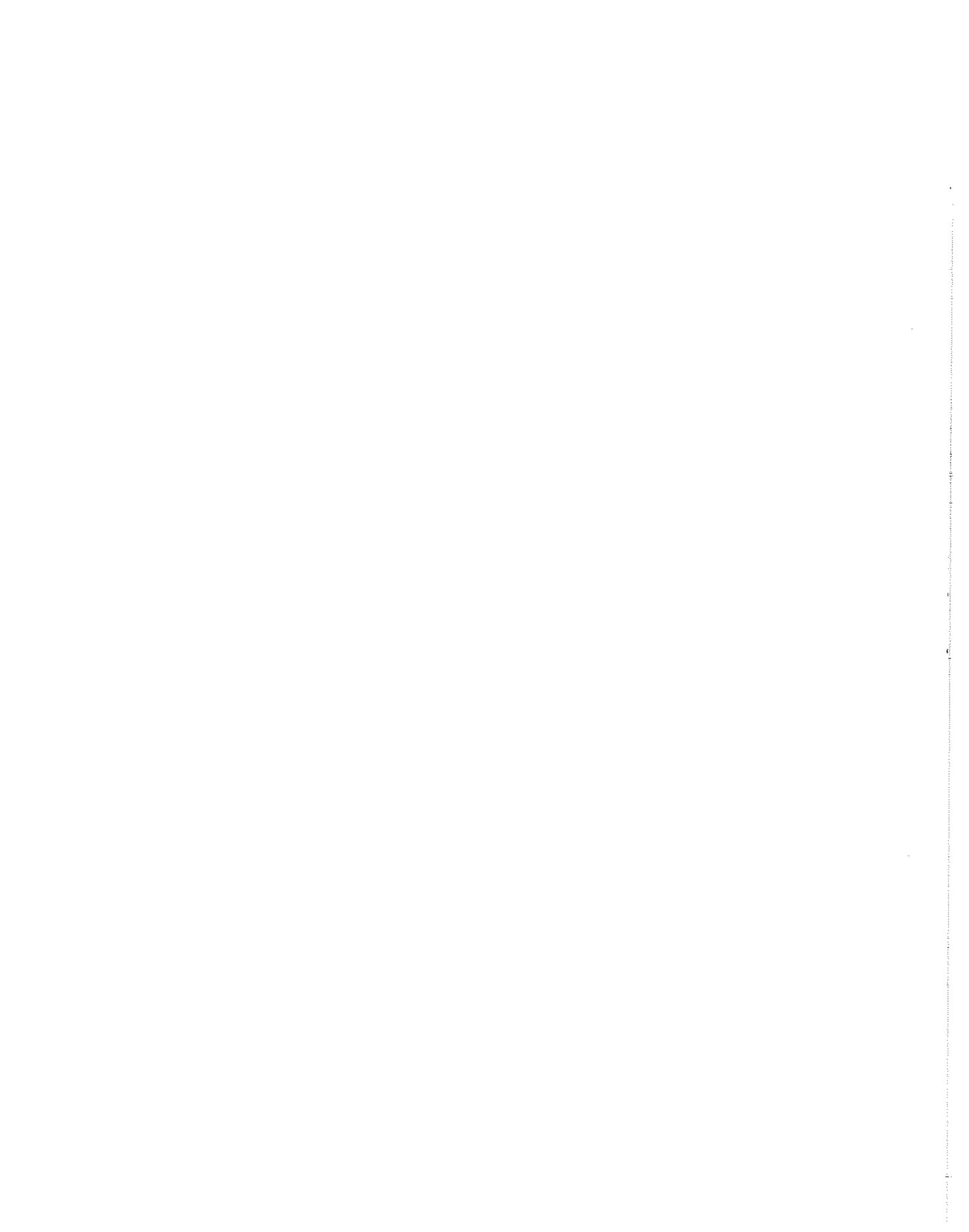
## IX. Federal and Indian Reserved Water Rights

Because unquantified reserved right claims are a major uncertainty for existing and future water rights and instream flows, Ecology and the claimants should seek to determine their validity and to quantify them. No consensus was reached on whether unquantified reserved rights should be incorporated in the water resources planning process, or how this could be done.

## X. Enforcement

This issue area was not discussed in detail, but members generally recognize and support Ecology's current efforts to improve enforcement of its instream flow regulations and water right provisions. Continued improvements and emphasis in enforcement are supported by the committee.

LETTERS RECEIVED FROM THE INSTREAM FLOW AND  
WATER ALLOCATION ADVISORY COMMITTEE  
REGARDING THE DRAFT ADVISORY COMMITTEE REPORT





American Water Works Association  
**PACIFIC NORTHWEST SECTION**  
Oregon • Washington • Idaho • Alaska

DEPARTMENT OF ECOLOGY  
RECEIVED

NOV 21 1986

November 21, 1986

Ms. Mina Carter  
Department of Ecology  
Mail Stop PV-11  
Olympia, WA 98504-8711

Dear Ms. Carter:

This is in reference to the October 31 letter from Janet Chalupnik and the draft "Report of the Instream Flow and Water Allocation Advisory Committee." In general, the draft report appears consistent with our understanding and interpretations of the committee meetings. We believe it fairly represents the tone of the meetings and the direction given by the committee. We do, however, have some suggested changes.

1. Page 7, the second paragraph under item no. III, Water Allocation Policies and Processes, the sentence, "The Committee believes that only temporary waivers (of instream flow criteria) should be considered; permanent waivers were not supported." This sentence should be further qualified if left in the report. I believe the intent of the Committee was that we need to fully review the competing water resource needs and develop a balanced approach or solution to meeting those needs. A waiver suggests the balancing of competing needs has not been completed. The temporary waiver provides for an interim solution until the water resource studies are completed and a balanced assessment and resource management program is established.

2. Page 8, VI - Conservation, we support the need for an effective conservation program as an integral part of water resource planning and water appropriation. However, it should also be emphasized that water conservation should also be incorporated within the instream planning activities, such that resource management and water needs for instream purposes do not require a fixed instream flow. Seasonal flow variations to accommodate seasonal fishery resources or recreational opportunities is conservation of the resource in a manner similar to minimizing peak demands through storage for out of stream use. Therefore, this section should be rewritten to say "the Committee felt that conservation of both instream and out of stream use, and management of the resources needs to go hand-in-hand, with flow management being an integral part of instream resource conservation and management."

Ms. Mina Carter  
November 21, 1986  
Page 2

3. Our group also emphasized the need to establish definitions before further discussion with the legislature takes place. We suggest these definitions be a first priority. The report does not emphasize strongly enough the current conflict between competing definitions of State agencies and the user groups. It also does not emphasize strongly enough the need for legislative leadership in clarifying the apparent competing interpretations and intent of different legislation.

A separate issue from the Committee report, is the response received from S. Timothy Wapato, Executive Director of the Columbia River Inter-tribal Fish Commission. In his letter, Mr. Wapato states "Management decisions of this kind (fisheries management) are committed to the discretion of state and federal fishery management agencies and tribes and are governed by the court rulings issued in the United States versus Oregon, and the United States versus Washington."

We would concur that the methods of optimizing fishery resources in the State and in response to tribal agreements should be developed by people with expertise in fisheries management. However, where those options and decisions translate into an allocation of the water resource, then the decisions should not be made by the fisheries management agencies, but rather by individuals representing all of the interests of the State and tribal interests. Water allocation and its impact upon the future of the State of Washington has significance far greater than simply fisheries resource management. Therefore, the fisheries resource management agency input is only one element of the decision process.

We believe that the above letter clearly emphasizes the need for all interest groups to participate in the development of water resource management policies and allocation procedures. A balanced and responsible allocation of the State's water resources to meet the State's future needs must consider all competing uses and the economic implication of the decisions.

In summary, we continue to believe the Advisory Committee's efforts were productive and is a necessary first step leading to the definition of a comprehensive water resource management program for the State of Washington. The previous letter submitted by AMWA Water Utility Council is still appropriate, and should be submitted along with this letter as an Appendix to the report to the legislature. We, again, urge the Department of Ecology and the State Legislature to take positive cooperative steps to address the

Ms. Nina Carter  
November 21, 1986  
Page 3

Issues raised in this report and to seek an effective program. We are prepared to assist DOE and the Legislature in further development of the program.

Sincerely,



R. L. Mubbens, P.E.  
AWWA Washington Water Utility Council

RLM: eas

cc: AWWA Washington WUC Members

DEPARTMENT OF ECOLOGY  
RECEIVED  
NOV 27 1986



STATE OF WASHINGTON  
DEPARTMENT OF SOCIAL AND HEALTH SERVICES

Olympia, Washington 98514-4495

November 19, 1986

Nina Carter  
Department of Ecology  
Mail Stop PV-11  
Olympia, Washington 98504

Dear Ms. Carter:

This letter is in response to the draft Report of the Instream Flow and Water Allocation Advisory Committee. I feel the report was well written and accurately reflects the concerns and different positions expressed by committee members. My previous comments submitted to the Department of Ecology on September 29, 1986, represent my final remarks on this report.

If our agency can be of further assistance, please do not hesitate to give us a call.

Sincerely,



Richard Siffert  
Planning Program Manager  
Drinking Water Section

RS:pad



# Washington Cattlemen's Association, Inc.

P.O. BOX 96 • ELLENSBURG, WASHINGTON 98926 • (509) 925-9871

DON RICKETTS  
Executive Secretary

DEPARTMENT OF ECOLOGY  
RECEIVED

NOV 14 1986

November 19, 1986

TO: Janet Chalupnik, Chair  
FROM: Washington Cattlemen's Association  
RE: Instream Flow Committee

In addition to our previous comments we offer the following clarifications and suggestions to your draft report of October 30, 1986.

Page 2 - last paragraph. We argue that the committee agreed not to vote but to operate on a consensus basis, however several members expressed at the outset there could be irreconcilable differences, particularly between those who recognize existing property rights and those who do not.

Page 3 - priority issues Water Allocation Policies and Procedures. We do not agree that there was any consensus that instream flow requirements "be balanced with" water rights; water rights were to be a given.

Page 6 - first sentence. It was pointed out several times that water rights owners should be informed and involved as well as agencies and local governments.

First paragraph. The first sentence is not true. Please recall that Mrs. Burke and Mr. McDonald both objected to this as they were not empowered to negotiate any persons existing rights or uses.

Third paragraph. This was not a universal consensus; please insert "some believe."

Last paragraph. This was not a universal consensus.

Page 7 - First paragraph. Please remove the words "wherever possible." This would make Ecology's actions both illegal and impossible.

### III. Water Allocation Policies and Processes.

This first sentence of this section is true; however, given the immediately preceding comments we feel it should be incorporated in the beginning of the report.

In the second paragraph of this section please clarify "emergency and health." There are other emergencies besides health; this phrase is confusing.

Janet Chalupnik  
November 19, 1986  
Page 2

Last paragraph this section. Please either remove or define "to protect the public interest."

Page 8 -

### V. Maximum Net Benefits.

First sentence is position of others, neither WCA's nor result of consensus.

Second paragraph, second sentence. WCA did not endorse this, certainly do not advocate it. Please recall Mrs. Burke's comments on the Yakima Quackenbush Flows.

### VI. Conservation.

Last sentence. Please substitute "recognized" for "respected."

### VII. Public Involvement and Information.

Second sentence. Appreciate inclusion of landowners here, please see previous comment, Page 6, first sentence.

Page 9 - first sentence, add after "confuse the public," the words "or result in illegal Department of Ecology policies."

WCA:jb



# Northwest Indian Fisheries Commission

*cc: George & Kelly for  
Director's response by 12/15*

6730 Martin Way E., Olympia, WA 98506 Phone (206) 438-1180

November 19, 1986

# 1126-1

DEPARTMENT OF ECOLOGY  
OLYMPIA, WA 98504

86 NOV 26 AM 10

Ms. Andrea Beatty Riniker,  
Director,  
Washington State  
Department of Ecology,  
Olympia, WA. 98504

Dear Ms. Riniker:

The Northwest Indian Fisheries Commission was established by the treaty Indian tribes of the U.S. v. Washington Case Area in 1974 to represent their common view in matters pertaining to fisheries management and to the development and survival of the fish resource. Environmental conditions affecting this resource are of vital concern to the tribes.

The tribes are not obligated to work with your department in the establishment of instream flows or any habitat matter. Treaty protected rights supercede any state law. However, the value of cooperation in these matters is evident to the tribes, and we would prefer to work with your department to preserve and protect the water resource for instream as well as provide for out-of-stream uses. This was the reason that the Northwest Indian Fisheries Commission became a member of your Water Resources Planning Program Review Advisory Committee. However, it was apparent from the committee's inception, that the established process for negotiation and conciliation would only achieve the goal determined by the Department of Ecology to maintain the status quo for water users while attempting to appease the tribes.

The committee never discussed solutions to the issues identified during last year's workshop. The only consensus this committee was able to reach was that a different planning process is needed to iron out the problems with the Instream Resource Protection Program. We suggest that the Department of Ecology take a good, hard look at the recent successes of the Coordinated Resource Management Process (CRMP) which has led to such ongoing efforts as the Watershed Planning and Timber-Fish-Wildlife (TFW) Processes.

The tribes do wish to work with the Department of Ecology, and any other entity, whenever an activity affects the fisheries management objectives of the tribes. I believe this fact is substantiated by our track record. However, our primary interest is in the protection of optimal water resource for natural instream purposes while accommodating well planned out-of-stream uses.

Ms. Riniker  
11-19-86  
Page 2

It is time for the Department of Ecology to recognize that the fish resource has senior status in all water rights allocation issues, and that this equates to a natural system in which there is ample, clean water in the streams of this region.

We advise you, also, to keep in mind that this is an issue affected by unadjudicated water rights established by treaty when the Indian reservations were established. As far as the tribes are concerned reservation water rights, the protection of flows for fish, and the treaty right to harvest those fish are all interrelated.

Other water uses can be allocated only after water levels required for optimum fish production have been established.

We look forward to working with you on future efforts that involve mutual water-related objectives, providing that the need for fish habitat is taken into full consideration and Indian rights are fully respected.

Sincerely,

BILL FRANK, JR.  
Chairman

BFJ:dm:instreamflow:111786

cc: Instream Flow Committee  
Tribes  
Commissioners



STATE OF WASHINGTON

DEPARTMENT OF AGRICULTURE

416 General Administration Bldg., AV-11 • Olympia, Washington 98504-0641 • (206) 753-5163

DEPARTMENT OF AGRICULTURE  
RECEIVED  
NOV 24 1986

Janet Chalupnik  
November 19, 1986  
Page 2

November 19, 1986

Janet Chalupnik, Chair  
Instream Flow & Water Allocation  
Advisory Committee  
Department of Ecology  
Mail Stop: PV-11  
Olympia, Washington 98504

Attention: Nina Carter

Dear Ms. Chalupnik:

Thank you for circulating the draft report on the Instream Flow and Water Allocation Advisory Committee to members of the committee for comment prior to submitting the final report to the Director of the Department of Ecology.

I have reviewed the report and believe that, with a few modifications, the report captures the essence of the meetings held by the Instream Flow and Water Allocation Advisory Committee. I fully agree that the meetings were helpful, and it was the first time I knew of when representatives of all the various interest groups sat around a common table to discuss future water policy direction. On that count alone, you are to be commended as well as for the even-handed job you did in presiding over a committee with greatly divergent viewpoints.

As for specific comments to the report, I have the following to submit:

1. Though the report and the committee discussions took, as a given, existing water rights, there are a few places in the report that need clarification to assure the meaning that was intended is clearly received by the readers. There are three locations in the report which need slight modification:

- A. On page 3, middle of the page, the sentence should be worded as follows (underlined words to be added; striken words to be deleted): "How should instream flow requirements be balanced with additional water rights issued in the future." This avoids confusion as to whether instream flow levels in any way affect water rights with earlier priority dates.

B. On page 4, second paragraph, second to the last sentence: "The workgroup also discussed the issue of interim procedures for issuing additional water rights during the planning process."

C. On page 8, Section VI, last sentence: "Existing water rights should be ((respected)) recognized."

2. As stated in previous comments, there is doubt that defining "key terminology" will help. First, it removes administrative flexibility by creating a rigid standard. What the 1971 Water Resource Act envisions is a balancing of various interests prior to making a decision to allocate water to various uses. Each region in the state has a different set of needs, and it will be increasingly difficult to fulfill these needs if particular terms are set in concrete. Obviously, defining different flow levels will polarize various interests because they will not fit the range of conditions which exist.

3. In regards to discussion of maximum net benefits in Section V, there was no consensus of replacing the maximum net benefits test with a public interest test. A public interest test is already required. The maximum net benefits test is the only means of trying to quantitatively measuring socioeconomic factors, benefits and costs and other means of measuring relative benefits between alternative water uses. However, I agree it would be useful to establish specific criteria, methods and procedures for applying the maximum net benefits test.

Written comments have been submitted on two previous occasions to the Committee. Please add these comments to those that have been previously submitted. If there are any questions, please call.

Again, thank you for the time that you, as a private citizen, have devoted to this effort. Your hard work and fairness certainly are appreciated.

Sincerely,

Bob Lee  
Assistant to the Director  
RDL/v



## Olympic Park Associates

13245 - 40th Ave. N.E., Seattle, Washington 98125  
November 18, 1986

Ms. Janet Chalupnik, Chair  
Instream Flow & Water Allocation Advisory Committee  
Washington State Department of Ecology, PV-11  
Olympia, Washington 98504

ATTN: Nina Carter

Dear Ms. Chalupnik:

In response to your letter of October 31, 1986, and to that of September 9 from George Krill, Acting Program Manager, Water Resources Program, Dept. of Ecology, I submit the following comments:

### A. ISSUE CLOSURE STATEMENTS:

Initially, the press of work and then personal affairs precluded my filling out this form a second time in late September (the first having been during the final committee meeting on September 4). Nevertheless, as on September 4, I continue to find it an inadequate outline; the general tone, or presumption, of the question/statements infers some sort of economic commodity production from water uses. Although in meetings I concurred in a three-tiered planning process, I consider the expectation of "a balanced assessment of needs" to be prejudicial to a fair evaluation (whether at state, regional, or local levels) of intangible values that would require retention of natural free-flowing streams not to be drawn down and to remain so in perpetuity. I say this in spite of 2.c's "regional planning concept" to include "...still others preferred for preservation."

I fail to see any provision in that clause whereby any evaluation of instream flow/water allocation would lead to a review of or provide for maintaining the qualities that resulted in a number of Washington State rivers and streams being included in the 1982 "Nationwide Rivers Inventory," gone in response to the 1968 Act of Congress for Wild and Scenic Rivers.

My discomfort also encompasses the references to Maximum Net Benefit criteria, again primarily an economic consideration, even if these were to "include environmental and social factors." I am rather skeptical that "economic considerations" will not be applied to such factors, with potential unfavorable comparisons to the dollar benefits from water-based commodity production (whether crops, industry, hydroelectricity, etc.) With respect to fish, the MNB could not be applied to any level of flow considered adequate for fish production. As I mentioned in my letter to Ecology in 1985 in connection with its original intent to draw down the rivers on the eastern slopes of the Olympic Peninsula, the fact that anadromous fish (and presumably, resident fish, as well) survive a few low water years does not mean that it is known what the long term viability is for the runs of genetically wild species when their instream flows are permanently reduced by human action.

Re: Instream Flow/Water Allocation -2-

November 18, 1986

### Definitions:

Generally, I endorsed those modifications proposed by the Fish and Non-Fish sub-working groups. However, there should be additional definitions included in the list: Wild River; Scenic Rivers; Recreation Rivers; as defined in the 1986 "Wild and Scenic Rivers Act" passed by Congress; Definitions from the Washington State legislation providing that there may be Scenic Rivers (a copy of the policy is not at hand), as well as indicating responsibility for such by the Washington State Parks and Recreation Commission; Recognition of interests in/definitions from the Washington State Forest Practices Rules and Regulations for Type 1, 2, 3, 4, and 5 Waters, applying primarily to streams; and the provisions of the Shoreline Management Act which applies to rivers where flows are twenty cubic feet per second (in addition to marine and lake shorelines) since any instream flow/water allocations by Ecology may and can have deleterious effects on these waters and their riparian areas.

B. October 30, 1986 DRAFT REPORT OF THE INSTREAM FLOW & WATER ALLOCATION ADVISORY COMMITTEE; Comments Upon:

Summary: This is satisfactory.

Background: It would be more accurate to include the Ecological Commission's disapproval of the proposed instream flows for WRIA 16 as having given specific input to the workshop and advisory committee, in addition to the general statement about "continuing source of controversy."

### Recommendations:

I. Planning Approach and Scope: See my comments re the three-tiers and "needs" under comments on "Issue Closure Statements" above.

Fig. 6, Parag. 2: What are the definitions for "the value of instream resources in streams" and "very valuable streams for instream use?" (Emphasis added)

Regarding regional interbasin transfer: your interpretation is correct. I am not in favor of this concept.

Re "intangible instream flow values and waterfalls and other exceptional stream reaches". Ecology "should include consideration" is weak; this language also means it may ignore actually planning for, and including, these. Ecology "shall include planning for..." is preferable. "Consideration" means only that it is considered, but readily rejected, too.

This may also be the point in the recommendations to discuss the desirability and need for leaving rivers in a natural free-flowing state; this needs to include recognition of rivers/streams already evaluated as having wild, scenic, or recreation characteristics and being placed in the "Nationwide Rivers Inventory." This is where there needs to be recognition of riparian designations for rivers under the Washington State Shoreline Management Act and for Water Types under the Department of Natural Resources Forest Practices Rules and Regulations, as well as a reference to the Washington State provisions for potential designated Scenic Rivers. In addition, this can be the section where reference needs to be made to rivers having some rights of their own to be left untrammelled, such as in the law review article by Scott Reed, "Should Rivers Have Running?" (The citation is not readily at hand, but can be obtained.)

DEPARTMENT OF ECOLOGY  
RECEIVED  
NOV 18 1986

Re: Instream Flow/Water Allocations -4- November 18, 1986

IX. Federal and Indian Reserved Water Rights: It seemed presumptuous to me during committee meetings, and still does, for Ecology to try to quantify federal and Indian future rights to water.

X. Enforcement: Concur.

These will probably be received a day late; however, please do include my comments, both on the Issue Closure Statements as well as the Recommendations to go in the final report. Should there be any questions regarding my position, please call.

Sincerely,



Polly Dyer

Re: Instream Flow/Water Allocations -3- November 18, 1986

II. Instream Flow Standards and Process: See comments in I above; those re intangibles apply here as well.

Any references to exceedance flows or "survival" flows, or whatever flow levels should indicate that these flows are in connection with presumed requirements for fish being met.

I have concurred with recapturing water from overallocated streams as discussed in the last paragraph of this section. This is also a place where reference to water conservation is appropriate, in addition to that in Recommendation VI.

### III. Water Allocation Policies and Processes:

You can say the committee "agreed unanimously" if so desired. Although I have reservations about existing water rights being sacrosanct for all time, I was willing to defer review of these to some future time rather than apply it to Ecology's water planning programs in the near term.

This is the appropriate section to make reference not only to the public interest in maintaining natural, free-flowing rivers, but to have a brief discussion of the Public Trust Doctrine. This was raised by me in some of the meetings and by one in the second round of Issue Closure Statements. It should not be omitted from this report.

IV. Data and Technical Analysis: A "technical advisory committee" can also include non-agency people who are not necessarily "technical" but certainly have the capacity to review and evaluate data and analyses.

### V. Maximum Net Benefits:

See my comments under A, Issue Closure Statements, above. I have major reservations about MNBs ever being satisfactorily applied to "environmental and social factors" without an overriding economic/dollar bias.

VI. Conservation: I concur in this requirement and am willing to "respect... existing water rights" at this time. However, as in comments made previously, water obtained through mandatory and voluntary conservation should be/needs to be available for others besides existing water right holders.

### VII. Public Involvement and Information:

A better/improved public involvement program by Ecology is needed for more than the potential three tiered planning. In addition to landowners, it should be stressed besides the non-landowner, the "public owners" of all waters need better participation opportunities. Ecology could resurrect a review of its public involvement prepared under contract for it approximately five or six years ago; this might be helpful in improving the public involvement situation.

VIII. Intagency Coordination: Besides state and local agencies, federal agencies and Indian Tribes should be included, not only in connection with their reserved water rights.

# Washington Environmental Council

80 South Jackson, #308  
Seattle, Washington 98104  
206-623-1483

Mina Carter  
c/o Department of Ecology  
Mail Stop PV-11  
Olympia, Wa 98504-8711

Dear Nina:

The following is my response to the draft report of the Instream Flow Advisory Committee. There is nothing in my comments intended to change those comments made with respect to the questionaire used at the last meeting. However, there are some concerns about the draft report itself.

First is a matter which may be mostly terminology but continues to cause me some problems. On page 3, page 5 and page 6, the terms "level of instream flows" and "instream flow standards" seem to be used interchangeably, I assume that it is the intent that flow standards and flow levels are the same thing. For example, "optimum flow" is a flow standard and a flow level. A suggestion has been made that we use different standards for different streams. What is intended by this I believe is that we have a set of standards applicable to all streams but the specific standard adopted out of that set may vary from stream to stream. For those who have worked on this subject, the difference may be unimportant. But I think for new readers, it would be easier to use one term such as minimum instream flow level.

The issue on flow levels would read something like this:  
1. Should there be one minimum instream flow level for all streams?

If yes, how should that flow be defined? What instream resources would be protected by that flow level?  
If no, what alternative flow levels may be adopted for any stream and how shall those levels be defined? (At some point we should get away from using survival, sustaining and optimum levels and use something simple like level 1, level 2 and level 3.)

2. If the adopted minimum flow level may be different from stream to stream, what are the criteria that will be used in the selection of the appropriate level?

Secondly, the last sentence in the first paragraph of Section II should be in a paragraph by itself. What flow level to preserve is one thing. Definitions of optional levels are another and need to be emphasized. Until the latter is done and understood, we will never resolve the issue of the appropriate level to preserve.

DEDICATED TO THE PROMOTION OF CITIZEN, LEGISLATIVE  
AND ADMINISTRATIVE ACTION TOWARD PROVIDING A BETTER ENVIRONMENT



# Washington Environmental Council

80 South Jackson, #308  
Seattle, Washington 98104  
206-623-1483

AAUW - Edmonds  
Washington State Division  
Washington Society  
Air Quality Coalition  
Alpine Lakes Protection Society  
Audubon Nature Center at Nisqually Reach  
Blue Mountain Audubon Society  
Cameron Island Homeowner's Association  
Cascadia Bicycle Club  
Countryside Club  
Council for Land Care and Planning  
Dorham Hills Natural Area Association  
Evergreen Islands, Inc.  
Fauntleroy Environmental Association  
Fleurbaey Home Association  
Friends of the Columbia Gorge  
Friends of the Earth - E. Wa. N. Id.  
Hood River - Seattle  
Isaqua-Alps Trails Club  
Isaqua-Alps League of America  
Knappton Camp Conservation Group  
Knappton Camp Conservation Society  
Nisqually Delta Association  
North Cascades Audubon Society  
North Cascades Conservation Council  
Northwest Washington Audubon Society  
North Shore Fly Fishing Club  
North University Garden Club  
Northwest Stevedock Salmon Council  
of Trout Unlimited  
Oak Harbor Garden Club  
Olympic Peninsula Audubon Society  
Pacifica Trails Canoe Club  
People for Fair Taxes in Washington  
Pike National Forest  
Pillbox Preservation Society  
Point No Point Treaty Council  
PRO Salmon  
Recreation Council  
Recreational Equipment, Inc.  
Seattle Audubon Society  
Seattle Electric Vehicle Association  
Seattle Spine Coalition  
Snohomish County Chamber of Commerce  
Spokane Mountaineers, Inc.  
Spokane Audubon Society  
Thompson Audubon Society  
The Partridge  
Vancouver Audubon Society  
Washington Citizens for Recycling  
Washington Citizens for Recreation  
Washington Fly Fishing Club  
Washington Kayak Club  
Washington Roastbeef Council  
Western Washington State Energy Association  
Whidbey Island Audubon Society  
Whidbey Island Audubon Chapter  
Willapa Hills Audubon Society  
Willapa Valley Audubon Society  
Zero Population Growth - Seattle

Thirdly, in the last paragraph of Section III, I am not sure that I agree that closure or a high level of flow preservation will need to result in a permanent allocation of water to instream uses. Even if adopted instream flows are equivalent to water rights, these rights are really held by the State and can be released in the future if overriding needs arise.

Finally, in the section near the bottom of page 4, I suggest that the last phrase be changed to read "The need for interim procedures for water rights during planning". There was no agreement on what those procedures should be.

Generally, I believe the draft report reflects the results of the committee work and highlights the continuing difference which need to be resolved, either by rule or legislation. Should you need any clarification on my comments, please let me know.

Sincerely,

*Stanley Cecil*

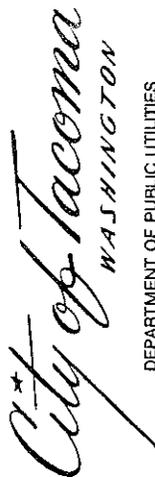
Stanley Cecil  
MEC Board Member

459-1067

DEDICATED TO THE PROMOTION OF CITIZEN, LEGISLATIVE  
AND ADMINISTRATIVE ACTION TOWARD PROVIDING A BETTER ENVIRONMENT

CITY OF TACOMA  
DEPARTMENT OF PUBLIC UTILITIES

Please address reply to  
City of Tacoma  
Department of Public Utilities  
P.O. Box 11007  
Tacoma, Washington 98411  
(206) 363-2471



DEPARTMENT OF PUBLIC UTILITIES  
E. E. Coates, Director

November 18, 1986

DEPARTMENT OF ECOLOGY  
RECEIVED  
NOV 19 1986

Department of Ecology  
November 18, 1986  
Page 2

The issue closure statements, which I have previously submitted in the name of the Association of Washington Cities, and the September 29, 1986 letter from Mr. Kent Swisher of the Association, will serve to complete the comments which we wish to make at this time.

We shall look forward to presentation of the Department of Ecology's Environmental Impact Statement for the Water Resource Allocation Program. It is very likely that we will provide additional comments and testimony at that time.

Thank you for the opportunity to participate in the Instream Flow and Water Allocation Advisory Committee. I would appreciate the opportunity to participate in future Department of Ecology efforts which attempt to deal with this particularly sensitive resource allocation issue.

Very truly yours,

*John C. Kirner*

John C. Kirner  
Assistant Water Superintendent  
Water Division

JCK:sf

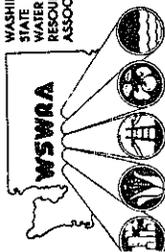
Department of Ecology  
ATTN: Ms. Nina Carter  
Mail Stop PV-11  
Olympia, WA 98504-8711

Dear Ms. Carter:

Thank you for the opportunity to review the draft committee report for the Instream Flow and Water Allocation Advisory Committee, which was transmitted by Janet Chalupnik's letter of October 31, 1986. In general, I believe the draft report accurately reflects the discussions of the committee. I would like to add the following comments which would clarify the committee report from the standpoint of the Association of Washington Cities which I represented on this committee as an alternate for Mayor Sutherland of Tacoma.

1. The third paragraph on page 4 identified areas on which the committee did agree on August 1, 1986. I believe the second bullet should also indicate that there was agreement that Ecology should develop state-wide priorities and policies as well as a list of priority basins and streams.
2. The first paragraph which begins on page 6 should have the words "and out of stream needs" inserted following the word "resources" in the third line of the paragraph. I believe it was the intent of water user groups to include consideration of out of stream needs as well as the value of instream resources in making the evaluation of required instream flow levels.
3. In the fourth paragraph on page 6 it is discussed that Ecology should include consideration of intangible instream flow values and water falls and other exceptional stream reaches. Water user groups prefer that this be accomplished through a maximum net benefit analysis.

WASHINGTON  
STATE  
WATER  
RESOURCES  
ASSOCIATION



DEPARTMENT OF ECOLOGY  
RECEIVED

NOV 10 1986

RECUMVE OFFICE - P.O. BOX 593 - YAKIMA, WA 98907 0593 -- (509) 575-0026

November 7, 1986

Nina Carter  
Department of Ecology  
Mail Stop PV-11  
Olympia, WA 98504-8711

Dear Ms. Carter:

I have reviewed the draft report of the Instream Flow and Water Allocation Advisory Committee and believe it to be an accurate account of the committees actions.

However, for the record, I would like to express the opinion that the committee did not complete its assignment. I believe the time scheduled for committee action was much to ambitious, and allowed us time to do nothing more than reach the difficult issues and then stop discussions. I do not believe the committee reached impasse as some may assume when they read the report.

Having had more than a little experience dealing with complex water issues among individuals of varied and adverse interests, I must agree with Tom Miller's statement in his letter of September 26, 1986, expressing the need for a strong mediator such as Mr. Jim Waldo. I would disagree however, that a two day session would be useful. The complexity and significance of the issues we address, simply cannot be resolved in a limited time period.

Please include this letter in the final report, as I wish others who read the report to know that the committee did not just leave the Department of Ecology hanging without firm recommendations, but instead ran out of time to complete its assigned task.

Yours truly,

  
Ron Wan Gundy, President  
Washington State Water  
Resources Association  
% Roza Irrigation District  
P. O. Box 810  
Sunnyside, WA 98944

RVG:mmn  
cc: Janet Chalupnik, Chairperson  
Water Resources Advisory Committee  
George E. Krill, Acting Program Manager  
Water Resources Program  
Phillip C. Johnson, Deputy Director  
Department of Ecology



STATE OF WASHINGTON

DEPARTMENT OF GAME

600 North Capitol Way, C-11 • Olympia, Washington 98504-0091 • (206) 753-5700

November 5, 1986

Ms. Janet Chalupnik, Chair  
Instream Flow Water Allocation Advisory Committee  
c/o Nina Carter  
Department of Ecology  
Mail Stop PV-11  
Olympia, Washington 98504

Dear Ms. Chalupnik:

The draft report generally reflects the committee's deliberations without elaborating minority opinions in great detail. Minority positions should be included. All written correspondence within the committee should be included as an appendix to the report.

In section I of the Recommendations you discuss the dichotomy concerning variable vs uniform standards for instream flow. I think that a determination of water needs should precede a decision on variable or uniform standards; if possible, uniformly high standards of instream flows are desirable; if not possible, then variable standards may be necessary.

In section V of the Recommendations, you identified the positions on maximum net benefits tests. A related concern is whether maximum net benefit analysis will be applied to individual water right applications (in which case it is not truly a maximum net benefit test) or to a total water allocation plan.

In the list of members Robert Barnes should be listed as Dr. Robert Barnes.

On page 4 "not" is missing from the sentence "The committee also discussed but did..."

It was a pleasure working with you on this committee.

Sincerely,

THE DEPARTMENT OF GAME



Hal A. Beecher  
Instream Flow Biologist  
Habitat Management Division

HB:jt

