IDAHO STATE WATER PLAN

ADOPTED BY THE

IDAHO WATER RESOURCE BOARD

DECEMBER 12, 1986

"There shall be constituted a Water Resource Agency, composed as the Legislature may now or hereafter prescribe, . . . Additionally, the State Water Resource Agency shall have power to formulate and implement a state water plan for optimum development of water resources in the public interest. The Legislature of the State of Idaho shall have the authority to amend or reject the state water plan in a manner provided by law . . ."

Idaho Constitution

State of Idaho

THE STATE WATER PLAN

Cecil D. Andrus, Governor

Idaho Water Resource Board
July 1, 1987

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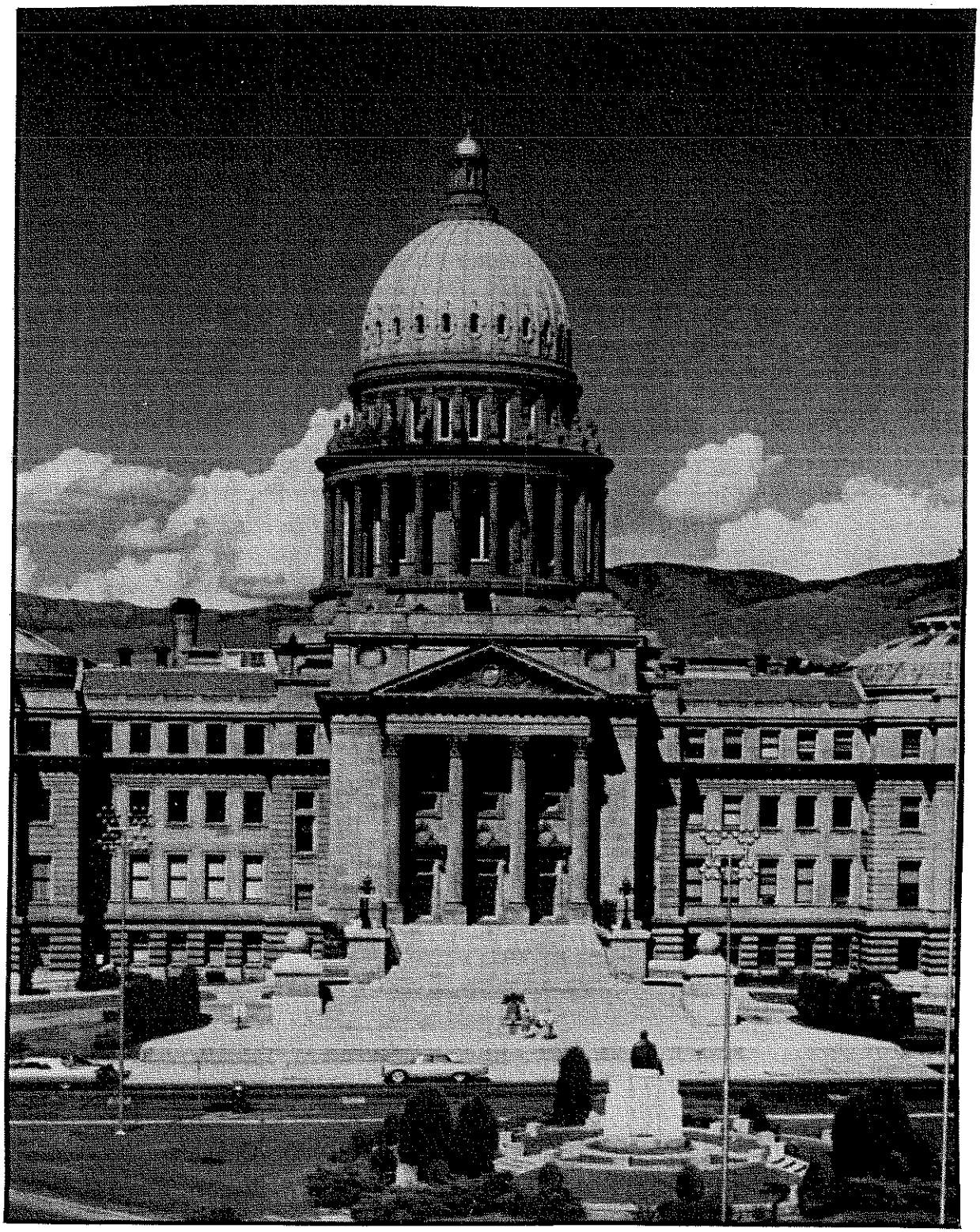
Adopted
December, 1986

Approved by the Idaho State Legislature
March, 1987

R. Keith Higginson
Director
Idaho Department of Water Resources
Statehouse
Boise, Idaho 83720



STATE OF IDAHO

IDAHO WATER RESOURCE BOARD

STATEHOUSE
BOISE, IDAHO 83720

To the Citizens of Idaho:

The Idaho Water Resource Board is pleased to provide you with this new version of your State Water Plan. We gratefully acknowledge the time and effort expended by citizens around the state in providing input to the Board for this most recent revision.

The State Water Plan is a dynamic document in that it is continually being reviewed and evaluated by the Water Resource Board. It can be, and has been, changed to reflect social and economic conditions. It is, however, directed towards the future in that the policies contained in the plan are meant to guide the use of the water resources of the state for the benefit of all its citizens for years to come.

The success of this plan depends on how actively the citizens of the state work towards its implementation. The Board looks forward to working with individual citizens, organizations, the legislature, and local, state, and federal governments to make these policies a reality.

Sincerely,

Gene M. Gray, Chairman
Idaho Water Resource Board

GMG:IR

BEFORE THE WATER RESOURCE BOARD OF THE

STATE OF IDAHO

IN THE MATTER OF REVISIONS)
TO THE STATE WATER PLAN) RESOLUTION
_____)

WHEREAS, Article XV, Section 7 of the Constitution of the State of Idaho empowers the Idaho Water Resource Board to formulate and implement a State Water Plan for optimum development of water resources in the public interest; and

WHEREAS, the State Water Plan was originally adopted in 1976 and revised in 1982, pursuant to Section 42-1734, Idaho Code, which requires the Plan to be reviewed at least every five years with amendments to be adopted in the same manner as the original Plan; and

WHEREAS, the Board held public meetings and hearings throughout the State to obtain suggestions and comments regarding the present revisions to the State Water Plan; and

WHEREAS, Article XV, Section 7 of the Constitution of the State of Idaho requires changes in the State Water Plan to be submitted to the Legislature upon the first day of a regular session following the change, and provides that the change shall become effective unless amended or rejected by law within sixty days of its admission to the Legislature.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Article XV, Section 7 of the Constitution of the State of Idaho, and pursuant to powers granted by statute, the Idaho Water Resource Board hereby adopts the attached revised State Water Plan as the policy of the state of Idaho for the future use and conservation of Idaho's water resources.

PASSED AND APPROVED This 12 day of December , 1986.

Gene M. Gray

GENE M. GRAY, Chairman

ATTEST:

James Shawver

JAMES SHAWVER, Secretary

FOREWORD

The State Water Plan is the result of much thought, study and research by the Idaho Water Resource Board to fulfill its constitutional mandate "to formulate and implement a State Water Plan..."

The State Water Plan consists of a series of objectives and policies that are to be used to guide water resource management in Idaho. A continuation of ideas first presented in the Interim State Water Plan of July 1972, this version is substantially reorganized from earlier versions and contains a number of amendments and deletions.

Implementation of the water plan will require changes in Idaho law and public attitudes. The Idaho Water Resource Board will continue to work with the Idaho Legislature to implement the plan. Public understanding is the key to full implementation of the plan. The Idaho Water Resource Board has always found support among the citizens of Idaho for a state water plan, and believe that this plan will provide for economic growth while protecting a quality environment.

Because public priorities change in response to economic and social conditions, the Idaho State Water Plan is reviewed and updated on a continuing basis. In addition to the effort made by the Water Resource Board to involve the public in the planning process, since November of 1984 all changes to the Idaho State Water Plan are reviewed by the Idaho Legislature. According to statute, the plan is reviewed and reevaluated in its entirety at least once every five years. This version is the result of a five-year review.

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Idaho Department of Water Resources

C. Stephen Allred
A. Kenneth Dunn

ACKNOWLEDGMENTS

Formulation of the State Water Plan as adopted involved a great number of Idahoans from all walks of life. Citizen input was received through public opinion surveys, at information meetings and public hearings. The contributions of the private sector as well as state, federal and local agencies assured that a broad view of public interest will be considered in future water resource decisions. Without this citizen and agency response, a State Water Plan would not be possible.

TABLE OF CONTENTS

Page

THE WATER PLANNING PROGRAM

Constitutional Authority 1
Legislative Authority 3
Formulation of the State Water Plan. 5

IDAHO'S WATER RESOURCES

Snake River Basin 7
Bear River Basin 12
Panhandle Basins 14
Ground Water 16
Population 17

THE IDAHO STATE WATER PLAN

The Objectives 18
The Policies 20

Water Use Group:

Policy 1A - State Sovereignty 20
Policy 1B - Public Interest 20
Policy 1C - Beneficial Use 20
Policy 1D - Pollution Control 21
Policy 1E - Nature of Use 21
Policy 1F - Ground and Surface Water Connection 22
Policy 1G - Withdrawal of Ground Water 22
Policy 1H - Ground-Water Quality 23
Policy 1I - Water Resources Research Program 23
Policy 1J - Monitor Radioactive Waste Disposal 24

Conservation Group:

Policy 2A - Instream Flows 25
Policy 2B - State Natural and Recreation River System 25
Policy 2C - Anadromous Fish 26
Policy 2D - White Sturgeon 26
Policy 2E - Watersheds 27

Protection Group:

Policy 3A - Riparian Protection. 27
Policy 3B - Lake and Reservoir Surface Management 27
Policy 3C - Protection of Lake and Reservoir Shorelands 28
Policy 3D - Rehabilitation of Abandoned Land and Water Projects 28
Policy 3E - Tailings Ponds 28
Policy 3F - Adequacy of Flood Control Levees 28
Policy 3G - Safety Measures Program 29
Policy 3H - Flood Prone Areas 29

Management/Development Group:
Policy 4A - Water Quantity and Quality 30
Policy 4B - Supply Bank 30
Policy 4C - Federal Reservoir Water Allocation 31
Policy 4D - Protection of Potential Reservoir Sites 32
Policy 4E - Hydropower Siting 32
Policy 4F - Conservancy Districts 32
Policy 4G - Energy Plan 33
Policy 4H - Funding Program 33
Policy 4I - Planning Program 33
Policy 4J - Cooperate with Indian Tribes 33
Policy 4K - Determination of Federal Rights 34
Policy 4L - Coordinated Use 34
River Basins Group:
Policy 5A - Snake River Basin 35
Policy 5B - Snake River Trust Water 36
Policy 5C - Snake River DCMI 36
Policy 5D - Snake River Agriculture 37
Policy 5E - Snake River Hydropower 37
Policy 5F - Snake River Navigation 38
Policy 5G - Snake River Aquaculture 38
Policy 5H - Snake River Fish, Wildlife, and Recreation 38
Policy 5I - Snake River New Surface Storage 39
Policy 5J - Snake River Stored Water for Management 40
Policy 5K - Water Quality of the Snake Plain Aquifer 40
Policy 6A - Bear River Basin 40
Policy 6B - Bear Lake 41
Policy 6C - Bear River Additional Projects 41
Policy 7A - Panhandle Basins 41
Policy 7B - Panhandle Agricultural Water 41
Policy 7C - Panhandle DCMI 42
Policy 7D - Panhandle Navigation 42
Policy 7E - Panhandle Fish, Wildlife, and Recreation 42

LIST OF FIGURES

FIGURE 1. SELECTED GAUGING STATIONS FOR THE PANHANDLE, SNAKE AND BEAR BASINS 9

FIGURE 2. SEASONAL DISTRIBUTION OF SNAKE RIVER FLOWS. . . . 10

FIGURE 3. ANNUAL RUNOFF SNAKE RIVER BASIN 11

FIGURE 4. ANNUAL MINIMUM DAILY FLOW OF SNAKE RIVER NEAR MURPHY. 11

FIGURE 5. ANNUAL RUNOFF BEAR RIVER 12

FIGURE 6. CRITICAL GROUNDWATER AND WATER MANAGEMENT AREAS IN IDAHO 16

LIST OF TABLES

TABLE 1. AVERAGE ANNUAL RUNOFF OF MAJOR RIVERS IN THE SNAKE RIVER BASIN 8

TABLE 2. ESTIMATED AVERAGE RUNOFF OF THE BEAR RIVER . . . 13

TABLE 3. AVERAGE ANNUAL RUNOFF OF MAJOR RIVERS IN THE PANHANDLE 14

TABLE 4. POPULATION DENSITIES 17

TABLE 5. URBAN AND RURAL POPULATION 17

THE WATER PLANNING PROGRAM

The Idaho State Water Plan was adopted by the Water Resource Board to guide the development, management, and use of the state's water and related lands. The plan recognizes past actions, addresses present conflicts and opportunities, and seeks to ensure that future water resource uses will complement and supplement state goals directed toward achieving a "quality of life" for the citizens of Idaho. The plan is a dynamic document, subject to change to reflect citizens desires and to be responsive to new opportunities and needs. According to statute, a formal review of this plan must take place at least every five years.

Constitutional Authority

The authority for the preparation of a State Water Plan is Article 15, Section 7 of the Idaho Constitution. This constitutional amendment was adopted in November 1964 following a state-wide referendum and provides that:

There shall be constituted a Water Resource Agency,composed as the Legislature may now or hereafter prescribe, which shall have power to formulate and implement a state water plan for optimum development of water resources in the public interest; to construct and operate water projects; to issue bonds,without state obligation, to be repaid from revenues of projects; to generate and wholesale hydroelectric power at the site of production; to appropriate public waters as trustee for Agency projects; to acquire, transfer and encumber title to real property for water projects and to have control and administrative authority over state land required for water projects; all under such laws as may be prescribed by the Legislature.

Section 7 provides the basic guidance and authority to formulate a State Water Plan. Previous to the adoption of Section 7, Section 3 of the Idaho Constitution provided for the appropriation and allocation of water during low water conditions. Although no legal confrontations have been encountered, Section 7 probably tempers Section 3 in that future decisions must be in conformance with the State Water Plan. Section 3 provides that:

The right to divert and appropriate the unappropriated waters of any natural stream to beneficial uses, shall never be denied, except that the state may regulate and limit the use thereof for power purposes. Priority of appropriation shall give the better right as between those using the water; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall (subject to such limitations as may be prescribed by law) have the preference over those claiming for any other purpose; and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes. And in any organized mining district those using the water for mining purposes or milling purposes connected with mining have preference over those using the same for manufacturing or agriculture purposes. But the usage by such subsequent appropriators shall be subject to such provisions of law regulating the taking of private property for public and private use, as referred to in section 14 of article I of this Constitution.

Legislative Authority

Article 15, Section 7 of the Idaho Constitution called for the creation of a "Water Resource Agency" but did not establish the agency. This was done in 1965 by the 38th Legislature which established the Water Resource Board with the power and duties:

> *To progressively formulate an integrated, coordinated program for conservation, development, and use of all unappropriated water resources of this state, based upon studies and after public hearings in affected areas at which all interested parties shall be given the opportunity to appear. (Idaho Code 42-1734[b])*

To assist the Water Resource Board in the preperation of the State Water Plan, the legislature provided for the director of the Department of Water Resources:

> *To perform administrative duties and such other functions as the Board may from time to time assign to the Director to enable the Board to carry out its powers and duties. (Idaho Code 42-1805 [6])*

Article 15, Section 7 was again ammended by the electorate during the general election of November 6, 1984. This modification provides that:

> *The Legislature of the State of Idaho shall have the authority to amend or reject the state water plan in a manner provided by law. Thereafter any change in the state water plan shall be submitted to the Legislature of the State of Idaho upon the first day of a regular session following the change and the change shall become effective unless amended or rejected by law within sixty days of its submission to the Legislature.*

Formulation of the State Water Plan

Formulation of the State Water Plan

Formulation of a State Water Plan is a dynamic process. Adoption of The State Water Plan - Part One, The Objectives, in 1974, and The State Water Plan - Part Two in 1976, provided an initial water policy. Implementing the policies in Part Two required the combined efforts of government agencies, the legislature, private concerns and the public. Consequently, the report delineated those areas where legislative action was required, identified the programs to be pursued by the Board and described the areas where cooperation of public and private interests was necessary. The State Water Plan has evolved into a continuing planning process directed toward the development, adoption and implementation of various policies, projects, and programs which develop, utilize, conserve, and protect the state's water supplies. The State Water Plan has been updated and readopted in 1982 and 1986. Changes were made in 1985 in order to reconcile any differences created by the agreement entered into by the state and the Idaho Power Company concerning water rights at Swan Falls dam. The 1986 update involved both a reorganization of policies and a change in objectives.

The basic steps followed in this planning process are:

1. A comprehensive public involvement program to determine public views and desires regarding resources problems, needs, and potentials;

2. An ongoing evaluation of the water and land resource base and an estimation of probable future conditions;

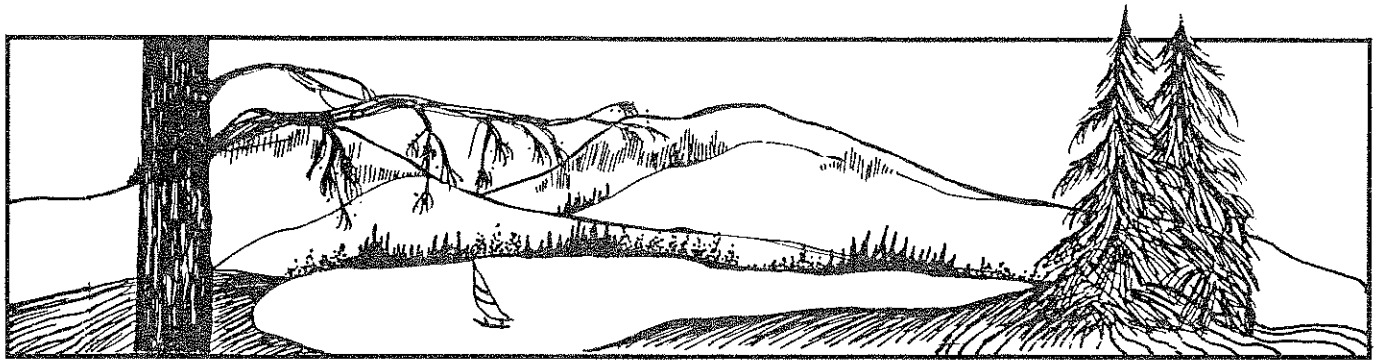
3. An evaluation of the effects of environmental quality and economic development programs and projects;

4. The preparation of alternative policies and proposed plans, including identification of beneficial and adverse effects;

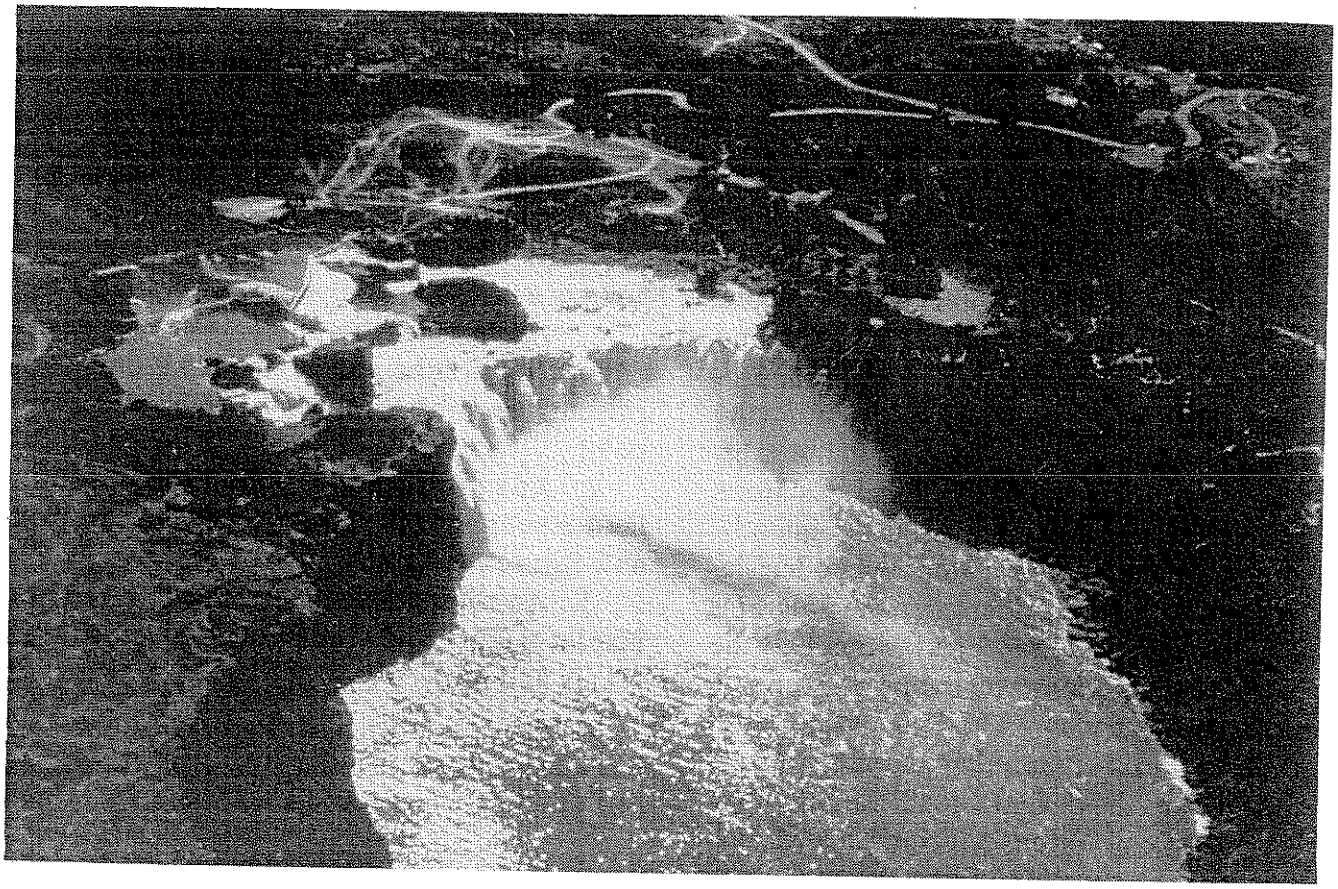
5. Final adjustment of the policies based on public response and action taken by the Water Resource Board;

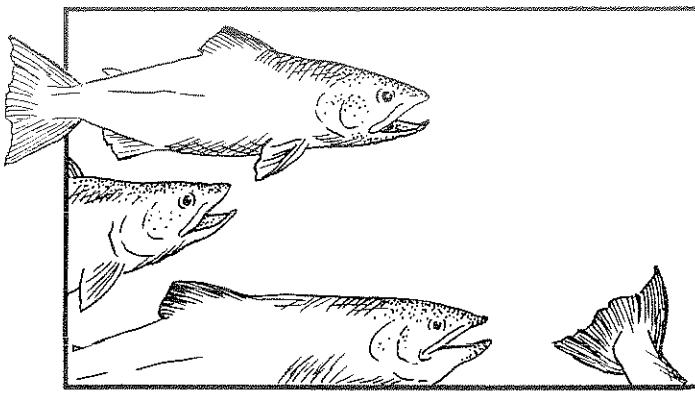
6. The adoption of the State Water Plan by the Idaho Water Resource Board as required by Article 15, Section 7 of the Idaho Constitution;

7. Review by the Idaho Legislature as provided by law.



This state water planning process includes an extensive public involvement program and the information received is used in formulating the State Water Plan. Information meetings and public hearings are held to answer questions the public might have concerning the planning process, various policies, and to solicit input and comments.





IDAHO'S WATER RESOURCES

There are five major stream systems in Idaho. They are the Snake, Bear, Spokane, Clark Fork-Pend Oreille, and Kootenai rivers. In this summary, the Spokane, Kootenai, and Clark Fork-Pend Oreille rivers are grouped under the heading Panhandle basins.

Snake River Basin

The Snake River is the largest river system in Idaho with a drainage area encompassing approximately 87 percent of the state. The Snake River headwaters are in Wyoming on the western slope of the Continental Divide. Crossing Idaho's eastern border, it flows northwestward 59 miles through a canyon to Heise where it opens onto the Snake River Plain. From Heise to Milner, a distance of 219 river miles, the river is not deeply entrenched. It is in this reach that numerous diversions for irrigation are made.

At Milner, the river enters a deep canyon cut through lava and sedimentary beds and continues for 216 miles in a west and northwesterly direction. Near the Oregon border, the river emerges from the canyon and flows through a broad valley to Weiser, a distance of about 75 miles. Downstream from Weiser the river enters Hells Canyon and flows a distance of about 190 miles to Lewiston. It leaves Idaho at Lewiston, turning westward for 139 miles to its junction with the Columbia River near Pasco, Washington.

The largest tributaries of the Snake are the Salmon and the Clearwater rivers. Other important tributaries are the Henrys Fork, Wood, Boise, and Payette rivers. Basin areas outside of Idaho which contribute substantially to the river's flow include the upper basin in Wyoming, the Owyhee, Malheur, Burnt, Powder, and Imnaha rivers in Oregon, and the Grande Ronde River in Washington. Small portions of the Snake River basin also lie in Utah and Nevada. Most of the streamflows of the Snake River basin are derived from snowmelt in mountainous areas. The average runoff in the Snake River below the Clearwater River where it leaves Idaho is about 36 million acre-feet per year. Approximately one-third of the flow leaving Idaho is derived from the basin above Weiser. Another third comes from the Clearwater River basin.

The Salmon River produces about one-fourth, with the remaining amount of approximately 10 percent coming from tributaries in Oregon and Washington and small streams in Idaho below Weiser. Average annual runoff under present conditions at principal gauging stations in the Snake River basin is shown in Table 1. (Page 8) Location of these gauges is shown in Figure 1. (Page 9) Losses from the river flow between pairs of gauges (Snake River, Neeley to Milner, and the Boise and Payette River gauges) are due to major irrigation diversions.

The dramatic gain in Snake River flow between Milner and King Hill is largely the result of discharge from the Snake Plain aquifer in the Thousand Springs area. Average seasonal vari-

ations in the Snake River flow are illustrated by Figure 2. (Page 10) The flows at Heise as indicated in Figure 2. result from natural snowmelt modified by reservoir storage operations for summertime irrigation. At King Hill, the seasonal hydrograph is principally affected by the near constant discharge of ground water from the Snake Plain aquifer. It is also affected by the flows which pass Milner Dam in high runoff years. Flows at Weiser reflect the effects of the storage, diversion, and ground-water management in virtually all the irrigated areas of the Snake River basin. At Clarkston, the hydrograph is dominated by runoff from the vast unregulated areas of the Salmon and Clearwater basins.

Table 1. Average Annual Runoff of Major Rivers in the Snake River Basin at Selected Gauges (1928-83 Base Periods), Adjusted to 1985 Levels of Development.

Gauge	Runoff (acre-feet)
Snake River near Heise	4,941,000
Henrys Fork near Rexburg	1,407,000
Snake River at Neeley	5,192,000
Snake River at Milner	2,031,000
Snake River at King Hill	7,576,000
Snake River near Murphy	7,708,000
Snake River near Boise	2,010,000
Boise River near Parma	1,212,000
Payette River near Horseshoe Bend	2,362,000
Payette River near Payette	2,201,000
Snake River at Weiser	12,966,000
Snake River at Hells Canyon Dam	14,054,000
Salmon River at Whitebird	8,264,000
Snake River near Anatone	25,460,000
Clearwater River at Spalding	11,227,000
Snake River near Clarkston	36,809,000

The Snake River basin is subject to wetter-than-normal and drier-than-normal periods of runoff. High and low runoff years in the Snake River basin are illustrated in Figure 3. (Page 11) The hydrographs illustrate the general sequence of wet and dry periods in the eastern portion of the basin at Heise, in the southwestern portion at Twin Springs in the Boise River system, and in the northern portion of the basin at Whitebird on the Salmon River. These locations were chosen because of their relatively long period of available records. In each hydrograph the sequence of years of lowest runoff generally occurred between 1929 and 1942. This sequence was the most severe water-short period in the basin during the twentieth century. Using the record of the Columbia River at The Dalles, Oregon, the longest record of streamflow data in the Columbia basin, it appears probable that the period in the 1930s was the driest in the past 100 years.

A period of above normal runoff began in 1965 and continued through water-year 1976, although 1968 and 1973 were drier than normal. Runoff in 1977 was the lowest of record at most gauges in the basin and was followed by generally below normal flows in the 1979-81 period. Much above normal conditions returned in the 1982-84 period.

The longest streamflow records available in the basin are similar to those shown in Figure 3. and have data generally for less than 60 years. During this period, major changes have occurred in water use and control. Irrigated agriculture has increased by some 3 million acres. Nearly all of the major irrigation, power, and flood control reservoirs have been constructed during this period. Ground-water recharge and discharge from the Snake Plain aquifer has been significantly changed, thereby modifying the flow pattern of the river. Because of these changes, historic records in themselves are often not useful to describe the water supply of a river because they do not reflect current conditions. For that reason, hydrologic data reported in this and following sections of the report generally refer to the base period of 1928 to 1983 adjusted to 1985

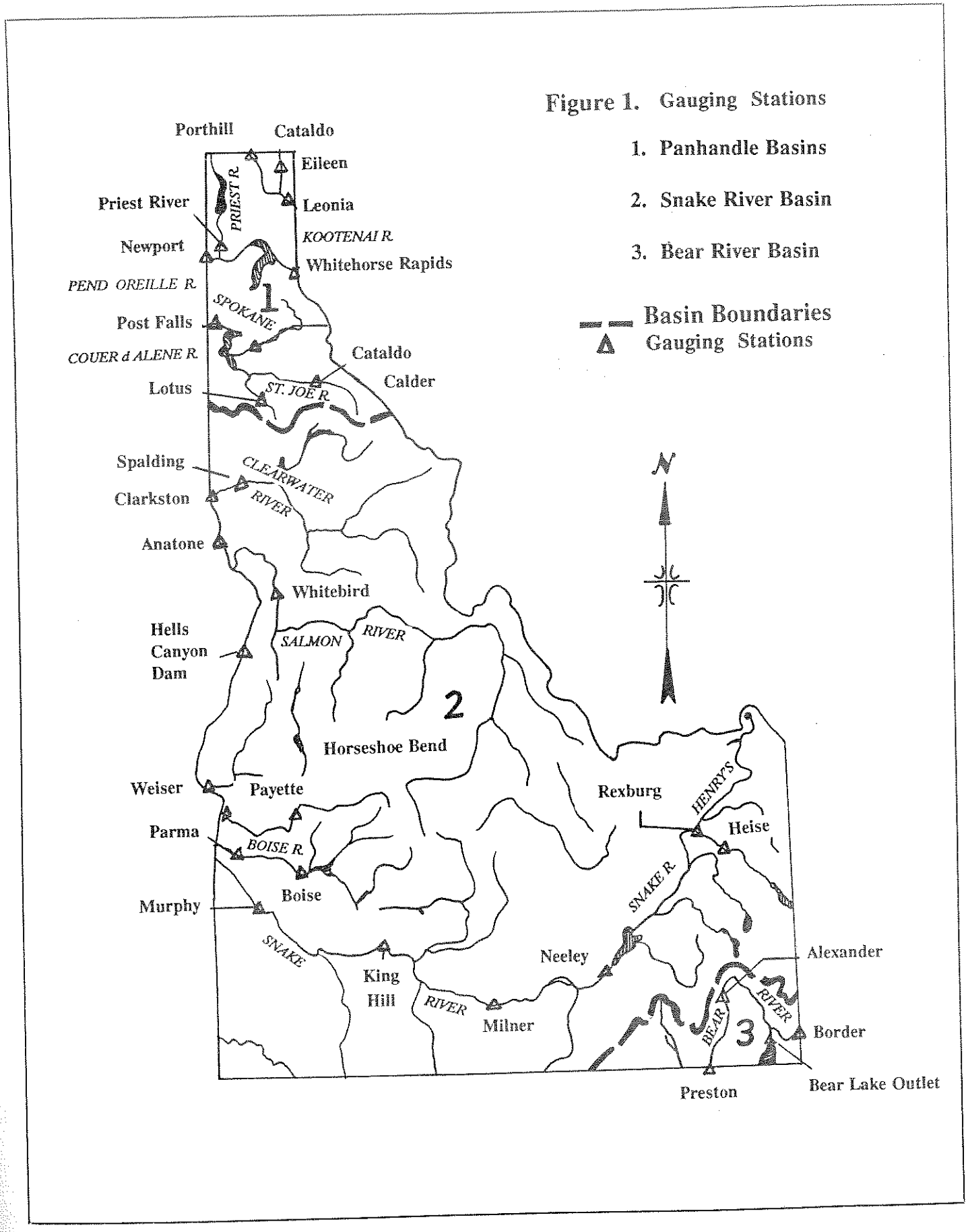


Figure 1. Gauging Stations
1. Panhandle Basins
2. Snake River Basin
3. Bear River Basin
Basin Boundaries
Gauging Stations
Porthill
Cataldo
Eileen
Priest River
PRIEST R.
Leonia
KOOTENAI R.
Newport
Whitehorse Rapids
PEND OREILLE R.
1
SPOKANE
Post Falls
COUER d ALENE R.
Cataldo
Calder
Lotus
ST. JOE R.
Spalding
CLEARWATER
Clarkston
RIVER
Anatone
Whitebird
Hells
Canyon
Dam
SALMON
RIVER
2
Horseshoe Bend
Weiser
Payette
Rexburg
HENRY'S
Heise
Parma
BOISE R.
Boise
Murphy
SNAKE R.
SNAKE
King
Hill
RIVER
Neeley
Alexander
Milner
BEAR
RIVER
3
Border
Preston
Bear Lake Outlet
N

levels of development.

The Snake River is intensively managed. Controls on the flows are imposed by a system of reservoirs and diversions. The reservoirs were constructed for one or more purposes, but irrigation use is involved in most of the Snake River system reservoirs.

Records of diversion are available for only a fraction of the irrigation, canals, and other uses of the Snake River basin. Ground-water withdrawal and consumption generally are not measured. Because of this, total water use can only be estimated by indirect methods.

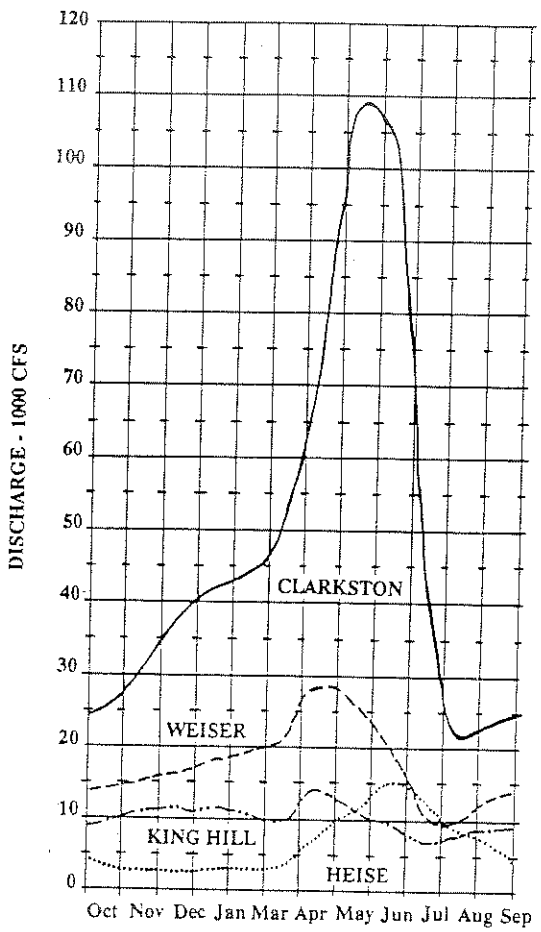


Figure 2. Seasonal distribution of long term average flows of the Snake River at four gauging stations based upon flows adjusted to 1985 conditions.

The 4.5 million acres of irrigated land in the Snake River basin deplete the river flow by nearly 7 million acre-feet per year. Twenty-five percent of this is withdrawn as ground water. Irrigation diversions have their primary effect on the river during the summer months.

The 1976 State Water Plan set minimum flows near Murphy (3300 cfs) and at Weiser (4750 cfs). The Murphy minimum was raised to 3900 cfs (April through October) and 5600 cfs (November through March) as a result of the Swan Falls agreement. Since the 1950's, there has been a general downward trend in the annual flow of the Snake River near Murphy. This is illustrated by Figure 4. (Page 11) Causes of the declining flow include the very large pumped diversions from the river between Hagerman and the Murphy gauge, diminishing discharge from Thousand Springs which results from increased use of ground water on the Snake River plain, and the occurrence of drier than normal conditions in the Wood River and Bruneau River basins. Higher values occurring in 1983, 1984, and 1986 are the result of flow past Milner during the summer.

At Weiser, the minimum flow was violated for two days in 1977 as a result of large diversions from the Snake River and very low outflows from the Boise and Payette basins. Minimum annual flows at Weiser do not exhibit a downward trend like those near Murphy because the outflows from the Boise and Payette rivers are usually quite large when Snake River diversions are near their maximums. However, the 1977 event demonstrated the potential for these events to occur at the same time in severely dry years, and with continuing increases in Snake River diversions, the resulting low flow may be significantly less next time.

Figure 3.

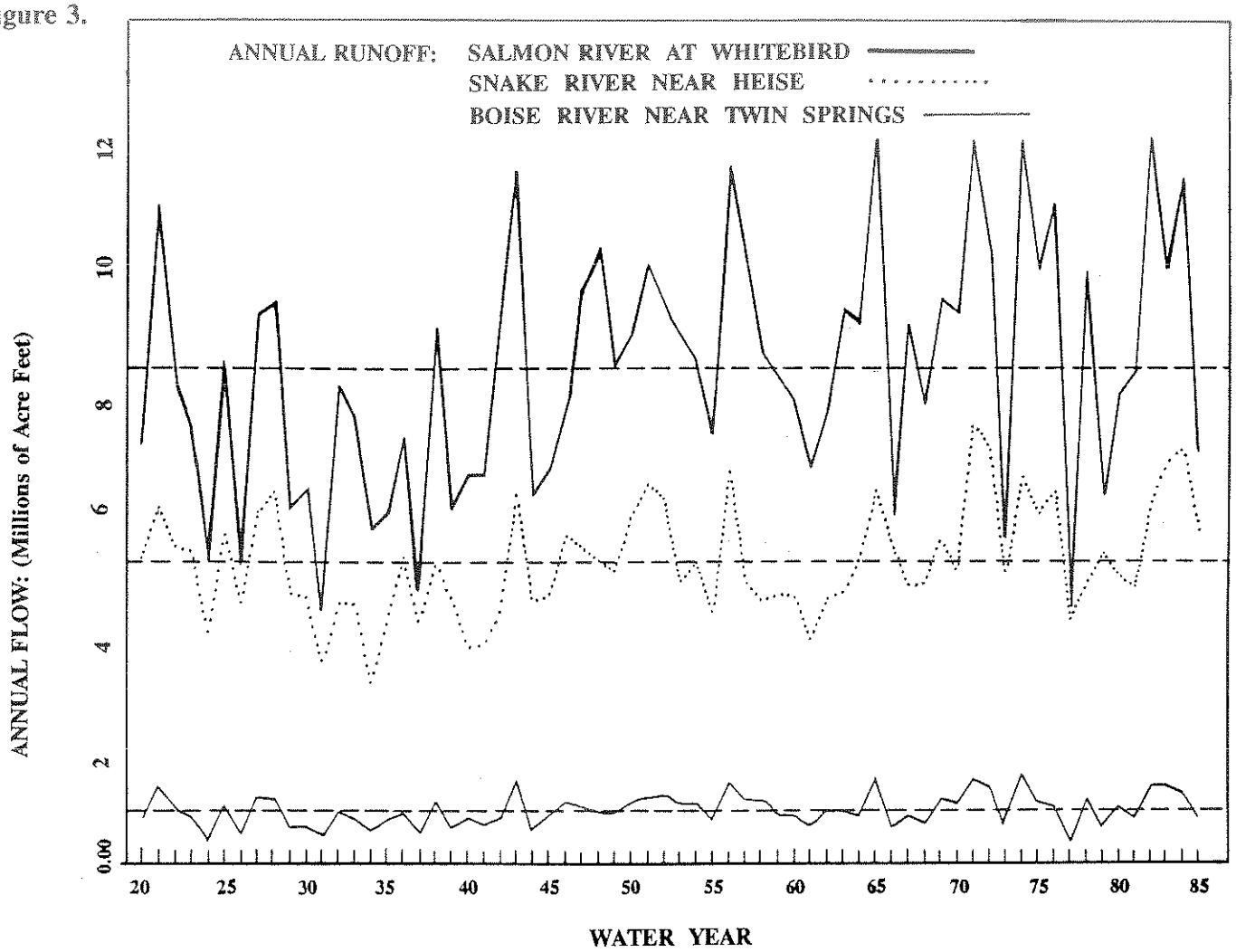
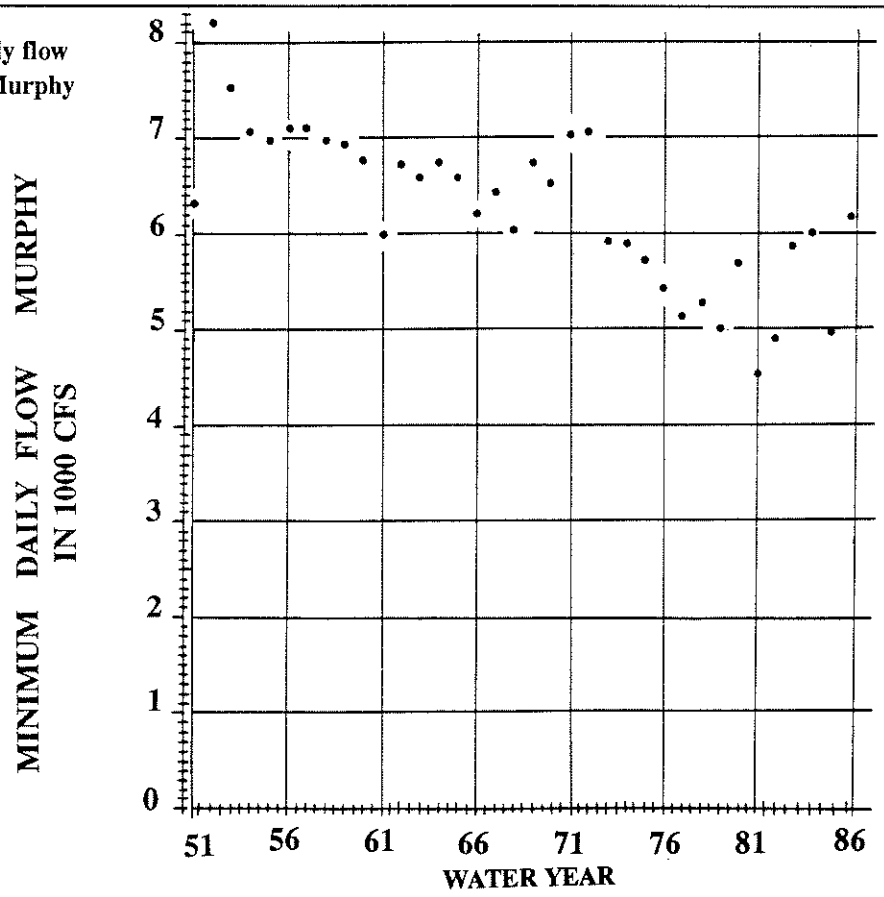


Figure 4. Annual minimum daily flow of Snake River near Murphy



Bear River Basin

The Idaho portion of the Bear River basin is situated in the southeast corner of the state. Elevations range from 4400 feet in the valley to over 9000 feet. About one-half of the area is mountainous and lies above 6000 feet.

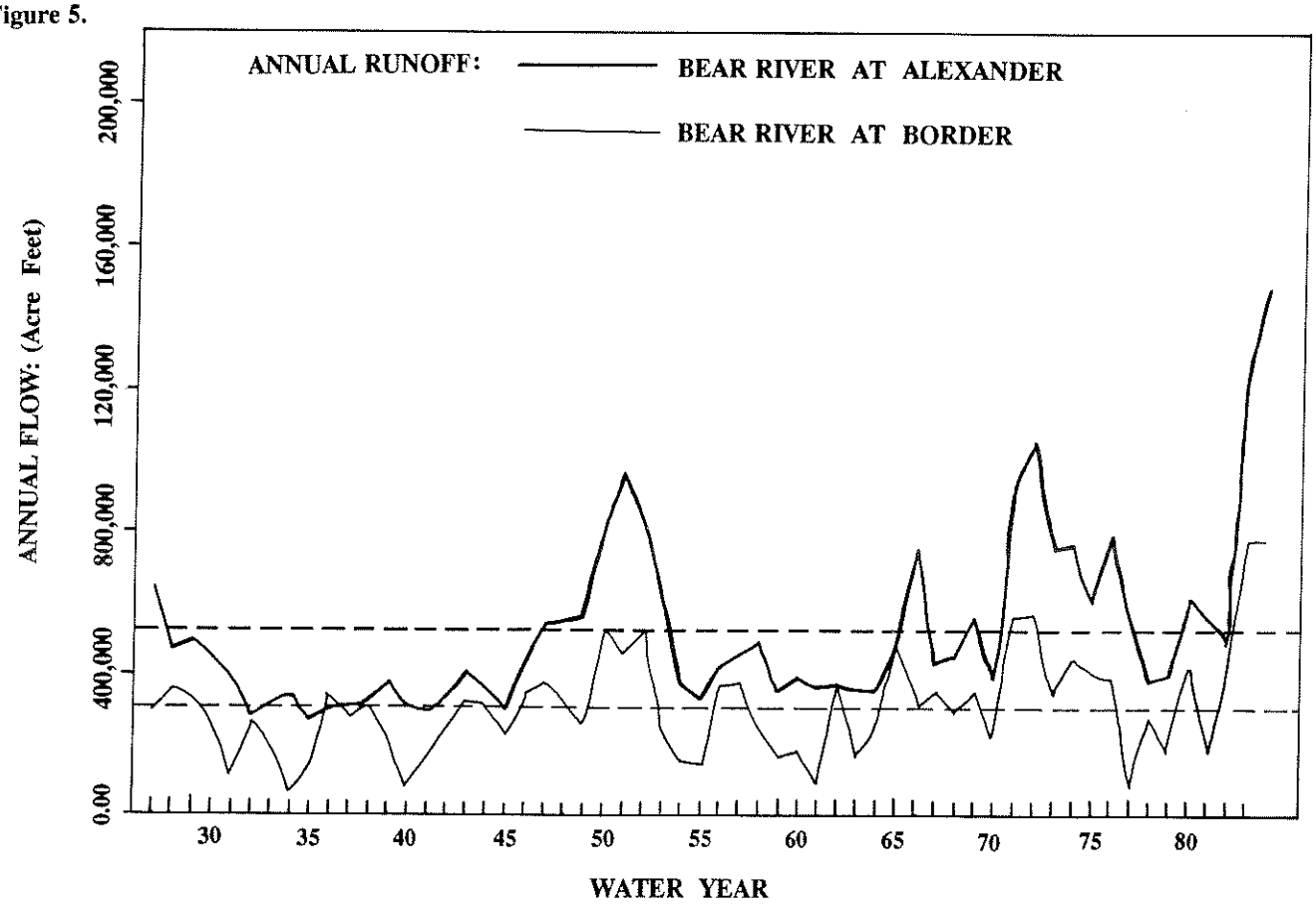
The major valley and mountain ranges trend north-south. Tributary valleys intersect at right angles. Tributary stream gradients are steep, whereas main valley gradients are comparatively gentle.

The entire Bear River basin drainage comprises 7474 square miles and includes portions of three states: Utah (3255 square miles, Idaho (2704 square miles), and Wyoming (1515 square miles). Although the State Water Plan covers only that portion of the Bear River basin situated in Idaho, it is necessary to understand important characteristics of other parts of the basin.

The Bear River begins on the northern flank of the Uinta Mountains in Utah. Confined generally to a mountain valley, it flows northerly into Wyoming. Near the community of Evanston, the river flows again into Utah, return to Wyoming, and then flows into Idaho. In Idaho, the Bear River is diverted into Mud Lake and Bear Lake. From Bear Lake, the river flows northwesterly toward the community of Soda Springs, where it turns southerly toward the Great Salt Lake. In Franklin county, Idaho, below the Oneida Narrows, the river meanders broadly in the ancestral Lake Bonneville bottomlands before leaving Idaho. After a circuitous journey of 440 miles and five crossings of state lines, the Bear River terminates in the Great Salt Lake.

Bear Lake is the most striking physical feature in the basin. The blue-green waters of this large, deep lake extend about equally into Idaho and Utah. Once isolated from all but flood flows of the Bear River, the lake has been connected to the river by a canal.

Figure 5.



As with other major streams in Idaho, most of the streamflow in the Bear River is the result of snowmelt in the higher elevation portions of the watershed. Only a portion of the flow is derived from lands in Idaho. The river enters Idaho near the community of Border, Wyoming where it has drained an area of 2500 square miles and has an average annual (1927-1972) flow of 278,000 acre-feet. Bear Lake, the largest lake in the basin and an important offstream storage site, receives water from the Bear River via two canals diverting at Stewart Dam near Dingle, Idaho. The capacity of these canals is large enough that even high flow can be diverted. Water from these canals first enters Mud Lake, then Bear Lake. Water levels in Bear Lake are controlled by a dike between Mud and Bear lakes. Release of the top three feet of Bear Lake water (elevation 5,923.65 to 5,920.65) is made by gravity. The Lifton pumping plant is used to draw Bear Lake below the outlet level (from elevation 5,920.65 to 5,902.00).

Table 2. Estimated Average Annual Runoff of the Bear River (1927-1985, 1972 level of development).

Station	Runoff (acre-feet)
Bear River at Border	294,700
Bear Lake Outlet	292,300
Bear Lake at Alexander	517,900
Bear River near Preston	563,000

Present usable capacity of the lake is 1,421,000 acre-feet. Bear Lake is operated by Utah Power and Light Company to generate power and maintain an assured water supply to meet irrigation water commitments to Utah-Idaho Sugar Company in Utah. Also, the lake is, in effect, operated for flood control, as fall and winter releases are made to insure flood space for snowmelt runoff.

Below Stewart Dam the Bear River flows through a series of power generation facilities owned by Utah Power and Light Company. Average annual runoff at principal gauging stations in the Bear River basin is shown in Table 2. Location of these gauges is shown on Figure 1.

Major Idaho tributaries of the Bear River are the Thomas Fork, Cub River and the Malad River.

Although the Bear River increases in flow at successive downstream locations, irrigation diversions reduce these increases significantly.

Monthly flows at the gauging stations are influenced to varying degrees by reservoir regulation, irrigation diversions and return flows. The Bear River at Border is somewhat regulated by upstream storage, and is depleted by irrigation diversions in Wyoming and Utah. The Thomas Fork and the Malad River exhibit monthly flows typical of unregulated streams. Peak runoff occurs during the snowmelt season and then declines throughout the summer months. Bear Lake regulation allows snowmelt runoff to be stored for use during periods of peak irrigation and power demand. The peak monthly lake outflow occurs during July, with August averaging only slightly less. The monthly regime of flows in the reach below Preston shows the effects of unregulated tributary inflow and substantial irrigation diversions. This results in high flows in May and June and very low flows in July, August, and September.

The Bear River system, like other river basins, is subject to variations in runoff due to seasonal and annual precipitation. Dry periods can reduce water available for irrigation on headwater streams with little or no storage. Long periods of low precipitation can deplete storage in Bear Lake.

Annual runoff for two locations on the Bear

River under present conditions is shown in Figure 5. (Page 12) The period 1931 through 1945 represents one of below average streamflow. Runoff during the period 1966-76 was generally above normal but 1977 was extremely dry. Variable conditions occurred in the following two years, but these were generally also below normal. In 1980 through 1985 streamflows again exceeded the long-term average.

Panhandle Basins

Streamflow in much of the Panhandle is largely the result of runoff conditions in upstream Montana and British Columbia. The Kootenai River derives most of its flow from both these areas, whereas the Clark Fork drains a large portion of western Montana. The third major Panhandle river, the Spokane, originates entirely within Idaho. Average annual runoff at principal gauging stations is shown in Table 3. The gauge locations are shown on Figure 1.

Table 3. Average Annual Runoff of Major Rivers in the Panhandle Basins through Water Year 1985.

Station	Runoff (acre-feet)	Years of Record
Kootenai River at Leonia	10,070,000	57
Moyie River at Eastport	509,300	56
Kootenai River at Porthill	11,510,000	57
Clark Fork at Whitehorse Rapids	16,210,000	57
Priest River near Priest River	1,216,000	57
Pend Oreille River at Newport	18,760,000	71
St. Joe River at Calder	1,719,000	66
St. Maries River near Santa	263,700	20
Spokane River near Post Falls	4,553,000	73

The Kootenai enters Idaho from Montana at Leonia and discharges about 10.1 million acre-feet per year (13,900 cfs) into British Columbia at Porthill. It gains an average of about 2000 cfs in Idaho, including approximately 700 cfs from the Canadian portion of the Moyie River. The average flow of the Moyie near its mouth is about 900 cfs.

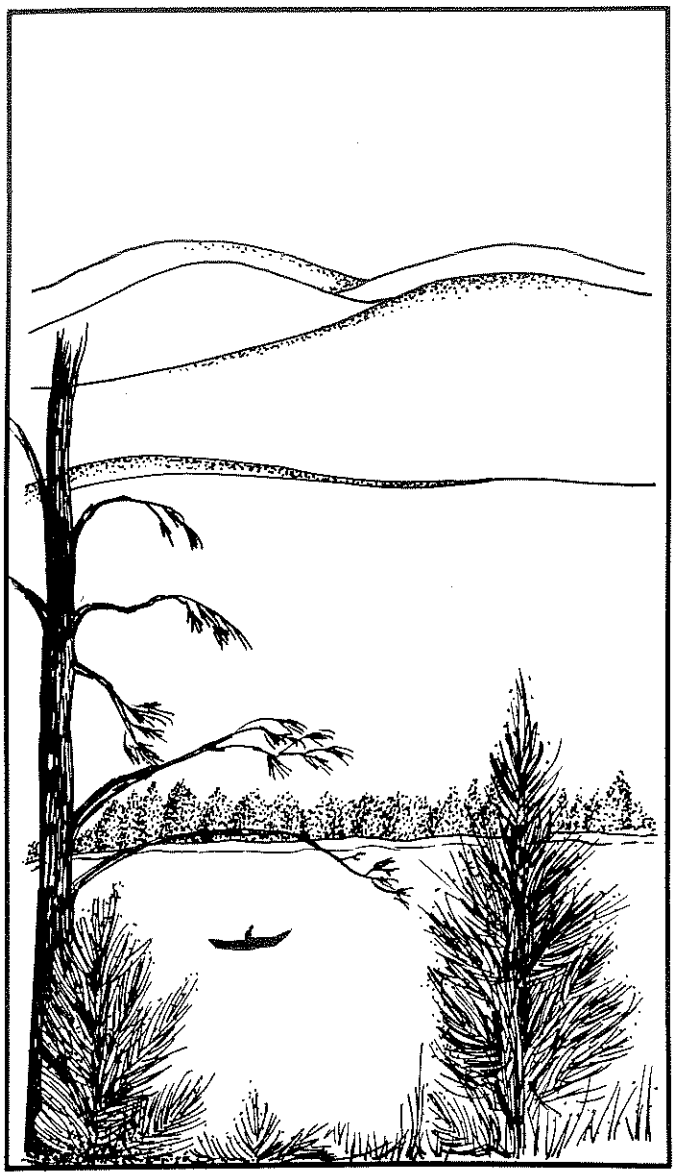
The Clark Fork, largest of the Panhandle rivers, enters Idaho at Cabinet Gorge and leaves the state at Newport, Washington, where it is called the Pend Oreille River. Average annual runoff at Newport is 18.8 million acre-feet per year (26,000 cfs). The average gain in Idaho is about 3600 cfs. Principal Idaho tributaries are the Pack River and Priest River. The Clark Fork flows through Idaho's largest lake, Lake Pend Oreille. Lake levels have been controlled by Albeni Falls Dam near Newport since 1952.

The average annual flow of the Spokane River at Post Falls is about 4.5 million acre-feet (6200 cfs). Two tributaries, the Coeur d'Alene and the St. Joe, join at Lake Coeur d'Alene to form the Spokane River.

Rivers in the Panhandle are managed for power and flood control purposes. There are no reservoirs on the Kootenai River in Idaho, but the Libby Project in Montana effectively controls flows through Idaho. Regulation at Libby will result in control of all but about one percent of the future floods originating from the Kootenai River. The regime of the river flow is also considerably modified through the year. While flood flows are reduced to the channel capacity, there will be a longer period of higher flows as power and flood control releases are made from late summer through the winter.

The Clark Fork is regulated by Hungry Horse Reservoir, Flathead Lake, and numerous small reservoirs in Montana. Seasonal regulation by those reservoirs results in greater fall and winter flows entering Idaho than would otherwise be the case. Daily fluctuations are also imposed on the river by power operations at the Noxon Rapids and Cabinet Gorge dams in Montana.

Lake Pend Oreille is regulated by Albeni Falls Dam as part of the Columbia River system for downstream power and flood control. The normal summer level is at elevation 2062.5. Beginning in September, the lake is drafted at a nearly uniform rate to reach elevation 2060 by the end of October. This procedure minimizes lake shoreline erosion. A continuing draft may be made until December for system power purposes if needed. Normally, the lake is at winter flood control level by December 1. Between then and spring, the lake is held at a nearly constant level. When springtime flood inflows occur, the spillway is opened allowing free flow. The lake then rises as it would without a dam. As the flood recedes, the lake is allowed to return to the normal summer level.



Priest Lake is controlled by a small dam originally constructed in 1950 and rebuilt in 1978. This structure is used during the summer to hold the lake at a nearly constant level, about three feet above the natural lake summer level. Following the recreation season, the stored water is released for downstream power. The dam is operated by Washington Water Power Company under an agreement with the Idaho Department of Water Resources, owner of the dam.

The presence of an outlet control has produced a pronounced shift in outflows from July through November. The July and August outflows have been reduced by approximately 40 percent, and September outflows by about 30 percent. The October and November discharges have been increased by about 250 percent due to evacuation of storage. Discharges during the remainder of the year are relatively unaffected.

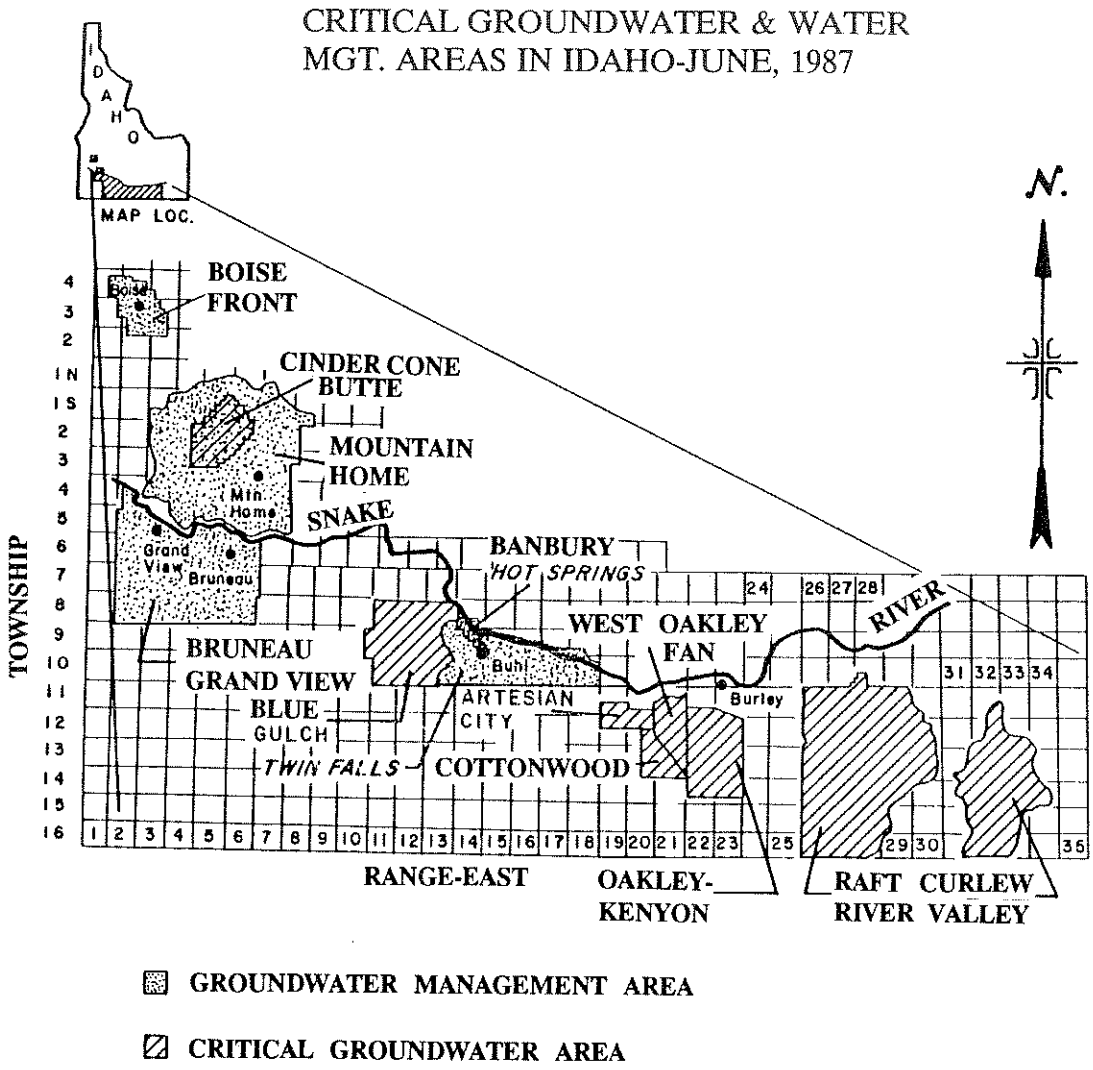
Lake Coeur d'Alene is controlled by Post Falls Dam on the Spokane River nine miles downstream from the lake outlet. Post Falls Dam is operated by Washington Water Power Company for power generation on site and at several other plants in Washington. The normal summer level of the lake is elevation 2128. Beginning in September, it is drafted three to five feet for power generation purposes. This lowering of the lake elevation also provides winter flood protection for lake shoreline properties and downstream points. Winter lake levels are quite variable as inflows fluctuate. Following spring runoff, lake levels decline to elevation 2128, the gates are closed and the dam is operated to hold the lake at that level through the summer.

Ground Water

Approximately 88 percent of the people in Idaho use ground water for domestic purposes, yet only three percent of the ground water withdrawn goes for these purposes. Irrigated agriculture uses roughly 65 percent of the ground water withdrawn in an average year.

Water levels fluctuate as a function of withdrawal and recharge. A study by the U.S.Geological Survey compared water levels in 361 wells for the period 1971-1982. Net water-level declines has occurred in 75 percent of these well. Definite trends could be established in 266 wells. Of these wells, 66 percent showed downward trends. Declines of more than five feet for the period occurred mostly in the southern part of the state, and to a large degree were in or near the eight areas designated by the Department of Water Resources as Critical Ground Water Areas or the five areas designated as Ground Water Management Areas (Figure 6). Much of Idaho has experienced greater than normal precipitation since 1982. Many of the wells that are regularly measured show some recovery over the last four years.

Figure 6.



Population

While not typically considered a natural resource, population is an indicator of the state's economy and quite likely will play a role in Idaho's future economic growth. While Idaho has ample water for a significantly expanded population, a combination of population growth and new water consumptive industry would lead to local dislocations with water consumption shifting from traditional uses to new municipal and industrial markets.

Idaho's population has shown continued, albeit erratic growth. With approximately one million residents in 1986, Idaho remains one of the least densely populated of the 50 states. Table 4. indicates that even major population increases would not create unreasonable population densities within the state.

The distribution of population between urban and rural areas is also an indicator of the state of Idaho's economy and of which economic sectors are dominant in its economic base. In terms of the impact on water use, the relative size of the urban and rural populations will probably be more important than actual population. Sometime during the 1960s, Idaho changed from a state where a majority of its citizens lived in a rural setting, to a state of primarily urban dwellers (Table 5). A person's environment affects how they think and how they act. Idaho will increasingly concern itself with urban oriented issues and favor urban values over rural ones.

Table 4. Population densities using 1986 estimated populations

Japan	846.3
West Germany	632.2
United Kingdom	600.6
France	262.3
California	168.7
United States	68.1
Pacific Northwest (OR, WA, ID)	33.0
Idaho (entire state)	12.1
Idaho (private and Indian lands)	40.3

Table 5. Urban and Rural Population in Idaho (Idaho Blue Book 1983-1986)

	Urban		Rural	
	Number	Percent	Numer	Percent
1950	252,549	42.9	336,088	57.1
1960	317,097	47.5	350,094	52.5
1970	385,434	54.1	327,133	45.9
1980	509,805	54.0	434,233	46.0

State Water Plan

THE OBJECTIVES

1) **Public interest**: *The objective of the Water Resource Board is to encourage and promote use of the state's water resources to meet the needs and wishes of the public.*

2) **Economic development**: *The objective of the Water Resource Board is to encourage and support water projects that promote economic development in the state.*

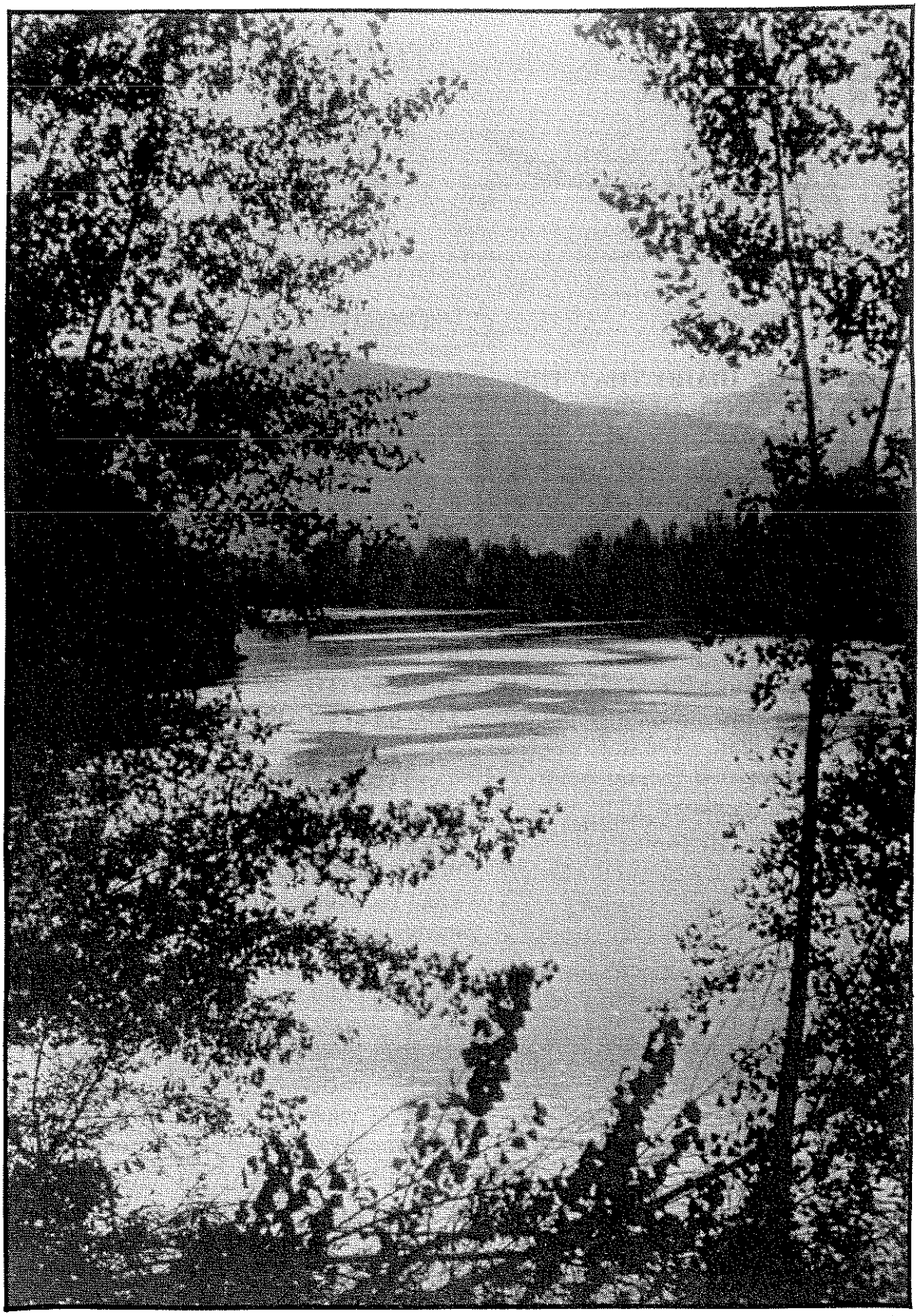
3) **Environmental quality**: *The objective of the Water Resource Board is to maintain, and where possible enhance, environmental quality.*

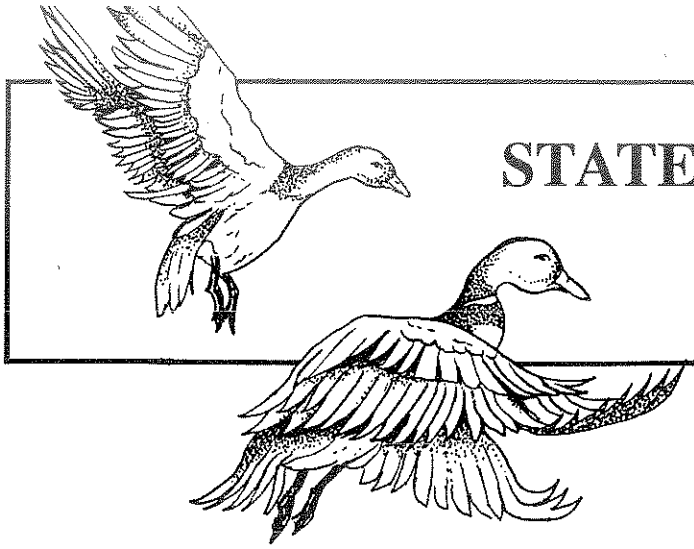
4) **Public safety**: *The objective of the Water Resource Board is to encourage and promote programs that will assure life and property within the state are not threatened by the use of our water resources.*

5) **Fish, wildlife, and recreation**: *The objective of the Water Resource Board is to assure that equal consideration is given to the needs of fish, wildlife, and recreation in any project or program involving the water resources of the state.*

6) **Agriculture and aquaculture**: *The objective of the Water Resource Board is to encourage orderly and efficient growth in food and fiber production within the state.*

7) **Quantification of rights**: *The objective of the Water Resource Board is the quantification of all water rights within the state including those rights claimed by the federal government and the Indian tribes.*





STATE WATER PLAN

THE POLICIES

POLICY 1A - *State Sovereignty*

IT IS THE POLICY OF IDAHO THAT THE STATE HAS SOVEREIGNTY OVER DECISIONS AFFECTING THE DEVELOPMENT AND USE OF ITS WATER RESOURCES, AND THAT THE STATE OPPOSES ANY ATTEMPT BY THE FEDERAL GOVERNMENT, ITS MANAGEMENT AGENCIES, ANY OTHER STATE, OR ANY OTHER ENTITY TO USURP THE STATE'S ROLE IN THESE AREAS.

The Idaho Water Resource Board is responsible for the formulation of state water policy through the State Water Plan. The state's position on existing and proposed federal policies and actions should be coordinated by the Water Board to ensure the state retains its traditional right to control the water resources of the state.

POLICY 1B - *Public Interest*

IT IS THE POLICY OF IDAHO THAT APPROVAL OF APPLICATIONS TO APPROPRIATE THE WATERS OF THE STATE SHALL BE SUBJECT TO THE REQUIREMENT THAT THE USE IS IN THE PUBLIC INTEREST AS SET FORTH IN THE STATE WATER PLAN AND BY STATE LAW.

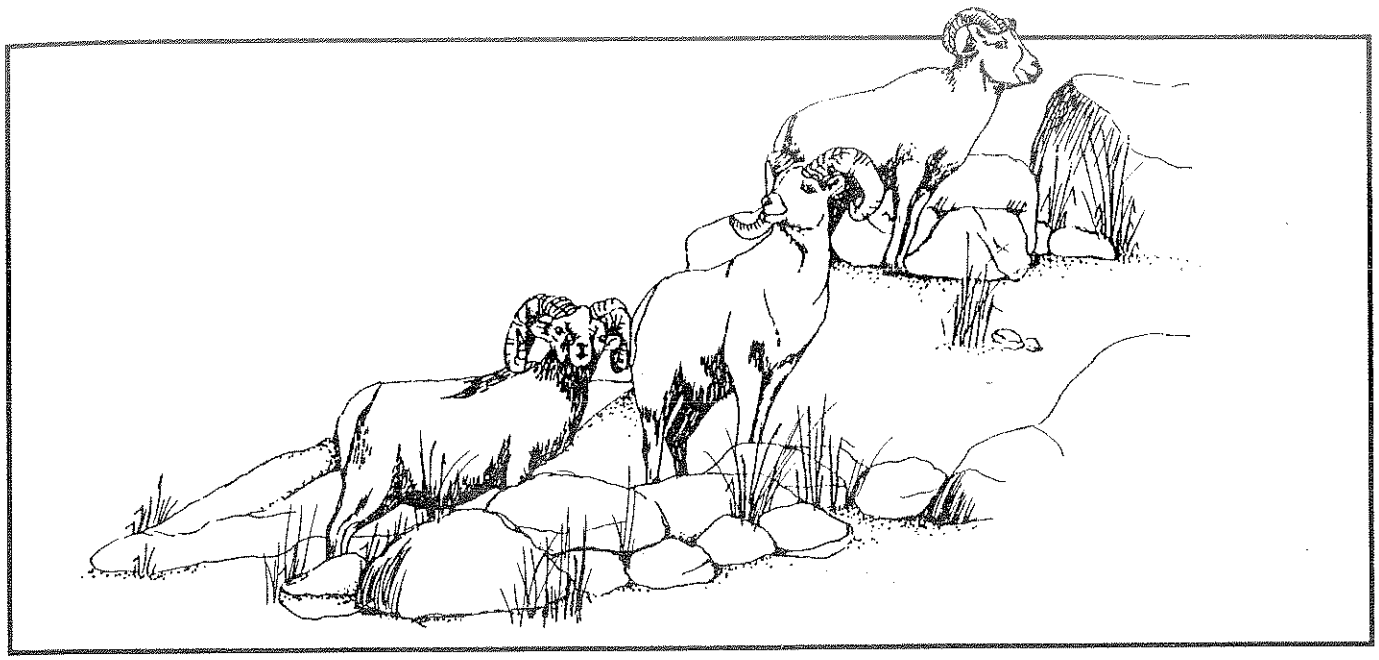
Having been adopted as being in the public interest, the State Water Plan shall be considered when establishing the public interest for water allocations. Idaho Code 42-203C specifies additional criteria that must be considered when reallocating hydropower water rights held in trust by the state. In all cases, state law as interpreted by the courts must be satisfied.

POLICY 1C - *Beneficial Use of Water*

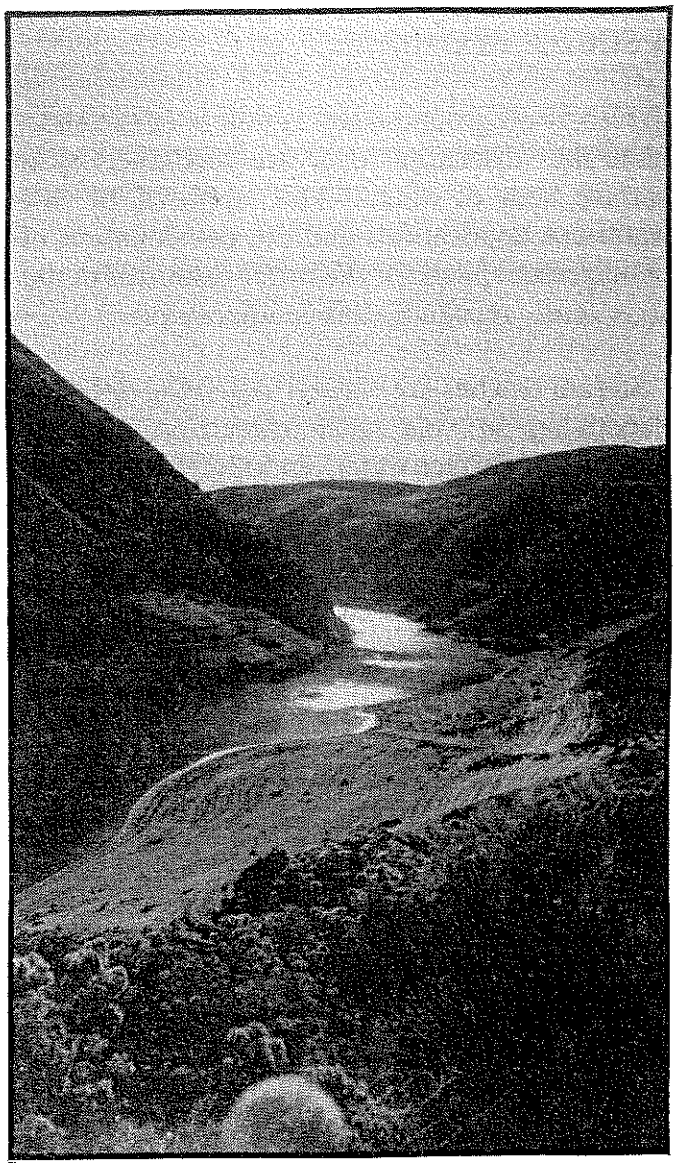
IT IS THE POLICY OF IDAHO THAT CERTAIN NON-CONSUMPTIVE WATER USES BE CONSIDERED AS BENEFICIAL USES SUBJECT TO ARTICLE XV, SECTION 3 OF THE STATE CONSTITUTION.

This policy affirms the Water Resource Board's position that "beneficial use" includes, but is not limited to, water required for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, hydropower, navigation, and water quality as well as the traditional consumptive uses for agriculture, manufacturing, mining and human consumption.

Priority of appropriations shall give the better right as between those using the water, but in times of shortage domestic usage shall have preference over all other uses. Those using the water for agricultural purposes shall have preference over all but domestic users, except that in established mining districts water for mining purposes or milling purposes connected with mining shall have preference over manufacturing and agricultural uses. All "taking" of water shall be subject to such provisions of law regulating the taking of private property for public and



private use (Idaho Constitution Article XV, Section 3).



POLICY 1D - *Pollution Control*

IT IS THE POLICY OF IDAHO THAT THE USE OF WATER TO DILUTE POLLUTION IS NOT A BENEFICIAL USE.

Existing state and federal water quality programs should be sufficient to protect the current high water quality associated with streams within the state. Any allocation of water for instream flow use should be directed towards meeting fish, wildlife, and recreational needs and not to the dilution of pollution.

POLICY 1E - *Nature of Use*

IT IS THE POLICY OF IDAHO THAT CHANGES IN THE NATURE OF USE OF A WATER RIGHT BE ALLOWED IF OTHER WATER RIGHTS ARE NOT INJURED.

The demand for water increases every year while the volume of unappropriated water within the state continually decreases. Many

new uses will depend upon the transfer of existing water rights from one use to another. Idaho Code, Sections 42-108, 108A, 108B and 42-222, provides for changes in place of diversion, place of use, period of use, and nature of use. Provision is made to protect other water users, the agricultural base of an area, and the public interest.

POLICY 1F - *Ground and Surface Water Connection*

IT IS THE POLICY OF IDAHO THAT WHERE EVIDENCE OF HYDROLOGIC CONNECTION EXISTS BETWEEN GROUND AND SURFACE WATER, THEY BE MANAGED AS A SINGLE RESOURCE.

Nearly all ground-water aquifers in the state naturally discharge to or are recharged by a surface body of water. The approval of new water-use applications and the development of management plans for the water resources of the state must recognize this relationship.

Stream reaches are classed as gaining or losing depending on the local interaction between ground and surface water. In some areas pumping ground water from wells will reduce the amount of water flowing in a stream. During periods of high stream flow significant aquifer recharge can occur. When water is diverted from a stream for irrigation purposes conveyance and deep percolation losses are major factors in aquifer recharge.

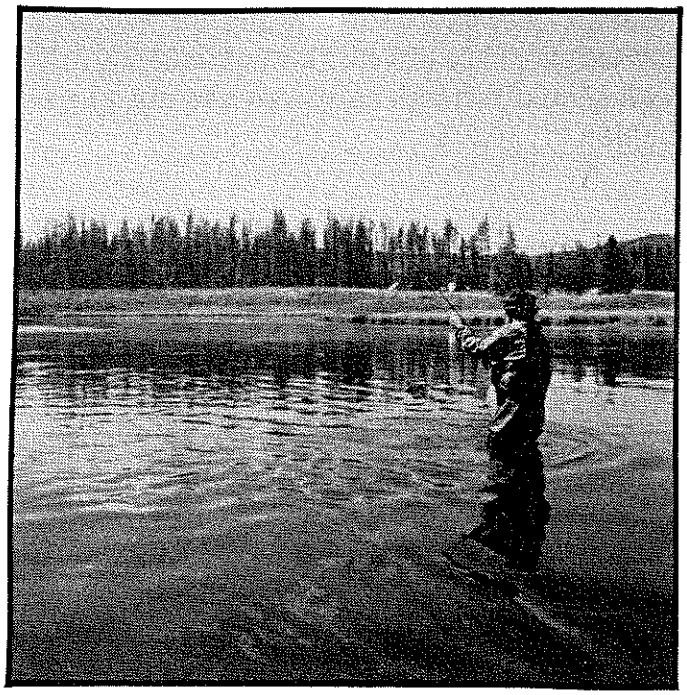
The relationship between ground and surface water is extremely complex. The Water Board regards this policy as a first step in more effective management of the state's water resources. Legislation and Water Board resolutions will provide direction for the implementation of this policy.

POLICY 1G - *Withdrawal of Ground Water*

IT IS THE POLICY OF IDAHO THAT PUMPED DEPLETIONS IN AN AQUIFER SHOULD NOT EXCEED THE ANTICIPATED RATE OF FUTURE RECHARGE TO THAT AQUIFER. IN THOSE INSTANCES WHERE AN AQUIFER IS RECHARGED SO SLOWLY THAT ANY DEVELOPMENT WOULD RESULT IN WITHDRAWALS EXCEEDING RECHARGE, THE DIRECTOR OF THE DEPARTMENT OF WATER RESOURCES SHOULD HAVE THE AUTHORITY TO ESTABLISH AN AQUIFER MANAGEMENT PLAN THAT RECOGNIZES THE EVENTUAL DEPLETION OF THE RESOURCE.

Many of the citizens of Idaho depend on ground water for drinking water. Approximately 30 percent of Idaho's irrigated acreage uses ground water. Overuse of ground water leading to aquifer depletion could cause economic and social problems nearly anywhere in the state.

There are many areas within the state where withdrawal/ recharge imbalance of the ground-water resource has already occurred. If existing laws were strictly enforced many wells would have to be abandoned. In order to protect, insofar as possible, existing ground-water rights and to provide for future development the state



should seek to correct withdrawal/recharge imbalances in an orderly fashion, attempting to minimize negative impacts on the citizenry.

The existing statutory authorities giving the director of the Department of Water Resources the power to designate areas as either Ground Water Management Areas or Critical Ground Water Areas provide the logical first step in arresting excessive withdrawals from an aquifer. Designation as a critical ground water area should automatically engender an adjudication of the area.

There are rare instances where an aquifer is recharged so slowly that almost any water use causes depletion. It makes little sense to defer use of these aquifers. The director of the Department of Water Resources should be empowered to designate aquifers where the public interest would best be served by allowing depletion. Rules and regulations adopted for establishing and managing such areas should provide for public input at the local and state level.

POLICY 1H - *Ground-Water Quality*

IT IS THE POLICY OF IDAHO THAT GROUND WATER BE PROTECTED AGAINST UNREASONABLE CONTAMINATION OR DETERIORATION IN QUALITY, THEREBY MAINTAINING THE SUITABILITY OF SUCH WATERS FOR APPROPRIATE BENEFICIAL USES.

It is essential that the quality of Idaho's ground-water resources be protected. Ground-water standards should be adopted and legislation enacted which establish specific standards and authorities to accomplish this goal. The legislation should designate a single state management agency as called for in Policy 4A of the State Water Plan.

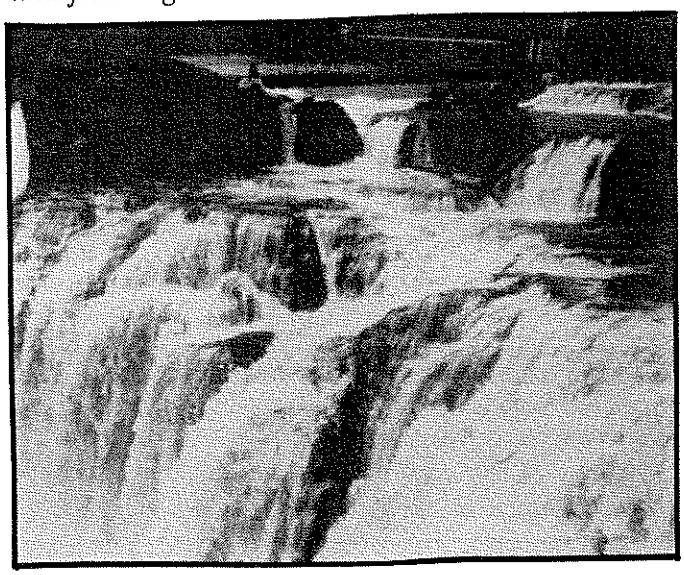
Local units of government and special use districts should be provided with more authority to deal with ground-water protection issues. A monitoring program in a cooperative effort with appropriate federal agencies should be established for ground-water quality protection programs.

POLICY 1I - Water Resources Research Program

IT IS THE POLICY OF IDAHO TO ENCOURAGE AND DEVELOP RESEARCH ON IMPORTANT WATER RESOURCE TOPICS TO IMPLEMENT THE OBJECTIVES OF THE STATE WATER PLAN.

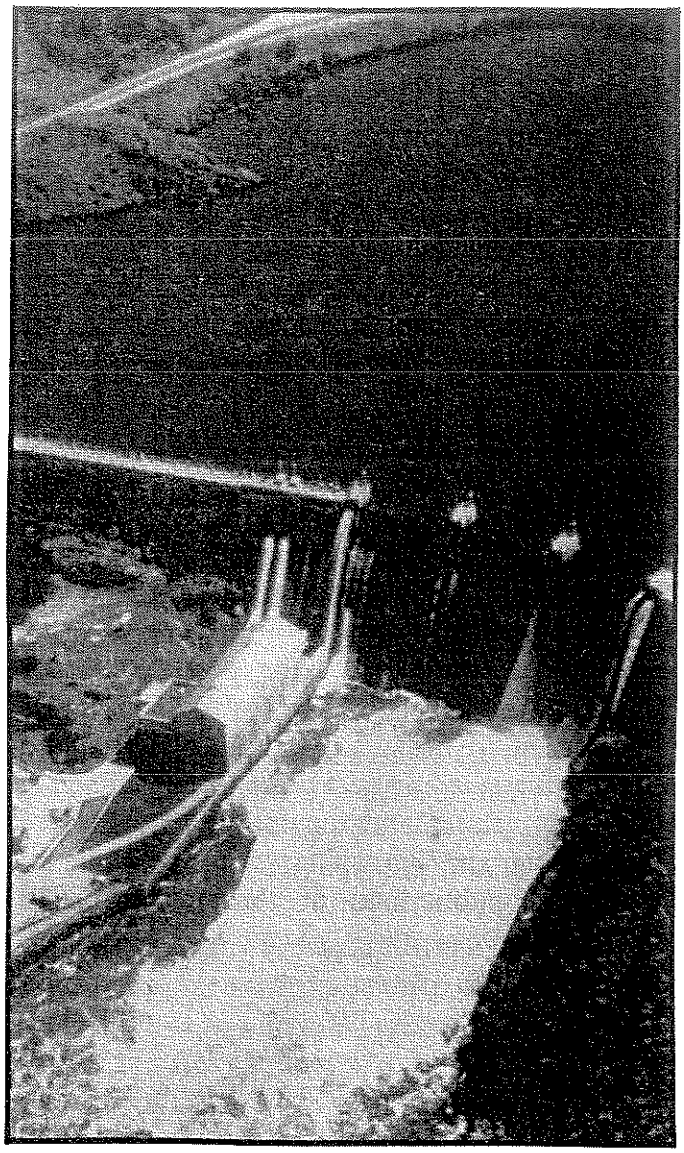
While water programs in Idaho can incorporate information from research in other states, more research dealing with specific problems in Idaho are needed. Topics that need immediate attention are those which:

- identify legal and institutional changes necessary to improve water management,
- evaluate the effect of various levels of moisture deficiencies on crop yields,
- investigate methods for encouraging more efficient use of water,
- determine optimum monitoring programs for key areas of ground water use, and
- evaluate the return interval of extreme drought and flooding.



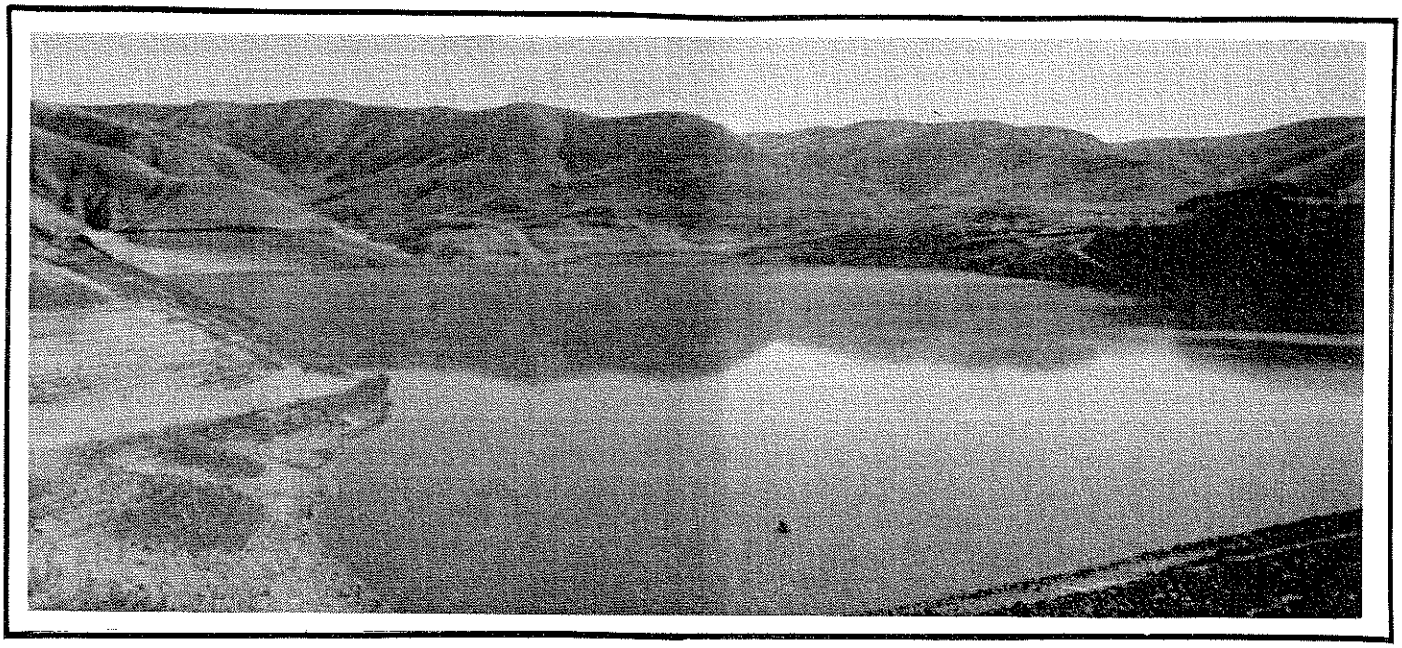
POLICY 1J - *Monitor Radioactive Waste Disposal*

IT IS THE POLICY OF IDAHO TO ESTABLISH A STATE PROGRAM TO MONITOR AND REGULATE RADIOACTIVE WASTE DISPOSAL AT THE IDAHO NATIONAL ENGINEERING LABORATORY, AND OTHER AREAS AS MAY BE DESIGNATED.



The existing program for radioactive monitoring at the Idaho National Engineering Laboratory (INEL) is conducted by the U.S. Department of Energy and the U.S. Geological Survey. In their comprehensive monitoring program radioactivity released from INEL operations is measured in air, water and soil at both on-site and off-site locations. Radioactivity in some agricultural products from the INEL area also is measured. An annual report on radioactivity monitoring results is prepared and an assessment of the radiological impact from nuclear operations is made of the region surrounding the INEL.

Notwithstanding the quality of the current radiation monitoring program, the Water Board urges that the state establish an independent program for sampling, analysis, and data interpretation. The INEL area overlies portions of the Snake Plain aquifer and every precaution must be taken to preserve its quality.



Conservation Group

POLICY 2A - *Instream Flows*

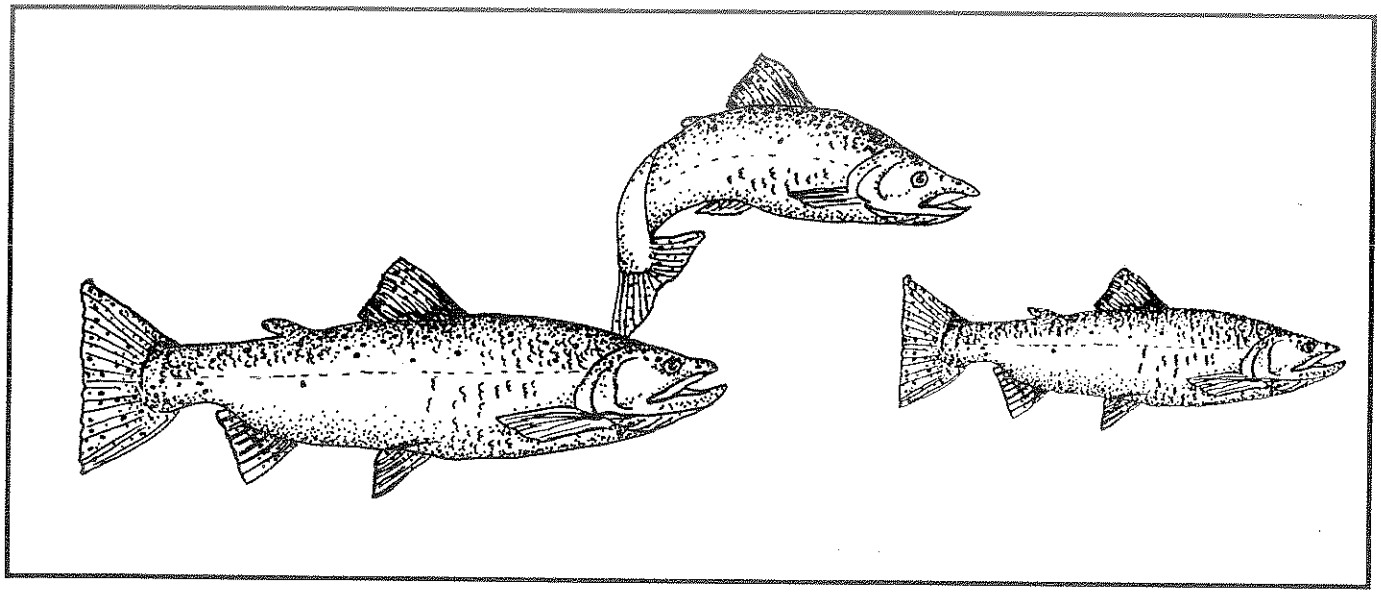
IT IS THE POLICY OF IDAHO THAT WHEN IT IS IN THE PUBLIC INTEREST THE WATER RESOURCE BOARD SHOULD SEEK TO APPROPRIATE WATERS IN THE STATE FOR INSTREAM FLOW PURPOSES.

Instream flows are essential to many users of the state's water resources, including hydropower production, fish and wildlife, recreation and navigation. Many of these uses have direct effects on the economy while others represent elements of Idaho's valued environment. Idaho Code, Title 42, Chapter 15 provides the authority and spells out procedures for the Water Board to appropriate water for minimum streamflows.

POLICY 2B - *State Natural and Recreational River System*

IT IS THE POLICY OF IDAHO THAT A STATE NATURAL AND RECREATIONAL RIVER SYSTEM BE ESTABLISHED TO MEET THE DESIRES OF THE CITIZENS OF IDAHO. LEGISLATION IMPLEMENTING THIS POLICY SHOULD PROVIDE FOR THE PROTECTION OF THE UNIQUE FEATURES THAT EXIST ON VARIOUS RIVERS WITHIN THE STATE, AND SHOULD PROVIDE THE NECESSARY AUTHORITY AND FUNDING FOR THE STATE TO PROTECT SUCH RIVERS AND RELATED LANDS FOR RECREATIONAL, SCENIC, AND NATURAL VALUES WHILE STILL ALLOWING THE WIDEST POSSIBLE OPPORTUNITY FOR USE BY PRIVATE INTERESTS.

In recent years, Idahoans have expressed a desire to retain some rivers or river reaches in a free-flowing condition. However, no state law provides the authority to accomplish this end. Several Idaho streams have been designated as federal wild and scenic rivers, while others are being considered for federal designation. A state system would be more responsive to the needs and desires of Idahoans.



POLICY 2C - *Anadromous Fish*

IT IS THE POLICY OF IDAHO TO PRESERVE AND ENHANCE THE STATE'S ANADROMOUS FISHERY RESOURCE.

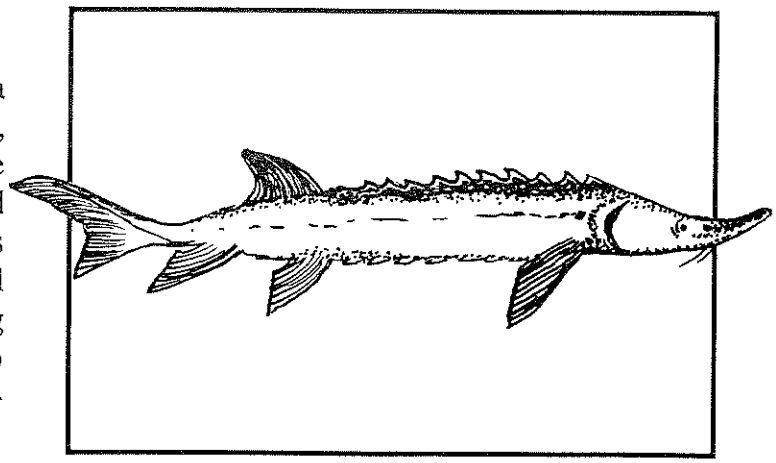
Idaho's once numerous anadromous fisheries have been severely depleted. The present condition of salmon and steelhead runs is the result of many environmental insults. The chief factor has been the adverse effect of the region's many hydroelectric facilities, both as barriers to upstream migration and as major contributors to the loss of juvenile downstream migrants. Another significant factor has been the degradation of spawning and rearing habitat by irrigation, water diversion, by sedimentation from logging and mining operations and by riparian degradation. Upstream migration is also impacted by poorly designed culverts and other stream channel alterations.

Restoration of the anadromous fishery is a regional concern. The downstream commercial, recreational and Indian fisheries depend in large degree on fish runs reaching Idaho streams and hatcheries. The state as an entity and its various agencies should cooperate with the federal government, the Northwest Power Planning Council, and downstream entities in efforts to enhance the Columbia Basin's anadromous fishery resource.

POLICY 2D - *White Sturgeon*

IT IS THE POLICY OF IDAHO THAT WHITE STURGEON HABITAT IN THE SNAKE AND KOOTENAI RIVERS BE PROTECTED.

White sturgeon, the largest freshwater fish in North America, require free-flowing water. Dam construction has had the immediate effect of blocking sturgeon spawning migration and isolating some populations. Studies by the Idaho Fish and Game Department indicate actively reproducing sturgeon populations between Bliss Dam and C. J. Strike Reservoir as well as below Swan Falls Dam on the Snake River. The Kootenai River sturgeon also appear to be self-sustaining. Additional impoundments in these river reaches will reduce or eliminate these remnant sturgeon populations.



POLICY 2E - *Watersheds*

IT IS THE POLICY OF IDAHO TO ENCOURAGE LAND-USE PRACTICES WHICH PROTECT THE QUALITY AND QUANTITY OF THE WATER RESOURCE.

The quality of water in the streams of the state as well as the quantity and timing of runoff depend in large degree on land-use practices on the watersheds of the state. Regulatory and management agencies at all levels, local, state, or federal, must insure that their programs adequately consider the problem of soil erosion and deposition.

Problems exist where irrigated agriculture is practiced on marginal or erodible land. Soil erosion is also a critical concern on the Idaho Palouse where irrigation is not common. Forest land normally produces very little sediment, but it can produce very large amounts when disturbed by logging, road construction, residential development or other similar activities. Proper forest management as per the Idaho Forest Practices Act (Title 38, Chapter 13) will reduce the amount of sediment leaving forested areas. Greater use of the authorities contained in the law relating to Watershed Improvement Districts (Title 42, Chapter 37) would reduce sediment production on affected watersheds.

PROTECTION GROUP

POLICY 3A - *Riparian Protection*

IT IS THE POLICY OF IDAHO THAT RIPARIAN LANDS WITHIN THE STATE BE PRESERVED FOR THE ENJOYMENT OF ALL THE CITIZENS OF THE STATE.

The vegetation and wildlife associated with the rivers and streams in the state should be protected for the pleasure they provide to the people of the state. The Local Planning Act of 1975 puts land-use control at the local government level.

Greenbelts, such as those being developed in Boise and Caldwell, are systems of open or park lands located along a river or stream. In rural areas most types of agriculture afford a pastoral image and should be encouraged providing some buffer zone exists to protect the stream bank. Historic sites and scenic view points should also be protected.

POLICY 3B - *Lake and Reservoir Surface Management*

IT IS THE POLICY OF IDAHO THAT STATE AND LOCAL UNITS OF GOVERNMENT PREPARE LAKE AND RESERVOIR SURFACE MANAGEMENT PLANS. THE AUTHORIZING LEGISLATION SHOULD ALSO DEFINE AND ADOPT PROCEDURES AND PROVIDE FOR ENFORCEMENT.

Comprehensive plans and management guidelines should be prepared concerning surface uses of Idaho's lakes and reservoirs relative to the conservation, development, and protection of these resources. These guidelines should define appropriate uses of lakes and the portions of lakes wherein certain uses can be conducted. Size of motors and boats allowed, allowable speed, prohibition of motors or houseboats, scheduling of log tows and regulating the time at which various uses may be conducted are basic considerations.

Such plans should be prepared jointly by local and state agencies with assistance from federal agencies were appropriate. The plan should be subject to adoption by the Idaho Water Resource Board as part of the State Water Plan.

POLICY 3C - *Protection of Lake and Reservoir Shorelands*

IT IS THE POLICY OF IDAHO THAT LOCAL UNITS OF GOVERNMENT PREPARE COMPREHENSIVE PLANS AND ADOPT ZONING STANDARDS FOR THE MANAGEMENT OF LAKE AND RESERVOIR SHORELANDS TO PROTECT WATER RESOURCES AND THEIR USES. TITLE 67, CHAPTER 65, IDAHO CODE, THE LOCAL PLANNING ACT OF 1975 SHOULD BE AMENDED TO IMPLEMENT THIS POLICY.

Lake and reservoir shorelands are being subjected to increased use throughout much of the state. Often when land-use abuse occurs, the resulting eroded material, or other pollutant, ends up in the lake or reservoir. Use of the shorelands should continue; however, locally prepared plans could reduce problems.

The amending legislation should specify the values to be preserved and protected. Authority should be included for standard ordinances, and local ordinances should require protection at least equal to the adopted standard ordinance.

POLICY 3D - *Rehabilitation of Abandoned Land and Water Projects*

IT IS THE POLICY OF IDAHO THAT THE COSTS AND BENEFITS OF REHABILITATION OF ABANDONED LAND AND WATER PROJECTS BE EVALUATED WHERE SUCH AREAS CURRENTLY OR POTENTIALLY AFFECT THE YIELD OR QUALITY OF THE STATE'S WATERSHEDS, STREAMS, OR STREAM CHANNELS.

In years past, mining companies, government agencies, and the general public tolerated a neglect of environmental quality as a cost of economic gain. Many early water and land development projects were built and later abandoned. Some of these projects have deteriorated to the extent that public safety and water resource values are threatened.

Where liability cannot be established, it is appropriate for the state to take action where the remedial costs are less than the potential damages to the water resources of the state. In instances where public safety may be threatened, the state should take remedial action.

POLICY 3E - *Tailings Ponds*

IT IS THE POLICY OF IDAHO THAT THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF MINE WASTE TAILINGS PONDS BE REGULATED BY THE STATE.

Chapter 17, Title 42, Idaho Code makes the regulation of mine waste tailings ponds a function of the Idaho Department of Water Resources. The health and safety of the citizens of the state and quality of the state's water resources in many areas depends on the proper construction, operation and maintenance of mine waste tailings ponds.

POLICY 3F - *Adequacy of Flood Control Levees*

IT IS THE POLICY OF IDAHO THAT THE CONSTRUCTION AND MAINTENANCE OF FLOOD CONTROL LEVEES BE REGULATED BY THE STATE.

The only standards applicable to the construction of flood control levees in Idaho are in the Rules and Regulations governing Stream Channel Alterations. These standards apply only when all or part of the levee will be located below the mean high water mark.

Flood control levees are maintained by local entities. There are no maintenance regulations so the degree of maintenance varies with the capability and diligence of the responsible or-

ganization. This situation creates a potential hazard in that levees may deteriorate to the point of being unsafe.

Legislation should be passed requiring all new flood control levees to be built to standards promulgated by the Department of Water Resources. The Department should also be authorized to develop maintenance criteria for flood control levees and to insure compliance with these criteria through an inspection program.

POLICY 3G - *Safety Measures Program*

IT IS THE POLICY OF IDAHO THAT A PROGRAM SHOULD BE ESTABLISHED TO ASSIST LOCAL UNITS OF GOVERNMENT IN REPAIRING AND INSTALLING SAFETY STRUCTURES ON OR NEAR CANALS, RIVERS, LAKES, AND RESERVOIRS. THE PROGRAM SHOULD BE ESTABLISHED AS A COST-SHARING COOPERATIVE PROGRAM.

Each year, numerous fatal accidents occur in the state's water because of the lack of preventive safety measures. Accidents are not confined to one area of the state nor one segment of the economy but are scattered throughout the state. Most Idaho cities are built on a water course and subsequently are plagued by hazardous canals, rivers, or shorelands. Fencing, signing, debris removal, covering and other structures should be installed to provide for human safety. In the absence of safety structures and subsequent accidents, accusations and claims of responsibility cause community unrest. A preventive program could solve this problem.

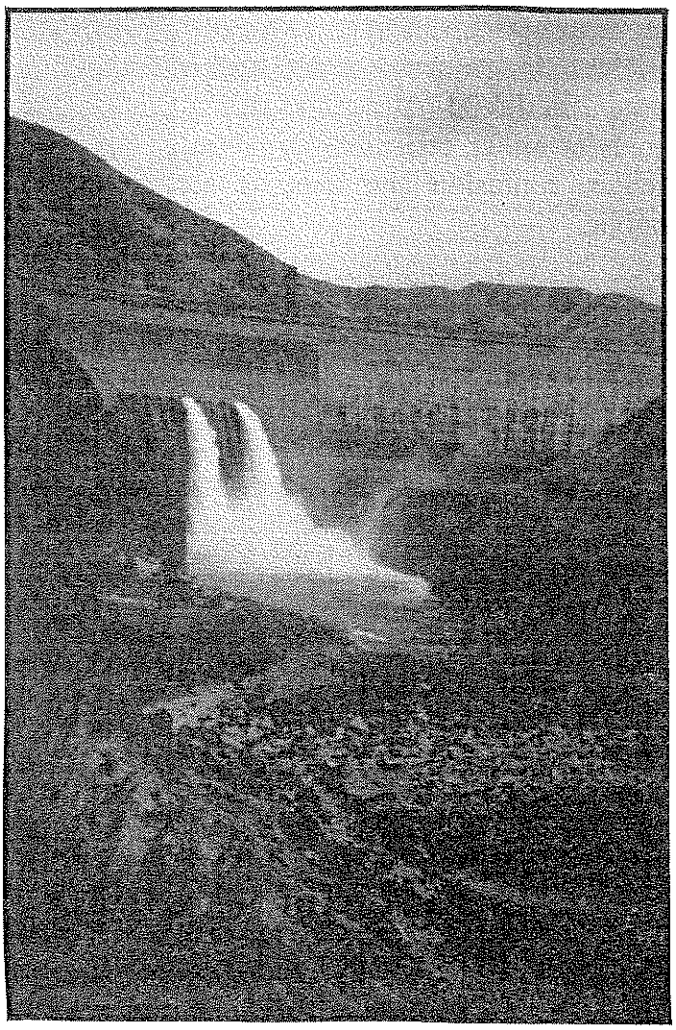
Local units of government should be encouraged to conduct annual public awareness campaigns to educate the public on the dangers and hazardous nature of water bodies in their areas. This public awareness campaign could also include boating safety and an expanded learn to swim program.

POLICY 3H - *Flood Prone Areas*

IT IS THE POLICY OF IDAHO TO ENCOURAGE RELIANCE ON MANAGEMENT RATHER THAN STRUCTURAL ALTERNATIVES IN REDUCING OR PREVENTING FLOOD DAMAGES, AND THAT THE NATIONAL FLOOD INSURANCE PROGRAM BE ADOPTED STATEWIDE.

This program requires that local units of government zone and control flood prone areas in order to be eligible for most federal assistance. Floodplain maps prepared for the Federal Emergency Management Agency are available through the Idaho Department of Water Resources.

No structure can be built that will insure 100 percent protection, but by providing sufficient space in the flood plain most floods can be accommodated without inflicting great damage.



POLICY 4A - *Water Quantity and Quality*

IT IS THE POLICY OF IDAHO THAT THE ADMINISTRATION OF STATE PROGRAMS FOR WATER ALLOCATION AND THE REGULATION OF WATER QUALITY BE CONSOLIDATED IN ONE AGENCY.

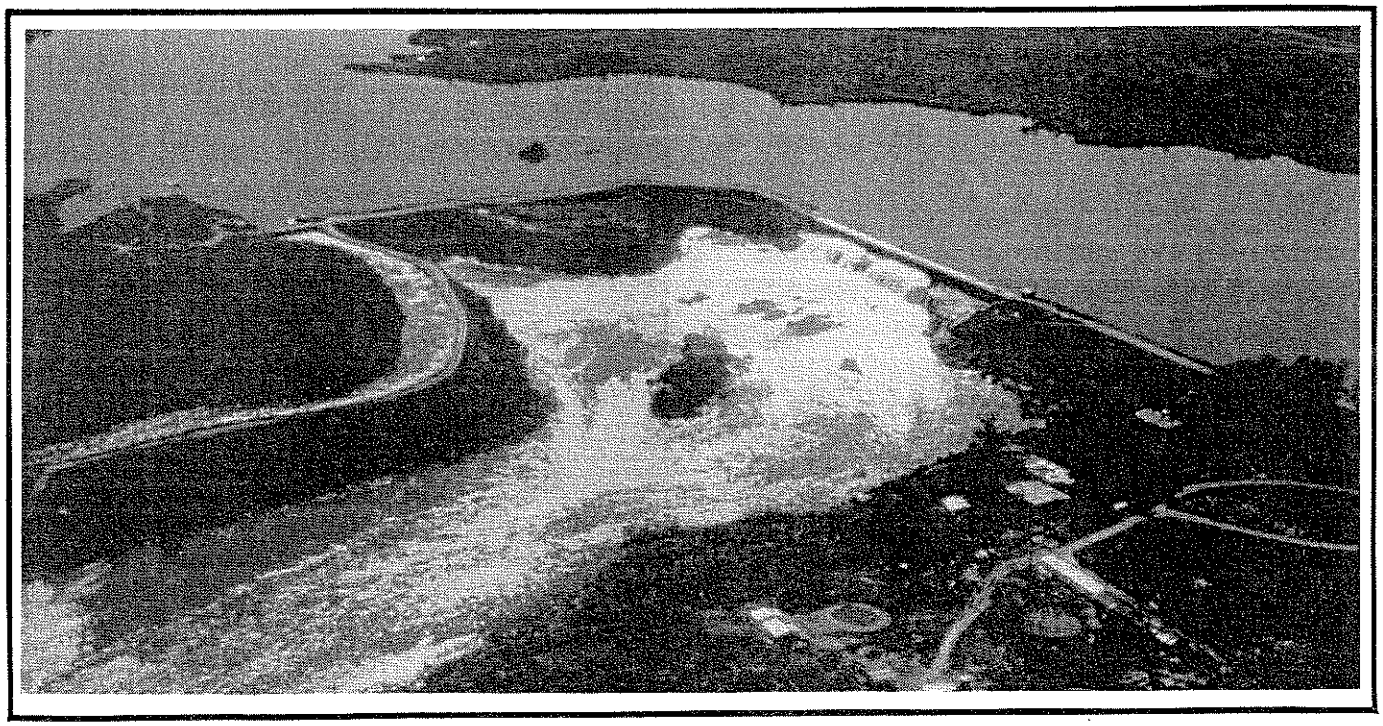
Planning and administration of water quantity and water quality are presently divided between two state agencies even though they are two directly interrelated properties of the same resource. The Department of Water Resources is primarily responsible for programs relating to water quantity, and the Department of Health and Welfare is responsible for protecting the quality of the state's water.

Combining water quantity and water quality programs should neither increase nor reduce the goals of either program. It should, however, reduce confusion and improve service to the public.

POLICY 4B - *Water Supply Bank*

IT IS THE POLICY OF IDAHO THAT THE SALE OR LEASE OF WATER IS CRITICAL TO THE EFFICIENT MANAGEMENT OF THE STATE'S WATER RESOURCES. USE OF THE WATER SUPPLY BANK CREATED BY IDAHO CODE 42-1761 SHALL BE ENCOURAGED.

As the state approaches the situation where little or no water is available for new appropriations, the Water Supply Bank affords the most efficient mechanism for the sale or lease of water. By aggregating water available for sale or lease, the water supply bank can supply the water needs of many potential users. The Water Resource Board has adopted rules and regulations governing the sale or lease of water through the Water Supply Bank.



POLICY 4C - *Federal Reservoirs Water Allocation*

IT IS THE POLICY OF IDAHO THAT AN AGREEMENT SHOULD BE ESTABLISHED WITH FEDERAL AGENCIES TO ALLOW REVIEW BY THE IDAHO WATER RESOURCE BOARD OF ANY PROPOSED ALLOCATION OF WATER IN EXCESS OF 500 ACRE- FEET ANNUALLY FROM FEDERAL RESERVOIRS.

Potential reservoir	Stream
Upper Snake	
Lynn Crandall	Snake River
Warm River	Henry's Fork
Driggs	Teton River
Teton	Teton River
Medicine Lodge	Medicine Lodge
Birch Creek	Birch Creek
Boulder Flats	Big Wood River
Southwest Idaho	
Grindstone	**Snake River (off-stream)**
Sailor Creek	**Snake River (off-stream)**
Gold Fork	**Gold Fork Payette River**
Twin Springs	**Boise River**
Lost Valley (exist.)	**Lost Valley Creek**
Galloway	**Weiser River**
Monday Gulch	**Little Weiser River**
Goodrich	**Weiser River**
Tamarack	**Weiser River**
Lower Snake	
Challis	**Challis Creek**
Panhandle Basin	
Low Katka	**Kootenai River**
Bear River Basin	
Caribou	**Bear River**
Oneida Narrows	**Bear River**
Plymouth	**Malad River**

Table 6.

The Idaho Water Resource Board would be guided in such a review by the conformance of the proposed allocation with the State Water Plan. Such actions are necessary if the State Water Plan is to be implemented in a coordinated manner. This policy would not encroach upon the authority of the federal agencies to operate the facilities according to congressional authorization but would help to ensure that their actions occur with state review and concurrence. This procedure has been followed informally in the past, but should be formalized to avoid misunderstanding and identify the basis of such review for the interested public.

POLICY 4D - *Protection of Potential Reservoir Sites*

IT IS THE POLICY OF IDAHO THAT POTENTIAL RESERVOIR SITES BE PROTECTED FROM SIGNIFICANT LAND USE CHANGE. WHILE RECOGNIZING THE RIGHTS OF EXISTING LAND OWNERS, IMPROVEMENTS AND NEW DEVELOPMENT WITHIN POTENTIAL RESERVOIR SITES WHICH COULD INCREASE RESERVOIR COSTS SIGNIFICANTLY SHOULD BE DISCOURAGED.

Future economic development and population growth will bring additional demands on Idaho's water resources. At this time, only the Galloway site on the Weiser River is being considered for development. In future years economic and environmental criteria may change to the point that reservoir construction will play an important role in managing the water resources of the state. The Department of Water Resources should keep a current list of potential reservoir sites which should be protected by the state. See Table 6. (Page 31).

In addition, the Idaho Water Resource Board urges the State of Wyoming to protect the Thomas Fork and Smiths Fork sites located in that state. Both of these sites could provide valuable upstream storage on Bear River which would provide water for additional irrigation and development in Idaho and for water quality improvement in Bear Lake.

POLICY 4E - *Hydropower Siting*

IT IS THE POLICY OF IDAHO THAT A STATE SITING PROCESS BE ESTABLISHED FOR HYDROPOWER DEVELOPMENT TO ENSURE THAT THE PUBLIC INTEREST IS RECOGNIZED.

There is increasing interest on the part of governmental entities and private investors in increasing the capacity of existing hydropower plants and the construction of new facilities. The Federal Energy Regulatory Commission and the Idaho Public Utilities Commission have varying regulatory authorities over new and existing hydropower facilities. Neither agency considers the optimum use of the state's water resources in its regulatory processes.

The Idaho Water Resource Board is charged with the responsibility for planning for the optimum development of the water resources of the state through policies and water allocations which reflect the public interest. The Water Board should adopt criteria for new hydropower development to ensure that the wishes of the citizens of the state are met while providing for orderly use of the state's water resources.

POLICY 4F - *Conservancy Districts*

IT IS THE POLICY OF IDAHO THAT, WHERE PRACTICAL, THE TOTAL WATER NEEDS OF A GEOGRAPHIC AREA BE SATISFIED BY A LEGAL ENTITY HAVING THE AUTHORITY AND RESPONSIBILITY TO ADDRESS ALL WATER NEEDS IN A COMPREHENSIVE MANNER.

Under present law the boundaries of irrigation districts, recharge districts, drainage districts, and flood control districts need not coincide. Since coordinated planning is rarely undertaken, the possibility exists for good faith actions to have adverse impacts or be at cross purposes with the aims of other management entities.

A water conservancy district should have the authority to own and operate storage, diversion, and delivery systems to provide the total water needs of large geographic parts of the state (e.g., river basins, single or multi-county areas). It should have authority to levy taxes on all property benefited by a program or project, and to bond and contract for project construction. Water could be supplied for irrigation, domestic, municipal, industrial, recreation, and other purposes. Such districts could also sponsor groundwater recharge projects, distributing the costs over the affected area. They could also integrate the use of the surface -and ground- water resources of a river basin for more efficient use of the total resource.

POLICY 4G - *Energy Plan*

IT IS THE POLICY OF IDAHO THAT THE STATE ENERGY PLAN SET FORTH POLICIES FOR ENERGY USE AND DEVELOPMENT IN THE STATE AND THAT THE PLAN BE UPDATED AT LEAST EVERY FIVE YEARS.

The Idaho State Energy Plan was finalized in February 1982. It was adopted by the Water Resource Board on June 3, 1983, as being the effective implementation of Policy 13 of the original State Water Plan which called for the formulation of a state energy plan.

No provisions were made for updating the plan. For the plan to be effective, the policies it contains must reflect current thinking on energy issues.

POLICY 4H - *Funding Program*

IT IS THE POLICY OF IDAHO THAT STATE FUNDS BE AVAILABLE TO SUPPLEMENT PRIVATE AND FEDERAL MONEYS IN THE DEVELOPMENT, PRESERVATION, CONSERVATION, AND RESTORATION OF THE WATER AND RELATED LAND RESOURCES OF THE STATE.

The Revolving Development Fund, the Energy Development Study Fund, the Water Management Account, and the Conservation and Development Trust Account are mechanisms for partially achieving the goals of this policy. The funds or accounts rely on the appropriation of moneys from the state's general fund. They have not been funded with sufficient moneys to have a highly visible impact on the land and water resources of the state.

The language creating the above funds and accounts should be amended. In almost every case it is overly restrictive, providing for the expenditure of moneys on development only. Money should be made available for projects that would conserve, preserve, or restore the water resources of the state and their related lands.

POLICY 4I - *Planning Program*

IT IS THE POLICY OF IDAHO THAT WATER MANAGEMENT PLANS BE PREPARED FOR THE INDIVIDUAL RIVER BASINS.

The policies in the State Water Plan which address water use in the Snake River, Panhandle and the Bear River basins establish guidelines for water use. Water management plans should be prepared for each of the three basins, and where necessary, areas within a basin to evaluate the specific interrelationship between ground and surface water and provide for the orderly development of the state's water resources.

The existence of a comprehensive plan for improving, developing, or conserving a waterway frequently is an important factor in federal management agency decisions. By developing such plans the state assures that the state's interests will be considered.

POLICY 4J - *Cooperate with Indian Tribes*

IT IS THE POLICY OF IDAHO TO NEGOTIATE AND COOPERATE WITH THE INDIAN TRIBES IN THE IDENTIFICATION OF THEIR RESERVED WATER RIGHTS.

Any realistic effort to manage the water resources of the state requires that water for Indian and non-Indian uses be integrated. Water delivery can only be assured if all rights are identified and prioritized.

POLICY 4K - *Determination of Federal Reserved Rights*

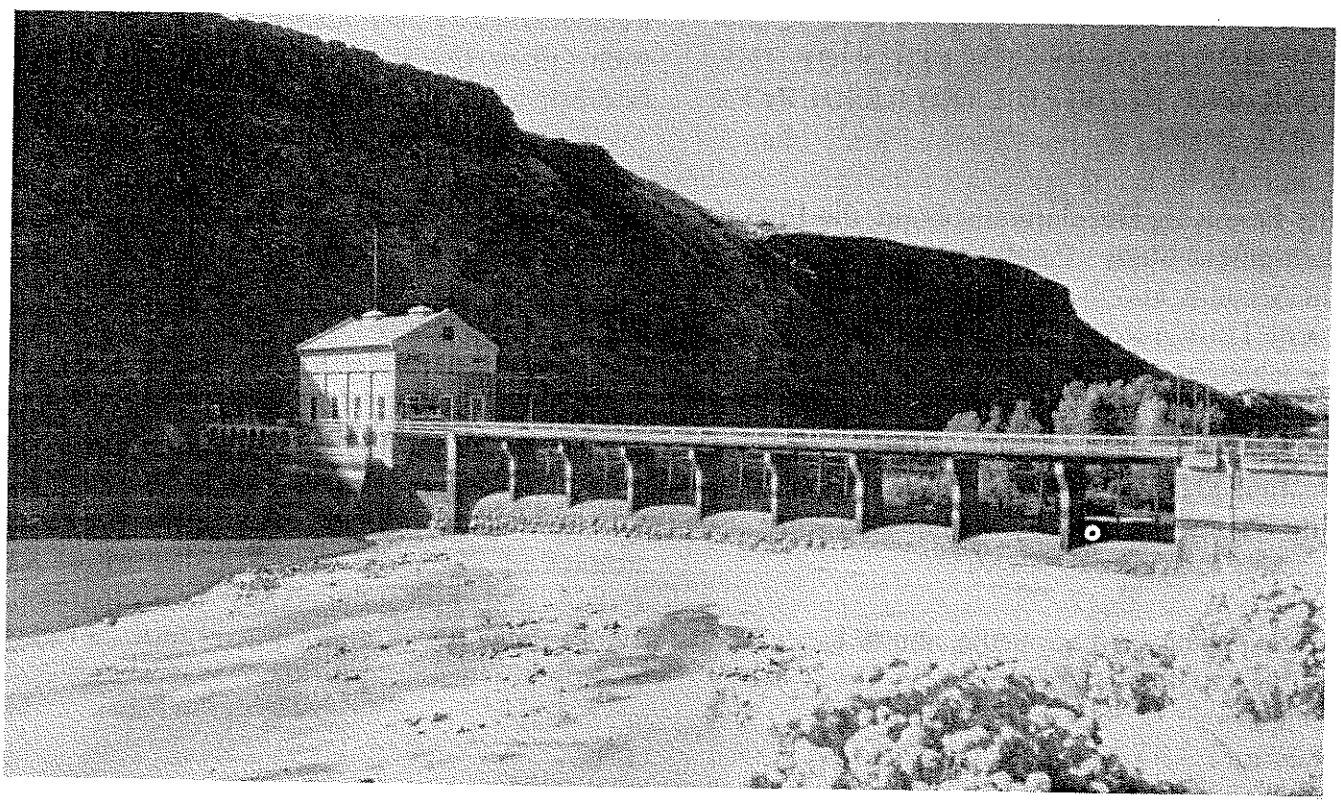
IT IS THE POLICY OF IDAHO TO QUANTIFY ALL FEDERAL RESERVED WATER RIGHTS WITHIN THE STATE THROUGH NEGOTIATIONS AND TO PLAN FOR THE PROTECTION OF EXISTING STATE WATER RIGHTS THROUGH RESOURCE MANAGEMENT AND PROJECT DEVELOPMENT.

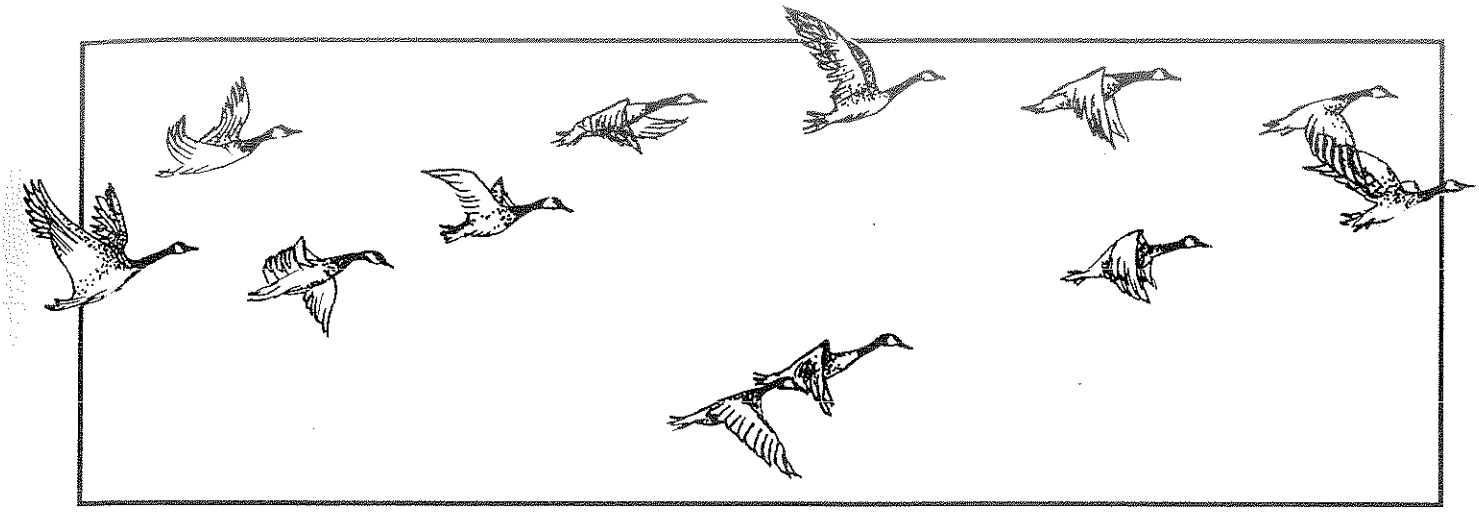
There are federal reserved water rights in Idaho that must be identified and quantified to make it possible to plan for continued use of existing water rights and future uses found to be in the public interest. As a part of each effort to identify and quantify federal reserved water rights the protection of existing water rights must be considered and a management plan or development plan for that protection developed.

POLICY 4L - *Coordinated Use*

IT IS THE POLICY OF IDAHO THAT, WHEN PUBLIC INTEREST CRITERIA ARE MET, OPTIMUM BENEFICIAL USE OF A WATER RESOURCE SHALL BE ENCOURAGED. OPTIMUM BENEFICIAL USE SHALL BE ACHIEVED THROUGH THE INTEGRATION AND COORDINATION OF USE OF WATER AND BY AUGMENTATION OF EXISTING SUPPLIES.

A criterion the Idaho Water Resource Board must use in formulating water policy (Idaho Code 42-1734(b)(2)) is that, if in the interest of the state, optimum beneficial use shall be achieved by the integration and coordination of water use and by the augmentation of existing supplies. The integration and coordination of use of water, while recognizing existing water rights, will frequently require the exchange of water between right holders in order to make use of the most efficient points or sources of diversion. The Department of Water Resources should use this criterion in the water allocation process.





River Basins Group

POLICY 5A - Snake River Basin

IT IS THE POLICY OF IDAHO THAT THE GROUND WATER AND SURFACE WATER OF THE BASIN BE MANAGED TO MEET OR EXCEED A MINIMUM AVERAGE DAILY FLOW OF ZERO MEASURED AT THE MILNER GAUGING STATION, 3,900 CFS FROM APRIL 1 TO OCTOBER 31 AND 5,600 CFS FROM NOVEMBER 1 TO MARCH 31 MEASURED AT THE MURPHY GAUGING STATION, AND 4,750 CFS MEASURED AT WEISER GAUGING STATION. A MINIMUM AVERAGE DAILY FLOW OF 5,000 CFS AT JOHNSON'S BAR SHALL BE MAINTAINED AND AN AVERAGE DAILY FLOW OF 13,000 CFS SHALL BE MAINTAINED AT LIME POINT (RIVER MILE 172) A MINIMUM OF 95 PERCENT OF THE TIME. LOWER FLOWS MAY BE PERMITTED AT LIME POINT ONLY DURING THE MONTHS OF JULY, AUGUST, AND SEPTEMBER.

The minimum flows established for the Snake River at the Murphy and Weiser gauging stations are management constraints; they further insure that minimum flow levels of Snake River water will be available for hydropower, fish, wildlife and recreational purposes. The establishment of a zero minimum flow at the Milner gauging station allows for existing uses to be continued and for some new uses above Milner. It also means that river flows downstream from that point to Swan Falls Dam may consist almost entirely of ground-water discharge during portions of low-water years. The Snake River Plain aquifer which provides this water must therefore be managed as an integral part of the river system.

The minimum flows established for Johnson's Bar and Lime Point are contained in the original Federal Power Commission license for the Hells Canyon hydropower complex. By adopting these flows, the Idaho Water Resource Board recognizes the importance of minimum flows to downstream uses and makes their maintenance a matter of state water policy. Article 43 of the power license provides that:

"The project shall be operated in the interest of navigation to maintain 13,000 cfs flow in the Snake River at Lime Point (river mile 172) a minimum of 95 percent of the time, when determined by the Chief of Engineers to be necessary for navigation. Regulated flows of less than 13,000 cfs will be limited to the months of July, August, and September,

during which time operation of the project would be in the best interest of power and navigation as mutually agreed to by the Licensee and the Corps' of Engineers. The minimum flow during periods of low flow or normal minimum plant operations will be 5,000 cfs at Johnson's Bar . . . ."

Snake River flows above the hydropower right at any Idaho Power facility are considered unappropriated and therefore are not held in trust by the state. This distinction is further addressed in Policy 5B.

POLICY 5B - *Snake River Trust Water*

IT IS THE POLICY OF IDAHO THAT WATER HELD IN TRUST BY THE STATE PURSUANT TO IDAHO CODE 42-203B BE REALLOCATED TO NEW USES IN ACCORDANCE WITH THE CRITERIA ESTABLISHED BY IDAHO CODE 42-203A AND 42-203C.

The agreement between the state of Idaho and Idaho Power Company dated October 25, 1984 provides that Idaho Power's claimed water right of 8,400 cubic feet per second (cfs) at the Swan Falls Dam may be reduced to either 3,900 cfs or 5,600 cfs during set periods of the year. The claimed water right of 8,400 cfs is deemed appropriated and the amount above the minimum flow established in Policy 5A up to the 8,400 cfs is held in trust by the state. The agreement further provides that Idaho Power's claimed water rights at facilities upstream from Swan Falls shall be considered satisfied when the company receives the minimum flow specified in Policy 5A at the Murphy gauging station. The 8,400 cfs claim of the power company has not historically been available during summer months.

The 8,400 cfs claimed right is reduced by the agreement to that flow available after satisfying all applications or claims that demonstrate water was beneficially used prior to Oct. 1, 1984, even if such uses would violate the minimum flows established in Policy 5A. Any remaining water above these minimum flows may be reallocated to new uses by the state providing such use satisfies existing Idaho law. The criteria in Idaho Code 42-203C supplement Policy 1B of the Water Plan which urges that conformance with the State Water Plan be considered evidence of the public interest. The Idaho Water Resource Board recognizes that the specific criteria for defining public interest established by Idaho Code 42-203C are to be used in addition to the criteria set forth in Policy 1B for the reallocation of hydropower rights. Exempted from the public interest criteria in Idaho Code 42-203C are permitted uses for which beneficial use prior to July 1, 1985 can be proved.

POLICY 5C - *Snake River DCMI (Domestic, Commercial, Municipal and Industrial)*

IT IS THE POLICY OF IDAHO THAT 150 CFS OF WATER FOR CONSUMPTIVE PURPOSES HELD IN TRUST BY THE STATE PURSUANT TO POLICY 5B BE REALLOCATED TO MEET FUTURE DCMI USES IN ACCORDANCE WITH STATE LAW.

While most DCMI uses are nonconsumptive or only partially consumptive, future growth in Idaho's population and commercial and industrial expansion will require an assured supply of water.

A continuous flow of 150 cfs provides approximately 108,600 acre-feet of water per year. This volume of water is assigned to consumptive uses within the basin for domestic, commercial, municipal, and other industrial purposes. Industrial purposes include processing, manufacturing, research and development, and cooling.

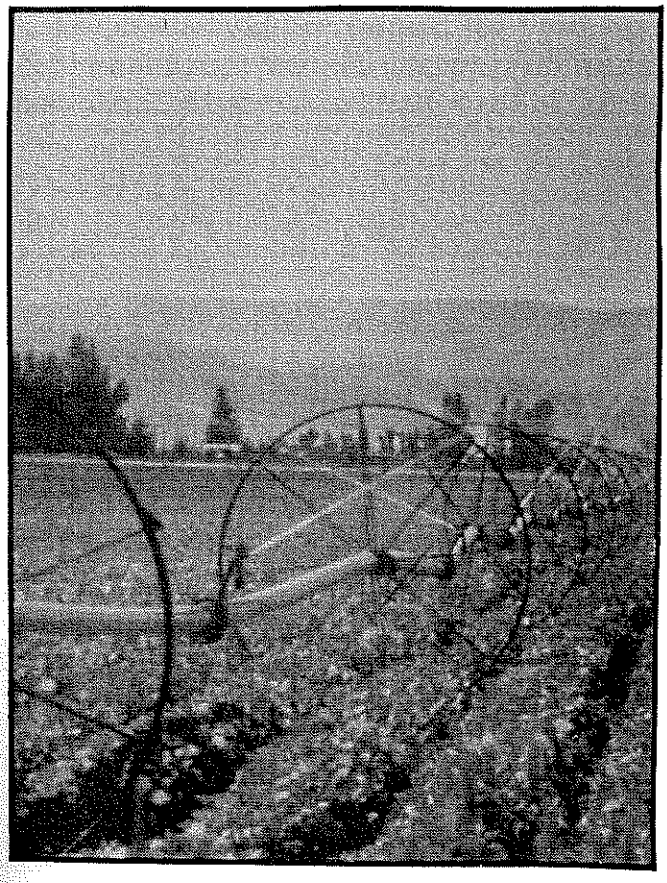
Adequate records should be kept and reviewed so that this reallocation can be modified as necessary. Increases in the DCMI allocation, if necessary, will reduce the amount of water available for agricultural uses. The allocation

will be reviewed as part of every Water Plan update.

POLICY 5D - *Snake River Agriculture*

IT IS THE POLICY OF IDAHO THAT APPROPRIATED WATER HELD IN TRUST BY THE STATE PURSUANT TO POLICY 5B, LESS THE AMOUNT OF WATER NECESSARY TO PROVIDE FOR PRESENT AND FUTURE DCMI USES AS SET FORTH IN POLICY 5C, SHALL BE AVAILABLE FOR REALLOCATION TO MEET NEW AND SUPPLEMENTAL IRRIGATION REQUIREMENTS WHICH CONFORM TO IDAHO CODE 42-203A, 203B, 203C, AND 203D.

This policy allows for new and supplemental agricultural development through the reallocation of water held in trust by the state. The 1982 State Water Plan allocated water for a minimum level of new irrigation development of 850,000 acres plus supplemental water for 225,000 acres by the year 2020 over that which existed in 1975. This policy rescinds the 1982 allocations since there are no acres specified in that the type, location, and amount of use is unknown as is the effect of the evaluation called for in Policy 5B prior to reallocation.



During the eight-year period from 1975 to 1983, about 140,000 acres of new development occurred within the basin. While the amount of new acreage varied significantly from year to year, the average was approximately 17,500 acres. Data are not available to estimate the number of acres that received supplemental water during this period.

Idaho Code Section 42-203C limits the rate of new development in the basin above Murphy gauging station to 80,000 acres in any four year period. Therefore, the maximum development to the year 2020 above Murphy gauging station assuming no water supply constraint is 700,000 acres. Criteria placed on the reallocation of hydropower rights, limits on the rate of new development, plus the requirement that approval of new storage projects that divert water between November 1 and April 1 from the Snake River between Milner Dam and Murphy gauging station must mitigate the impact of diversions on hydropower generation (Policy 5I), will undoubtedly limit development to less than 700,000 acres.

POLICY 5E - *Snake River Hydropower*

IT IS THE POLICY OF IDAHO THAT HYDROPOWER USE BE RECOGNIZED AS A BENEFICIAL USE OF WATER, AND THAT DEPLETION OF FLOWS BELOW THE MINIMUM AVERAGE DAILY FLOWS SET FORTH IN POLICY 5A IS NOT IN THE PUBLIC INTEREST.

The 1982 State Water Plan allocated 170,000 acre-feet for consumptive use in cooling thermal power plants. By establishing a minimum daily

flow of 3,300 cfs at Murphy and 4,750 cfs at Weiser, stabilized flows were guaranteed for hydropower generation. The minimum daily flows for hydropower generation are now increased as stated in Policy 5A. In addition, this policy specifically recognizes hydropower generation as a beneficial use of water and acknowledges the public interest in maintaining the minimum river flow at key points. Any water depletion for thermal power generation would now come from block of water allocated to DCMI uses.

POLICY 5F - *Snake River Navigation*

IT IS THE POLICY OF IDAHO THAT WATER SUFFICIENT FOR COMMERCIAL AND RECREATIONAL NAVIGATION IS PROVIDED BY THE MINIMUM FLOWS ESTABLISHED FOR THE SNAKE RIVER.

Commercial navigation enroute to Lewiston via the Columbia River and Lower Snake River can be accommodated with the flows leaving Idaho in the Snake River at Lewiston. Above Lewiston, commercial and recreational navigation should be accommodated within the protected flows on the Snake River and tributary streams.

POLICY 5G - *Snake River Aquaculture*

IT IS THE POLICY OF IDAHO THAT WATER NECESSARY TO PROCESS AQUACULTURE PRODUCTS BE INCLUDED AS A COMPONENT OF DCMI AS PROVIDED IN POLICY 5C. THE MINIMUM FLOWS ESTABLISHED FOR THE MURPHY GAUGING STATION SHOULD PROVIDE AN ADEQUATE WATER SUPPLY FOR AQUACULTURE. IT MUST BE RECOGNIZED THAT WHILE EXISTING WATER RIGHTS ARE PROTECTED, IT MAY BE NECESSARY TO CONSTRUCT DIFFERENT DIVERSION FACILITIES THAN PRESENTLY EXIST.

Aquaculture can expand when and where water supplies are available and where such uses do not conflict with other beneficial uses. It is recognized, however, that future management and development of the Snake River Plain aquifer may reduce the present flow of springs tributary to the Snake River, necessitating changes in diversion facilities.

POLICY 5H - *Snake River Fish, Wildlife, and Recreation*

IT IS THE POLICY OF IDAHO THAT THE MINIMUM FLOWS ESTABLISHED UNDER POLICY 5A ARE SUFFICIENT AND NECESSARY TO MEET THE MINIMUM REQUIREMENTS FOR AQUATIC LIFE, FISH, AND WILDLIFE, AND TO PROVIDE WATER FOR RECREATION IN THE SNAKE RIVER BELOW MILNER DAM. STREAMFLOW DEPLETION BELOW THE MINIMUM FLOWS IS NOT IN THE PUBLIC INTEREST.

The policy reiterates the view that the minimum flows established in Policy 5A will protect fish, wildlife, aquatic life and recreation within the Snake River Basin at acceptable levels and that this is in the public interest. State law provides for the Water Resource Board to apply for a water right for unappropriated water for minimum flows necessary "for the protection of fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation and navigation values, and water quality." The minimum stream flow legislation, where appropriate, can be used on the Snake River and tributary streams to enhance these values.

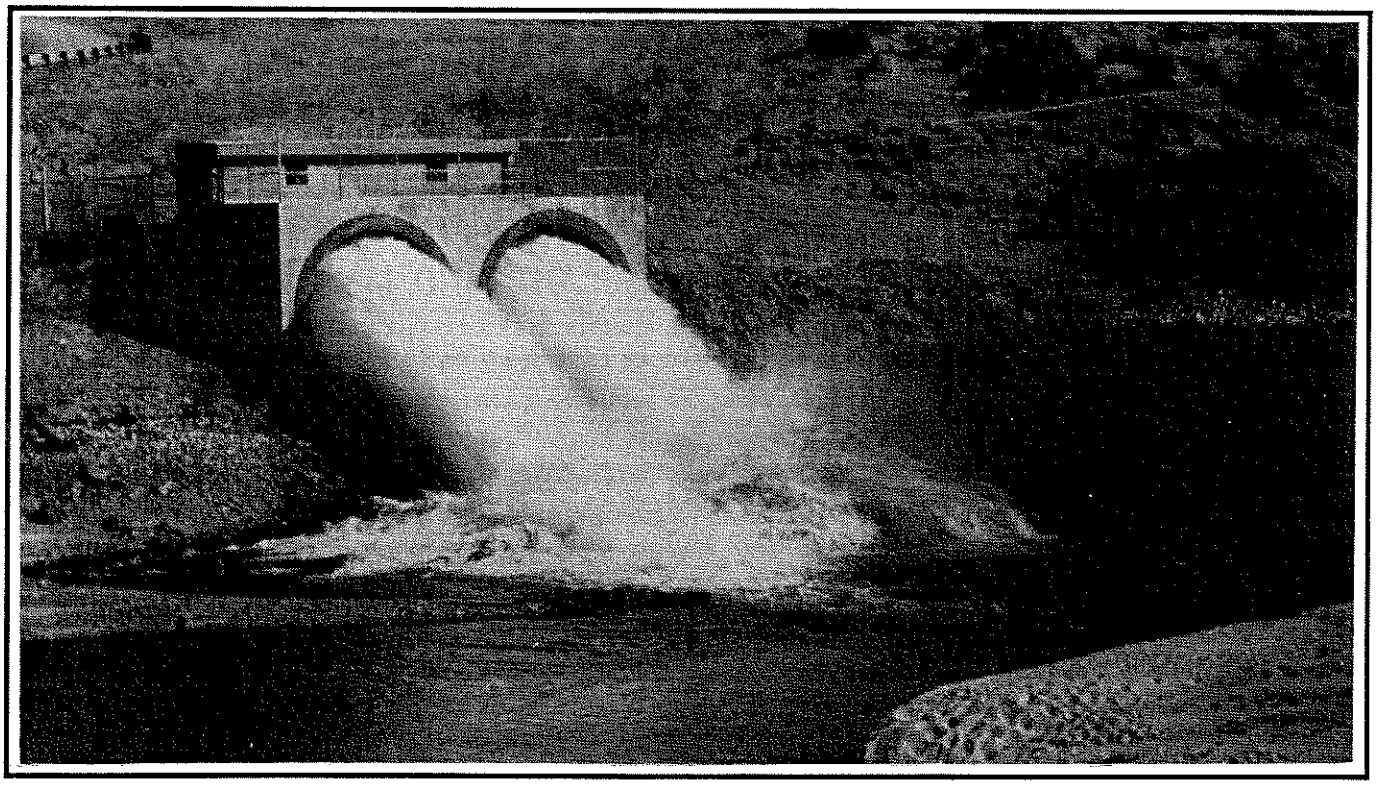
POLICY 5I - *Snake River New Surface Storage*

IT IS THE POLICY OF IDAHO THAT APPLICATIONS FOR LARGE SURFACE STORAGE PROJECTS UPSTREAM FROM THE MURPHY GAUGE BE APPROVED WHEN IT IS DETERMINED THAT THOSE PROJECTS ARE NEEDED TO MEET NEW USES AFTER CONSIDERATION OF THEN EXISTING PUBLIC INTEREST CRITERIA. APPROVAL OF NEW STORAGE PROJECTS THAT WOULD DIVERT WATER FROM THE MAINSTEM OF THE SNAKE RIVER BETWEEN MILNER AND THE MURPHY GAUGING STATION DURING THE PERIOD NOVEMBER 1 TO MARCH 31 SHOULD BE COUPLED WITH PROVISIONS THAT MITIGATE THE IMPACT SUCH DEPLETIONS WOULD HAVE ON THE GENERATION OF HYDROPOWER.

This policy addresses the approval of new surface storage in the basin, but does not apply to already approved projects. A study of all existing social, legal and economic constraints on allocation and use of water in existing storage facilities will be made to determine whether new storage projects are needed. An attempt will be made to modify those constraints that are found to prevent reasonably full use of existing storage. Such study shall not delay applications for new storage projects. In addition, permits for these new projects may be issued during the study period, if they are found to be in the public interest. Public interest as used within this policy does not include the provisions of Section 42-203C, Idaho Code.

"Large surface storage projects" are those which have the potential for significantly impacting existing uses. Projects for which approval is required under Section 42-1737, Idaho Code, would be such projects. Smaller projects could also have significant impacts, but stock water ponds and waste water re-pumping ponds would not be included, for example.

New storage projects that would divert water from the Snake River between the Milner and Murphy gauging stations during the November 1 to April 1 period are subject to the requirement that the impact such depletions have on hydropower generation is mitigated. Mitigate is defined as causing to become less harsh or hostile, and is used here rather than compensate which connotes equivalence. Methodology will be



developed by the Water Resource Board for use in calculating impacts on hydropower generation.

POLICY 5J - *Snake River Stored Water for Management*

IT IS THE POLICY OF IDAHO THAT RESERVOIR STORAGE BE ACQUIRED IN THE NAME OF THE IDAHO WATER RESOURCE BOARD TO PROVIDE MANAGEMENT FLEXIBILITY IN ASSURING THE MINIMUM FLOWS DESIGNATED FOR THE SNAKE RIVER.

The Idaho Department of Water Resources is expected to allocate the unappropriated waters and the power rights held in trust by the state in such a manner as to assure minimum flows at designated key points on the Snake River. The impacts of ground-water use within the basin on the timing of aquifer discharge to the rivers is such that at some time stored surface water may be necessary to maintain the designated minimum flows.

At this time there is unallocated reservoir storage within the basin which could be acquired by the state. These waters would provide flexibility for management decisions and provide assurance that the established minimum flows can be maintained. The state should act to acquire sufficient reservoir storage for this purpose. In the future no unallocated stored water will be available, and it may be impossible to acquire sufficient water to satisfy river demands. Until such time as these waters are needed for management purposes, they shall be credited to the Water Supply Bank and funds obtained from their lease or sale shall accrue to the Water Management Account.

POLICY 5K - *Water Quality of the Snake Plain Aquifer*

IT IS THE POLICY OF IDAHO THAT THE STATE SHOULD DEVELOP AND ADMINISTER A PROGRAM TO PROTECT THE QUALITY OF THE WATER IN THE SNAKE PLAIN AQUIFER.

The Snake Plain Aquifer, consisting of basalt and interflow sediments, is a major source of irrigation and drinking water for some 200,000 Idaho residents. The permeability of the aquifer is principally a function of the density of fractures within the basalt. Very little pollution attenuation occurs when water flows through fractures in basalt, and the soil cover over much of the Snake Plain Aquifer is thin to nonexistent. For these reasons, the Snake Plain Aquifer has been proposed for federal designation as a sole-source aquifer.

Because of the importance of this aquifer to the economy of Idaho, the state should take the lead in protecting the quality of water in the aquifer. As a first step, the Department of Health and Welfare has published a Snake Plain Management Strategy. Legislation should be adopted to protect the quality of the water in the aquifer.

POLICY 6A - **Bear River Basin**

IT IS THE POLICY OF IDAHO THAT WATER USE AND MANAGEMENT IN THE BEAR RIVER BASIN CONFORM TO THE ALLOCATIONS SET FORTH IN THE BEAR RIVER COMPACT (I.C. 42-3402).

The Bear River Compact has been in effect since 1958, and water allocations for the entire basin were adopted in 1978. The compact must be reviewed at intervals of less than twenty years and may be amended during the review process. The goal of Idaho's representatives on the com-

mission should be to seek as much of the unconsumed flow entering the Great Salt Lake as possible for Idaho while negotiating in good faith with the other states.

POLICY 6B - *Bear Lake*

IT IS THE POLICY OF IDAHO TO PROTECT AND WHENEVER POSSIBLE IMPROVE THE QUALITY OF THE WATER IN BEAR LAKE.

The Bear River Compact specifies how Bear Lake water shall be used for irrigation and hydropower generation, but does not address the issue of water quality. Concern has developed that eutrophication is being accelerated by operational practices at the lake. In addition to its aesthetic and fishery values, as a major tourist attraction the lake with continued good quality water is an economic resource of steadily increasing value. Money spent to improve water quality is money invested in the economic future of the region and the state.

POLICY 6C - *Bear River Additional Projects*

IT IS THE POLICY OF IDAHO TO ENCOURAGE ADDITIONAL PROJECTS FOR THE DEVELOPMENT OF THE WATER RESOURCES OF THE BASIN WITHOUT REGARD TO STATE BOUNDARIES.

In order to obtain the maximum beneficial use of water within the basin it may be necessary to ignore state boundaries, providing that water rights generated by such projects comply with the basic allocations of the compact. The compact provides for a signatory state to construct storage facilities in another state. Headwater storage such as that proposed on the Smiths Fork in Wyoming might improve water quality in Bear Lake and have a positive impact on water levels in the Great Salt Lake -- reasons for Utah and Idaho to consider constructing storage in Wyoming. The state of Idaho should participate with Wyoming and Utah in determining the feasibility of the Smiths Fork Reservoir project to provide for additional irrigation and other uses in Idaho.

POLICY 7A - ***Panhandle Basins***

IT IS THE POLICY OF IDAHO THAT THE GROUND AND SURFACE WATERS OF THE IDAHO PANHANDLE BE MANAGED TO PRESERVE THE ENVIRONMENTAL QUALITY OF THE REGION. SOME INCREASE IN CONSUMPTIVE USE MUST OCCUR TO PROVIDE FOR POPULATION EXPANSION AND ECONOMIC DEVELOPMENT.

While appearing water rich in comparison to the rest of the state, the water resources of the Idaho Panhandle are finite, and in some areas are fully utilized. Water is the key to the continued economic development in the region. The Water Board places a high priority on maintaining the quality of the water resource base.

POLICY 7B - Panhandle Agricultural Water

IT IS THE POLICY OF IDAHO THAT ADDITIONAL WATER BE MADE AVAILABLE FOR IRRIGATED AGRICULTURE IN THE PANHANDLE. A COMBINED NET DEPLETION OF 200 CFS APPEARS PRUDENT AT THIS TIME.

An original objective of the State Water Plan was to seek an orderly growth of agricultural production at a rate sufficient to maintain the state's 1974 share of the national and international market. Agriculture is the major industry of the state, and Idaho provides an important share of the nation's food production. The Water Board believes there is general support by the people of the state for an orderly increase in agricultural production, and wishes to insure the availability of water for this purpose.

POLICY 7C - *Panhandle DCMI*

IT IS THE POLICY OF IDAHO TO PROVIDE WATER FOR NEW DOMESTIC, COMMERCIAL, MUNICIPAL AND INDUSTRIAL USES. A DEPLETION OF 14 CFS IS ALLOCATED FOR THESE PURPOSES.

The population of the Panhandle Basins is projected to increase by approximately 16 percent by the year 2010 (Population and Employment Forecast, State of Idaho 1985-2010, June 1985). Based on current water-use data for the region, an allocation of 14 cfs for consumptive purposes should be sufficient for many years beyond 2010. Any water depletion for thermal power generation would come from this DCMI reserve. This allocation will be reviewed as part of every Water Plan update.

POLICY 7D - *Panhandle Navigation*

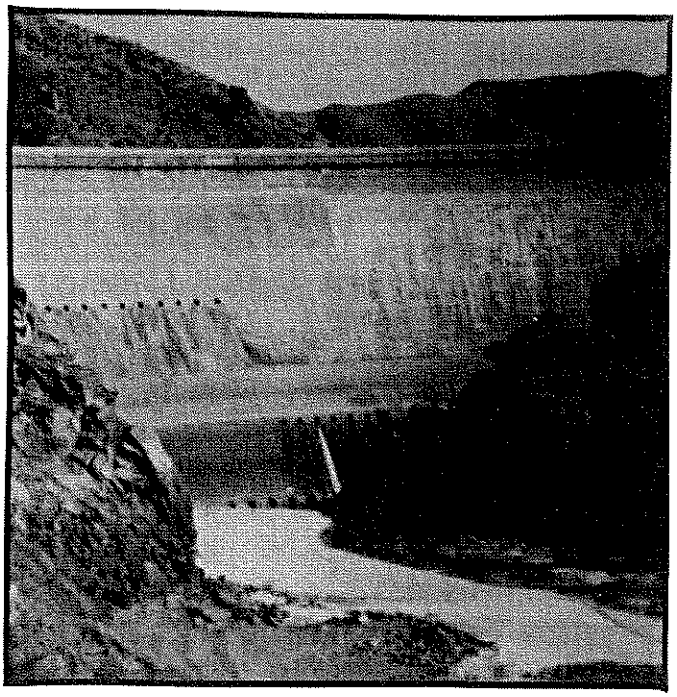
IT IS THE POLICY OF IDAHO THAT WATER SUFFICIENT FOR COMMERCIAL AND RECREATIONAL NAVIGATION BE MAINTAINED IN THE STREAMS AND LAKES OF THE IDAHO PANHANDLE.

Water for navigation is not a significant problem at this time. If such appropriation appeared necessary, the minimum stream flow program can be used to appropriate water to provide a minimum flow or lake level for the protection of navigation and transportation. Navigation interests are further protected in that all new water appropriations must be in the public interest and an adverse effect on navigation would rarely be in the public interest.

POLICY 7E - *Panhandle Fish, Wildlife and Recreation*

IT IS THE POLICY OF IDAHO TO PROVIDE SUFFICIENT WATER TO MEET THE MINIMUM REQUIREMENTS FOR AQUATIC LIFE, FISH AND WILDLIFE, AND TO PROVIDE FOR RECREATION IN THE PANHANDLE BASINS.

The minimum stream flow program provides the Idaho Water Resource Board with the authorities necessary to appropriate water for the purposes of this policy. Several streams in the Panhandle Basins have been examined for inclusion in the Water Board's minimum flow program. As water consumption increases in the region, the minimum stream flow program will become increasingly important in the water rights picture of the Panhandle Basins.



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