

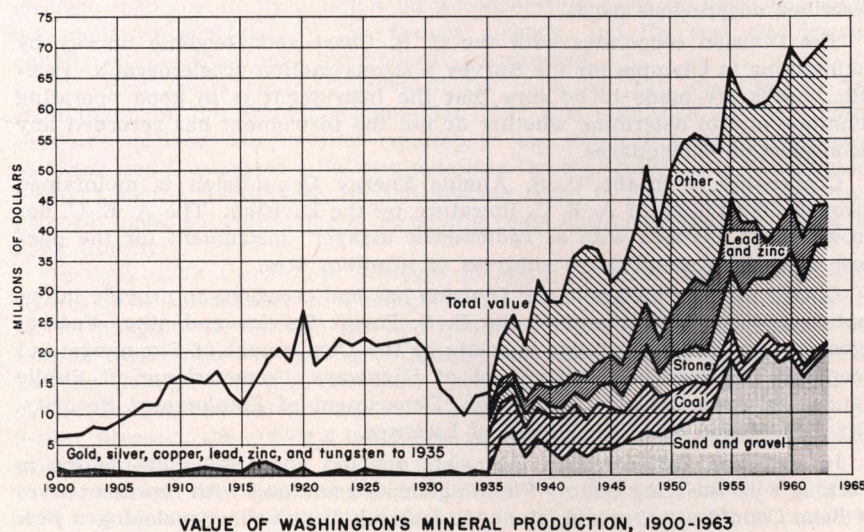
PART II

MINERAL INDUSTRY OF WASHINGTON

VALUE OF MINERAL PRODUCTION

The wealth of the world is derived from the earth—indirectly in the form of agricultural and forest products, and directly and by far most importantly in the form of mineral products.

The mineral industry of Washington comprises an important part of the overall economy of the State—more than is commonly recognized. In comparison with the other extractive industries in the State, mining in 1963 produced minerals having a raw product value of \$71,431,000^① which is more than one-tenth of the value of unprocessed agricultural products for that year, about one-fourth of the value of the logging industry's output, and more than three times the value of the products of the commercial fisheries. Likewise, the value of mineral production in Washington exceeded that of Oregon and Alaska during 1963 by about \$10 million each, and lagged behind Idaho by an equal amount. During the past 10 years (1954-1963), mineral production in Washington had a total value of \$633 million, an increase of more than \$190 million over production in the previous 10 years. With minor fluctuations, the State's mineral production has been steadily increasing since the depression year of 1933, when it was valued at just over \$9 million. This is shown graphically below.



King County was the leading mineral producer for the third year; however, Walla Walla, Stevens, Pend Oreille, Pierce, Spokane, and Skagit Counties each produced more than \$3 million worth of mineral products in 1963 (see table on page).

^① All mineral production figures in this report were compiled by the U. S. Bureau of Mines.

Minerals are divided into two broad groups: metallic and nonmetallic. The metallic minerals are mined for the metals that can be extracted from their ores. The nonmetallic, or industrial, minerals are not commonly mined for their elemental content but rather for some quality that they have in their natural state or acquire through beneficiation or treatment. The metallic minerals gold, silver, copper, lead, zinc, and uranium accounted for approximately 18 percent of the State's mineral production value during 1963. This is about a 1-percent increase over the 1962 total.

VALUE OF MINERAL PRODUCTION IN WASHINGTON, BY COUNTIES

[Thousand dollars]

County	1962	1963	Minerals produced in 1963 in order of value
Adams	\$ 194	\$ 229	Stone, sand and gravel
Asotin	16	19	Sand and gravel
Benton	108	179	Stone, sand and gravel
Chelan	1,043	①	Gold, stone, sand and gravel, silver, pumice
Clallam	242	279	Sand and gravel, stone
Clark	560	1,206	Stone, sand and gravel, clay
Columbia .....	.....	1,435	Sand and gravel, stone
Cowlitz	158	171	Stone, sand and gravel, clay
Douglas	217	791	Stone, sand and gravel
Ferry	①	①	Gold, silver, stone, copper, lead
Franklin	874	580	Sand and gravel, stone
Garfield	102	164	Stone
Grant	1,687	1,591	Diatomite, stone, lime, sand and gravel
Grays Harbor ..	352	338	Sand and gravel, stone
Island	393	①	Stone, sand and gravel
Jefferson	337	317	Stone, sand and gravel
King	11,363	9,418	Cement, sand and gravel, stone, coal, peat, clay
Kitsap	219	493	Sand and gravel, stone, peat
Kittitas	1,373	1,020	Coal, sand and gravel, stone
Klickitat	4,290	742	Stone, sand and gravel, carbon dioxide
Lewis	618	688	Stone, sand and gravel, coal, clay
Lincoln	318	122	Sand and gravel
Mason	15	133	Stone, sand and gravel
Okanogan	126	175	Stone, sand and gravel, silver, copper, gold, epsomite, lead
Pacific	303	387	Stone
Pend Oreille	①	①	Zinc, cement, lead, stone, sand and gravel, silver, copper
Pierce	3,402	4,470	Sand and gravel, lime, stone, clay
San Juan	5	①	Sand and gravel, stone
Skagit	3,323	3,754	Cement, olivine, stone, sand and gravel, talc and soapstone, peat

VALUE OF MINERAL PRODUCTION IN WASH. BY COUNTIES—continued
[Thousand dollars]

County	1962	1963	Minerals produced in 1963 in order of value
Skamania	341	87	Stone, sand and gravel, gold, silver, copper
Snohomish	4,106	2,313	Sand and gravel, stone, peat, clay, gold
Spokane	3,540	3,773	Cement, sand and gravel, stone, clay
Stevens	3,938	4,364	Uranium, magnesite, stone, sand and gravel, clay, grinding pebbles
Thurston	469	314	Stone, sand and gravel, coal, peat
Wahkiakum	116	46	Stone
Walla Walla	855	4,593	Sand and gravel, stone
Whatcom	①	①	Cement, stone, sand and gravel, clay
Whitman	437	1,085	Stone, sand and gravel
Yakima	1,798	1,563	Sand and gravel, lime, stone, clay
Undistributed② .	21,236	24,592	
Total	\$68,474	\$71,431	

① Figure withheld to avoid disclosure of individual company confidential data; included with undistributed.

② Includes value of mineral production that cannot be assigned to specific counties and values indicated by footnote 1.

MINING OPERATIONS

Minerals or mineral aggregates, including sand, gravel, and common stone, are produced from each of the 39 counties in the State. Commercial minerals other than sand, gravel, and common stone are produced from 19 counties. Metallic minerals are mined in 7 counties.

METALLIC MINING

The value of metallic mineral products increased about \$1 million over the 1962 total, to \$12.7 million in 1963.

Zinc and lead—Zinc production, valued at \$5.12 million for 1963, was greater than that of any other metal. This represents an increase of \$144,000 over the 1962 total. Lead production, with a total value of \$1.16 million, was slightly higher than in 1962. Only two large zinc properties were in operation—Pend Oreille Mines & Metals Company's Pend Oreille mine and the American Zinc, Lead & Smelting Company's Grandview mine, both in Pend Oreille County. In Washington, lead has been produced mainly as a byproduct of the big zinc operations. Only a few small properties were operated exclusively for their lead value.

Gold and silver—Gold and silver production attained a 4.6- and a 6-percent increase, respectively, over that of 1962. As in past years, Knob Hill Mines, Inc., in Ferry County, and L-D Mines (formerly Lovitt Mining Co.), in Chelan County, were the principal gold and silver producers. One additional lode property and one placer property reported production in 1963; however, their production represented only a very small fraction of the total value.

Lead-zinc properties produced 8 percent of the silver output, having an average of 5.6 ounces of silver recovered per ton of lead processed in 1963.

Uranium—Uranium concentrate (U_3O_8) production in 1963 was up 5.7 percent over the 1962 total, with a value of \$2.5 million. Dawn Mining Company continued to be the principal producer. In late 1963 the Midnite Company's mine was closed, but stockpiles of ore are sufficient to keep the mill at Ford operating through 1966, when the Atomic Energy Commission's uranium oxide purchasing contract is due to expire. The company reported substantial reserves at the mine for possible future operation.

Copper—Copper production showed a 10-percent decrease from that of 1962—only 37 tons were produced in 1963. Most of the metal was recovered as a byproduct of smelting of the lead-zinc ores from the two big Pend Oreille County mines. Small quantities of copper were mined from the Borderline No. 6 mine, in Okanogan County, and the Lucky Joe mine, in Pend Oreille County. Exploration of copper properties was being carried out in the northern Cascade Mountains by Bear Creek Mining Co. and Phelps Dodge Corp. Bear Creek was mapping and core drilling the Clipper claims, on the Middle Fork of the Snoqualmie River in King County, and Phelps Dodge was working in the Cascade Mountains northeast of Snoqualmie Pass.

Aluminum—One aluminum company continued exploration and research work on the ferruginous bauxite deposits in Cowlitz and Wahkiakum Counties during the biennium. These deposits conceivably may be the State's best iron ore reserve. The aluminum and iron content of these deposits is low, but the fact that these metals occur together may give the deposits enough value to render them economically workable.

NONMETALLIC MINING

Production of industrial minerals was valued at \$58.7 million in 1963. This was an increase of almost \$2.5 million over the 1962 total. Sand and gravel, clay, talc and soapstone, carbon dioxide, cement, lime, magnesite, and olivine all made production gains during 1963, whereas the output of coal, peat, stone, diatomite, and pumice fell slightly.

The coal industry in the State received a setback when the decision was made to utilize the waste heat at the Hanford atomic works for steam-electric generation, thus postponing construction of the proposed coal-fired steam-electric-generation plant in Kittitas County. Results of this change were the closure of the Northern Pacific Railway's Cle Elum mines and the abandonment of the hydraulic-coal-mining experiments.

Lime production during 1963 was more than twice that of 1962. The increase was due mostly to the opening of the Pacific Lime, Inc. plant in Tacoma. Limestone was calcined for captive use in sugar refineries and paper mills in the State. A substantial amount of lime is recycled at pulp mills.

Processed olivine sales were 44 percent greater than in 1962. Crude material was mined by Northwest Olivine Co., Pacific Olivine, and Scheel Stone Co., in Skagit County, and by Olivine Corp., in Whatcom County.

PETROLEUM AND NATURAL GAS

Exploration drilling was carried out during the biennium in Clallam, Grays Harbor, Jefferson, Lewis, Pacific, Pierce, Spokane, Stevens, Thurston, and Whatcom Counties. Permits were issued for 27 wells, and drilling footage totaled 79,515 feet.

An attempt to develop an underground natural gas storage reservoir in the Jackson Prairie area of Lewis County was begun during the biennium. Initially, 10 wells were drilled to depths between 1,500 and 3,000 feet, and by the end of the biennium gas was being taken from El Paso Natural Gas Co.'s pipeline and injected into the underground reservoir. The estimated storage capacity of the reservoir is 10 billion cubic feet, which, if the project is successful, will make it one of the largest subsurface gas storage reservoirs in the United States. The venture is being sponsored jointly by Washington Water Power Co., Washington Natural Gas Co., and El Paso Natural Gas Co.

DIVISION OF FLOOD CONTROL**BIENNIAL REPORT—JULY 1, 1962 TO JUNE 30, 1964**

GREGORY M. HASTINGS, *Supervisor*

STAFF

Gregory M. Hastings, Agricultural Engineer, B.S., M.S., P.E.

October 10, 1949-

Walter Bergstrom, Agricultural Engineer, B.S.

October 1, 1961-

Katy Franich, Secretary^①

May 1, 1963-

Although a vacancy for an engineer remained unfilled during the report period and, in fact, through the 1963 - 1965 biennium, due to departmental economy measures, the most conservative view of our future work load shows that maintenance of our present level of service is not possible without at least one additional engineer. The 1965 Legislature will be requested to approve filling our engineer vacancy.

In prelude to this biennial report, we re-emphasize the State's constitutional right, power, authority and responsibility to assume leadership in and diligently pursue a program of flood control by the following annotated excerpts^②:

. . . the protection of the public against floods by the state is of ancient origin, universal in its extent, and a practice of modern times. The principle and practice is expressed in state and federal statutes and is of direct concern to the Bureau of Reclamation, Soil Conservation Service and the U. S. Army Corps of Engineers through whom vast sums of public funds have been expended for that purpose. Not only is the practice authorized under the police power inherent in the state, but the principle finds expression in the U. S. Constitution, first by the Amendment of 1904 and again in broad, comprehensive and emphatic terms in the Conservation Amendment of 1917.

. . . the control and suppression of flood waters, a common enemy, is a public right and duty.

. . . taking jurisdiction over flood control matters involves a valid exercise of the state's police power.

. . . a state which fails to take some steps to prevent flood damages is derelict in its duty to its people.

We much recognize and appreciate the full devastating capabilities of all our rivers and seriously contemplate the certainty of floods of catastrophic proportions occurring within the indefinite future.

In 1935 the state accepted certain responsibilities for and declared its intent to exercise its police powers over matters of flood control.

In Chapter 159, Laws of 1935, the legislature stated "the prevention and alleviation of flood damages is a matter of public concern as affecting the health, safety and general welfare of the state, and therefore the state assumes

^① Secretary shared by Divisions of Flood Control and Power Resources.

^② Annotations, Constitutionality of Levee and Flood Control Acts, pages 1,274 to 1299, Vol. 70, American Law Reports.

full regulatory control over all waters in the state, subject to federal control of navigation, necessary to accomplish the purposes of this Chapter."

In Chapter 163, Laws of 1935, the legislature further declared "it is the purpose of the state in the exercise of its sovereign and police powers, and in the interests of public welfare, to establish a state policy for the control of floods to the extent practicable and by economically feasible methods."

By Chapter 204, Laws of 1941, as amended by Chapter 240, Laws of 1951 and Chapter 84, Laws of 1961, the legislature reaffirmed its 1935 declaration of policy for flood control and established a state participating flood control construction, maintenance and betterment policy. Chapter 204, Laws of 1941, as amended, also created the Division of Flood Control and the office of Supervisor of Flood Control. The Supervisor was charged, for the state, with the administration and enforcement of all laws relating to flood control, namely:

- I. Organization of flood control districts and, when organized, approve their construction plans, annual budgets, indebtedness and issuance and sale of district bonds (86.05 and 86.09 RCW):
- II. Full regulatory control over all waters in the state by:
 - A. Examination, approval or rejection of designs and plans for any structure, modified, operated or maintained upon the banks, in or over the channel, or over and across the flood plain of any stream or body of water through regulatory orders, designation of flood control zones, issuance of permits and abatement when in violation of any order or orders of the supervisor; and
 - B. Undertaking and conducting a careful and comprehensive study of the flood control needs of the state by consulting, considering and utilizing all available data and records gathered by all state departments and other agencies (counties, districts, cities, Corps of Engineers, Bureau of Reclamation, U. S. Geological Survey, U. S. Weather Bureau, etc.), and conducting such field investigations and surveys as may be deemed necessary (86.16 RCW):
- III. The establishment of a state policy for the control of floods to the extent practicable and by economically feasible methods by:
 - A. Formulating a comprehensive plan of flood control for the state in cooperation with the U. S. Army Corps of Engineers, various state agencies, flood control districts, and counties (86.16 & 86.24 RCW):
- IV. Cooperate and contract with any agency of the United States and/or with any flood control district, county, or counties acting jointly, for flood control purposes on behalf of any flood control districts, county or counties acting jointly (86.24 RCW):
- V. Administration of state participation in the cost of flood control maintenance through:
 - A. Written agreements with any municipal corporation subject to flood conditions (counties, towns, cities, diking, drainage, irrigation, flood control and soil conservation districts); and
 - B. Approval of such plans, construction and expenditures made therefor (86.26 RCW); and
- VI. Administration of Public Law 566, as amended, Watershed Protection and Flood Prevention Act, 1954, 83rd Congress, on behalf of State of Washington through:

- A. Receipt, consideration and approval or disapproval of applications from local, eligible organizations to the Secretary of Agriculture for technical and financial assistance in planning and carrying out works of improvement;
- B. Assisting State Conservationist, Soil Conservation Service, U. S. Department of Agriculture, in assigning priorities to such applications for planning by watershed work plan party (Soil Conservation Service team of technical specialists);
- C. Coordination of interdepartmental review and approval of final watershed work plans and designs; and
- D. Coordination of P. L. 566, this department's and all other water resource activities to the end that these federal services are most efficiently utilized for the greatest public benefit (By designation of the Governor on October 19, 1954).

Organization of Flood Control Districts, RCW 86.05 and 86.09

Districts organized under the 1935 Act, RCW 86.05:

1. Hoquiam, Grays Harbor County;
2. Shelton-Goldsborough, Mason County;
3. South Aberdeen, Grays Harbor County; and
4. Mill Creek, Walla Walla County.

District organized under the 1937 Act, RCW 86.09:

1. Upper Grays River, Wahkiakum County;
2. French Slough, Snohomish County;
3. Macaulay Creek, Whatcom County;
4. Marshland, Snohomish County;
5. Lower Dry Creek, Walla Walla County;
6. Lower Mill Creek, Walla Walla County;
7. Riverside, Okanogan County;
8. Nine Mile Creek, Okanogan County; and
9. Skokomish, Mason County.

With the exception of Shelton-Goldsborough, Lower Mill Creek and Skokomish districts, the remaining ten districts have continuously pursued a program of flood control construction, improvement and maintenance, with planning, designing and financing assistance in varying degree from the State, Soil Conservation Service and Corps of Engineers. The Skokomish District is holding its program in abeyance pending the completion of a formal project report by the Soil Conservation Service under Public Law 566.

Outstanding progress in carrying out flood control improvements under Public Law 566 has been accomplished by both Marshland and French Slough Flood Control districts during this report period. A summary of these activities statewide is given in the Small Watershed Activities section later in this report.

It was reported in the 1956-58 Biennial Report that the organization of the proposed Upper Yakima River Flood Control District had been defeated by a wide majority at the September 4, 1957 Election. Subsequently the U. S. Army Corps of Engineers made public its studies and conclusions concerning a federal flood control project on the area of river in question, generally between Thorp and Thrall.

The proposed project was found to be economically justified and was recommended for construction. This project was conditionally authorized by the 1950 Flood Control Act and was fully authorized by the Chief of Engineers on February 17, 1959, conditional upon certain local requirements being met, namely, assurances of local cooperation by sponsorship of the project by the county or flood control district. No local cash contribution would be required.

On July 14, 1959, the local flood control steering committee, headed by the Kittitas County Board of Commissioners, advised that they had failed to secure adequate signatures on a new district petition. Because of this failure and indication of public sentiment, Kittitas County was reluctant to sponsor solely the proposed federal project. On June 10, 1960, the Seattle District Engineer, Corps of Engineers, advised that, in compliance with the 1950 Flood Control Act, authority for this project will expire in 1965 unless, within that period, some responsible, local agency shall have provided satisfactory assurances that the non-federal requirements will be furnished.

One of the reasons for the lack of interest in the Corps of Engineers project was that the local citizens heard of plans by the Highway Department to construct Interstate Highway 90 through the flood plain area, thus, they believed, would generally solve the flood problem. Further study indicated that the highway is, in fact, planned for this area, but no flood control benefits are to be provided by that work. Realizing that the proposed highway could compound their problem, the residents submitted a third petition to organize a flood control district in May 1963.

The Division of Flood Control has carried the organization proceedings forward to the point where the boundary commission has tentatively set the district boundaries. Further, the Division of Flood Control has proposed to the local interests, Corps of Engineers and Highway Department that they combine their efforts toward one comprehensive plan which would provide equal or superior flood benefits, increased irrigation efficiencies, drainage, and a reserve floodway not contemplated or likely possible by either the highway or flood control plans alone. By designing the new highway fill to service as a levee (closing all presently planned fill openings between the river bridge and Wilson Creek bridge) the Corps of Engineers levee through this same section could be eliminated and six of the ten planned highway bridges, together with numerous drainage and irrigation crossings of the highway, could be eliminated. Such an efficient and comprehensive scheme of project combination would greatly reduce the cost to the taxpayers. However, local interests are raising objections already to this plan for two reasons:

1. The scheduling of the highway construction could possibly be delayed for a short time in order to effect the coordination needed; and
2. Residents who now claim vested rights to Yakima River water feel that changing their diversions to a secondary channel may require them to pump water, thus infringing on their present gravity rights.

Both of these problems could be solved without undo hardship on the area if the legislature would insist on coordination of the projects now proposed. The savings realized by combining is well worth the efforts.

As of this writing, the Corps of Engineers is making an economic study of the proposal and this department is requesting, through Congress, that the Corps of Engineers' authorization be extended in order to complete the study.

In addition to the Upper Yakima River petition, the Naches Valley residents have petitioned for a flood control district. Procedural steps to form this district are well under way, and an election to determine whether the district shall be formed is scheduled for September 1964.

Regulatory Control Over All Waters, RCW 86.16

The Division of Flood Control is solely concerned with the probable effect of proposed works and structures on the safe passage of flood waters, their probable influence on the regimen of streams and bodies of water and any adverse effect such proposed works and structures may have upon the security of life, health and property.

During 1935, the year of the Flood Control Zone law enactment, sixteen zones were established on as many of our major rivers, and within these zones no structures or works may be erected without first obtaining a permit from this division.

Modifications or reconstruction of existing structures or works, or the construction of new works or structures within these zones and without a permit or on any other stream in violation of any order of the Supervisor shall be presumed to be a public nuisance and may be abated in the manner provided by law.

During the ensuing twenty-nine years of the Zone Act's existence, no works have been abated nor have any orders of the Supervisor been appealed in Court.

For the report period sixty-five permits were issued on nine of the zoned rivers. A total of 644 permits have been issued since 1935. Numerous other investigations were made for works, structures and/or operations within and outside of the zones for which approval or recommendations were given and issuance of orders or permits were not required.

During the same period of time, the Fisheries and Game Departments wrote some 1,100 permits, which indicates that the Division of Flood Control, with only a two-man staff, cannot possibly carry out the provisions of RCW 86.16 in an adequate, reasonably prompt manner.

On July 14, 1960, Congress enacted Public Law 86-645 (Section 206, Flood Control Act of 1960) whereby the Corps of Engineers, U. S. Army, was authorized to "compile and disseminate information on floods and flood damages, including identification of areas subject to inundation by floods of various magnitudes and frequencies, and general criteria for guidance in the use of flood plain areas; and to provide engineering advice to local interests for their use in planning to ameliorate the flood hazard: Provided, that the necessary surveys and studies will be made and such information and advice will be provided for specific localities only upon the request of a state or a responsible local governmental agency and upon approval by the Chief Engineers."

Guide lines for implementing Public Law 86-645 were developed by the Chief of Engineers and the following *objectives* of flood plain information studies were established:

1. To compile in a clear and useful form and to disseminate to State and local governmental agencies specific information on floods and potential flood hazards, including identification of areas subject to inundation by floods of various magnitudes and frequencies;
2. To encourage optimum and prudent use of the Nation's river valleys by providing to State and local governmental agencies a factual basis for:

- (a) Reducing future flood damages and hazards through carefully considered and well-planned State and local regulation and use of the flood plains;
 - (b) Developing land use plans, which may include consideration of justifiable flood protective works;
 - (c) Preserving adequate floodway and channel rights-of-way, and channel clearances.
3. To publicize available information for the guidance of private citizens and interests on use of and hazards of using the flood plains;
 4. To reduce future expenditures for Federal projects to protect developments which, in the absence of the information program, would have taken place, or for alleviation of flood problems arising from improper flood plain development.

Pursuant to this new authority and availability of this much needed assistance in Washington State, Governor Rosellini made application to the Chief of Engineers on August 31, 1960, for flood plain information studies on the Snohomish, Skagit, Stillaguamish and Nooksack Rivers. The Governor supported his application with the following statement:

"In full recognition of the State of Washington's duties and responsibilities to its people in all matters relating to flood control and in view of the serious damages resulting from the November-December 1959 floods the state must reaffirm its policy towards flood control and assume full leadership in promoting and developing a long-range plan for the comprehensive control of our floods. I feel such leadership and planning should:"

1. Strive to continue our present level of state-local "defensive maintenance" program on existing flood control works, structures and improvements;
2. More fully coordinate available flood control services and finances of Federal, state and local governments through education, planning and carrying out works of improvement;
3. Collect new data and coordinate it with existing data (Corps of Engineers' data for example) regarding establishment of a standard level of protection required and economically feasible for each contiguous area or river basin as a whole;
4. More fully coordinate the activities, interests and efforts of each special public and private water resource interest towards a common goal of comprehensive water resource development in consonance with the general public's best interests; and
5. Take a more positive, aggressive action in the administration and enforcement of flood plain regulation and revise and amend our laws whereby the state's regulatory control may be exercised over all development of and make adjustments in structures and occupancy on the flood plains.

The ultimate achievement of these goals, transformed into a common goal, particularly taking a more positive, aggressive action in the administration and enforcement of flood plain regulation, requires determination of the degree and frequency of flood plain inundation before regulation can be reasonably exercised over its development and occupancy."

The application was subsequently amended by supplemental information and assurance on the state's part, and notice of approval was received on October 4, 1961. On March 30, 1962, the Governor was advised that funds had been appropriated and the studies on the four named rivers had commenced. The Stillaguamish study was scheduled for completion in 1962, the Nooksack

study to be completed in 1963, and the Snohomish and Skagit studies to be completed in 1964, pending continued appropriation of required funds.

During the report period flood information studies for the Stillaguamish River and Yakima River near Richland were distributed to the agencies and persons having a direct interest in these flood plains.

As the result of the Richland Study, the Benton Regional Planning Commission recommended a Flood Plain Ordinance be passed by the City Council which would regulate the building and settlement of the flood plain. Further regulations requiring flood proofing of permissible buildings was also recommended.

Here again, as in the Ellensburg Flood Control District, opposition by a very few landowners have held up passage of the proposed ordinances. The main argument being that such regulations are an infringement of freedom by government.

A basic requirement of state flood control legislation is that a community (or state) must regulate the utilization of a flood plain to assure that the use authorized is consistent with the risk of flooding involved and the degree of protection afforded. That is, full control must be exercised over the extent and type of use of areas subject to flooding. Some people encroach upon a floodway ignorant of the risk they are assuming. Others encroach knowingly, but are apparently willing to assume the risk. In any event, it is this encroachment by business, by home builders, by farmers and others which is the cause of a flood disaster. If people are willing to control the use of areas that have high flood damage potential, the chances of a disaster are greatly reduced.

It is obvious that a community cannot be expected to forego completely the use of the entire flood plain. The decision as to how much of a flood plain may be used is a function of the risk and the type of use envisaged. It is quite feasible and not unreasonably expensive to design buildings that can undergo frequent flooding without damage. Proper planing and control of this type prevents the development of disasters when floods occur.

In both of these cases, controlling the use of flood plains and strict control over the type and design of structures that may be built in the encroaching area, state law and county ordinances do not now provide for this degree of control.

Participation in Flood Control Maintenance, 86.26 RCW

The State Flood Control Maintenance Policy was established by the 1941 Legislature. It provides that when funds have been appropriated, the state may participate with corporate municipalities, the Army Corps of Engineers or other agency of the United States and state institutions subject to flood conditions in such flood control construction, maintenance and betterment projects as affect general public and state interests, as differentiated from private interests.

State participation in the cost of any flood control maintenance project shall be provided for by a written memorandum agreement between the Director of Conservation and the corporate authority of the local sponsoring party; each local flood control engineer (county engineer for county, soil conservation districts and municipalities by special agreement or the special or regular engineer for any other municipality) shall approve all plans, supervise project construction and have control of and make authorized

expenditure therefor. Approval of all plans, construction and expenditures by the Supervisor shall be a condition precedent to State participation.

In no instance, except on emergency projects, shall the state's share exceed one-half the cost of the project. Appropriation for flood control maintenance shall be employed so that as far as possible funds will be on hand to meet unusual, unforeseen and emergent flood conditions.

During the twenty-one year period between April 1943 and June 1964 the Legislature has regularly appropriated matching funds in the amount of \$7,866,500 for the State Flood Control Participation program. Of this appropriation total \$6,749,784.37 have been actual expended on an estimated 1568 projects.

During the first biennium (1943-1945) only six counties and one city took advantage of this new financial assistance. In this report period the state assisted 10 counties (86 projects), 7 cities (9 projects), one port district (1 project), 10 diking, drainage and irrigation districts (16 projects), and 3 flood control districts (7 projects), totalling 33 municipalities and 125 projects.

Summaries of State Flood Control participation expenditures for the report period and the twenty-one year period are given in Tables I and II.

Activities and Progress of the Watershed Protection and Flood Prevention Act, Public Law 566

In addition to the regular activities of this Division as provided for by statute, a new activity relative to the flood control program now requires attention. On October 19, 1954, the Governor designated the Department of Conservation as the agency to receive and approve or disapprove applications under the provisions of Public Law 566, and to otherwise advise and cooperate with the local people and the U. S. Soil Conservation Service in implementing this program. Progress during the eight years this new Federal program has existed is summarized in Table III.

This program has slowed down because of the lack of adequate funds to carry out the watershed planning work necessary to develop a definite project plan.

How Does the Small Watershed Act Work?

Under the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, 68 Stat. 666, as amended), the U. S. Secretary of Agriculture is authorized to cooperate with local organizations (including states or political subdivisions thereof) having authority under state law to carry out, operate and maintain works of improvement for *flood prevention* or for the *conservation, development, utilization and disposal* of water in watersheds or in subwatershed areas.

Amendments to the Act passed during the last session of Congress broaden the authority so that it now includes specific provisions for Federal assistance in acquiring sites and installing measures for public fish and wildlife enhancement or recreational developments; and for including storage for anticipated future needs for municipal and industrial storage in multiple-purpose reservoirs.

The Act provides for a project-type approach to soil and water resource development, use and conservation. It requires *full initiative* and *maximum responsibility* to be exercised by local people through their local organizations. The Act requires firm commitments from non-Federal in-

terests for sharing the costs of installation and for assuming operation and maintenance costs and meeting other requirements as a condition for Federal financial assistance in carrying out the improvements. The authority of the Act is intended to bridge the gap between existing agricultural soil and water program and existing programs for development and flood protection of major river valleys, and to greatly enhance the ultimate benefits of both types of programs.

During the ten years the Small Watershed Program has been in operation in Washington State, forty applications have been approved by the Director of Conservation and passed on to the Secretary of Agriculture for further consideration.

Fourteen of these applications have been assigned priorities for preliminary work plan preparation (priorities designated by joint action of State Soil Conservationist and Director of Conservation with the State Soil and Water Conservation Committee and State Association of Soil and Water Conservation Districts serving in an advisory capacity to the Director). Six projects have been authorized for construction, three projects are under construction, and two projects have been completed.

Since construction commenced on the Saar Creek Project in 1957, projects having a total estimated cost of \$5,620,000 (for installation of structures) were in various phases of construction by June 30, 1964. On this date State Flood Control funds in the amount of \$346,858 have been expended or committed to the local sponsors in participation with their non-federal construction costs.

A complete summary of P. L. 566 status and progress is shown on Table III.

Since 1935, the Local, State and Federal Governments have expended millions of dollars for flood control in the State of Washington. Noteworthy of flood prevention projects are Mud Mountain Dam on the White River, Howard A. Hanson Dam on the Green River and the Sammanish River Project. Watershed projects that will not prevent floods but will lessen their intensity and duration are exemplified by the Saar Creek and Twin Buttes projects already completed and the Marshland, French Slough and Lacamas projects soon to be completed.

With the exception of the above-named projects which provide some degree of flood control, little else has been gained other than patching damaged spots in the aftermath of floods or high water.

In spite of this, the flood plains are being encroached upon in an ever increasing and alarming rate. We are surely building for a disaster such as this state has never seen and will continue to do so unless some temporary restrictions such as flood plain zone regulations curbs this encroachment until flood storage is provided for.

Consider for a moment the Green River Valley from Auburn to Puget Sound. The 1933 flood caused a great deal of damage to this area. Damage was restricted to small towns, roads, and agricultural lands. As of today, this area is becoming a vast industrial park with potential damage manyfold to those caused by the same level of flood as occurred in 1933.

Most all of our chronic flooders (the Cowlitz, Chehalis, Skagit, Stillaguamish, Snohomish, Nooksack, Yakima and Columbia) are experiencing the same flood plain development in the absence of companion regulations.

The magnitude of damages which would occur on any of these streams at the same level as the previous high flood would be catastrophic.

We must curb this encroachment temporarily and think and act big by stepping up our efforts to obtain more upstream storage, more watershed projects and better control of flood water.

Flood proofing and flood plain regulation is our only means of curbing future disasters in the absence of upstream storage. This regulation must be imposed by the local entities of government through their respective planning commissions and governing powers, if we are to succeed.

The present state staff is inadequate in numbers to perform this duty, but could well advise the local entities of government on regulation procedure. It may be in the best interests of the people of this state, as a whole, to limit the use of state flood control participation funds to only those local municipalities that take the initiative in lowering future flood losses by such regulation.

Continued building for such a disaster is unwise and foolhardy.

TABLE I
STATE FLOOD CONTROL PARTICIPATION PROGRAM
July 1, 1962 to June 30, 1964

COUNTY	No. Projects	Original Commitment	Expended	Current Commitment	Unexpended Balance
Benton	Dik. Dist. No. 1.....	1	\$ 1,200.00	\$ 1,200.00	.....
Clallam	County	1	17,077.66	12,329.38	4,748.28
Clark	County	2	28,397.60	6,494.63	21,902.97
Columbia	Dayton	1	990.00	892.50	97.50
Grant	Wilson Creek	2	1,011.51	1,011.51	.....
Gr. Harbor	Dr. Dist. No. 2.....	1	879.60	793.40	86.20
Intercounty	I.C. River Improve..	3	20,099.78	19,983.77	116.00
King	County	13	95,909.72	79,477.54	16,432.18
Klickitat	Goldendale	2	37,814.46	21,793.05	16,021.41
Lewis	Chehalis	1	1,992.92	1,992.92	.....
Lincoln	Odessa	1	10,317.36	9,200.00	1,117.36
Pacific	County	2	7,026.04	6,866.99	159.05
Pierce	S/W.C.D.	1	1,324.00	1,324.00	.....
San Juan	County	6	44,011.44	43,715.00	296.44
Skagit	Port/Tacoma	1	6,702.08	4,585.34	2,116.74
.....	County	2	8,000.00	6,242.06	1,757.94
.....	County①	23	85,441.16	42,853.21	42,587.95
.....	Dik. Dist. No. 5.....	2	2,800.00	2,769.15	30.85
.....	Dr. Dist. No. 19.....	2	18,407.05	18,407.05	.....
Snohomish	County	12	33,833.31	16,428.63	17,404.68
.....	Marshland F.C.D.	5	217,848.25	210,872.71	6,975.54
.....	French Sl. F.C.D.	1	400.00	400.00	.....
.....	Diking I. Dist. No. 1..	4	10,488.95	10,410.98	77.97
.....	Dik. Dist. No. 2.....	1	2,538.48	2,063.03	475.45
.....	Dik. Dist. No. 4.....	1	874.39	722.43	151.96
.....	Dr. Dist. No. 6.....	2	1,803.02	1,566.09	236.93
.....	S/W.C.D.	5	10,590.10	9,060.85	1,529.25
Wahkiakum	County	4	3,133.28	2,903.53	229.75
.....	Dik. I. Dist. No. 4..	1	1,636.40	1,441.00	195.40
Whatcom	County	18	28,822.60	20,425.24	8,397.36
.....	Macaulay Cr. F.C.D.	1	504.00	289.00	214.80
Whitman	Dr. I. Dist. No. 15..	1	250.00	247.00	3.00
.....	Colfax	1	40,000.00	40,000.00	.....
.....	Elberton	1	300.00	300.00	.....
Totals		125	\$742,425.16	\$597,069.07	\$145,356.09

① Involves rock revetment of river bank or levees within seven diking districts and two drainage districts, with costs shared by county—30%, districts—30%, and state—40%.

TABLE II
SUMMARY OF STATE FLOOD CONTROL PARTICIPATION PROGRAM
April 1, 1943 to June 30, 1964

COUNTY	4/1/43 to 3/31/53	4/1/53 to 6/30/55	7/1/55 to 6/30/57	7/1/57 to 6/30/59	7/1/59 to 6/30/61	7/1/61 to 6/30/63	7/1/63 to 6/30/64	Totals
Adams
Asotin
Benton
Chelan
Clallam
Clark
Columbia
Cowlitz
Douglas
Ferry
Franklin
Garfield
Grant
Grays Harbor
Inter-County (King-Pierce)
Island
Jefferson
King
Kitsap
Kittitas
Klickitat
Lewis
Lincoln
Mason
Okanogan
Pacific
Pend Oreille
Pierce
San Juan
Skagit
Skamania
Snohomish
Spokane
Stevens
Thurston
Wahkiakum
Walla Walla
Whatcom
Whitman
Yakima
State Funds Allotted.....	\$4,090,000.00	\$ 562,500.00	\$ 600,000.00	\$ 850,000.00	\$ 700,000.00	\$ 710,000.00	\$ 354,000.00	\$ 7,866,500.00
State Funds Expended.....	\$3,292,333.37	\$ 510,695.01	\$ 433,837.22	\$ 781,862.98	\$ 688,433.49	\$ 690,786.64	\$ 301,785.16	\$ 6,749,784.37①
Total Project Costs.....	\$5,599,237.00	\$1,280,343.00	\$1,221,619.00	\$1,840,435.00	\$1,607,136.00	\$4,471,807.00	\$6,274,824.00	\$22,295,401.00②
Total Number of Projects.....	717	181	136	184	145	133	72	1,568

① Expended or committed.
② \$1,500,000 for Howard A. Hanson Dam not included.
③ \$42,000,000 for Howard A. Hanson Dam not included.

TABLE III
STATUS OF WATERSHED PLANNING AND OPERATIONS
P. L. 566 PROJECTS — STATE OF WASHINGTON

WATERSHED	Area ①	COUNTY	APPLICATION②		Field Exam., Prel. Inv. or Recon. Surv. Completed③	WORK PLAN DEVELOPMENT		OPERATIONS		ADDITIONAL NOTES ON PROGRESS
			Made	Approved		Author.	Status	Author.	Status	
Ahtanum Creek	107.2	Yakima	7-22-58							Study being made by Bureau of Reclamation.
Bacon Tr. Irr. Dist....	0.2	Spokane	2-2-62	3-30-62	PI 8-9-62					Qualified under Small Reclamation Projects Act of 1956.
Black River	87.7	Thurston	12-20-57	1-24-58						Pending preliminary invest.
Bockemuehl Canyon ..	67.5	Lincoln	7-11-62	9-10-62						Pending preliminary invest.
Calispel-Trimble	99.5	Stevens & Pend. O..	11-26-56	12-17-56	FE 7-28-55					Army Engineers report not feasible under P.L. 685. SCS action now pending sponsor's decision.
Burntbridge Creek	18.6	Clark	12-17-62	3-26-63						
Chewelah Creek	67.5	Stevens	9-17-57	1-24-58						Awaiting local action.
Chimicum Creek	25.0	Jefferson	12-14-54	3-29-55	FE 3-3-55	8-25-55	Completed	3-20-57	Inactive	Awaiting local action.
Church Creek	7.7	Snohomish	9-26-57	1-24-58						Area included in Army Engineers' Stilligumish River Study.
Cowiche Creek	83.5	Yakima	5-21-63*	7-29-63	PI begun					(*amended 11-26-57 application)
Douglas Creek & Lower Moses Coulee.	183.6	Doug. & Grant	7-13-62	9-10-62	FE 2-16-55					Prel. feas. study made in 12-63)
French Creek	18.4	Snohomish	9-8-55	1-3-56	FE 2-8-56	3-21-56	Completed	8-7-59	Underway	
Green R., East & Low.	87.5	King	5-11-64*	6-19-64	PI 8-29-61	9-25-61	Active			(*amended 9-8-60 application)
Green R., West Side..	68.9	King	5-11-64*	6-19-64	PI 8-29-61	9-25-61	Active			(*amended 9-8-60 application)
Grayland	6.7	G.H. & Pacific	1-10-55	3-29-55	FE 6-9-55	1-18-56	Abeyance			Pending acceptance of tentative work plan.
Grays River	96.5	Wahkiakum & Pac.	2-8-63	2-10-64						
Klickitat Creek	174.5	Klickitat	5-11-59*	6-1-59	FE 8-26-55					(*amended by Twin Buttes appl.)
Lacamas Creek Trib...	14.0	Clark	1-19-55	3-29-55	FE 4-8-55	4-28-55	Completed	8-23-57	Underway	

Lexington	2.5	Cowlitz	5-25-56	7-12-56	FE 5-1-57					
Little Pend Oreille....	117.6	Stevens & P.O.	9-24-57	1-24-58	PI begun					Damsite report submitted to sponsors.
Locke	2.5	Pend Oreille	6-5-62	9-10-62	PI underway	6-29-64				Studies underway for feasibility.
Long Beach Penin.④..	58.3	Pacific	2-9-62	3-30-62	PI begun					
Lynden	24.8	Whatcom & Br. Col.	6-3-58	1-19-59	PI begun					RS shows feasibility; pend. PI.
Manastash-Taneum ...	128.0	Kittitas	10-8-56	10-15-56	FE 2-20-58					PI pending.
Marshland	14.0	Snohomish	2-15-55	1-3-56	FE 7-19-55	3-21-56	Completed	8-7-59	Underway	
Mill Creek	97.3	Stevens	4-12-55	9-20-55	PI begun					Dam site recon. completed.
Ohop Creek	28.5	Pierce	1-28-55	3-29-55	FE 12-14-54					Lack local interest to date.
Saar Creek	11.2	Whatcom	12-16-54	3-29-55	FE 1-5-55	4-15-55	Completed	2-14-57	Completed	in 1959. Cost of structure—\$125,310.
Silver Lake	28.6	Cowlitz	1-13-64	2-10-64	PI begun					
Skokomish River	164.0	Mason	5-10-57	5-28-57	PI 6-30-59	7-28-59	Active			
Palouse River, SF....	52.5	Whitman (+45 Idaho)	1-10-56	3-20-56	FE 1-21-57					Awaiting local decisions. Possibly included in Army Engineers proj.
Swale Creek	58.2	Klickitat	12-27-54	5-1-55	FE 8-8-55					Progress pending local interest.
Toats Coulee	92.1	Okanogan	12-28-54	6-6-55	FE 9-28-56					Area included in Bureau of Recl. proj. Pending local interest.
Twin Buttes	4.3	Klickitat	2-19-59	4-1-59	FE 8-26-55	6-2-59	Completed	7-20-59	Completed	
Upper Coulee	234.6	Douglas & Grant ..	7-13-62	9-10-62						If feasible, to be planned with Lower Moses Coulee. Pending PI.
Wenas Creek	138.0	Yakima	12-21-54	4-1-56	FE 11-1-56					
Willapa River	43.6	Pacific	4-18-60	6-1-60	FE 9-15-60					At request of ARA, Bur. of Recl. began study 12-62 on multipurpose development.
Wilson-Nanum	249.0	Kittitas	4-5-56	5-3-56	FE 10-16-56	1-8-57	Active			Prel. work plan presented to sponsors in early '63. Awaiting local decision.

① In thousands of acres.

② By Department of Conservation, State of Washington

③ Field Examination (FE) and Reconnaissance Surveys (RS) are optional; Preliminary Investigation (PI) is required prerequisite to planning authorization.

④ Complete name of watershed is Long Beach Peninsula-Chinook, Wallicut and Bear River.

Revised September 2, 1964.

STATE SOIL AND WATER CONSERVATION COMMITTEE

Biennial Report—July 1, 1962 to June 30, 1964

To the Governor and the Legislature
of the State of Washington

Friends:

The Washington State Soil and Water Conservation Committee herewith respectfully submits its report of activities and progress of the soil and water conservation program in the State of Washington during the 1962 - 1964 biennium.

Respectfully,

Washington State Soil and Water
Conservation Committee

By: J. W. CORNWALL, *Chairman*
Fairfield

WILLIAM H. SCHMIDTMAN,
Vice-Chairman

Waterville

OSCAR A. CAMP, Spokane

ADOLPH NELSON, Marysville

ROBERT TORPPA, Grays River

LOUIS L. MADSEN, Pullman

ROY MUNDY, Olympia

Attest: RICHARD A. BAIN,
Administrative Officer
Olympia

STAFF:

G. C. DIGERNESS
Assistant Administrative Officer
Yakima

BOBBIE JO MAUK
Office Secretary
Olympia

"America's hole card at present is our food reserve. It can be the greatest safeguard for peace in the world today, if we use it to aid the have-not people in time of trouble."

Stanley Andrews, former chief of the
Office of Foreign Agricultural
Relations.

IN THE BEGINNING:

The Washington State Soil and Water Conservation Committee was established by the 1939 legislature, RCW Title 89.08, **as an agency of the state.** The declared policy of the legislature was to provide for the conservation of the soil and water resources of this state, and for the control and prevention of soil erosion, and thereby to preserve natural resources, control floods, prevent impairment of dams and reservoirs, assist in maintaining the navigability of rivers and harbors, preserve wildlife, **protect the tax base,** protect public lands, and protect and promote the health, safety and general welfare of the people of this state.

The State Committee consists of five **non-salaried farmers**, two appointed by the Governor on the basis of experience and leadership in the field of soil and water conservation and three elected for staggered three-year terms each year by the Washington Association of Soil and Water Conservation Districts. Ex-officio members are the Director of the Department of Conservation and the Director of the Institute of Agricultural Sciences at Washington State University.

The first Soil Conservation District Enabling Act (Chapter 89.08 RCW) was passed in 1939. It provided for the **voluntary** formation of non-taxing Soil Conservation Districts throughout the state wherever needed and desired by the local people.

During the last twenty-four years, the Soil and Water Conservation Districts have worked hard to reduce wasteful land management practices, erosion, flood threats, and water depletion which plague the state of Washington. In the face of a maze of government programs and a variety of changing economic conditions, our districts have continued to promote and carry out long-lasting conservation measures with a program based on the philosophy of conservation, development and self-government. Progress is evident, but much remains to be accomplished.

Among the many such permanent conservation practices accomplished since the first district was formed in 1940 are: 61,900 acres of strip-cropping; 3,066 stock ponds; 226 miles of terraces; 33,040 acres of grassed waterways; 120,339 acres of wildlife habitat developments; 12,409 sprinkler irrigation systems; 554 irrigation storage reservoirs; 2,136 miles of the drainage; 4,587 miles of open drains; 498,093 acres of pasture planting; and 70,151 acres of range seeding.

Soil and Water Conservation Districts now have 34,113 cooperators with 12,295,375 acres of land; 18,301 basic farm plans have been prepared covering 4,020,730 acres; 714 basic ranch conservation plans have been prepared covering 2,200,925 acres; and 123 basic conservation plans for other than farms and ranches covering 39,590 acres.

Since 1940, standard soil surveys have been made on 1,482,550 acres; of these, approximately 2,194,720 acres have been surveyed since July 1, 1962 by the Soil Conservation Service and cooperating agencies, and another 3,000,000 acres are included which were surveyed by the Bureau of Plant Industry Survey Section before 1952.

A SWCD CANNOT TAX, ISSUE BONDS OR CONDEMN PROPERTY:

It should be emphasized that a Soil and Water Conservation District is unique among the various divisions and sub-divisions of state government. It is authorized to carry out any and all necessary functions to assist farmers and landowners in applying soil and water conservation practices on the lands of the state so long as it (1) **does not levy taxes**, (2) **does not condemn property**, (3) **does not indebt the people of the district** and (4) **does not impose compulsory land-use regulations**. It is a voluntary, self-help type of program from start to finish.

Although Soil and Water Conservation Districts may cooperate with and receive assistance from several county, state and federal agencies, as well as private and civic organizations, the prime source of help has been the federal Soil Conservation Service. Congress has provided special funds earmarked for **SCS technical and engineering** (not financial) assistance to districts. The combination of trained federal technicians and experienced, conservation-minded Soil and Water Conservation District supervisors is an effective efficient conservation team. **It is the purpose of the State Soil and Water Conservation Committee to keep the Soil and Water Conservation Districts alive, healthy and active.**

STATE COMMITTEE RESPONSIBILITIES:

In short, the State Committee is THE division of state government authorized by law to:

- help farmers and landowners organize and develop Soil and Water Conservation Districts;
- provide for the general administration of the Soil and Water Conservation District Law including holding of elections and public hearings, filling appointed positions, and the expenditure of such funds as may be provided by the legislature;
- assist local District officials in developing and preparing new and improved wise land use programs;
- maintain and provide the records required under the State Soil and Water Conservation District law;
- act as liaison, on State level, in working out agreements that will make available assistance from State and Federal agencies as well as providing closer cooperation and coordination of activities;
- advise and help Districts with problems peculiar to their area;
- exchange and disseminate information among Districts;
- represent the interests of Districts at State and National levels;
- help determine time and place of annual statewide District Supervisors meetings and cooperate with Supervisors in arranging suitable programs, and
- help educate for better understanding of Flood Control and Watershed projects under P. L. 566.

THE SMALL WATERSHED PROGRAM

Nationally the number of applications for assistance in watershed development under Public Law 566 has averaged two hundred annually. Federal planning appropriations, together with substantially increased state

and local contributions, have been sufficient to plan only about one hundred watersheds per year.

As of July 1, 1964, applications for assistance in the State of Washington numbered 40. The planning has been completed on only seven.

The entire cost of preparing watershed work plans and construction plans, such as drawings and specifications together with necessary engineering and construction inspection services, is borne by the U. S. Soil Conservation Service.

In order to move forward faster in the field of watershed improvement, it will be necessary for the State to **appropriate matching funds for watershed planning**, by activating at least one watershed planning party annually to supplement federal assistance.

The State of Washington should also consider appropriating cost sharing funds in a greater amount to assist local organizations with applications, legal services, contracting, acquiring of land, easements, rights-of-way and the relocation of facilities.

The State should also actively encourage increased federal appropriations for watershed planning to reach the rate of at least two hundred watersheds per year. This would mean an increase of at least \$20 million for the fiscal year 1965 to enable the Federal Government to meet its commitments to local watershed sponsoring organizations.

AGRICULTURE IS STATE'S BASIC ECONOMY:

Dr. Louis L. Madsen, Director of the Institute of Agricultural Sciences, Washington State University, at the Governor's Conference on Conservation Education in November of 1961, stressed the importance of the Soil and Water Conservation District program. Dr. Madsen stated that, "Contrary to the national trend, Washington's total cropland will increase from 8,052,560 acres in 1959 to 8,290,560 acres by 1975, an increase of 3 percent." . . . "By far the most important change will be the net increase of 570,000 acres of irrigated land."

In April 1962 the Washington Soil and Water Conservation Needs Inventory was published. Compilation of the material in the CNI is the result of five and one-half years of intensive study and research by a state CNI Committee which included members of the State Committee and staff. The data found in the CNI report is of great importance to the State of Washington because it assesses the present status of our land, identifies conservation problem areas, and indicates land treatment required.

In addition the State Committee has, during the past two-and-one-half years, assisted the Washington Association of Soil and Water Conservation Districts compile a "Grass-roots Appraisal of Resource Conservation and Development Needs in Soil Conservation Districts Inventory." The State Summary of this compilation of **grass-roots facts** on the conservation needs of our public lands will be printed and made available to Legislators, our Congressional Delegation and state and federal agencies wherever interest and need is indicated.

The facts indicated by the Conservation Needs Inventory and the Public Lands Inventory adds up to a big job of research, education and action; not for just the farmer, rancher, and forester, but everyone . . . businessman,

industrialist, laborer, mechanic, housewife, teacher, scientist and student. More than anything, they show a tremendous job of conservation work yet to be done.

D. A. Williams, Administrator, U. S. Soil Conservation Service, said, "Our population trend and urban **encroachment on agricultural land, at a rate of over a million acres a year**, have pointed to the need for stepping up our soil and water conservation program. It is imperative that we move conservation farming forward at a rate of some 30 percent faster than ever before."

CONSERVATION IS AN IDEA. SOIL AND WATER CONSERVATION IS SUSTAINED LIFE! SOIL AND WATER CONSERVATION IS EVERY-ONES' JOB!

It is apparent that the soil and water conservation program is faced with an ever larger job—that of providing for future generations. Even though we are temporarily plagued with surpluses in a few of the commodities, it is necessary that our local, state and federal governments are made aware of the problems and become willing to accept the responsibility of providing funds for corrective measures.

The State Soil and Water Conservation Committee, as the administering agency, has been instrumental in activating a major share of the soil and water conservation districts' progression of accomplishments. This has been done on a very conservative expenditure on the part of the State simply because of the very nature of the volunteer self-help history of the District Program.

The following figures indicate the appropriations during the entire history of the State Committee:

*1939 - 1951	none
1951 - 1953	\$ 1,000.00
1953 - 1955	25,000.00
1955 - 1957	30,413.00
1957 - 1959	44,078.00
1959 - 1961	39,998.00
1961 - 1963	32,772.00
1963 - 1965	55,116.00

(*When the Soil and Water Conservation District enabling act was passed by the Washington State Legislature in 1939, no funds were provided for the operation of the State Committee. The job was handled by farmer-volunteers, the State Conservationist from the Federal Soil Conservation Service and by the State Extension Service Director.)

Governor Rosellini and members of the 1963 Legislature recognized, however, that because of inadequate financing progress of the district program was hampered, and consequently, they provided a much needed increase in the State Committee 1963-1965 biennial budget.

This increase was used basically to provide an additional man on the State Committee staff for the purpose of furnishing additional liaison between SWCDs and local, state and Federal agencies and to work closely with these same groups with regard to the State's Watershed Program. This new staff member has been able to awaken interest in some "sleeping" watershed project proposals.

According to Mr. Orlo W. Krauter, U. S. Soil Conservation Service State Conservationist, "The Soil Conservation Service in the State of Washington was very pleased to have Gay Digerness assigned on the Staff of the Washington State Soil and Water Conservation Committee to assist in the P. L. 566 watershed program. The experience of Mr. Digerness in the Saar Creek P. L. 566 project and the valuable assistance he rendered in order to bring this project about and help to see it to its completion will be most helpful to us in our watershed program."

Digerness has furnished invaluable help to SWCDs needing encouragement, moral support, and District Law interpretation. Even as a new staff member he has been very productive. However, his activities have been severely curtailed by lack of sufficient travel funds and inadequate equipment and supplies.

SUMMARY:

It is the State Committee's belief that in order to help the people of our State realize their responsibilities in this program more effort will be necessary towards Conservation Education. The Soil and Water Conservation Districts are and always have been the "wheel horse" in this program. District people must have the encouragement and finances to work constructively with their local schools, PTAs, businesses, bankers, churches and other organizations. The Conservation District officials can't do this on good faith alone. There are expenses such as clerical, postage, office supplies and the reimbursement of out-of-pocket expenses of the individuals who attend meetings, make trips, and devote hours, days and years to this program.

The State Committee will in the forthcoming biennium(s) be asked more and more by the Districts to help:

1. Encourage and assist state and federal agencies conduct outdoor workshops and in-service training sessions for teachers and others who are in a position to influence good conservation practices.
2. Encourage and assist appropriate state and federal agencies as well as private groups prepare and furnish educational materials.
3. Work closely with Watershed Projects (P. L. 566)
4. Train more and better men for the Districts Supervisory Boards.
5. Revise and up-date the State District Law in order that the Program may keep "in step" with the advancing population and their needs.
6. Provide the liason between the Districts and the local, state and Federal agencies as provided for in the District Law.
7. Coordinate District activities in order that all are working as a unit for the benefit of all the people.
8. Furnish the funds necessary to keep the Districts functioning as intended by their Law.

In the 1965 - 1967 biennium, the State Committee will need additional funds to equip its two staff officers with portable dictating equipment; to print a badly needed revised Supervisor Handbook; to print the annual Supervisor Roster and a Biennial Report which is used extensively by the State Committee and the Districts as well as by many other State and Federal agencies; and a car each (the Administrative Officers will travel

an average of 39,000 miles per year total, which figured at Pool Car rates adds up to a new car per biennium each.) The office secretary will need an electric typewriter (the one presently being used is borrowed and of approximately 1949 vintage); a dicto-transcriber for the field machines; and an increase in office supplies and postage.

At the present, travel funds for the State Committee members and the staff officers are very limited. This at times has caused the **volunteer non-paid State Committee members** to serve **without reimbursement** of out-of-pocket expenses. This situation should not be allowed to exist.

Financing these requirements is a small price to pay for the tremendous income that can be attributed without hesitation to the State's Soil and Water Conservation District Program.

The State Committee respectfully requests your study and support of the following budget which is being requested for the 1965 - 1967 biennium.

Salaries & Wages

Administrative Officer	\$17,928.00
Assistant Administrative Officer	13,602.00
Office Secretary	9,028.00

Other Contractual Services

Postage	2,500.00
Printing	1,500.00
Telephone	2,500.00
SWCD overhead & operational costs	20,700.00

Travel

Administrative Officer	3,000.00
Assistant Administrative Officer	3,000.00
State Committee members	3,000.00

Supplies and Materials

1,300.00

Equipment

Auto Replacement	2,400.00
Auto	2,400.00
2 Dictaphones & Transcriber	1,000.00

Retirement and Pensions

4,867.00

TOTAL \$88,725.00

LETTER OF TRANSMITTAL

State Canal Commission

Olympia, Washington

To: Honorable Albert D. Rosellini,
Governor of the State of Washington.

Sir:

Submitted herewith in accordance with House Concurrent Resolution 10, 1963 Extraordinary Session, is a progress report of the State Canal Commission.

The work and studies made by the present Canal Commission is a continuation of the effort of the Canal Commission authorized by Chapter 185, Laws of 1961.

The report of that Commission was submitted January 31st, 1963.

Reference is made to that report.

The project under consideration during this biennium has been the Puget Sound to Grays Harbor, Grays Harbor to Willapa Harbor and the Willapa Harbor to Columbia River proposed canal. Some consideration and exploration has been given to an alternate route from Olympia to the Chehalis River thence over the Napavine divide and down Olequah Creek to the Cowlitz River and thence down the Cowlitz River to its confluence with the Columbia River in the Longview-Kelso area.

Considerable progress has been made in obtaining funds from the federal government for investigations by the United States Army Corps of Engineers to complete a feasibility study of the Puget Sound to Grays Harbor to the Columbia River route.

Respectfully,

ROY MUNDY,
Chairman

REPORT OF THE WASHINGTON STATE CANAL COMMISSION

ACTIVITIES OF THE COMMISSION PURSUANT TO HOUSE CONCURRENT RESOLUTION 10, 1963 EXTRAORDINARY SESSION

The President of the Senate of the State of Washington appointed Senators Sam Guess, Joe Chytil, Victor DeGarmo and A. L. Rasmussen to the Commission. The Speaker of the House of Representatives likewise appointed Representatives Eric O. Anderson, Arlie DeJarnatt, H. B. Hadley and Robert G. Earley. The Governor appointed Lester E. O'Day, Mrs. Scott Bullitt, Gilbert Miller, Captain Delbert Kelly, R. Bronsdon Harris and Ralph Look to represent the public on the Commission.

The statute stipulated that the Director of Commerce and Economic Development, Honorable Robert E. Rose, be an Ex-officio member of the Commission, and the Director of the Department of Conservation, the late Honorable Earl Coe, and now the Honorable Roy Mundy, to be Ex-officio chairman of the Commission.

The Commission appointed Captain Merle D. Adlum as Nautical Advisor and Clarence B. Shain as Executive Secretary.

LOCATION

The location of the proposed Budd Inlet to Grays Harbor canal is identical to the report of the canal commission January 31st, 1963. The segment added, from Grays Harbor to Willapa Harbor thence to the Columbia River, has been considered by the Commission. For the present it assumed that the final location between Grays Harbor and Willapa Harbor will be along the hills that raise, rather abruptly from the very narrow coastal plain, and from Willapa Harbor to the Columbia River through the long southern extension of Willapa Harbor and through the narrow neck of land that separates it from the Columbia River near the mouth of the latter.

Financing of the Study

As a result of Resolution No. 1, passed by the Canal Commission in 1961 the state's delegation in Congress obtained authorization for the study of the proposed canal which charged the U. S. Army Corps of Engineers to conduct such a study. An amount of \$20,000 was allocated to the Corps to initiate the study and the President's F.Y. 1965 budget included \$100,000 which was passed by the Congress during this present Session for the feasibility study. This will be enough money to make a factual determination as to the economic value as related to probable cost. The Corps of Engineers has assigned key personnel to the study and has started the planning and investigation.

This money was obtained by the introduction of the bill in the Senate by Senators Warren G. Magnuson and Henry M. Jackson. The House of Representatives concurred largely through the efforts of Representative Julia Butler Hansen.

Design

The present assumption of the Commission is that the Puget Sound to Grays Harbor section will be a barge canal of the design reported on by

the report of the Washington State Canal Commission of 1933 and which was almost identical with the design reported on by the Commission authorized for the 1961-63 biennium.

A study of a different design is contemplated by the Corps of Engineers which would be effected by damming the Chehalis River in the vicinity of Porter Bluff to raise that segment of the Chehalis River to the same elevation as the level of Black Lake. The principal flights of locks would be located at Porter Bluff on the Western end and between Eld Inlet and Black Lake near Olympia on the Puget Sound end.

A ship canal would then connect Grays Harbor to the Locks at Porter Bluff. The segment between Grays Harbor and the Columbia River is expected to be of sufficient section to accommodate large ocean going vessels. Each segment named above offers some problems whatever plan is adopted. The Olympia-Grays Harbor segment involves considerable right-of-way procurement regardless of the construction used. This segment will also require the relocation of roads and highways and railroads.

Bridges will be long and expensive. In addition to the cost involved to construct a channel from Black Lake to the Chehalis River and down the Chehalis Valley to Grays Harbor there will be the problem of disposal of the spoil excavated from the canal section.

The method involving the damming of the Chehalis River at Porter Bluff will require the procurement of all the lands to be inundated which would include the Town of Oakville. The physical problem of foundation for the dam is unexplored and perhaps, questionable. The land to be inundated by this proposed plan is almost all very poor soil and of low value. It is entirely glacial outwash with small areas of it covered by aluvial silt or by peat bogs.

An Indian Reservation located up the Chehalis River from Oakville would be covered by the water impounded by a dam at Porter Bluff.

This scheme of construction, would however, have some very marked advantages in that the problem of lock water would be almost, if not entirely, solved.

It would also make the passage of large ocean going ships not only possible but much more rapid than a canal with series of single locks. It would create a lake which would be a recreational facility which will, probably, yield more financial returns than the farm produce now raised on the land.

There is also the possibility of power generation and flood control which will be of some considerable value. It would make much easier access to a very large tract of land suitable for industrial development which will be required within 20 to 30 years.

CRANBERRY LANDS

The segment between Grays and Willapa Harbor will pass along the edge of some of the finest cranberry growing land known. The canal will cut off the water supply from the land and lower the water table unless designed so that water can be impounded in the small streams and siphoned under the canal into the cranberry fields.

The Willapa to Columbia River segment will pass through the oyster

growing waters of Willapa Bay and causes considerable concern to oyster growers in that area.

The construction of these two last segments would, however, be expected to eliminate the destructive and costly hazards to navigation and the excessive maintenance cost over the Willapa Bar and to stop the rapid destruction of land which is now occurring from Tokeland west to the mouth of the Willapa River. This section of valuable land is now being destroyed at an unbelievable rate. So far no plan has been found to prevent or even check this severe erosion.

Sponsorship

The Commission on February 19, 1964, met with Colonel Ernest L. Perry, Seattle District Engineer, U. S. Army Corps of Engineers and members of the staff of that organization.

Colonely Perry explained in detail that the United States government would, if the project were found financially feasible, conduct and pay for all engineering and construction in the proposed project. The U. S. government does, however, require that each project must be sponsored by local government which must give assurances satisfactory to the United States that the sponsor will furnish the cost of land and right-of-way necessary for the construction of the canal, will hold and save the United States harmless from claims or damages resulting from the construction and maintenance of the project, and will pay for such minor cost as transportation of spoil materials beyond certain limits where lands are improved by such spoils.

The Commission explored the possibility of a voluntary joint venture between cities, counties and port districts in the area which will be benefited to sponsor the project.

It was concluded that such a venture will be unfeasible as was proven in the attempt to organize these kind of agencies along the lower Columbia River for the Federal 40-foot channel project authorized from Vancouver, Washington, and Portland to the mouth of the Columbia.

In subsequent meetings the Commission found that the only agency of government which would be capable to sponsor such a project would be the State of Washington.

It was definitely pointed out that soon after the appropriation of the first \$100,000 for the feasibility study, that the Corps must show a sponsor or the money could not be expended.

The State of Washington now provides no authority to sponsor such a project. It was the order of the Commission that a bill be drawn and presented to the 1965 Legislature which will provide such authority.

Appended is a draft of a bill adopted at a subsequent meeting of the Commission:

DRAFT OF LEGISLATION

AN ACT Relating to navigation canals; establishing a canal commission; setting forth the power of said commission; and making an appropriation.

Be it enacted by the Legislature of the State of Washington:

NEW SECTION. Section 1. The purposes of this act are to aid commerce and navigation, to develop recreational facilities, and to otherwise promote the general welfare by the development of navigation canals within the boundaries of the State of Washington.

NEW SECTION. Sec. 2. There is hereby created a canal commission of the State of Washington, which shall be composed of five members appointed by the governor and confirmed by the Senate. Not more than three members of the commission shall at the time of appointment be from the same political party. In making such appointments the governor shall give due recognition to the varying geographical sections of the state. The commission shall select its own chairman. The director of conservation shall be an exofficio member of the commission.

The initial members of the commission shall be appointed within thirty days after the effective date of this act. Of the initial membership one member shall be appointed for a term of six years, two members shall be appointed for a term of four years and two members shall be appointed for a term of two years. The first term of each member shall commence on July 1, 1965. After the first term, all appointments shall be for a term of six years. Each member of the commission shall continue in office until his successor is appointed and qualified. In the event of a vacancy in the office of any commissioner, the balance of the term shall be filled within ninety days by appointment by the governor. No canal commissioner shall be removed from office by the governor before the expiration of his term unless based upon incapacity, incompetence, neglect of duty, or malfeasance in office. Where removal is sought the governor shall furnish the commissioner with a letter setting forth the reason for the removal. Any commissioner whose removal is sought may request a hearing before the Superior Court of the State of Washington in and for Thurston County, by requesting the same within twenty days from the date of receipt of the letter of removal. Such tribunal shall fix the time of hearing, allow all parties full opportunities to be heard, and determine whether the causes for removal were properly based. The decision of the court shall be final and not subject to review. The effective date of removal shall be thirty days after transmittal of the letter to the commissioner, or if appeal is taken, on the date of final determination by the court.

NEW SECTION. Sec. 3. Each member of the commission shall receive twenty-five dollars per diem for each day actually spent in the performance of his duties and his actual necessary traveling and other expenses in going to, attending and returning from meetings of the commission, and his actual and necessary traveling and other expenses incurred in the discharge of such duties as may be requested of him by a majority vote of the commission, but in no event shall a commissioner's per diem payment exceed three thousand dollars in any one year.

NEW SECTION. Sec. 4. The commission shall be subject to the provisions of Chapter 34.04 RCW.

NEW SECTION. Sec. 5. The commission:

(1) Shall adopt rules and regulations necessary to carry out the purposes of this act.

(2) Shall meet not less than once every three months, and keep a complete record of all its proceedings. Special meetings may be called by the chairman of the commission, or by three members of the commission, by personal delivery of written notice thereof, or by delivery to their place of residence of business. Three members of the commission shall constitute a quorum to transact the business of the commission at either special or regular meetings.

(3) Shall employ a director, who shall be a qualified engineer, and such other employees as are necessary to carry out functions of the commission. The attorney general shall be legal adviser for the commission.

(4) Shall make such investigations, surveys, and studies it deems necessary to determine the feasibility of the development of a navigation canal, or systems of navigation canals within the state of Washington.

(5) May construct, maintain, and/or operate any navigation canal, or navigation canal systems deemed feasible by the commission.

(6) May acquire by gift, purchase, or condemnation from any person, municipal, public or private corporation, or the state of Washington; or lease from the United States, any lands, rights of way, easements, or property rights in, over or across lands or waters necessary for the construction, operation or maintenance of any navigation canal, or navigation canal system. The acquisition of such rights is for a public use. The exercise of the right of eminent domain shall be in the manner provided by Chapter 8.04 RCW, and all actions initiated thereunder shall be brought in the name of the canal commission.

(7) May hold public hearings. Prior to a determination of feasibility for any project, the commission shall hold a public hearing so that members of the public may present their views on any proposed project.

(8) May accept and expend moneys from any public or private source, including the federal government, in carrying out the purposes of this act.

(9) May negotiate and cooperate with the United States of America for the purpose of inducing the United States to undertake the construction, operation or maintenance of any navigation canal, or navigation canal system provided for in this act.

(10) Is authorized to cooperate, and to fully participate on behalf of the state of Washington, with the United States of America, in any project relating to a determination of feasibility of a navigation canal or navigation canal system, and when specifically authorized by the legislature, in any project relating to the construction, operating or maintenance of a navigation canal, or navigation canal system to be undertaken by the United States.

It was the opinion of the commission that no funds will be required of the state prior to assurance by the federal government of the construction of the project. Certainly none in the biennium of 1965-67. This leaves the

Legislature faced to determine the question of funds after Congress has ordered the construction of the project.

In a meeting of the Commission with representatives of the U. S. Army Corps of Engineers it was asserted by the District Engineer that a study of the entire project as well as segments of the project will be made and reported on as feasible or unfeasible according to the merits of each segment.

Conclusion

It was the conclusion of the Commission that the canal may be built in segments and timed as needs and feasibility can be shown for each segment.

It will take the Corps of Engineers at least four years to complete investigations, provided the economic study is found favorable for the whole project or segments of it. Also, if segments of it are constructed, eventually all of the project will be completed. It was also concluded that the coastal tracts between Grays Harbor and the Columbia River would likely be constructed first because of the benefits that it is believed can be shown for that stretch of the canal.



MON C. WALLGREN
GOVERNOR

STATE OF WASHINGTON

Department of Conservation and Development

ART GARTON, DIRECTOR
714 SEABOARD BUILDING
SEATTLE 1, WASH.

DIVISION OF PROGRESS AND
INDUSTRY DEVELOPMENT

HERBERT M. PEET
SUPERVISOR

February 28, 1947

Dear Mr. Editor:

Herewith is copy of the First Biennial Report of the Division of Progress and Industry Development, Department of Conservation and Development.

You will recall that the Division was created by the 1945 Legislature to supersede the Washington State Planning Council and the Washington State Progress Commission. As you will learn by reading the report, the Division has endeavored during its first biennium of existence to coordinate and carry forward the programs of both the agencies it supplanted, as well as to engage in industrial development activities not attempted by its predecessors.

In order to gear its program of state development in with the public's thinking, a non-partisan commission of fifteen members representing labor, industry, agriculture, and business was set up. Nine of the members were selected by recognized labor, industrial, and farm organizations; the remaining six were chosen by the Governor to represent the general public.

Those who have worked on and with the Commission during the past year-and-a-half feel that it is an outstanding example of constructive participation by industrial, labor, farm, and business leaders in state government on a truly non-partisan basis. Through the Governor's Advisory Commission the state has had the benefit of the counsel of these men on some of our most serious development problems.

You will find much of interest to you in this report.

Sincerely,

HERBERT M. PEET
Supervisor
Division of Progress and
Industry Development

HMP:deh
Enc.

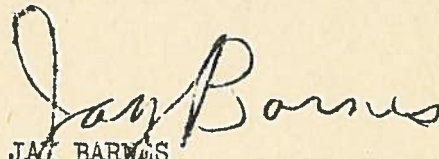
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STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
Division of Progress and Industry Development
714 Seaboard Building
Seattle 1, Washington

To the Editor:

This is the first in a series of informational pamphlets which this Division plans to prepare periodically for the use of newspapers and other organizations throughout the state and nation, in line with further creation of interest in Washington's unsurpassed sports and scenic advantages.

We trust that this may be of some help to you and your organization during the coming year.

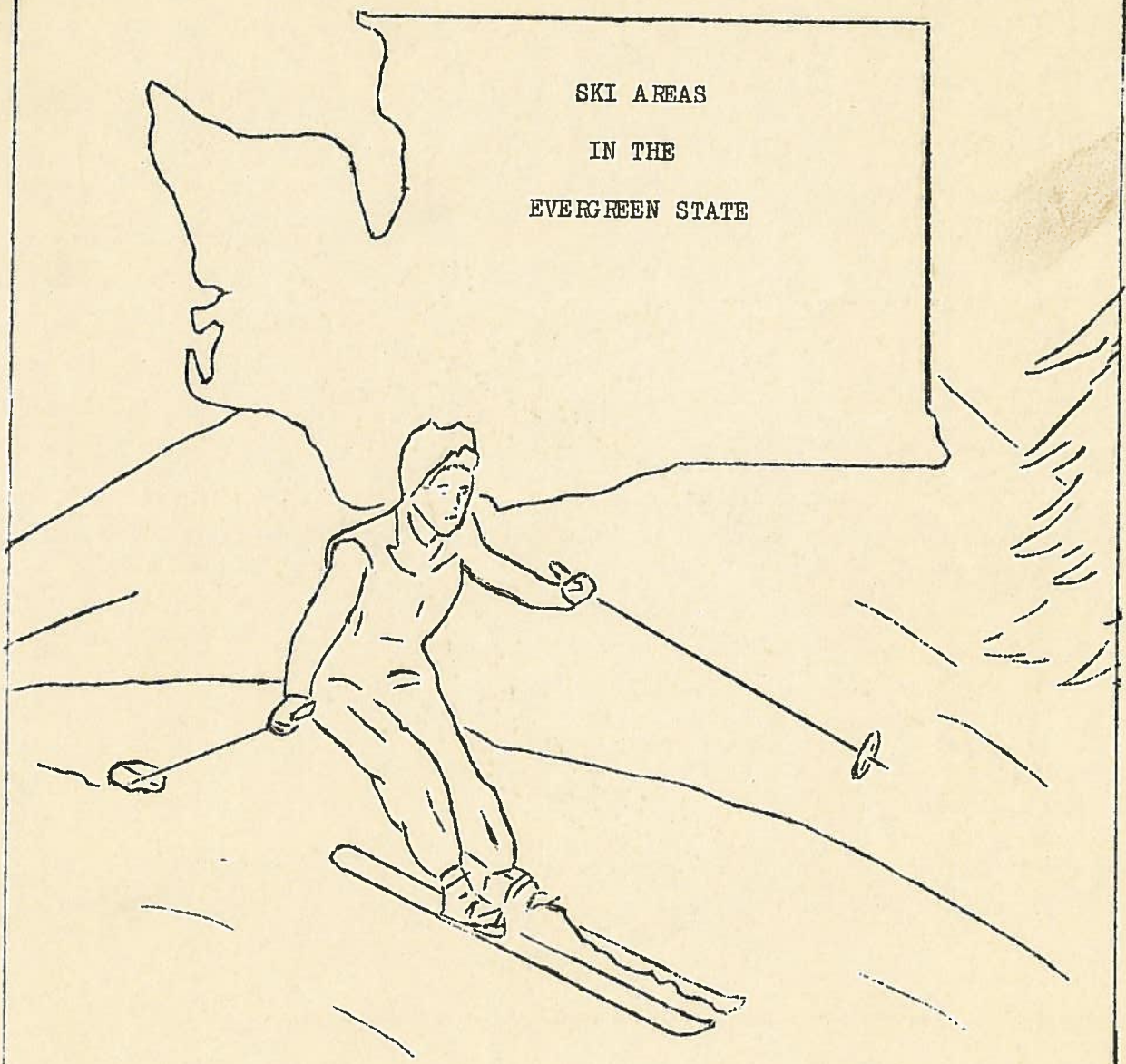

JAY BARNES
Publicity and Promotion

JB:ies

Encl.

[Encl. 1946 Oct 29]

SKI AREAS
IN THE
EVERGREEN STATE



STATE OF WASHINGTON
DEPARTMENT OF CONSERVATION AND DEVELOPMENT
NOVEMBER 1946

STATE OF WASHINGTON
DIVISION OF PROGRESS AND INDUSTRY
Seattle, Washington

October 29, 1946

SCHEDULE OF EVENTS FOR THE 1946-47 SKI SEASON IN WASHINGTON STATE

<u>JANUARY 5</u>	Giant Slalom, Class A men and women, Stevens Pass. Penguin Ski Club.
<u>JANUARY 12</u>	Jumping, Classes A, B and Senior, Mount Baker. Fjeld Ski Club.
<u>FEBRUARY 2</u>	Jumping, Classes A, B and Senior, Leavenworth. Leavenworth Winter Sports Club.
<u>FEBRUARY 2</u>	P.N.S.A. junior championship downhill and slalom, Mount Spokane. Spokane Ski Club.
<u>FEBRUARY 9</u>	Junior downhill and slalom; Spokane Ski Club.
<u>FEBRUARY 8,9</u>	P.N.S.A. Class A men and women championship downhill and slalom, Stevens Pass. Penguin, Wenatchee, Everett and Bremerton Ski Clubs.
<u>FEBRUARY 16</u>	P.N.S.A. championship jumping, Classes A, B and senior, Milwaukee Road Ski Bowl, Seattle Ski Club.
<u>MARCH 1,2</u>	Downhill and slalom championship, Class B men and women, Stevens Pass, Everett Ski Club.
<u>MARCH 22,23</u>	Olympic Games tryouts, jumping, Milwaukee Road Ski Bowl, Seattle Ski Club.
<u>APRIL 5,6</u>	Junior Four-Way championships, Mount Baker. Fjeld and Huntoon Ski Clubs.
<u>APRIL 20</u>	Huntoon Handicap, Mount Baker, Huntoon Ski Club.
<u>MAY 3,4</u>	Silver Skis, Class A men only. Mount Rainier. Washington Ski Club.

(P.N.S.A. -- Pacific Northwest Ski Association)

I. DETAILED REPORTS ON THE INDIVIDUAL SKI AREAS

1. Mount Baker

Fifty-nine miles east of Bellingham, Whatcom County, on Washington One. Elevation at Lodge, 4,200 feet. Center of Heather Meadows Winter Sports Area, Mount Baker National Forest. Transportation by private car and by bus of Mount Baker Lodge Company. Road paved to within ten miles of Lodge, maintained by State Highway Department, which keeps equipment at Shuksan, a few miles down the hill from the ski area. Chains usually required for last ten miles.

Diversified terrain for all skiers from novice to expert. Three ski tows. Good snow near lodge for six or seven months, with year-round skiing at higher elevations. Many trails and runs for hardier sportsmen to such points as Austin Pass, Mount Herman Saddle, and Shuksan Arm. Has often been site of competitions, best known course down Panorama Dome.

Attendance 1945/46 averages 1,800 to 2,000 people, around 360 cars, per weekend. Parking area at Lodge holds about 100 cars, with parking possible along the road as far as people care to walk. Peak crowd may run as high as 3,500 people. Season from Labor Day to June 1, with skiing year-round at higher reaches. Ski school for private and class instruction available daily. Over-the-snow machines provide half hour trips for those who do not ski.

Accommodations: Lodge, known as Shuksan Arm, a very nice alpine hotel 21 rooms all with bath, capacity 50-70 people. Rates, \$4.00 for first person, \$2.00 each additional guest. Coffee shop in connection. Heather Inn Dormitory, sleeping 113 women and 190 men. Rates, \$1.25. Cafeteria and ski shop in connection. Cabins nearby for about 120 people; rates, \$3.50 to \$6.50. Above all adjacent to ski area. Mount Baker Inn, 22 miles toward Bellingham, offers hotel rooms at \$1.00 - \$1.50, some dormitory space at 75¢, and cabins for 40 people at \$1.00 up. Meals available also. Presence of good overnight accommodations open all of the time has given Mount Baker a pre-eminent position to the tourist trade, as it is one of the few areas in the state at present with resort accommodations superior enough to attract people for stays of several days, including week days, during the winter sports season.

Organizations skiing regularly at Mount Baker include Bellingham Ski Club, Fjeld Ski Club, Western Washington College of Education Ski Club, University of British Columbia Ski Club, Washington Athletic Club Ski Club; some of which have lodges for accommodation of members only.

2. Stevens Pass

At summit of Cascades, 70 miles east of Everett and 40 miles west of Leavenworth, on Washington 15. Boundary Snoqualmie and Wenatchee National Forests, administered by the Wenatchee office. Elevation, 4,061 feet. Paved cross-state highway, maintained by the Department of Highways. Transportation by private car or charter bus, Washington Motor Coach, and Great Northern Railway.

Snow conditions and terrain excellent. Ski area lies on north slope of high divide called "The Barrier", protecting the clearings from sun and prevailing winds. Contributes to longer stable snow conditions and heavy attendance. Six lifts, one of 1,400 feet; one of 1,000 feet; three of 650 feet; one of 350 feet. Four of these are tandem on Big Chief Mountain, giving straight downhill run of three-quarters mile. Steep and moderate slopes for skiers of every inclination and experience. Season, November 15 to May 1. Ski School with two instructors on weekends.

Attendance averages 1,800 people per weekend, 450 to 550 cars. Peak crowd, 2,500 to 3,000. Parking area limited to one cleared space for 100 cars and remainder along roadway.

Accommodations: Forest Service Lodge, with dormitory space for 62 at \$1.00 per night. No bedding furnished. Summit Inn offers meals and has 12 cabins usually reserved or leased by season. Cabin camps are located roadside on both sides of summit. Those within 25 miles of ski area afford total accommodations, of varying qualities for about 500 people. Accommodations at immediate vicinity of area total only about 100 guests. Rates from \$1.50 to \$4.00.

Stevens Pass is home ground for the following clubs: Penguin Ski Club, Everett Ski Club, Seattle Ski Club has site for construction as soon as possible, and Washington Athletic Ski Club hopes to build here.

3. Leavenworth Area

Located one mile from town, in Wenatchee National Forest, not far from main highway to Stevens Pass, 40 miles from summit. Transportation by private car, Washington Motor Coach, and Great Northern Railway.

Terrain provides three excellent jumps, Classes A, B, and C. One ski tow and three short slalom runs. Low altitudes, sometimes does not have snow enough for skiing, but normal years provide plenty.

Attendance averages approximately 500 people per weekend. Parking at the area handles 500 cars with room for many more on roadway toward town.

Accommodations include rest rooms, hamburger hut, and Forest Service Lodge. No overnight lodging at area, but available at Leavenworth in two hotels and one auto court.

Leavenworth Winter Sports Club sponsors annual Class A and B jumping championships which attract many national ski figures. Pacific Northwest Ski Association championships here in 1946 drew 7,000 admissions. Performers came from Washington, Oregon, Idaho, and British Columbia.

4. Snoqualmie Pass

Location 50 miles east of Seattle on U.S. 10 in Snoqualmie National Forest. Elevation, 3004 feet. Road maintained by Highway Department for daily cross-state traffic with equipment stored at summit. Paved entirely and in good condition. Transportation during and since the war by private car or charter bus only. Washington Motor Coach plans to have buses available for weekend scheduled service in 1946/47.

The Seattle Daily Times sponsors a free ski school for all high school and university students and the Seattle Ski Club sponsors jumping instruction for all skiers.

6. Stampede Pass

Located at Martin, near east portal Northern Pacific tunnel. Road leading south at point 11 miles east of Snoqualmie Summit on U.S. 10. Three miles to ski area. Private car and Northern Pacific Railway. Hike about three-quarters of mile. Elevation, approximately 3,000 feet.

Snow conditions good because on east side of divide. Terrain well cleared. Season December 15 to April 15. Rains early spring months. Freezes nights, thaws days. One ski lift.

7. Gold Hills and American River

Gold Hills located six miles east of Chinook Pass summit, and American River 19 miles east of summit on U.S. 410, Washington 5. Handled as unit because bulk of skiers come from Yakima and stop at American River Bowl if snow good; if not, proceed to Gold Hills area. Highway kept open to Morse Creek year around, as Highway Department has station here. Elevation at Gold Hills about 4,000 feet, at American River 3,000 feet. Transportation by private car only.

Because of east slope, snow conditions good. American sometimes gets insufficient quantity for skiing, but dependable precipitation at Gold Hills. Terrain at former is bowl shaped, diversified for beginners and experts alike.

Parking for 200 cars at American River, 100 cars at Morse Creek. Season from December through April. Capacity for more than reach area at present.

Accommodations: American River Lodge, cabin room for 60 to 70. Rates \$1.00 to \$2.50. Meals. Waxing hut at Ski Bowl.

Organizations: Yakima Ski Club. Disbanded during war, but now reforming. Maintains waxing hut for public use.

8. Cayuse Pass, Chinook Pass, Tipsoo Lake

Location 42 miles southeast of Enumclaw, 70 miles from Seattle, on U.S. 410, Washington 5. Cayuse at intersection of U.S. 410 and Washington 5 from Ohanapecosh, on east central boundary of Mount Rainier National Park. Chinook and Tipsoo four miles up to Cascade Summit. Paved road open all year to Cayuse, except for frequent slides. Open to Chinook late spring. Chinook elevation 5,400 feet.

Snow conditions exceptional as area lies north and east slopes. Cayuse terrain used during winter, diversified. One 400 foot tow. Spring skiing unexcelled at Chinook and runs well into July for enthusiast. Tipsoo offers fine bowl terrain when accessible. Season starts November 15. Deep dry powder with "corn" or granular snow in spring.

11. Mount St. Helens (Columbia National Forest)

New area located 46 miles east of Castle Rock at Spirit Lake in the Columbia National Forest.

Good terrain, adequate snow, season December 15 through May. Elevation 3,199 feet. Road maintained by State Highway Department, chains required. Parking space for 100 cars.

Excellent lodge with eight rooms as well as two dormitories and eight cabins, total accommodations for about 100 persons. Meals available.

One 1400 foot ski tow.

Winter Rates, Spirit Lake Lodge, Mt. Saint Helens:

	<u>Single</u>	<u>Double</u>
Room with connecting bath	\$ 3.00	\$ 5.50
Room with running water	2.50	4.50
Other bedrooms, bedding provided	\$2.00 per person	
Dormitories, <u>no</u> bedding provided	1.50 per person	
Cabins, <u>no</u> bedding provided	1.50 per person	

12. Okanogan

On Salmon Meadows 25 miles northwest of Okanogan on Salmon Creek. Elevation approximately 2,500 feet. Parking for 180 cars at bowl and within one-quarter mile. Attendance estimated 75 per weekend. No lift. Chelan National Forest Service Lodge, warming room for 50. No equipment but range, tables and benches. Annual normal snowfall 50".

13. Entiat

About 20 miles up Entiat River from town. Developed by community and Entiat Valley Ski Club. One 750 foot lift. Parking for 50 cars; average attendance 50 people. No meal or sleeping facilities but shelter type planned 1946/47 season. Also beginners lift to be installed.

14. Waterville

At nearby Badger Mountain, 27 miles northeast of Wenatchee on U.S. 10, Alternate, Washington 2. Community development with good terrain. Two ski tows. Parking for 150 cars, with attendance running 100 skiers with potential of 300. Sandwiches and coffee on weekends, no overnight accommodations. Badger Mountain Ski Club.

15. Chewelah

On Chewelah Peak, elevation 4,000 feet, six miles from town, which is 58 miles north of Spokane on U.S. 395, Washington 3. Community and Chewelah Peak Ski Club developed and operated. County road with parking facilities

for 50 cars. Attendance approximately 40 per weekend, although 50 to 100 prewar. Cable up-ski 1,000 feet; slalom hill one and one-half mile down hill run and jump good for 150 feet. Cooking facilities available and meals for special occasions. Expect regular provision for weekend meals 1946/47 season. Rooms available in town.

16. Deer Park, Olympic National Park

Located northwest corner of Park. Elevation 5,400 feet. Road goes north from U.S. 101 about six miles east of Port Angeles. Narrow road with 23 percent grade one place. No ascent after 3 p.m., no descent before 3 p.m. on skiing days. Park Service ruling requires chains on all cars.

Snow conditions, dry powder though for limited season. Lies on north and east slopes, but in area of light precipitation. Season from December 15 to March 1. Prevalent good weather gives high percentage good days.

Attendance prewar up to 200 per weekend, with parking for 50 cars.

Over night accommodations on weekends only for 45 guests, meals available. New road being projected from Heart O'The Hills 11 miles to Hurricane Ridge. Survey 1946, clearing 1947, construction 1948, if funds appropriated. Better area than Deer Park, elevation 5,700 feet with excellent north slopes.

Bremerton Ski Cruisers have cabin at Flap Jack Lake, foot of Mount Gladys in southeast sector of Park, but accessible only by four mile hike. Port Angeles Ski Club has cabin in Deer Park, but use restricted because of National Park Regulations.

17. Blewett Pass, Swauk Recreation Area.

Located on U.S. Highway 97, twenty miles south of Peshastin in the Wenatchee National Forest. Elevation at summit 4,071 feet. Transportation by bus or private car.

Season from December 15 to April 15. Good terrain including two and one half mile downhill course. One ski lift operating at present, three more to be added later this season.

18. Eastern Slopes Ski Area

Located just east of the Snoqualmie Pass summit at Lake Keechelus on U.S. Highway 10.

Elevation 2,600 feet. One 1,100 foot ski tow.

Hotel accommodations and dining room service available at the Lake Keechelus Inn, located at the foot of the tow.