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# INDEX

## I. INTRODUCTION .......................................................... 1

## II. WHAT ARE THE CHARACTERISTICS OF THE COLUMBIA RIVER BASIN AREA? .................................................... 2
   A. Physical Relief of the Area ....................................... 2
   B. Climate and vegetation ...................................... 2
   C. Agriculture and Land Use .................................... 2
   D. Population ....................................................... 3
   E. Economic Characteristics .................................... 3

## III. WHAT ARE THE CHARACTERISTICS OF THE RIVER ITSELF? ................................................................. 4
   A. The River and its Tributaries ................................ 4
   B. Flow ............................................................... 4
   C. Flood Control .................................................. 4
   D. Power ................................................................ 5
   E. Fish .................................................................. 5
   F. Four Problems ................................................... 5
   G. Present Situation ............................................... 6
   H. The Future ........................................................ 6
   I. Map of Basin Area ............................................... 7

## IV. WHAT ARE THE ADMINISTRATIVE ORGANIZATIONS ACTIVE IN THE COLUMBIA RIVER BASIN? ............................ 8
   A. Federal ............................................................. 8
      1. Department of Defence—U.S. Army Corps of Engineers 8
      2. Department of the Interior—Bureau of Reclamation .. 10
         a. Agreement on Construction Responsibility for
            Columbia River Basin Future Projects ............. 11
      3. Department of the Interior—Fish and Wildlife Service 12
      4. Department of the Interior—Other Agencies ........ 12
      5. Department of Agriculture—Soil Conservation Service 13
      6. Department of Agriculture—U. S. Forest Service 13
      7. Department of Agriculture—Rural Electrification Admin. 14
      8. The Federal Power Commission ..................... 14
   B. State .............................................................. 14
      1. Department of Conservation .......................... 15
      2. Department of Fisheries ............................... 15
      3. Pollution Control Commission ....................... 15
      4. Columbia Basin Commission ......................... 15
   C. Local ............................................................ 16
      1. Public Utility Districts ................................. 16
      2. Rural Electrification Administration Cooperatives .. 16
      3. Private Power Companies .............................. 17
   D. Regional ......................................................... 17
      1. Northwest Public Power Association ............... 17
      2. Map of Power Transmission Grid .................... 18
      3. Bonneville Power Administration .................... 19
      4. Columbia Interstate Compact ......................... 19
      5. Columbia Basin Inter-Agency Committee .......... 20
INDEX - Cont'd.

V. THE INTERNATIONAL PROBLEM--The Columbia River in Canada.
   A. Canadian Proposals ................................................. 21
   B. Legal Aspects ........................................................ 21
   C. International Joint Commission ................................. 22
   D. The Canadian Position ............................................. 22
   E. The American Position ............................................. 23
   F. What's in the Future? ................................................ 23

VI. PENDING LEGISLATION AND COMMISSION AND AGENCY ACTION ...
   A. National ............................................................. 24
      1. S. 3185--Conservation of Migratory Fish and Game ....... 24
      2. S. 314--The Columbia Development Corporation Bill...
         a. Comparison of the Bonneville Project Act and the
         Columbia Corporation Bill, S. 314 ........................ 27
         b. The Tennessee Valley Authority Act for Comparison 28
   B. State ................................................................. 29
      1. H. B. 177 To make Fisheries and Game divisions within
         the State Department of Conservation ...................... 29
      2. H. B. 34 To create a Department of Water Resources and
         to abolish the Department of Conservation ............ 29
      3. Initiative 25 to prevent high dams on the Cowlitz River 29
   C. Commission and Agency Action .................................. 29

VII. SUMMARY AND QUESTIONS ........................................... 30

VIII. BIBLIOGRAPHY ...................................................... 31
I. KNOW YOUR COLUMBIA RIVER BASIN - INTRODUCTION

The League of Women Voters national current agenda item of Water Resources is stated as follows:

Support of those national water policies and practices which promote coordinated administration, equitable financing, and regional or river basin planning.

The purpose of our "Know Your Columbia River Basin" study is two-fold:

I. To acquaint the member with the facts and problems involved in the development of our Columbia River Basin Area.

II. To apply the knowledge and understanding gained in the study of a particular River Basin area to the problem of a national water policy—seeking areas of agreement within the three broad goals of our current agenda item.

Local Leagues throughout the Columbia River Basin area are cooperating in this study by preparing individual detailed reports on particular water use and control problems: water supply, pollution, flood control, irrigation, power, navigation, watersheds, recreation, fish, wildlife, major conflicts among users, and problems of allocating benefits, responsibilities and costs. These reports will not be available to us in detail until our study next year, so we have briefly touched on a few of these problems in order to provide some background for our study of the administrative organization of the basin area—the many agencies involved in the conservation and economical use of the waters of the Columbia River and the complex problems involved.

If we can gain an understanding of the relationships among the various agencies, with their sometimes conflicting goals; and if we are able to answer some of the questions involved in planning for this particular region—then we shall be a little nearer to a solution of national water problems and the formulation of a sound National Water Policy.

In your study of the federal, state, and local agencies involved in the control of and planning for the Columbia River Basin, you should also refer to "Water Front Revisited" in the January 1959 National Voter, and to the material provided for your study of Water Resources in May, 1958:

State Agencies Chart, last page of Seattle study materials for May, 1958.

We refer you also to the excellent articles in the National Voter:
"Till the Well Runs Dry?" October, 1956
"Treading Water When We Need to Swim", August, 1957
"View from a Waterfront", February, 1958
"Waters are Still Muddy", July, 1958
"Two Ways In, One Way Out", August, 1958

Further bibliographical material is listed on the last page for those who have the time and are interested in a more detailed study.
II. WHAT ARE THE CHARACTERISTICS OF THE COLUMBIA RIVER BASIN AREA?

THE COLUMBIA RIVER BASIN

The Columbia River drainage basin—259,000 square miles encompassing more than two-thirds of the entire Pacific Northwest—includes nearly all of Washington, Oregon, and Idaho, parts of Montana, Wyoming, Utah, and Nevada, and 39,700 square miles of mountainous country of British Columbia.

Physical Relief of the Area

The Pacific Northwest and the Columbia River Basin Area is a region of strong and varied relief features. Four primary physical features establish the major framework of the basin. On the east is the broad belt of the Rocky Mountains with general summit elevations of 8,000 to 12,000 feet. The Teton, Centennial, Sawtooth, Bitterroot Cabinet, and Selkirk ranges are the major mountain chains in this belt. The Blue Mountains, an outlying mountain mass separated from the Rocky Mountains by the Snake River Canyon, reach westward to the central part of Oregon.

The second major feature consists of the great basaltic plateaus west of the Rockies. These plateaus are divided into 2 parts by the Blue Mountains—one is the Snake River Plain (2,000 to 5,000 feet elevation); the other, the Columbia Plateau (1,000 to 2,000 feet elevation), is bounded on the west by the Cascade Range, the third major physical feature of the basin. The fourth major feature is the southern part of the Puget Trough (elevation less than 1,000 feet) lying between the Cascades and the much lower coastal mountains.

Climate and Vegetation

The Cascade Range has a tremendous influence over the climate of the Pacific Northwest, separating a more humid western area from a drier interior. Precipitation varies from over 150 inches to as little as 7 inches. The coastal mountains and the Cascades receive 80 or more inches per year; the Puget Sound-Willamette Valley averages 30 to 50 inches; a small belt just east of the Cascades receives 20 to 30 inches; and large areas of the inland plateaus average 10 to 20 inches with several large areas (Columbia Basin, Plateau of Oregon, and Snake River Plain) recording less than 10 inches. Rainfall builds up again in approaching the Rocky Mountains and the mountain areas average around 20 inches ranging to 30 inches in the Canadian area.

Natural vegetation in response to climatic differences range from temperate rainforests on the mild humid coast to desert plants in the driest portions of the interior. On the west slopes of the Cascades and the Coast mountains are the heaviest and best stands of sawtimber in the United States. Open pine forests cover the east slopes of the Cascades as well as the Central Mountains and the Northern Rockies. Grasslands and desert shrubs are found in the basins and plateaus of the intermountain areas.

Agriculture and Land Use

It appears that mountains and a few broad dry plateaus fill a major portion of the Columbia River Basin, but there are a number of areas of smooth topography in which are found farmlands and major concentrations of population. The largest areas of cropland are located in the Willamette Valley of Oregon, the Columbia Basin of northeastern Oregon and eastern Washington, and in the Snake River Basin of Eastern Oregon and Southern Idaho. Sizeable acreages of highly productive land have also been developed under irrigation in western Montana, the Yakima Valley of Washington, and the Deschutes-Jefferson area of central Oregon.
These productive croplands are widely dispersed among large areas of land not suited for crop production. Only 11 percent of the total land in the region was classed as cropland, according to the 1954 Agricultural Census. Acreage equal to more than five times the acreage of cropland is still covered with forests; and the remainder is open rangeland used for grazing or rough and broken land with values as watersheds, wildlife habitats and scenery.

Population
Population densities tend to follow the same pattern as productive croplands—revealing a very unequal population pattern with some areas standing out with considerable densities and others being nearly devoid of people, depending upon arability of the land and water availability.

East of the Cascades, the population is scattered with the largest concentrations occurring in the irrigated valleys. Important cities such as Yakima, Boise, Twin Falls, Pocatello, Ellensburg, and Wenatchee owe their existence to irrigation. Spokane has a larger concentration in its strategic location at the western end of mountain passes, with an important rail center, minerals, timber and hydroelectric power. Some cities along the eastern margin are largely the result of mining activities; and the Hanford-Richland concentration is the result of government atomic research and development.

The largest concentrations of people in the Pacific Northwest are found on the western side of the Cascades in the mild and highly productive area of the Puget-Willamette lowland. A survey of the 1950 census figures reveals that of the total population of the Pacific Northwest, fully 60% live in urban areas and 40% of the total urbanites live in the two large metropolitan areas of Seattle-Tacoma and Portland.

The total population figure of 4,740,000 for 1950 was an increase of more than 34% over the 1940 total, and shows a population growth of over twice the national rate. This rate of increase is expected to continue as migrations are continuing, industrial bases are expanding and diversifying, and large resource potentials are yet to be developed. The pattern or distribution of the population has been clearly established, except that some new areas of concentration may develop as irrigation projects are completed.

Economic Characteristics
The economy of the Pacific Northwest is firmly based on the natural resources of the region. From the beginning its development has been based on agriculture, forestry and fishing. The climate, soil, and water in its varied conditions provide wide cropping and livestock possibilities and form the foundations for profitable production of a great variety of specialty farm enterprises which are increasingly characterizing the agriculture of the region.

Forest based industries which are about on a par with agriculture in importance as a source of income are supported by more than 40% of the timber supply of the nation. The fishing industry, although concentrated in the coastal regions has long relied on the Columbia river system as the breeding source of salmon, a major food fish.

Manufacturing, concentrated mainly in the Spokane, Willamette-Puget Sound area, has been developing rapidly since 1939 with the development of electric power, population growth, etc. Mining has always been a minor but important industry in the Cascades and Rocky Mountain areas. Perhaps our greatest resources, scenic and recreational attractions, are luring growing numbers of tourists to the region and making tourism the third ranking source of income today.
These varied economic activities and wide variation in land relief, climate, natural vegetation, and population tend to subdivide the Pacific Northwest into dissimilar units; but the Columbia River system tends to be a unifying force providing major benefits and influence far beyond its geographic boundaries. It provides hydroelectric power, water for irrigated land, a navigation channel into the heart of the region (large ocean vessels as far as Portland, and regular barge traffic to Pasco), large domestic and industrial water supplies and important fish and recreation values.

III. WHAT ARE THE CHARACTERISTICS OF THE RIVER ITSELF?

The River and its Tributaries
The source of the Columbia River is between the Canadian Rockies and Selkirk Mountains at an elevation of 2,650 feet. The river flows northwesterly 195 miles, turns sharply west and south around the Selkirks and then flows southerly 270 miles to enter the United States in the northeastern corner of Washington.

The second and third largest tributaries of the Columbia—the Kootenai and the Clark Fork Rivers—join it in Canada. The Kootenai rises in the Canadian Rockies, and the Clark Fork River drains almost all of western Montana. 65% of the total volume of the Columbia is derived from the Northern Rocky Mountains.

The largest tributary of the Columbia is the Snake River, rising in western Wyoming and draining central and southern Idaho, eastern Oregon, and southeasterly parts of Washington. It joins the Columbia River in south-central Washington, 323 miles above its mouth, and 274 miles below Grand Coulee Dam.

This system is one of the most promising in the world from the standpoint of management and use. Its favorable qualities include: Large volume of water, small amounts of silt, relatively steep gradient, mountain and mainstream dam and storage sites, relatively deep channel extending far inland, passage of the system through a large portion of the arid section of the region, maximum runoff during the growing season.

Flow
The flow at the mouth of the Columbia is an average of 183 million acre-feet per year—exceeded in North America only by the lower Mississippi and Ohio Rivers. This flow, however, varies from year to year, having had a peak flow of 225 million acre-feet in 1893-94 and only 85.5 million acre feet in 1925-26. The flow also varies considerably throughout the year, having its peak flow in the summer, nearly always in June, as much of its water comes from snow and ice deposits in the high mountains. It is estimated that approximately 73% of the total yearly flow of the river occurs in the six summer months. This maximum runoff during the growing season coupled with the downstream flow through a large portion of the arid section of the region, creates a great potential for irrigation. (The 1954 Agricultural Census showed that 28% of farm cropland was irrigated land.)

Flood Control
Some of the flood-season runoff may eventually be retained in mountain reservoirs to permit maximum benefits as well as to protect millions of dollars of property investments on flood plains. Today there is relatively little effective flood control storage available although there are over 250 reservoirs of all kinds in the Columbia Basin. For example, the combined capacity of the Snake River irrigation reservoirs is 8.7 million acre feet, but only 2 million acre feet are available for flood control.
Flood Control - Cont'd.

Grand Coulee, with its 5.12 million acre feet of storage can contribute only 1 million acre feet of effective flood control because of its multipurpose functions. (The Bureau of Reclamation has just released a study recommending the expenditure of $19,000,000 for modification of the lower gates of the dam for greater flood control, and Washington State Representatives Walt Horan and Catherine May plan to introduce bills calling for authorization of the project after they have studied the report.)

Power

The low flow of the river coming in the later summer and autumn and continuing throughout the winter months, poses the problem of upstream storage sites for power use (which is at its peak during the winter months.) Illustrative of the effect of upstream storage is the fact that the ability to release storage from Hungry Horse reservoir in the winter has added 758,000 kilowatts to the production of all the powerplants on the Columbia below.

This need for upstream storage sites for flood control and power presents one of the biggest challenges of the Columbia River System. Because of its steep gradient, dropping 2 to 5 feet per mile, the Columbia system has few economical upstream storage sites, and it is estimated that the Columbia will never have enough upstream storage to catch more than one-third of one years' flow. In comparison, the Hoover Dam on the Colorado has enough storage capacity to hold the entire Colorado flow for 2 years.

Obviously full utilization of Northwest streams requires effective management to overcome disparities between patterns of water availability and water use areas, and the problems of unequal seasonal as well as yearly runoff. Year around power available from the river and its tributaries, without any regulation by means of storage reservoirs, has been estimated at about 10 million kilowatts. If the flow of the streams were under complete control, it would be about 50 million. Complete regulation of streamflows in the basin is not expected for want of storage reservoir sites, nor can complete use be made of seasonal peak flows—but with developments within practicable limits, the prime power available from the Columbia River system may be 35 million kilowatts or more. (Close to 40% of the national potential.)

Fish

Another unique challenge of the Columbia is its involvement in fish and recreation problems which suggest that those dams should be built first which do the least harm to present fisheries values. (Refer to map of Spawning areas of salmon and steelhead trout.) In addition to selecting sites where a minimum of harm and a maximum of good can be achieved, we also have the opportunity of advancing or postponing a dam so as to buy time for research necessary to solve the problems of conciliatory uses of water resources.

Four Problems

In summary there are four unique characteristics of the Columbia River (differences from other great American rivers which have caused difficulties in national legislation and in public understanding.) 1) This is a very wet river, with a tremendous volume of water to control. 2) The floods come in summer, the wrong time for power purposes. 3) Our critical need for upstream storage for the dual purpose of flood control and power. 4) In order to insure optimum development and conservation of fish as an important regional economic source, should projects be scheduled first which do the least harm to present values, thus buying time for research?
Present Situation
Several intermediate levels of balanced development are envisioned in reaching the total practical potentialities in Columbia River control and beneficial use. Currently the region is progressing on a phase C (or intermediate) level of Basin development based on the 1948 No. 308 report of the Corps of Engineers. This Phase C. was proposed for completion soon after 1960, and when completed would have provided the following:

- Total usable storage capacity of 27 million acre feet
- Firm capacity of 12 million kilowatts annually
- New irrigation of 1,325,565 acres
- Supplemental water to supply 740,580 acres
- Barge transportation extended up the Snake River beyond Lewiston, Idaho.

This program has run into many snags for lack of a consistent national policy for the scheduling and finance of projects. To date, only a little over 6 million acre feet of storage capacity has been achieved, with about 7 million kilowatts of power capacity. In 1955 the United States Senate requested the Corp of Engineers to review its 1948 plan, and a new report has just been published.

The Future

High levels of water resource development, approaching the ultimate estimated capability of the Columbia River Basin, are physically possible, but economic and political limitations will need to be resolved in achieving such a goal. Any program which may be devised must be flexible to provide for the continually changing conditions which include increased needs as the Northwest grows; the need for comprehensive development of all resources with all the people of the Northwest having an adequate voice in policymaking; and the necessity for effective coordination and cooperation among agencies in planning, programming, and execution of developmental programs.
COLUMBIA RIVER BASIN
UTILIZATION BY SALMON
AND STEELHEAD TROUT

LEGEND

- Migration Routes
- Present available spawning areas

- - Areas not available or not suitable, due to man-made conditions.

----- Areas never available or never suitable.
IV. WHAT ARE THE ADMINISTRATIVE ORGANIZATIONS ACTIVE IN THE COLUMBIA RIVER BASIN AREA?

FEDERAL

DEPARTMENT OF DEFENSE - U.S. Army Corps of Engineers

The Army Engineer Corps was instituted in 1775 primarily to assist during a war in both the combat and service branches of the Army. One of the established missions of the Corps is to provide engineering services to components of the national military establishment, including responsibility for civil works pertaining to rivers and harbors, and flood control activities of the United States.

National Level:
The organization of the Corps is based upon five major subdivisions as well as various administrative sections. These five are: Military supply and procurement, civil works, military construction, personnel and military operations.

Civil responsibilities are assigned by Congress and Congress has required the Corps to perform peacetime navigation and flood control improvement work aside from military functions of the Army. A Civil Works Division in the office of the Chief of Engineers is responsible for supervision of civil functions. Included in the responsibilities of the Corps are: navigation, flood control, development of hydro-electric power, beach erosion control and administration of laws for preservation and protection of navigable waters. These duties are effected through 42 districts, grouped into 12 divisions which conform roughly to watersheds. They cover the United States, Alaska, Hawaiian and other Pacific Islands, Puerto Rico, and the Virgin Islands. Funds for these functions are appropriated, but are separate from Army funds.

State Level:
Headquarters for the Army Engineers' North Pacific Division is, 210 Custom House, Portland, Oregon. Their area of control consists of four Districts: Walla Walla, Seattle (including 2/3 of the State of Washington, Northern Idaho and Western Montana), Alaska, and Portland.

The functions of the Army Engineer Corps in the State of Washington are the same as those on the national level. It is also responsible for surveys and studies of flood control and navigation problems, which it coordinates with other water uses.

Projects are usually initiated by local interests. The Congressional representative is then informed, and if he considers the petition favorably, he may request the proper Congressional committee to direct the Corps to investigate the feasibility and economics of the project. When investigations, public hearings, surveys and contacts with interested local, state and federal agencies show a proposed project to be warranted, practical and economically justified, and when it is approved by the Corps, then the Chief of Engineers recommends the project to Congress for approval. If approved, it is placed on a list of approved projects to be started when Congress appropriates money for that purpose.

Local Level:
The Seattle District Office is located at 1519 South Alaskan Way. The staff consists of three uniformed officers, who serve from two to three years and are then transferred to another office. There are, however, about 1,000 permanent civilian employees assisting, which somewhat offsets the constant changing of officials. Their area of control is the Seattle District.
Department of Defense - Local Level Cont'd.

When projects are assigned the local office the Corps designers and planners work in cooperation with local designing and architectural firms whom they employ to assist them. As plans are completed, they call for bids by local firms. During construction, Corps inspectors constantly check all phases of work thus keeping closely associated with the firms hired to complete the projects.

Funds-Financing - Repayment Problems:

Though funds are appropriated for public works, Federal law requires a substantial contribution by local interests before they can be used for projects of a primarily local character. Usually there is an agreement among local, state and federal interests before a project is started, and since there is no set percentage for either local or federal contributions, the amount is dependent upon circumstances. There are several kinds of local contributions such as property, work, and rights of way. Usually the local contribution amounts to about 1/4 the total cost. Occasionally there are instances when local interests invest 2 or 3 times as much as federal aid.

Corps dams and reservoir projects require no reimbursement payment of capital costs, and federal funds completely finance them. The investment for municipal and industrial water and power, however, is repaid with interest. Revenues from power sales also pay the portion of investment which users of irrigation water are not able to pay.

The Corps has an available emergency fund for flood fighting and rescue work.

Accomplishments:

At the mouth of the Columbia, the Corps has several projects under way for deepening and improving navigation channels. Four multi-benefit dams extend the slackwater navigation system of the Columbia inland, from its mouth to Pasco, Washington, a distance of 328 miles, and on the Snake River, 140 miles from its juncture with the Columbia.

Bonneville Dam, the first of 6 multiple benefit projects authorized by Congress for construction on the main stem of the Columbia, provides power as well as a single-lift ship lock.

In addition to such large projects as McNary Dam, the Dales Dam, John Day Dam, Ice Harbor Lock and Dam, the Corps has numerous works completed or under way for the control and improvement of rivers, their banks and channels and levees, and harbors.

The Chief Joseph Dam, nearing completion on the Columbia near Bridgeport, is one of the Federal Governments' main projects in the comprehensive development of the Pacific Northwest. It develops that reach of the Columbia from Grand Coulee downstream to the head of a proposed reservoir pool to be formed by Wells Dam.

The Corps has made several comprehensive reports on its investigations of and plans for the development of the Columbia River Basin. In the field of power its survey shows the present and future phases of the Major Water Plan, including independent resources, and their relation to a forecasted regional load. Tabulations summarize this comparison based on the maximum and minimum load forecasts for the Northwest load area for 1965. Completion of the Major Water Plan would increase the development 78% of the practical potential in the United States portion of the Basin. Other Future projects discussed would permit development of more than 98% of this objective.

The total annual evaluated benefits of this plan are estimated at $154,102,400.00. The annual costs of the new projects would be $93,726,100.00 which results in an over-all benefit-cost ratio of 1.64.
DEPARTMENT OF THE INTERIOR--The Bureau of Reclamation

The Bureau of Reclamation was created in 1902 by the Reclamation Act, passed by Congress and signed by Theodore Roosevelt. It is one of nine divisions, supervised by the Department of the Interior, concerned with water resources.

The activities of the Bureau center in the investigation, financing, construction and operation of predominantly irrigation projects in 17 western states. These are the states bisected by or west of the 97th meridian. The projects undertaken by the Bureau have, with increased demands for more water uses, become multi-purpose, involving power production, flood control, and other uses.

National level:
The Washington, D. C., office of the Bureau is the headquarters for the Commissioner, 3 Assistant Commissioners and Directors of four branches. The Bureau of Reclamation Engineers have their offices in Denver, Colorado, under the direction of the Chief Engineer. The field organization comprises 7 regions (Boise, Idaho; Sacramento, Calif.; Boulder City, Nevada; Salt Lake City, Utah; Amarillo, Texas; Billings, Mont.; and Denver, Colorado) each headed by a director.

The procedures of the Bureau follow normal executive channels, through the Secretary of the Interior, to the President, and from him to Congress, where plans, for projects desiring authorization are carefully studied in committee, and hearings are held for interested parties. Congress has the power to authorize each project, and through the Bureau of the Budget, the funds for the project.

Regional Level:
Bureau operations in the Pacific Northwest are supervised by the Regional Director, at Boise, Idaho.

Projects are initiated in one of two ways: 1) a national need, decided by the Federal Government, i.e., increased war-time production, or 2) a local need, felt by local or regional interests. In the case of a national need, preliminary surveys, with emphasis on long run, area wide, planning are carried out by the Bureau, and proposals follow the procedures described above. When authorized, contracts are let, and construction is carried out by local firms under the direction of the Bureau Engineers.

When a project is initiated locally, preliminary surveys and planning are done by local organizations, submitted to interested parties helping to further the plan and eventually to Congressmen, Senators and various federal organizations. If the Bureau then undertakes the project, more surveys and studies are made and their final proposals then follow the procedures given above.

Funds - Financing - Repayment Problems
The proceeds of sales of public lands, oil royalties, and project payments by Westerners are the source of funds for Reclamation activities.

When a task is undertaken, the costs of the project are allocated, as either reimbursable or non-reimbursable costs, to the various features of the project. Reimbursable costs are those allocated to irrigation, power, and domestic water features, while non-reimbursable costs are allocated to flood control, navigation, and pollution abatement features.
Funds - Financing - etc. Cont'd.
The construction of projects by the Bureau is characterized by the principle of repayment of costs by the beneficiaries, which have in the past been able to repay up to 93% of costs of all projects, and which are estimated in the future to repay up to 83% of costs. The principle of using revenues obtained from power marketed at a reasonable price, which are in excess of those required to return costs allocated to power, for repayment of reimbursable costs of other project features which do not provide adequate revenues to accomplish their reimbursement, was stated in the Reclamation Laws.

Accomplishments:
The Bureau of Reclamation has, in conjunction with the Corps of Engineers, prepared a comprehensive survey of the Columbia River Basin, which includes proposals for the total development of the River in cooperation with the Corps.

Projects in the Columbia River Basin in operation, under construction or authorized as of June 30, 1952 numbered 21. They included the Yakima, Okanogan and Columbia Basin projects in Washington. The Columbia Basin Project, of which the Grand Coulee Dam is the most spectacular feature, is designed primarily to reclaim about 1 million acres of land in south central Washington. The Dam became, during World War II, and has since remained, the world's largest producer of hydroelectric power.

Nine Bureau projects are located in Oregon; 5 are located predominantly in Idaho, and 4 in Montana.

AGREEMENT ON CONSTRUCTION RESPONSIBILITY FOR COLUMBIA RIVER BASIN FUTURE PROJECTS,
APRIL 11, 1949
In order to facilitate the planning and construction of future projects in the Columbia River Basin, the Corps of Engineers and the Bureau of Reclamation mutually recognize certain spheres of predominate interest. "The Corps will be responsible for the investigation, construction, and operation of all navigation improvements for the interconnected waterways of the Columbia, Lower Snake, and Willamette Rivers, and of all channel improvements, levees, bank protection, exclusively flood control storage works and related drainage works. The Bureau will be responsible for all Federal irrigation, and related drainage and domestic water developments, and for the disposition of water from projects of the Corps of Engineers that is used for irrigation purposes.

Within the field of multiple-purpose storage projects and of power projects, it is recognized that because of predominate interests, the responsibility for conducting new investigations and of continuing investigations already launched shall be as follows:


Quotation of Agreement - Cont'd.
Insofar as consistent with the directives of Congress, both agencies will recognize the areas of primary responsibilities of the agencies outlined above. Whenever either agency plans to initiate an investigation and report on contemplated project, the two agencies will confer and if activities by both agencies are involved, will reach agreement on the responsibility and the scheduling of the work to be performed." (From The Columbia River, Final Letters of Transmittal and Comments of the Affected States and of Federal Agencies, February, 1950, U. S. Dept. of the Interior, Bureau of Reclamation.)

DEPARTMENT OF THE INTERIOR—The U. S. Fish and Wildlife Service
The Fish and Wildlife Service investigates the probable effects on fish and wildlife of dams and other water control structures planned by the Bureau of Reclamation, Corps of Engineers, Department of Agriculture, and makes the data available to interested agencies. It submits recommendations for the modification of construction and operational plans in order to prevent damage to or enhance fish and wildlife resources. In the section on pending legislation is a discussion of a bill which would give the Secretary of the Interior the power to approve or disapprove non-federal projects concerned with fish resources.

On August 11, 1958 the new Fish and Wildlife Coordination Act was signed into law by President Eisenhower. This Act is considered to be as significant to conservation as the Reclamation Act of 1902 was to the program of the Bureau of Reclamation, the Flood Control Act of 1928 to the Corps of Engineers, and the Federal Power Act of 1920 to the Federal Power Commission. The Act states that "wildlife conservation shall receive equal consideration and shall be coordinated with other features of water-resource development programs." It clearly authorizes Federal construction agencies to include fish and wildlife conservation measures in previously authorized water-use projects and to modify projects and project operations on behalf of fish and wildlife. It does not, however, give the Fish and Wildlife Service automatic veto power over any part of Federal Water Resources programs or projects.

The Fish and Wildlife Service advocates a moratorium, as was proposed by Secretary of the Interior Fred A. Seaton, Oct. 1958, on the construction of high dams across the main migration routes of salmon on the Snake River. It is on record as being opposed to the proposed Nez Perce, Lower Canyon, Crevicso; and Weneha dams because of the lack of a proved method of successfully passing anadromous fish over dams of this height.

In cooperation with the Corps of Engineers, private power companies, and public utility districts, the U. S. Fish and Wildlife Service and State Fisheries agencies are carrying out numerous studies and are conducting research on many phases of the problems of passing fish across high dams. Progress is being made in upstream and downstream fish passage at dams. If sufficient time is available prior to construction of projects, such as Nez Perce, the major obstacles may be overcome which now stand in the way of the protection of the fishery resource.

DEPARTMENT OF THE INTERIOR—Other Agencies
Within the Columbia River Basin there are four National Parks and three National Monuments. The National Park Service is, therefore, involved in our recreational and regional planning.

The Office of Indian Affairs administers more than $7 million acres of land in the basin and so is concerned with programs involving agriculture, forestry, and irrigation development including the construction and maintenance of projects.
Department of Interior - Other Agencies - Cont'd.

Continuing study is requisite for full attainment of the Columbia Basin's great potentialities. The Geological Survey collects and interprets for use by other agencies detailed information on surface and ground waters, or on mineral resources and on general geologic conditions affecting dam sites; it also makes topographic maps of varying detail appropriate for planning purposes. The development of methods for the more effective production and use of mineral resources is one of the functions of the Bureau of Mines. The Bureau of Land Management administers over more than 22 acres of public lands, both forest and grazing.

THE U. S. DEPARTMENT OF AGRICULTURE

The Soil Conservation Service

The Soil Conservation Service operates under P. L. 366, empowering the Secretary of Agriculture to cooperate with local entities for the protection of watersheds and the prevention of floods. The work is initiated by a local unit (soil or water conservation districts, flood prevention or control districts, States and their political subdivisions); and in the State of Washington must be approved by the Department of Conservation.

The Soil Conservation Service provides technical assistance to the local group by conducting surveys, preparing plans and estimates, making allocations of costs, agreeing to furnish financial assistance at the existing rate of assistance for similar practices under existing national programs, and obtaining the cooperation and help of other Federal agencies. The local organization initiates the project; acquires (at no cost to the Federal government) the land, easements, rights-of-way that are needed; assumes its proportionate share of the costs of the agricultural phases of the job and all the cost of the phases applicable to other purposes; arranges proper maintenance of such works of improvements; obtains from not less than 50% of owners of lands situated in the drainage area above each retention reservoir an agreement to carry out recommended soil conservation measures and proper farm plans; and arranges repayment of any loan or advancement. The engineers hired for the construction of each project must be satisfactory to the Secretary of Agriculture.

Whenever the estimated Federal contribution to the cost of construction will exceed $250,000, or the structure will have a total capacity exceeding 2500 acre feet, the Secretary must so inform and justify it to Congress via the President, and if such a project affects lands or wildlife under jurisdiction of the Secretary of Interior or affects floodwater retention structures, the plans shall be submitted to the Secretary of the Interior and/or the Secretary of the Army at least 30 days before being sent to Congress and their comments shall, if received soon enough, accompany the plans to the Congress. The Secretary of Agriculture is authorized to cooperate with other Federal agencies and State and local agencies to make plans as a basis for the development of coordinated programs.

The U. S. Forest Service

There are 46 million acres of national forests within the Columbia River Basin area, and the Forest Service's greatest participation is in the field of Watershed management. In its administration and management of the national forests, the Forest Service must take into consideration land-utilization projects for timber and forage production, watershed protection and flood reduction, water conservation and, erosion control, and the use of and enhancement of fish, wildlife and recreational resources. In the Columbia basin area the Forest Service also is cooperating with the Columbia Basin Development Commission in all phases of planning which relate to the national forests.
Rural Electrification Administration

The R. E. A. is an agency within the Department of Agriculture, which makes loans to groups of cooperating farmers for financing the construction and operation of generating plants, transmission lines and distribution systems for the furnishing of electrical energy to unserved persons in rural areas. These government loans are repaid with 2% interest.

Initially, the R. E. A. was an emergency relief undertaking to aid in the recovery from the depression. It was hoped that private utilities would cooperate, but instead of assisting programs, or remaining neutral, they launched a vigorous delaying campaign of opposition, wherever possible.

Many groups oppose this Federal program which provides low-interest loans for rural cooperatives, insisting that the R. E. A.'s original objective has been achieved. At this session Congress will be asked to decide if the program is complete or if it should continue to receive government loans for expansion and improvement of its existing facilities.

(A discussion of the local R. E. A. Cooperative will be found in the section on Local Administrative organizations.)

THE FEDERAL POWER COMMISSION

The Federal Power Commission consists of five members appointed by the President with the approval of the Senate. This commission is located in Washington, D. C., but its duties and responsibilities cause it to exert considerable influence over the development of the Columbia Basin.

The Federal Power Act of 1920, revised in 1930, gives the commission authority:

1) To issue licenses to non-federal interests (citizens, corporations, states and municipalities) authorizing the construction, operation, and maintenance of water projects on government lands and on streams over which Congress has jurisdiction;

2) To participate in power-development planning and to consider the comprehensive development of the various river basins;

3) To make cost allocations and to review rate schedules in connection with various Federal power operations, including Bonneville Power Administration. The commission has comprehensive investigatory authority and power to make rules and regulations over the interstate activities of electric utilities. Provision is made for joint hearings with State Utility Commissions concerned with similar matters.

The Federal Power Commission is at present holding hearings in Washington, D. C., to consider Seattle City Light's request for a license to build Boundary Dam on the Pend Oreille River in Northeastern Washington. For further details refer to Section VI on Commission Action.

STATE ADMINISTRATIVE ORGANIZATIONS ACTIVE IN THE COLUMBIA RIVER BASIN.

On the level of Washington State government there are a number of agencies within the Department of Conservation; but certain important Departments of Fish, Game, Agriculture, and Pollution Control are separate. Most of these agencies are largely planning and advisory, while some issue licenses and enforce state regulations.
Department of Conservation

The State of Washington Department of Conservation is directed by Mr. Earl Coe. As director he sits on numerous boards and commissions related to water conservation: the Columbia Basin Inter-Agency Committee, the Bonneville Power Advisory Committee, the Advisory Committee of the U. S. Corps of Engineers, the National Reclamation Association, and the Pollution Control Commission.

The Assistant Director of the department serves on the Columbia Basin Commission, and supervises the Division of Reclamation. The Division of Power Resources was created by the 1957 Legislature to represent the state in power matters and to aid and assist the power utilities to the end that the state's power resources be properly developed in the public interest. The division of Water resources studies surface and ground water conditions and issues permits relating to the use of such water. The Division of Flood Control studies problems related to the flooding of various rivers.

Department of Fisheries

The Washington State Department of Fisheries is charged with the management of commercial fisheries in the state, promulgating and enforcing regulations for the fisheries with a view to protecting, conserving, and sustaining a constant and high-level yield. There are seven divisions within the Department of Fisheries: Biological (Research and statistics), Hatchery, Stream Improvement, Technological (concerned with fish processing), Patrol, Construction and Maintenance, and Shellfish Management. Since the job of this department is to maintain fisheries, it has approval powers over all water rights licensed to build dams in the State. Approval can be withheld if the Department of Fisheries believes that there are inadequate provisions for fish ways, weirs, ladders, etc. adjoining dams. The Department also works very closely with the U. S. Bureau of Fisheries in its study of all plans which might alter free movement of commercial fish.

(Note: In an interview with Marshall Thayer, Supervisor, Reimbursable Services Department, Washington State Department of Fisheries, Mr. Thayer expressed the belief that private power companies are more cooperative than P. U. D.'s in planning adequate provision for fish movement when constructing dams.)

The Pollution Control Commission

The Pollution Control Commission consists of the Directors of the Department of Conservation, the Department of Fisheries, the Department of Game, the Department of Health and the Department of Agriculture. The commission possesses rather broad regulatory powers to control and prevent the pollution of streams, lakes, rivers, ponds, inland waters, salt waters, water courses, and other surface and underground waters of the state. The Commission receives and investigates complaints, inspects existing sewage systems, approves all new systems, operates a mobile laboratory unit with which to conduct spot tests throughout the state, and conducts an active educational campaign to inform and instruct the public. In 1949 the Commission was authorized to cooperate with the federal government and to accept grants of federal funds, and to make any application or report required by an agency of the federal government incident to receiving such grants. The Commission also is authorized to cooperate with appropriate agencies of neighboring states and to enter into contracts, and to make contributions toward interstate projects.

The Columbia Basin Commission

The Columbia Basin Commission deals primarily with irrigation districts. The Commission consists of seven members. Three are appointed by and from among the members of the boards of directors of the three Columbia Basin Irrigation Districts;
The Columbia Basin Commission - Cont'd.
three are appointed by the Governor; and the final member is the Director of Conservation and Development who serves as chairman. The Commission studies and promotes the development and utilization of the agricultural, water, power, mineral, timber, recreational and other natural resources of the Columbia River Basin with special reference to those parts embracing the Columbia Basin Irrigation Project, Grand Coulee Power Project, and tributary areas.

LOCAL ADMINISTRATIVE ORGANIZATIONS ACTIVE IN THE COLUMBIA RIVER BASIN

Public Utility Districts
Consumers of electric power in the State of Washington are served in approximately these proportions:
\[\frac{1}{4}\] by private power companies
\[\frac{1}{4}\] by city light systems
\[\frac{1}{4}\] by Public Utility Districts (County systems)
Since both city light systems and P.U.D.'s are municipal corporations, it might be said that half are served by Private power (including the relatively small number served by locally owned cooperatives) and half by public power.

City light systems have been in use in Washington for over 50 years. For an example of how a city light system works, see Seattle City Light's Annual Reports, or Comparative study of Public and Private Ownership of Utilities by Mr. DeLeon, Seattle City Light.

Public Utility Districts in Washington are of more recent origin, the first having started in Mason County in 1932. Of the 29 P.U.D.'s now operating in the state, most have started operation since 1940. These districts are limited in sales to county boundaries but can be less than a county.

The main difference between private and public power is financing. Public power systems pay no Federal income tax and are financed by revenue bonds.

The fundamentals of a P.U.D. are the same as those of a City Light system. Each is a municipal corporation, and each is controlled by an elected board or council. Each pays off the mortgage by making systematic debt reductions, thus building what is known as 'debt-free equity'. Each uses revenue bonds, and each makes extensions and plant additions out of earnings. City light systems are responsible to the mayors or councils of their cities, whereas P.U.D.s are governmental units under Federal and State laws with specially elected boards for their administration.

Public power systems are usually started through assessment and sale of revenue bonds. Ideally a public power system is self-supporting, but if revenues are insufficient, the District can levy a tax annually to make up deficiencies.

R.E.A. Cooperatives
In the State of Washington there are 20 cooperatives in operation. Although similar to a Public Utility District, there are certain significant differences. Both can borrow from R.E.A.; both are non-profit methods by which individuals in association can provide themselves with electric service. But the P.U.D. is an agency of government, with voters residing in a county deciding who shall provide the electricity. The Co-op is a non-profit private business which cannot condemn property, exercise a right of eminent domain or levy taxes. While not restricted to county lines, the co-op may only serve rural areas not already provided with electric service. Both charge a similarly low rate because of Bonneville Power Administration's postage stamp rate to wholesale users.
LWV of Seattle
Know Your River Basin
March, 1959

R.E.U. Cooperatives - Cont'd.

In 1936, at the time of the Rural Electrification Act, only 744,000 out of 7 million farms in the U.S. were served by central stations. Private power found it too expensive to take their lines to rural areas. Costs at that time ranged from $2,000 to $3,000 per mile of lines, and rates ranged from 8¢ to 25¢ per kilowatt hour, plus a service charge. In less than 20 years the co-ops have built more than 1 million miles of electric power lines, and have reduced the cost of line construction to $70 per mile and the rates per kilowatt hour to less than 4¢ and in some areas to less than 1¢.

Co-ops pay the same tax that any other electric utility in Washington pays, with the exception of a federal income tax, for, as a non-profit organization, there is no profit on which to pay income tax. Since their organization they have paid over a quarter of a million dollars in tax to the county, state and federal treasuries.

With 94 out of 100 farms in the Northwest electrified, the job left to do is to "heavy up" the lines. As farm uses of electricity have multiplied, heavier wires are needed to carry increased loads. As with any business, the plant must be added to, and improved each year.

**Private Power**

At the present time, in the Columbia River Basin, there are four private power companies in operation: Washington Water Power Co. in the Spokane area, Pacific Power and Light Co. in the Vancouver-Lonview area, Portland General Electric Co. in the Portland area, and Puget Sound Power and Light Co. in the Seattle-Cascade region. Washington Water Power Co. owns several plants on the Spokane River and in Northern Idaho. Pacific Power and Light has plants on the Lewis River in Southwest Washington and on several rivers in Oregon, and Puget Sound Power and Light has big power installations on several rivers in Northwestern Washington. None of those companies has any power generating equipment on the main stream of the Columbia River at this time, nor have future plans for such installation been announced. By arrangement with governmental installations, electric power from the Columbia River is being sold to the private companies for their distribution.

For example, Puget Sound Power and Light contracts with the Chelan P.U.D. for 50% of the power from its Rocky Reach Dam, and has made arrangements to purchase power from Grant County PUD's Priest Rapids Dam scheduled for completion in 1961. The Priest Rapids contracts gave each power purchaser on that development the right to claim a like share of Wanapum power (another dam projected by the Grant County PUD) by shouldering its share of construction and operating costs, and in the fall of 1958 Puget Sound Power & Light elected to exercise this claim. Other contracts with the Bonneville Power Authority provide additional power for Puget Sound Power customers.

This purchase of power on a "service at cost" basis provides the private power companies with a source of power at a level cost and a reliable quantity, and assures the P.U.D.'s of steady consumers of their power.

**The Northwest Public Power Association**

The Northwest Public Power Association was formed in 1940 as a result of the friction which had developed between the P.U.D.'s and the electric co-ops during the 1930s. Those two agencies have resolved their frictions and are working together for certain common aims within the Association. It now comprises 103 consumer owned electric utilities which serve almost two million people in Alaska, Oregon, Washington, Idaho, and Montana. Mr. Gus Norwood is the executive secretary. The chief concern of the Association is the full development of the power resources of the Northwest rivers and the building up of the groups that are its members.
The Bonneville Power Administration

The Bonneville Power Administration is an agency set up within the Department of Interior to sell at wholesale the power generated at certain Federal dams in the Pacific Northwest. The Administration has 2,193 permanent employees, almost all of whom are located in the Northwest. There are three area offices: Portland (where the Administrator, Dr. William L. Pearl, has his headquarters); Seattle and Spokane; and four district offices: Eugene, Walla Walla, Kalispell and Wenatchee. The Administrator acts in consultation with an Advisory Board, and also with the Bonneville Regional Advisory Council.

The Bonneville Power Administration does not build or operate dams, but builds, operates and maintains a grid of transmission lines and substations to carry the electrical energy to distributors. This federal system is integrated with non-federal systems to form the Northwest Power Pool. The Administration's network of high voltage transmission lines is the backbone grid of the Pool. Integration and interconnection of the systems of member utilities enables Pool members to derive the maximum power from available resources.

Bonneville Power Administration sells power to 76 local public agencies (municipalities, P.U.D.'s and cooperatives), 11 Federal agencies, 9 privately owned utilities, and 18 large power-using industrial plants (mostly aluminum). The rate at which power is sold is set by the B.P.A. with the approval of the Secretary of Interior and the Federal Power Commission. Preference in the sale of power is given to public agencies and cooperatives, according to the policies prescribed by Congress.

In 1957 the distribution of electricity sold was as follows:
28% to public agencies, 23% to private utilities,
7% to Federal agencies, 42% to industry.

The total investment in the Federal system is now approximately $2 Billion, of which $420 million is in the transmission facilities operated by B.P.A. In 1968 the government's investment will be over $3 Billion, of which $666 million will be in the B.P.A. system.

The basic wholesale rate, which Bonneville charges its customers, is $17.50 per kilowatt year. In other words, for $17.50 a customer can obtain one kilowat 24 hours a day, 365 days a year. The rate is the same to all customers no matter where they are located; hence they are called "postage stamp rates". B.P.A. establishes the rate schedule with the approval of the Secretary of the Interior and the Federal Power Commission.

B.P.A. receives an annual appropriation from Congress for the construction of new facilities and the maintenance of the existing Federal transmission system. All receipts from power sales are returned to the U.S. Treasury in repayment of the expenses and Federal capital investment. The investment in power generation facilities will be repaid with interest in 50 years or less; the investment in transmission facilities in 35 years; and power's portion of irrigation facilities within 50 years after each block of land receives water.

The Columbia Interstate Compact

The Columbia Interstate Compact is a formula for unification of all the states interested in the Columbia River Basin. The Compact was formed in 1955 to treat the entire basin and its development as a unit. It is intended to expedite and streamline existing piecemeal and cumbersome processes and to review plans for water use developments. It is a Board before which grievances may be aired by those people, or groups
The Columbia Interstate Compact - Cont'd.

of people, concerned. The Compact board may then make recommendations which may or may not be carried out by the agencies doing the actual building of projects. The Compact will not at this time attempt to take over building or financing of the building of projects, but will facilitate the settling of controversies about project plans. The agreement includes representatives from seven states: Oregon, Washington, Montana, Idaho, Nevada, Utah and Wyoming.

The Columbia Basin Inter-Agency Committee
Established: 1946 Revised charter: 1954

Purpose:
The purpose of the Columbia Basin Inter-Agency Committee is to provide effective administrative procedures for the coordination of policies, programs, and activities of Federal, State, and other public and private agencies in the Pacific Northwest directly engaged in the field of water and related land resources; to undertake resolution of differences at the local level to the extent possible under existing law; to collect and interpret basic data at the field level; to coordinate agency activities in the investigation and planning of water resources projects and programs; to develop uniform standards for the evaluation of projects and programs, cost allocations, distribution of benefits, etc.

Composition of Committee

The Chairmanship of the Committee rotates annually among the Federal Member agencies. Meetings are held as often as required, but normally once every two months, and are open to the public.

This committee is the coordinating agency at the regional level. Various sub-committees, such as the subcommittees on Fisheries, Power, Water and Land Resource Development, study in depth the programs being considered by the Committee during the year.

The C.B.I.A.C. is patterned after a similar Federal Inter-Agency Committee on Water Resources.

Effect
In its first years of activity the Columbia Basin Inter-Agency committee fulfilled its purpose and settled many conflicts in the plans and programs of member agencies. In recent years its effectiveness has diminished and instead of being settled at the regional level, problems and disagreements are carried to Congress as before. The sub-committees continue to provide significant research reports.

The State of Washington, as represented by Director of Conservation, Mr. Earl Coe, is trying to restore action to this committee. At present its members accomplish very little at their meetings.
In reviewing the water resources of the Pacific Northwest, the citizens of Washington are prone to consider the Columbia River as peculiarly their own. This is misleading. One third of the course of the river lies in Canada, 465 miles of a total length of 1210 miles. The source is 2600 feet above sea level. At the international boundary the elevation is 1292 feet. Thus, Canada and the United States share about equally the "head" or the vertical distance which the water can be dropped through one or a series of turbines, the source of power. The water flow at the border averages 62,400,000 acre feet annually and at the mouth 180,000,000 acre feet. Slightly more than one third of the total volume of the Columbia rises in Canada. In each aspect a significant portion of the Columbia belongs to our friendliest neighbor, Canada. This geographical sharing of the Columbia River system has given rise to considerable controversy.

**Canadian Proposals**

At the present time Canada has no developments on the Columbia but has ambitious plans and aspirations that proper development of this resource and other rivers in British Columbia will one day result in an industrial province as wealthy as Ontario or Quebec. The plans include two diversions. The smaller one, and probably the first to be undertaken, is the diversion of the Kootenai River into the Columbia. At times of flood this happens naturally across the flats around Columbia Lake. Thus it is entirely feasible from an engineering point of view. This diversion would eliminate the site of the proposed Libby Dam farther downstream in Montana. The second and later diversion is that of the Columbia to the Fraser, a river entirely within the territory of British Columbia. Already completed engineering studies have shown the feasibility of a short tunnel twelve to fifteen miles through a low mountain range. This plan would divert a massive segment of the river. As a result of this diversion British Columbia would obtain more than 1200 feet of extra "head" which would make possible an amount of power equal to the output of two Hoover Dams. These diversions would remove approximately 15,000,000 acre feet of flow from the Columbia and would likely affect every development downstream. For example, at Grand Coulee the present peak capacity of 1,974,000 kilowatts could be maintained only with difficulty and its potential of 2,833,000 kilowatts with mutual storage reservoirs would never be realized.

To many informed individuals on both sides of the border this situation represents a crisis. Senator Richard L. Neuberger has stated "that these diversions would radically change the economic geography of the northwest in both countries. It would forever foreclose the full development of the Columbia River basin in the United States." Canada claims that her proposals would not affect existing installations on the Columbia River, but will clearly affect future plans and that the United States might better have alternative sources of power when the second diversion is undertaken, possible not for 25 or 30 years.

**The Legal Aspects**

At this point the question arises whether Canada has the legal right to divert these waters. The answer lies in a review of treaty relations between Canada and the United States on boundary waters. In 1909 a treaty on all boundary waters was drawn up between the two countries. In Article II of this treaty each party reserves exclusive control over the use or permanent diversion of all waters on its side of the boundary, including absolute jurisdiction over all waters within its territory. This is based on the Harmon Doctrine, established in a legal opinion written in 1895 by Attorney General Harmon in relation to the Rio Grande problem with Mexico. This doctrine
Legal Aspects - Cont'd.
gives exclusive rights to all waters within our territory with no liability or obligation to downstream territory. In the 1909 treaty with Canada a concession was made to Canada by which it was agreed that any interference with the natural flow of the river with resulting injury shall give any injured party, either Canadian or American, all legal rights and compensation as allowed by the laws and rules in that country where diversion occurred. Neither British Columbia nor Washington laws, however, allow the downstream injured party any right of compensation from a licensed upstream party. In the opinion of Mr. Charles B. Bourne, of the law faculty of the University of British Columbia, Canada stands on firm legal grounds in its plans for diversion.

The general principles of international law inject another element, that of equitable apportionment. This principle is far less well defined and would mainly lead to further negotiation. Mr. Bourne claimed that even with this principle the Canadian diversions were within reasonable use of their waters, 15 million acre feet out of the 60 million acre feet of flow at the border.

A second area of international controversy is found in the Canadian claim for compensation for downstream benefits from their waters. Precedent for their claim is found in the 1925 settlement relating to a dam built on the St. John River, a boundary river between Maine and New Brunswick. In this case the waters are shared equally by the two countries and an agreement for compensation of downstream benefits by a return of power, not money, was reached. There is a question whether this precedent applies to territorial waters, such as the Columbia, as well as boundary waters. Mr. Bourne believed that the international principle of equitable apportionment is inherent in the problem of downstream benefits.

The International Joint Commission
Machinery for negotiation and settlement of boundary water problems was provided in the 1909 treaty by the establishment of the International Joint Commission. At the present time the chairman of the Canadian section is General A. G. L. McNaughton, an illustrious soldier-engineer. Douglas McKay, former Secretary of the Interior, is the United States chairman. The effectiveness of this commission has been bitterly criticized on the basis that negotiations seem to have bogged down completely and, even worse, the relations between Canada and the United States have seriously deteriorated in this respect.

Despite criticism the Columbia basin problems have been under intensive study since 1944. In that year the International Joint Commission established the International Columbia River Engineering Board. For over 13 years, this board has been engaged in field work of a complete survey on both sides of the border. Their voluminous report is to be presented to the International Joint Commission in March, 1959. At the same time studies have been made by Canada, various joint hearings have been conducted in Congress, and an extensive review of river plans made by the United States Army Corps of Engineers. Both sections of the commission have agreed that the entire River basin should be studied as an integrated whole and that decisions should not be made until all the facts are in.

The Canadian Position
The Canadian position as a possible basis for settlement was summarized by Mr. Bourne as follows. The basic premise is that within legal limits all Canadian waters must be used to the best advantage of Canada. Then followed a sequence of nine points. 1) The total river should be developed as an integrated whole, disregarding the international boundary. (this does not rule out diversion as this could
The Canadian Position - Cont'd.

be an improvement over nature.) 2) There should be equitable sharing of benefits between the United States and Canada. 3) The Diversion of the Kootenai to the Columbia should be undertaken. 4) No immediate diversion of the Columbia to the Fraser would occur. (There are no present needs for such amounts of power, although a 475% increase in power demands is projected for the decades 1955-1975.) 5) Diversion of the Columbia would take place when feasible. 6) Pending diversion the United States should have downstream benefits. 7) Compensation for downstream benefits should be made by the United States. 8) Payment for downstream benefits should be in returned power, but temporarily cash payments would be acceptable as long as Canada had no need for the power. 9) Canada's downstream benefits should be half of the benefits accrued from regulated flow.

This must appear to be a strong and stern position to those who for so long have taken for granted that all the waters flowing within our borders are ours for use and benefit without compensation for any part arising in Canada. Fortunately, as Neuberger notes, McNaughton understands that a good bargain requires that both parties should benefit substantially.

The American Position

The position of the United States has been in agreement with Canada that decisions must await the three important reports which are to be presented to the International Joint Commission this spring. McKay has emphasized this point. He and others have conceded that Canada probably has the legal right to divert water--within reasonable limits. Likewise compensation for downstream benefits is reasonable. Senator Neuberger has suggested a return of 28-32%. McKay warns, however, if Canada sets too high a price for its benefits, the United States will not build those projects. His stand is further supported by a special interagency report of April 1955 which notes that Canadian storage of waters is valuable only because of the extensive downstream developments in the United States. The full development of alternative projects in the United States will progressively make less valuable to us the storage potential of Canada.

What's In the Future?

It appears that conditions today are more favorable for a settlement than at any time before. The several important reports are completed and will be under consideration by the International Joint Commission in March 1959. Also pressure is building up on each side toward prompt decisions so that needed development and industrialization can proceed. It is hoped that the International Joint Commission will work out the best possible program for mutual and equitable benefit from the mighty Columbia River.
VI. PENDING LEGISLATION AND COMMISSION AND AGENCY ACTION

Before considering this section on pending legislation, we suggest a second look at the February 1958 National Voter Article, "View from a Waterfront" with special attention to the last section on Points of Agreement and Disagreement where possible alternatives in organization for basin-wide planning are discussed. This is no simple question of how far we want to develop our river for the production of power, irrigation, flood control, and industrial growth. The answers to many questions depend largely on judgment and preference. How much weight, for example, should be given to the noncommercial aspects of recreation or the sheer beauty of an unspoiled reach of river? Are there intrinsic merits in certain approaches to river basin development that counterbalance purely economic considerations? For instance, is private development preferable to public; or, when government action is involved, is state or local development preferable to federal? Crucial choices in river basin development which have to be made within the next ten or fifteen years will do much to set the pattern for many years to come.

National Legislation
S3185 - Conservation of Migratory Fish and Game
This bill to promote the conservation of migratory fish and game was referred to the Committee on Interstate and Foreign Commerce. The bill requires approval by the Secretary of the Interior of licenses under the Federal Power Act. The committee has considered the bill with amendments, reported favorably upon it and recommends that it shall pass as amended.

Purpose of the Bill: S. 3185, as amended, would provide that licenses for water power projects could not be issued until the Secretary of the Interior is satisfied that the plans for fish passing facilities would mitigate the loss of migratory fish. (This refers to non-federal projects.)

Public hearings were held by the committee on this legislation, and everyone desiring to testify was given an opportunity to be heard. Witnesses contended that the passage of this bill would have major influence upon the conservation of salmon runs.

Arguments for S. 3185: This amendment cannot be considered as the establishment of a new precedent. On other occasions, the Congress found it advisable to place restrictions upon the determinations of the Federal Power Commission to preserve valuable resources and to protect uses of public waters.

For instance, section 4(e) of the Federal Power Act provides that no license affecting navigable waters of the U. S. shall be issued until the plans of the dam or other structure affecting navigation have been approved by the Chief of Engineers and the Secretary of the Army.

Fishery experts are generally agreed that devices for passage of fish over high dams (500 feet or more) are not proven and may never be effective. The fish ladders which have proven adequate are on dams of 100 feet or less; i.e., Bonneville and McNary. The great Grand Coulee Dam did annihilate one species of salmon, the June salmon which spawned in the area above this dam.

When considering S. 3185 it should be remembered that recently the F.P.C. recommended a high dam, NezPerce--in excess of 500 feet--as providing maximum benefits from the waters of the Snake River. Proponents of S. 3185 maintain that any high dam which will obstruct passage of fish into the Snake and its important tributaries will have a disastrous effect upon Northwest fishery, for these are the spawning grounds of
Arguments for S. 3185 - Cont'd.
33% of salmon and steelhead which enter the Columbia at its mouth. Annual income to the Northwest from fishery is in excess of $17 million per year.

Arguments Against S. 3185: It was argued that the bill would establish an unwise precedent in giving to the Secretary of Interior a veto power over the Federal Power Commission in the licensing of river development projects. The Federal Power Commission, state the opponents, was established as an independent bipartisan arm of Congress. They believe that this bill would make it subservient to an executive agency.

The Federal Power Commission itself stated that each application, as received for a permit or license is referred to the U. S. Fish and Wildlife Service through the Secretary of the Interior and to State Fish and Wildlife agencies involved, for reports and recommendations in accordance with the Wildlife Resources Coordination Act. In many cases the Secretary of the Interior has reported, in substance, that a proposed project would be detrimental to the conservation of fish and game. Upon receipt of such recommendations they were referred to the applicant. Thereafter, with only two major exceptions, the applicants and the fish and wildlife agencies with the aid of the Commission, resolved their differences without the necessity for a hearing. The Federal Power Commission concluded that S. 3185 is unnecessary since the interests of all State and Federal agencies concerned with protection of migratory fish and game are adequately safeguarded under existing law and administrative procedure.

Some of the opponents of this bill favor another type of amendment (S.2847) to the Federal Power Act to make it mandatory that the F.P.C. license only projects which conform to the Comprehensive plan, and sets down tests, standards, and guidelines for the Commission to follow. Conservation of fish should not be the supreme test; instead they urge a balanced consideration of fisheries, game, navigation, flood control and other water uses.

S. 3184 - The Columbia Development Corporation Bill
Section 1. Changes the name of the bill from Bonneville Act to Columbia River Development Corporation Act of 1958.
Section 2. States that the purpose of the bill is to improve navigation and development of the Columbia River, to strengthen the national defense and to promote the general economic welfare of the Pacific Northwest and the nation.
Section 3. Provides that the management of the Corporation shall be vested in a 5 man board of Directors, appointed by the President with at least one from each state in the Pacific Northwest. There will also be a general manager appointed by the President, as well as an Advisory Council made up of 40 members at large plus 1 member appointed by each member of the United States Senate and House of Representatives from the Pacific Northwest. All Federal agencies interested in the development of the river will also be represented.
Section 4. Reenacts the power pool provisions of the Bonneville Project act:
(a) All Federal agencies must deliver power generated at projects operated by them to the Corporation.
(b) Corporation is authorized to construct and operate thermal and atomic power plants as well as the transmission system now operated by the BPA.
Section 4. also amends the preceding legislation in that it takes away the veto power of the Corporation over projects licensed by the Federal Power Commission and provides for continuance of dam construction activities by the Corps of Engineers and Bureau of Reclamation. The Corporation would furnish funds to construction agencies for the features of authorized Federal multipurpose projects allocated to power generation.
S. 3144 - The Columbia Development Corporation Bill - Cont'd.

Section 5. Gives the Corporation power to purchase, lease, and condemn properties necessary for its operation.

Section 6. Gives the Corporation legal status as a Corporation. It may sue and be sued in its corporate name; it may settle, adjust or submit to arbitration claims held against other parties.

Section 7. Governs the relation of the Corporation with other Federal agencies.

Section 8. Defines the area "Pacific Northwest" as the states of Washington, Oregon, Idaho, and that part of Montana west of the Continental Divide.

Section 9. Makes the Corporation responsible for the net power needs of its members and provides "if, in preparing advance programs for future power sales, the Corporation estimates that power supply will not be sufficient to meet such net power requirements, the Corporation is authorized to distribute subsequently available new supplies of power so as to assure that there shall be no unreasonable geographic concentration of the power sold by the Corporation".

Section 10. Gives the Corporation the right to enter into agreements with its power customers.

Section 11. The Corporation shall set up schedules of rates and charges for services with a view to encouraging the widest possible diversified use of electric energy at the lowest possible rates to consumers consistent with sound business principles. A Joint Cost Allocation Board consisting of 1 representative of the Corporation appointed by the general manager, 1 representative of the Sec. of the Interior, and 1 representative of the Sec. of the Army shall be established which will determine allocations of project costs. This Board will hold its meetings in the Pacific Northwest.

Section 12. The Corporation shall reimburse any Federal agency from which it receives power under the act, and it shall also repay to the Federal Treasury all project capital costs allocated to power production. This section also provides for the close interrelation of the Corporation and related Federal agencies. Nothing in the act shall interfere with water rights set by state laws.

Section 13. Changes from $500 to $2,500 the amount of negotiated purchases or contracts which the Corporation may enter into as an agent.

Section 14. Outlines administrative procedure of the Corporation as far as related legislation is concerned.

Section 15. Controls employment and compensation of Corporation employees and forbids the establishment of any political test or qualification.

Section 16. Establishes an Operating Fund in the Treasury of the U.S. to be used by the Corporation. It authorizes the Corporation to issue 50 year bonds up to $750,000,000. and requires the Secretary of the Treasury to purchase and set the interest rate on such bonds for a period of 5 years. At the end of the 5 year period the Corporation is to recommend to the Congress a permanent financing method.

Section 17. Transfers assets of the BPA to the Corporation and requires the Corporation to assume all the obligations and liabilities of it as well. A capital fund is to be established in the Treasury to take care of assumed liabilities, all appropriated funds received by the Corporation and all the power costs of Federal projects not contributed by the Corporation.

Section 18. Provides Congressional endorsement of a multi-state compact.

Section 19. Substitutes the Corporation for the Bonneville Administrator in the present act.

Section 20. Gives the President the right to set the effective date of the act within 6 months after its enactment and permits the appointment of the Board of Directors and the Manager at any time after the enactment of the bill.
At the December 9, 1958 hearings in Seattle, Senator Neuberger and members of the Public Works Committee listened to testimony of interested persons and groups in this locality.

Mr. Earl Coe, director of the State Department of Conservation, said that the State of Washington strongly supports the principles and objectives of the bill. He recommended a more complete set of policy directives relating to the non power functions of water resource development.

Mr. W. Black, general counsel for Puget Sound Power and Light, stated that his organization opposes the bill and fears the effect of the Corporation on existing private power companies and their future expansion.

Mr. Dean Eastman, president of the Seattle Chamber of Commerce, said that his group is strongly opposed and favors local development by private enterprise. He believes that the Northwest's economy is healthy and does not need this kind of bolstering.

Mr. Ken Billington of the Washington Public Utility District Association endorsed the principle of the bill and recommended certain changes and clarification.

Mr. David Gordon, managing director of the Association of Washington Industries, was opposed on the grounds of his belief that the bill would kill further development by private companies. He also believes that the general manager could ultimately control the entire economy of the region.

Mr. Henry Heckendorn, attorney representing the Seattle Chamber of Commerce, opposed the bill as dangerous and unfair.

Mr. Ralph Ethier, representing the Benton Rural Electric Association, Inc., spoke in favor of the bill.

COMPARISON OF THE BONNEVILLE PROJECT ACT AND COLUMBIA CORPORATION BILL, S. 3114

BPA is an agency set up within the Department of Interior to sell at wholesale the power generated at certain Federal dams in the Northwest. The BPA is provisional and temporary; it lacks authority which is commensurate with its responsibility.

S. 3114 would create a Corporation with corporate standing and legal rights. It would have a permanent official status; it would be a policy maker, a water resource planner, not a salesman. Yet it would take over all the present duties of the BPA.

Financing:

BPA cannot issue bonds or initiate the building of dams. It is economically dependent in that its receipts go back to the U. S. Treasury. The Corporation would have authority to utilize 3 methods of financing: 1) the appropriations process, 2) the authority to retain and utilize its revenues which now amount to some $66 million a year and is expected to pass the $100 million mark within 5 years, 3) the authority to issue electric revenue bonds to finance its program. Under S. 3114, Congress would not have to authorize each dam. The Corporation may initiate dam construction (actual construction will still be done by the Bureau of Reclamation and Army Engineers) but Congress has a veto power at the time that the budget program of the Corporation comes before Congress. The people and groups who might oppose any proposed dam would be able to voice their objections at the Appropriations Committee of both houses.
Comparison - Cont'd.

Power

In the BPA, preference in power sales is given to public agencies and cooperatives, the private utilities come last. The Bonneville contract provides that it will not furnish power to distributors for any new industrial load of more than 10,000 kilowatts in any one year. Without this provision one large industrial load might cause BPA to invoke the insufficiency clause which gives BPA the right to limit the amount of power supplied to all public agencies to the amount supplied during the preceding year.

Sen. Neuberger has suggested, in a new draft of the S. 3114, that the traditional public power preference clause be modified, permitting allocation by the Corporation of "new power supplies so as to assure that there be no unreasonable geographic concentration of the power sold by the Corporation." This section of the bill, he explained, establishes a public utility responsibility in the Corporation to "fulfill the new power needs of all members of the public who require its services and who desire and are willing to enter into contracts". Such a clause would be an aid to Oregon who can, at the moment, make only limited demands on the power supply for her industries because she has far fewer public agencies than Washington.

Administration:

The chief administrator of BPA is appointed by the Sec. of the Interior and he is assisted by an assistant administrator, a chief engineer, and a general council. He acts in consultation with an Advisory Board consisting of representatives appointed by the Secretaries of War, Interior, and Agriculture and the Federal Power Commission. He also consults with a group of local representatives of Northwest interests, including business, industry, labor, agriculture, the professions, and the governors of the 4 Northwestern States.

S. 3114 tries to apply the principle of Home Rule by investing the management of the Corporation in a 5 man board of directors appointed by the President, at least one from each state in the Pacific Northwest. The executive management is in the hands of a general manager who is also appointed by the President and who is a resident of the Northwest. The Advisory Council composed of citizens of the region and the governors is much the same in personnel as that of BPA.

The Tennessee Valley Authority Act (for Comparison)
The T.V.A. was established by an act of Congress May 18, 1933. Its purposes are: to improve the navigability and provide for flood control of the Tennessee River; to reforest and make better use of marginal lands; to develop industry and agriculture in the valley; and to create a corporation for the operation of Government properties at Muscle Shoals, Alabama.

The T.V.A. is administered by a board of three directors who are appointed by the President. They are authorized to manufacture and sell the products from the Muscle Shoals plant, build and operate generating plants, and transmit and sell all electric power surplus to the operation of their plants. In the sale of such power, preference must be given to non-profit organizations, such as municipalities, cooperatives, etc. The power shall be sold at rates that will produce a gross revenue in excess of the cost of production.

The T.V.A. has both the rights and responsibilities of any business corporation. All employees and officers are appointed and hired without regard to any Civil Service
T.V.A. for Comparison – Cont’d.

requirements. When funds are needed for the construction of any facilities, the board is authorized to issue and sell serial bonds on the credit of the United States. Power revenues may be used for replacement purposes, but may not be used for new construction until approved by an act of Congress.

The T.V.A. pays a percentage of its gross revenues to state and local governments in lieu of taxes. This is to compensate the states for taxes which they would have received from property the T.V.A. now uses.

Legislation - State of Washington

Proposals to change the present form of administration of water resources are being considered by the 1959 Legislature:

H.B. 177, Rasmussen, Democrat of Tacoma and Brown, Democrat of Tacoma, abolishes the Departments of Fisheries and Game and makes them divisions in the State Department of Conservation.

H.B. 34: Abolishes the Department of Conservation and creates a Water Resources Department (see Seattle Voter, February, 1959)

Initiative 25 -- An initiative to the Legislature to pass a law providing that no dams higher than 25 feet be built on any tributary of the Lower Columbia River. This Initiative sponsored by the State Sportsmen’s Council would prevent the high dams which Tacoma plans to build on the Cowlitz River. The Cowlitz dams have been the subject of much controversy. Sportsmen say the dams would have an adverse effect on Cowlitz fishing. Tacoma City Attorney, Marshall McCormick said the initiative would have no legal effect on the dam-building, because of a ruling by the United States Supreme Court that the city could proceed with the project.

Commission and Agency Action

The Federal Power Commission has been holding hearings in Washington, D.C., through January and February, 1959, to consider Seattle City Light’s request for a license to build Boundary Dam on the Pend Oreille River in Northeastern Washington. This request is being opposed by the Pend Oreille County Public Utility District No. 1, which has filed a counter-application to develop a series of three dams not far from the proposed site of the Boundary Dam, at Z Canyon.

Also a new series of Army Engineers’ hearings on Columbia River Development proposals will be held in the Pacific Northwest in March. The new hearings are an acknowledgment that new issues are cropping in on the region before old ones can be settled. At hearings in 1957 the principal issue was a proposed Paradise Dam on the Clark Fork River. As supporters and opponents of the project were fairly evenly matched, the North Pacific Division of the Corps of Engineers has proposed instead a dam at the Knowles site on the Flathead River as a substitute, and the hearings are to consider public opinion on this proposal. Another issue due to receive full airing at the new hearings is that of extending navigation on the Columbia Snake River system. Only proponents of river navigation were heard at the 1957 hearings, and now the northern railroads, alarmed by the threatened loss of traffic to barge operators (nearly 1,000,000 tons of freight were handled by barge between Pasco and Portland last year), have organized to protest. The most
complicated controversy, however, is developing over proposed power developments on the middle section of the Snake River. Three Federal agencies differ as to where a storage dam should be. The Federal Power Commission favors a Nez Perce site, below the confluence of the Salmon River with the Snake. This would provide the greatest amount of storage, but holds a threat to fish which use the Salmon as a path to their spawning beds. The Army Engineers' report favors a Mountain Sheep site, above the mouth of the Salmon. This site also is favored by the Pacific Northwest Power Co., applying for a license to build the dam. But this dam would be below the mouth of the Immaha River, another Snake tributary also used by salmon. The Interior Department wants an opportunity to study a high dam at the Pleasant Valley site, above both the Salmon and Immaha. Public-power groups favor the Nez Perce site as an ultimate development but want a moratorium declared on all construction plans until it can be determined whether arrangements can be perfected to deal with fish runs.

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VII. SUMMARY AND QUESTIONS

With this material we have commenced our study of the Columbia River Basin and we have considered in detail the administrative organizations active in this area. In our next round of study we shall go on to the water use and control programs in the Columbia Basin as well as the major problems of a fair sharing of the costs.

In helping to establish a League position on national water policies and practices, we will want to decide not only what we consider to be ideal, but also to consider whether proposed changes in current policies and practices are politically feasible. Following are questions for general discussion to help clarify our thinking on regional or river basin planning and on how best to share the responsibility administratively to meet our water needs.

1. Who do you think should assume primary responsibility for Water Resource Development Programs such as Flood Control, irrigation, power, navigation, recreation, fish and wildlife?

2. What functions do you think should be coordinated at the regional or river basin level? Can existing state and federal agencies carry out the needed coordination? If not, what type of machinery do you think is needed: authorities; river basin or regional water resource committees; interstate compacts or commissions; regional corporation?

3. Do you believe we can have comprehensive river basin planning without local initiative? Without federal financing? Are these two elements incompatible?

4. Do you believe that a government agency originally created for a single purpose is equipped to carry out multiple-purpose planning? If not, what alternatives would you suggest?

5. Would you favor moves in the direction of unifying natural resource functions at the federal level, e.g., the creation of a Department of Natural Resources? If so, would you be in favor of including all federal water functions in this agency? Would this be politically feasible?
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