

WELLS

RECREATION PLAN

prepared for
**PUBLIC UTILITY DISTRICT NO. 1 OF
DOUGLAS COUNTY, WASHINGTON**

by
**L. KEITH HELLSTROM
LANDSCAPE ARCHITECT**

JANUARY 30, 1967

November 23, 1966

The Honorable Board of Commissioners
Public Utility District No. 1 of
Douglas County, Washington

Gentlemen:

It is a pleasure to submit to you this plan for recreation development of the Wells Hydroelectric Project.

The plan is the result of the analysis of the demand for recreation outlets in the Wells region, and the potential ability of the Wells reservoir to satisfy this demand.

The purpose of the plan is to protect and conserve the recreational resources of the project, and to serve as a guide for detailed planning of recreational facilities.

Your staff has been most helpful. I wish to thank them and the many persons and agencies that provided information or reviewed the contents of this report.

Sincerely yours,


L. Keith Hellstrom

SECTION A

INTRODUCTION

Authority for Recreation Plan

It has long been the desire of the Federal Power Commission to determine whether the recreational potential of the national resources to be devoted to licensed projects will be adequately developed, consistent with power development and other public purposes. Since 1963 the Commission has required applications for major licenses to be accompanied by a recreation plan.

Article 44 of the license granted by the Federal Power Commission to the Douglas County Public Utility District stipulated that:

“The licensee shall cooperate with the Secretary of the Interior in the preparation of a public use plan for the area and in the possible salvage of archeological data and shall, upon written request of the Commission, make available to the Secretary, or to a qualified agency designated by the Secretary, reasonable amounts of monies not to exceed a total of \$10,000 in the preparation of a public use plan and not to exceed a total of \$55,000 to compensate for expenses incurred in archeological investigations in the pool area.”

Purpose of Recreation Plan

This plan is developed as a guide for the coordinated development of recreation facilities contiguous to the Wells Project.

The primary project purpose is to produce power. While recognizing this fact, the intent of the plan is to assure that the maximum sustained public benefit will be realized from the collateral recreation resources of the project.

Scope of Study

The scope of the study has been established by the regulations of the Federal Power Commission, as set out in the following paragraphs:

Exhibit R. A proposed plan for full public utilization of project waters and adjacent lands for recreational purposes so far as consistent with proper operation of the project for the development of water power and other public uses. The exhibit shall include:

- (1) A map or maps on an appropriate scale, one of which covers the entire project area, clearly delineating by use of symbols, shading, cross-hatchings, etc.:
 - (a) The location of project lands and waters (i) already developed, (ii) designated for initial development, and (iii) those ultimately planned for recreational use.
 - (b) The location, type, and number of the various recreational facilities in existence and those planned for immediate development, i.e., access roads and trails, and facilities for fishing, hunting, and similar recreational activities, as well as provisions for sanitation and waste disposal.
 - (c) The location, type, and number of the various recreational facilities planned for future development according to anticipated demand. (These plans may be revised during the license period subject to approval by the Commission.)
- (2) On the map, or on separate sheets to be filed as part of the exhibit, the following information:
 - (a) Which of the facilities shown are to be provided by the applicant or licensee at its sole cost, or in cooperation with others, consistent with the economics of the project and the potential recreational opportunities.
 - (b) Estimated present or initial recreation use and projected ultimate recreational use, in daytime or overnight visits. (These figures will be used in the economic analysis of the project.)
 - (c) The nature and extent of the consultation and cooperation with Federal agencies having supervision over lands of the United States affected by the project and with appropriate State and local agencies. Copies of cooperative agreements entered into with such agencies shall be included as part of the Exhibit R.

SECTION B
DESCRIPTION OF PROJECT

The Wells Project is located some six miles downstream on the Columbia River from the Town of Pateros, Washington.

The dam is at the headwaters of Rocky Reach pool at river mile 516. The reservoir created by the dam will reach some 29 miles upstream to the base of Chief Joseph Dam. The Okanogan River will be affected for some sixteen miles from the confluence with the Columbia.

Power to be produced has been sold to the Puget Sound Power & Light, Portland General Electric, Pacific Power and Light, and the Washington Water Power Co., with 30 percent reserved for Douglas County and 8 percent reserved for Okanogan County.

History of Project

The Douglas County Public Utility District first started studying the Wells Project in 1953. In July of 1962, the Federal Power Commission issued the license for the development.

Statistical Data

Perhaps the most outstanding feature of the project is the unique "hydro-combine" design, developed by the Bechtel Corporation. With this new concept, the dam features the power units, spillways, fish passage facilities and switchyard in a single structure.

The project, including relocation of about eight miles of highway and railroad, land acquisition, financing, and other costs, has been financed through the sale of revenue bonds totaling \$202,600,000.

Total peak production, with ten units, will be about 820,000 kilowatts.

The overall length of the dam is about 4,150 feet from the Chelan County bank to the Douglas County bank. Height is 185 feet from bed-rock.

First power will be on the line by September 1, 1967.

A unique fish ladder system and artificial spawning beds will be of interest to the salmon enthusiast.

Access to the dam by road will be on the Chelan County side.

Location and Accessibility

The plates at the end of the report indicate the location and the highway network of the region. The project is about 50 miles north of Wenatchee, 160 miles from Spokane, and 200 miles from Seattle.

From the dam north to Brewster, U.S. 97 follows the reservoir on the west bank. As the reservoir turns east it is bounded by good highways on both banks all the way to Chief Joseph Dam. Access from Seattle is either over Stevens or Snoqualmie pass to U.S. 97. Highway 97 is the main north-south route in central Washington and Oregon, providing access from north central California, central Oregon, and Canada, following the historic Caribou Trail from Weed, California, into the Okanogan Country and British Columbia.

Authorization has recently been given to construction of a new connection across the Cascades north of Stevens Pass. This connection will create a new north cross state highway, funneling considerable east-west traffic right past the reservoir.

The Okanogan River arm is readily accessible on both sides by good highway.

SECTION C

THE REGION

Location and Terrain

The Columbia River flows through the heart of the Pacific Northwest. From its headwaters in the ice fields of Canada, it winds 465 miles to enter the United States in the northeastern corner of Washington. From there it flows southwesterly down past the confluence with the Kettle River, the Spokane River and the San Poil River, then westerly, separating the Okanogan Highlands on the north and the Columbia Lava Plateau on the south, to the confluence of the Okanogan River, in the center of what will be the Wells reservoir. Here the river turns south and borders the Cascade Range on the west and the Columbia Basin on the east. At Priest Rapids dam the river turns east and makes the big bend at the Tri-Cities and flows west to the Pacific Ocean.

When Wells dam is complete there will only be one remaining area not controlled by dams between Bonneville and Canada.

The terrain in the vicinity of Wells is typical of the Columbia River valley. This valley is unusually narrow, bounded by high plateaus and mountain ranges. There are occasional alluvial fans where valleys empty into the river valley. Much available land is utilized throughout the valley by roads and railroads.

Of the three towns on the shoreline, two are located at the confluence of rivers. Pateros lies at the confluence of the Methow, and Brewster near the Okanogan. The town of Bridgeport is at the upper end of the reservoir a few miles from Chief Joseph Dam.

The terrain creates a strong impact on the area, controlling the agricultural economy and transportation network.

Water Areas

Water based activities will be the prime recreation outlet afforded by the project. It is well to be aware of the natural and man made bodies of water in the vicinity. The larger rivers and lakes in the vicinity are indicated on Plate 2.

As mentioned above, the Methow and Okanogan Rivers enter the reservoir. The Rocky Reach Pool to the south has the Wenatchee, Entiat and Chelan Rivers entering from the Cascades.

Sun Lakes, Lake Chelan and Alta Lake State Parks are located on natural lakes, and Bridgeport State Park is on Chief Joseph Reservoir. Major improvements have been made by the National Park Service on Lake Roosevelt behind Grand Coulee Dam.

The only large group of recreation facilities not on water in the region is the 20 U.S. Forest Service campgrounds, in the Cascades to the north and west.

There is a large cluster of natural lakes north of the project and east of the Okanogan River.

Largest competing man made lakes are the other reservoirs on the Columbia River and Banks Lake, some 30 to 40 miles east of the project.

Lake Chelan is 55 miles long, but accessible by car only at the lower half. It is a prime tourist attraction in North Central Washington. This lake, along with Banks Lake, and Lake Roosevelt, all partially or entirely within the market area, have substantial recreation potential.

The Sun Lakes chain immediately south of Banks Lake is well known for fishing. The southernmost of the chain, Soap Lake, is popular for the medicinal quality of the rich mineral water.

Climate

The predominate sunny and hot climate of this area is in direct contrast to the cloudy, cool conditions typical of the Puget Sound Country west of the Cascades. "Climatic conditions vary considerably with differences in elevation. The non-forested river valleys, the Douglas County Plateau, and the rolling hills and plains of Grant County, are semi-arid. Annual rainfall averages 7.7 inches at Ephrata, 8.8 inches at Wenatchee, 10.4 inches at Omak and 11.3 inches at Waterville. More than half the rain falls between November 1 and February 28, although some occurs in each month. Annual rainfall in the Cascades varies from 15 to 60 inches. . . . Temperatures vary between moderate extremes. At Wenatchee the July maximum averages 90 degrees, and the January minimum 16 degrees. Summer temperatures over 100 degrees and subzero winter temperatures generally occur a few days each year . . ." ¹ The prevailing wind is from the northwest, and the average velocity does not exceed 10 miles an hour. During the spring months, it is high at times for days. During the summer months, the wind is at times violent for several hours. An average of 180 days of frost free growing along the river indicates a long season of good outdoor recreation weather.

¹Industrial Report for North Central Washington. Wenatchee Chamber of Commerce, July 1952.

Soils and Vegetation

The soils of the Columbia Valley are primarily riverwash and rockland; fine sandy loam; and wind-blown sand, with concentrated areas of silt loam. Many sections of the shoreline are formed by high basalt ledges, and basalt outcroppings are common throughout the area.

Because of the rapid drainage of the soils and the relatively low rainfall, developed lands are dependent upon irrigation. Native vegetation along the Columbia River is limited to scattered pines, junipers, sage, and bunch grass. Shoreline areas support a few willows, poplars and shrubs.

Fish and Wildlife

The Columbia supports a large variety of fish. The greater number is scrap fish unimportant from a recreation or commercial standpoint. The migratory runs of salmon and steelhead and the resident whitefish provide activity for the river fishermen. Nearby lakes and streams contain resident rainbow trout and many have been planted with rainbow, eastern brook, German Brown, silver trout and silver salmon by the State Game Department.

The Columbia and Banks Lake contain walleyed pike and many lakes contain bass, perch and bluegills, to the delight of the warm water fisherman.

Upland birds resident or planted in the area include Chinese pheasants, chukar and Hungarian partridge, and grouse. A variety of ducks and geese make up the migratory waterfowl population. The Cascades support substantial numbers of deer and elk, and occasional bear are seen.

History, Geology and Archeology

The history of the area revolves around early fur trading outposts and Indian activity up and down the Columbia. The State Parks and Recreation Commission has developed an excellent interpretive display of the history of the area at the Fort Okanogan Museum, located on the north side of Wells reservoir just east of the Okanogan River near the site of the original fort.

The geology of the area is extremely interesting. It is impossible to travel the area without becoming aware of the beauty and tremendous scale of the land forms.

For thousands of years the Columbia River has been a great highway for the migration of people. The shores are rich with indication of the past. Extensive archeological investigations have been made throughout the region by the Smithsonian Institution, the University of Washington and Washington State University.

Transportation

Public transportation facilities include railroad, bus and airline service. The Great Northern Railroad runs passenger trains to Wenatchee, and a branch line serves the west bank of the reservoir to Brewster and then up to Canada through the Okanogan Valley. All the major towns within the region are served by Northwest Greyhound Lines. West Coast Airlines serves the area from airports at Ephrata and Wenatchee.

Highway access was discussed earlier in the report.

Land Use and Economy

The developed lands within the market area are predominately agricultural. The large Columbia Plateau covering the entire area south and east of the river is almost entirely dryland crops. In Douglas County, about a third of the farmland is in wheat, 6,900 acres along the river at the lower elevations in tree fruits, and the remainder is in diversified farming including cattle, sheep and hogs. Just south of the market area is the extensive Columbia Basin Project, fed with water from Banks Lake, supporting a variety of irrigation dependent crops.

West of the project are the extensive holdings of the U.S. Forest Service in the Okanogan and Wenatchee National Forests on the slopes of the Cascades. Chelan County is 80 percent forest land.

Although the economy of the area is predominately agricultural, there is significant industrial potential developing because of the increased power production, a large available source of water, and the increased use of the area for recreation and tourist travel.

North Central Washington is the leading area in the state for minerals production and has one of the most promising futures for development of its mineral resources.

SECTION D

FACTORS INFLUENCING DEVELOPMENT

It is possible to outline the major factors which should influence the recreation development of an area. These factors include: characteristics of the surrounding region; existing and proposed related recreation areas; characteristics of the population of the region, including recreation habits and interests; mobility; leisure time available; trends in recreation activity; accessibility; the recreation resources of the area; and major population concentrations not too far from the market area.

It is possible to outline the factors, but extremely difficult to determine the relative importance of each factor. It is also difficult to acquire the necessary factual information.

Population

The methodology used later in the report to determine recreation demand is based in large part on present and forecast population.

The 1960 census shows a population of approximately 58,000 within the market area of 50 road miles from the project waters. The distribution of people by zones and counties is shown on Plate 1.

The area within 25 miles includes portions of Douglas, Chelan and Okanogan Counties. Naturally, the people within this zone will visit the reservoir and use the facilities provided more than those from any other area. In the 1960 census this zone had a 7,300 rural population and a 5,427 population within incorporated towns, totaling 12,727 for the zone.

Within 25 to 50 miles, the rural population in 1960 was 17,500 and incorporated was 27,762, totaling 45,262. In addition to the above counties this area takes in parts of Grant and Lincoln Counties.

Section E of the report includes a detailed analysis on population as it is used to determine recreation demand.

Tourist Economy and Movement

Among the principal sights in North Central Washington are Grand Coulee and the other major dams on the Columbia, the Cascades, and Mount Rainier National Park. Tourists from the eastern part of the country move through this area on their way to metropolitan Seattle and the Puget Sound country. Tourists from California and Oregon, as well as from the eastern states move through this region on their way to central British Columbia. Escapees from the cool cloudy western slopes of the Cascades, hungry for sunshine, find it here. This is readily apparent from the extreme use of existing recreation facilities in this region despite the sparse local population.

It is difficult to determine the tourist movement in an area and the importance of the tourist trade on the economy. From July 1964, through June 1965, camping attendance at State Parks numbered over a million and day visitors totaled over ten million. Of the campers, it is important to note that over 40 percent are from out of state. On the basis of past surveys by the State Park Commission, expenditures by campers in Washington this year would total over \$5 million. Add to this the money spent by ten times as many day visitors and you have the amount of tourist spending generated by the state parks alone. This does not include National Forest or Parks area or the multitude of people that use other accommodations. As far back as 1954, it was estimated that tourists spent in Chelan County alone as much as \$40 million per year.

Recreation Habits and Interests of People

Because of the partially and unevenly populated region surrounding the project, there is a lack of specialized recreation facilities that would be found in large metropolitan areas. To offset this, there is great potential for the development of nature recreation, with the emphasis on the study and appreciation of the land and the life it supports, where man is not dominant. Here is the opportunity for true re-creation, where man can become a part of nature. This becomes increasingly important as society becomes more and more urbanized and cut off from the earth from which it grew. To provide for this type of recreation, sufficient land must be set aside to protect from over use, and destruction of the very thing the facilities are meant to provide. As noted later in the report, consideration is being given to closing down heavily used state parks or heavily restricting use to preserve them for future generations. Included in this group is Lake Chelan, 25 miles from the project.

Though there are many parks and organized recreation opportunities in the metropolitan areas, the use cannot be compared with the experience afforded by mountain lakes and great forested areas. Perhaps this is why lakes and streams are fished out early in the season; why the forest service camps have a large overload.

It is safe to assume that the local people, whose present recreation opportunities are limited, and people from as far away as 100 miles, will make heavy use of any facilities provided. We can also assume that people close to the project will use it for day use activities such as picnicking and swimming, while tourists from out of the region will provide the largest share of overnight camping and extensive stay use. For people out of the market area this will be a destination, rather than a daily convenience.

Related Reservoirs

Prime uses of the reservoir will be camping, picnicking, boating, fishing, swimming, hiking, sight-seeing and possibly group camping. Some of these activities are dependent upon water, and the others are always enhanced by association with water. Because of this, it is necessary to pay particular attention to the other lakes and reservoirs, as they will be the most important competition for attendance. The major lakes and reservoirs within the market area are listed below. Their locations relative to the Wells Project are indicated on Plate 2. Of course, those lakes and reservoirs that are nearest, and those with the most extensive recreation facilities, will give the greatest competition. Many of the related lakes and reservoirs are similar to the Wells pool from the standpoint of topography, access, general scenic conditions and recreation potential.

It should be remembered that people living on the fringe of the market area will have a wide choice of lakes and reservoirs, as well as other recreation opportunities, beyond the market area.

RELATED LAKES AND RESERVOIRS WITHIN 50 MILES

NAME	DISTANCE	EXISTING DEVELOPMENT
Chief Joseph pool.....	—	State Park, limited development
Rocky Reach pool.....	—	Limited
Alta Lake	3 miles.....	State Park, overused
Lake Chelan	11 miles.....	State Park, badly overused, commercial
18 or 20 scattered lakes north and east of project.....	10-30 miles.....	Limited access
Banks Lake	30-40 miles.....	Limited, excellent potential
Lake Roosevelt	35 miles.....	N. P. S.
Pearrygin Lake	45 miles.....	State Park
Conconully	48 miles.....	State Park
Sun Lakes chain.....	40-50 miles.....	State Park
Rock Island pool	40-50 miles.....	Limited

Related Parks and Camps

Within the market area are six state parks, one state heritage site, 20 forest service campgrounds and four developed sites on Lake Roosevelt operated by the National Park Service.

State Parks: Lake Chelan, Alta Lake and Bridgeport State Park are within 25 miles of the project waters. Bridgeport S. P. is on Chief Joseph Reservoir just a few miles above the dam. As a new park, facilities are very limited, and attendance is low. Adjacent to the park is a new nine-hole golf course. Lake Chelan and Alta Lake receive extremely heavy use as two of the state parks most convenient to the Seattle metropolitan area but located in sunshine country.

Sun Lakes, Pearrygin Lake and Conconully State Parks are located 25 to 50 miles from the project. Pearrygin Lake is relatively new and is receiving very heavy use. Sun Lakes takes credit for almost ten percent of the attendance at all the state parks combined. This total reflects the fishing pressure early in the season.

Group Camps: There is an established group camp area at Sun Lakes State Park with permanent dining hall and cabins. There are a few other group camps under various organizations in the area. Most common group camping participants are churches, YMCA, Boy Scouts, Girl Scouts, Camp Fire Girls, 4-H and Grange.

Forest Service Campgrounds: The National Forests to the north and west of the area contain a number of very heavily used and popular campgrounds. They provide camping and picnicking facilities during the summer months for tourists and local people, and are popular with hunters in the fall. Some are near excellent fishing streams and lakes. Existing forest campgrounds are plotted on Plate 2.

Adverse Factors

The prime factor influencing development of public recreation facilities will be the availability of land for development. The one outstanding site on the reservoir is wanted by the State Department of Game for waterfowl nesting. This use is generally thought incompatible with public recreation use. This contradiction of interests will have to be resolved.

The south portion of the reservoir on the east side presently has no road access, thereby limiting use to boating access. The nature of the terrain places extreme limitations on availability of suitable park sites.

The land north of the reservoir and east of the Okanogan River is part of the Colville Indian Reservation. Because of present laws and regulations, this land is difficult to acquire for other than primary project purposes.

On the west side of the pool from the dam to the Okanogan River the shoreline is effectively cut off by the Great Northern Railroad.

Most of the remainder of the shoreline is typified by steep banks up to thirty or forty feet above the normal pool elevation.

SECTION E

ESTIMATED ATTENDANCE — ACREAGE REQUIREMENTS — FACILITIES

Definitions:

Market Area: That area within 50 road miles of the project waters.

Demand Days: Synonymous with "activity occasions" or "participation rates per person." A demand day is the participation by one person in one activity in one day. If a person participates in more than one activity during one day, each activity is counted as one demand day.

A variety of methods have been developed to determine recreation demand. The success of the method is determined by eliminating, as much as possible, subjective assumptions, and by having accurate data in depth to use in analysis.

The problem is one of measurement. The more accurate the measurement can be, the greater the chance of success in prediction.

Unfortunately, accurate data is largely unavailable. It is not possible within the scope of this report to undertake the survey necessary to gather sufficient data for completely objective deductions. Two sources of information have been selected to furnish this data. The first is the Outdoor Recreation Resource Review Commission Report 19 and Report 26. Participation rates per person interpolated for the Western States have been incorporated in this report. The second source is the State Parks Outdoor Recreation Plan prepared by the Washington State Parks and Recreation Commission in 1965. From this report come the formulas for converting demand days into acreage requirements. Attendance figures from the state parks are used to determine present use as compared to need shown by the ORRRC reports.

Results can only be used for general guidelines because there are many factors which cannot be measured accurately that almost certainly affect recreation use. Among these immeasurable factors are mobility, leisure time, psychological need, attractiveness of the area, and future economic and population growth. Although these things are known to be important, it is not known how important.

METHODOLOGY

Assumptions:

1. The recreation market area is that region within fifty road miles of the project.
2. Growth rate will continue at about the same rate as in the last ten years, and will follow population projections formulated by the Washington State Census Board. Parts of counties within the fifty-mile region will grow at the total county rate.
3. In addition to the expected use generated from the market area an additional increase of twenty percent in demand days will be necessary to provide for non-resident tourists.

An outline of the method used follows:

- A. Determine population of market area for 1965 and 1985 using Washington State Census Board as source.
- B. Apply ORRRC factors to determine need in demand days (dd).
- C. Determine existing use by totaling state park attendance within the market area.
- D. Subtract attendance at state parks from ORRRC need to determine demand days presently unsatisfied by existing facilities.
- E. Convert demand days into acreage requirements using formulas from the State Parks Outdoor Recreation Plan.
- F. Repeat procedure to determine needs in 1985.
- G. Utilize these acreage requirements to select sites on the reservoir.

Population of Market Area:

A. The population figures on the following chart were derived from counting dots on the plate at the end of the report, and adding population of incorporated towns to find 1960 figures. The population percentage of each county was computed within the market area and applied to forecasts to determine population in 1965 and 1985.

POPULATION

County	ACTUAL IN 1960			FORECAST 1965		FORECAST 1985	
	Total County Population	Within Market Area	Percent	Total	Within Market	Total	Within Market
Chelan	40,744	26,285	64.5	42,863	27,600	55,081	35,500
Okanogan	25,520	16,481	64.5	26,606	17,100	33,716	21,700
Grant	46,477	2,516	5.4	55,473	3,000	105,388	5,700
Douglas	14,890	12,407	83.5	16,986	14,200	28,888	24,100

Total within market area 57,689 (1960) 61,900 (1965) 87,000 (1985)

B. Application of ORRRC factors to population to determine demand days. The factor indicates the number of times each person within the market area will participate in one activity in one season.

Activity	1965	Percentage	1985
Swimming	5.92	34.3	8.09
Sightseeing	2.97	17.2	3.67
Picnicking	2.18	12.6	2.51
Fishing	1.89	10.9	1.92
Boating	1.20	6.8	1.66
Camping	1.19	6.8	1.76
Horseback Riding92	5.3	1.07
Hiking56	3.2	.80
Water Skiing51	2.9	.85

Total demand days will be computed by two methods and averaged.

The first will multiply 1965 population by 1965 ORRRC factor and multiply 1985 projected population from census board by 1965 factor.

$$61,900 \times 17.34 = 1,073,346 \text{ dd } 1965$$

$$87,000 \times 17.34 = 1,508,600 \text{ dd } 1985$$

The second method will multiply 1965 population by 1965 ORRRC factor as above. To find 1985 demand days it will multiply 1965 population by 1985 ORRRC factors.

$$61,900 \times 17.34 = 1,073,346 \text{ dd } 1965$$

$$61,900 \times 22.33 = 1,382,227$$

The average of the two methods predicts 1,445,412 demand days by 1985.

Rounding off the figures, the demand days that will be used are 1,073,000 for 1965 and 1,445,000 for 1985.

C. Existing use: The following table indicates attendance at state parks within the market area for the 1962-63 season and the 1964-65 season.

Park	1962-63 Attendance	1964-65 Attendance
Alta Lake	107,803	159,834
Bridgeport	748	9,629
Lake Chelan	243,165	255,251
Pearrygin Lake	22,293	59,037
Sun Lakes*	711,258	884,025
Totals	1,085,267	1,367,776

*Although total attendance at Sun Lakes is three times that at Lake Chelan, it is interesting to note the comparison in tent camping within the two parks:

	1962-63	1964-65
Sun Lakes	50,585	56,216
Lake Chelan	50,975	61,704

This comparison reflects the phenomenal number of fishermen using the lakes within Sun Lakes State Park. Because of this peculiarity, attendance at Sun Lakes will be derated to give the more realistic total of 868,000 at state parks within the market area.

In the Spokane Daily Chronicle of July 4, 1966, an article was published from which the following excerpts are taken:

“Extremely heavy use of some state parks may force their closure for conservation purposes, according to State Parks Director Charles H. Odegaard. . . . Parks where there has been exceptionally heavy use include . . . Lake Wenatchee and Lake Chelan State Parks in Eastern Washington.”

D. Deducting the 868,000 presently met from the ORRRC need of 1,073,000 indicates a lack of 205,000 in 1965. This figure will be used to determine present need within the market area.

E. In converting demand days into acreage requirements the following formulas will be used from the National Park Service. The formulas for each specific use are from the State Parks Outdoor Recreation Plan.

Assumptions based on National Park Service:

1. Seventy-five percent of the estimated attendance will be on weekends. Provision will be made for this maximum load.
2. Season of use will be 12 weeks from mid June through mid September. This will make 24 weekend days.

On the basis of these assumptions the total demand days will be multiplied by .75 and this amount in turn will be divided by the 24 weekend days. To this will be added the twenty percent non-resident use.

As an example, swimming will be computed in entirety. All other categories will be done in the same way, with the computations omitted from the report.

Swimming: 34.3 percent of total 205,000 (from B. above) = 70,300 dd for swimming.
 $70,300 \times .75 = 52,700$

$\frac{52,700}{24} = 2,200$. $2,200 + 440 = 2640$ dd per weekend day.

State Parks Formula: 435 dd = 1 unit = 1 acre plus 3 for supportive facilities plus 4 for buffer = 8 acres.

$\frac{2640 \text{ dd}}{435} = 6.0$ units = 48 acres required for swimming.

Picnicking: $12.6\% \times 205,000 = 25,830$ dd
 970 dd per weekend day
 Formula: 4 dd = 1 unit = 1 picnic site
 10 units = 1 acre plus 3 for support and
 buffer = 4 acres
 1 acre = 10 dd
 970 dd = 97 acres for picnicking.

Boating: $6.8\% \times 205,000 = 13,900$
 520 dd per weekend day
 Formula: 3 dd = 1 unit = 1 park space
 32 units = 1 acre plus 3 for support plus 4 for
 buffer = 8 acres
 4 units = 1 acre
 520 dd = 173 units
 173 units = 43 acres for boating.

Camping: $6.8\% \times 205,000 = 13,900$
 520 dd
 Formula: 4.8 dd = 1 unit = 1 campsite
 7 units = 1 acre plus 3 buffer = 4 acres
 520 dd = 109 units
 109 units = 62 acres for camping.

Water Skiing: $2.9\% \times 205,000 = 5,900$
 223 dd
 Formula: 3 dd = 1 unit = 1 park space
 32 units = 1 acre plus 3 plus 4 = 8 acres
 4 units = 1 acre
 223 dd = 74 units
 74 units = 18 acres.

Total acreage required in 1965 is 268.

F. The same methods used for 1965 when applied to the 1985 demand days indicate the following needs within the market area by 1985:

Swimming 87 acres
 Picnicking176 acres
 Boating 78 acres
 Camping113 acres
 Water Skiing.... 33 acres

Total487 acres needed by 1985 over 1965
 268 acres needed in 1965 to meet demand

755 additional developed acres over existing in 1965 needed
 by 1985 to satisfy anticipated demand.

Later in the report, Section F. will discuss the project's ability to meet a portion of these needs.

Sightseeing, fishing and hiking are all potential uses of the reservoir and shoreline, but there are no formulas presently developed to determine need in relation to demand days.

SECTION F

RECREATION RESOURCES OF THE PROJECT

The Wells pool will be 29 miles long. It will provide a large body of water with potential for boating, fishing, picnicking, hiking, swimming, and similar day use activities. Both tent and trailer camping will be popular. The dam itself will be a popular tourist attraction.

Scenic Values

The dam and its appurtenant structures will offer many hours of sightseeing opportunities. Provision will be made for close inspection of many aspects of power production and fishhandling. An existing overlook, developed by the PUD for interested people to watch construction progress, will probably be maintained after completion of construction.

The scenic qualities of the reservoir itself have been mentioned earlier in the report.

Starting upstream from Portland, the Columbia River is a series of pools created in order by Bonneville, The Dalles, John Day, McNary, Priest Rapids, Wanapum, Rock Island, Rocky Reach, Wells, Chief Joseph and Grand Coulee. For people interested in seeing a number of these structures, there is good road between Grand Coulee, Chief Joseph, Wells, Rocky Reach and on down river to Priest Rapids, creating something of a natural loop drive, with the structures as the scenic value of prime interest.

Areas Available for Recreation Use

The adverse factors listed previously dealt primarily with the lack of availability of land along the shoreline. The cause in one area is lack of road access, in another, the railroad skirting the bank, and in others, conflict with the State Department of Game, Indian ownership and unsuitable terrain in relation to the water.

In a previous section there was shown a need for 268 acres in 1965 and 487 additional by 1985 to serve recreation needs within the market area. It is unreasonable to assume that this reservoir will provide all the facilities needed in the region.

Boating: Water associated activities will be the most important use made possible by creation of the reservoir. Present use of the river is prohibited by strong currents and occasional rapids. In the past ten or fifteen years, emphasis on boating has increased tremendously. There is no reason to assume this emphasis will not continue.

There is one boating club in the area at present, and indications from past experience are that more will soon become active and be looking for a place where safe anchorage can be created and where boating headquarters can be established.

Because of the need for launching facilities up and down the reservoir for fishermen, the main marina area at Bridgeport Bar should be supplemented by other launch sites at Breswter, Pateros, Monse on the Okanogan, and near the dam.

The protected canyon at Gordon would provide a potential site for a secondary boat launching ramp.

Swimming: Of prime concern to the local people is the establishment of safe, clean swimming areas. Beaches are planned for the towns of Brewster, Pateros; the main development at Bridgeport Bar; and supplemental local sites on the Okanogan and Methow Rivers.

Swimming will prove to be the most popular activity during the hot summer months.

Picnicking: Limited picnicking facilities will be available at Brewster and Pateros, with major development at Bridgeport Bar. This will be an important use of the shorelands, often in conjunction with boating and other day use activities.

Hiking and Horseback Riding: Park developments on the reservoir can provide home camps for hiking and riding.

Camping: For many years camping has been increasing in popularity. Because population is relatively light and also scattered in the immediate vicinity of the project, with heavy concentration of people in the Seattle area, it can be assumed that camping will maintain its popularity in the recreation use of the reservoir.

The major campground will be at Bridgeport Bar, with a possible secondary campground at the Priest Site, if this area is found suitable for development.

Use of the Shorelands

The previous paragraphs discuss recreation activities relative to the type of use and possible locations. The following paragraphs discuss recreation opportunities relative to the nature of the groups that will use the facilities.

Areas of Sites Suited to Public Recreation Use

There is one major area and two minor areas not part of a developed community. In addition to these areas are the parklands at Brewster, Pateros and Bridgeport and the scattered launching sites along the reservoir.

The one major area is Bridgeport Bar, located five miles downstream from Bridgeport, and seven miles upstream from Brewster. Present acreage within project boundary is approximately 530. An additional acquisition of 158 acres would bring this area to 688 acres. Although total development would be some time in the future, it is recommended that the additional acreage be acquired as soon as possible to prevent inflation of land values and undesirable development on the adjacent lands which will be eventually required. Regional in nature, this park will provide facilities for camping, picnicking, boating, swimming and supportive uses.

Gradual slopes on much of the shoreline, and protected moorage and swimming areas, are in marked contrast with the shoreline elsewhere on the pool. The good soil needed for trees is here, again in contrast with the rest of the pool. Because of the dryness and heat in this region during the prime recreation season, trees are an absolute necessity in the establishment of recreation areas.

The two secondary areas are closer to the dam. One, totaling about 20 acres is on the Methow River near Pateros, and the other is across the river from Pateros on the Douglas County side. The Methow site occurs where the road skirting the river swings briefly away from the bank, affording an area for boat launching, picnicking, and possibly, day camping. Being off the main pool, there will be little wind, and the water will be suitable for swimming and small boats. Swimming water temperature will be colder than the main pool.

The other secondary area across the river from Pateros, about 40 acres in size, is outside of the project boundary and would require additional acquisition. Inherent drawbacks relegate this area to development only if suitable areas cannot be found elsewhere in the market area. It will be thirty or forty feet above the pool elevation, with a steep slope that would be difficult and expensive to develop for boating. Prevailing winds blowing into this shore add to the difficulty. Soils are poor, and access is through private land, requiring establishment of a county road if this area is developed. As an asset, the area is in a deep canyon, giving some protection from the weather, and a pleasant feeling of protection from the elements that is appreciated in the region. To sum up, this is a possible site, but far from the best.

Creation of the pool has had considerable effect on the towns of Brewster and Pateros. The shoreline at Brewster is being rip-rapped and some areas in the south portion of the town are being flooded out. One of the flooded areas is adjacent to an existing city park. The new configuration of the shoreline adjacent to the remainder of the park will be quite suitable for the development of beach and boating facilities.

The Public Utility District has undertaken the huge task of relocating most of the town of Pateros, through removal of existing buildings, addition of fill to get above the new water level, and replacement of the principal facilities.

The result will be a new, well planned community, with two park areas strategically placed on the water. One provides good protection on the shoreline from wind and wave action, and should be an excellent swimming beach for the people of Pateros.

Because the town of Bridgeport is at the upper end of the reservoir, water conditions will not be substantially different than at present. Most of the town is on a bench above the river, and the water will merely come up higher on the bank, but still well below the townsite.

Additional public recreation sites would be primarily developed for boat launching.

All the sites are indicated on Plate 3.

Of course, the area adjacent to the dam that will be utilized for visitors' facilities is in essence a recreation area.

Organized Group Use

The existing group camp at Sun Lakes State Park is heavily used. It is difficult to determine the need for additional group camp areas because of the diversity of users. Many prefer to develop their own camps, and programs vary from year to year. Because of the scarcity of available land for recreation purposes on this reservoir, it is recommended that organized groups be encouraged to find sites elsewhere.

Semi-Private Use

It is assumed there will be active boat clubs in the area that will want headquarters on the pool. The most logical place is adjacent to the main development at Bridgeport Bar.

The club should provide its own building and parking facilities, but might well arrange for rental slips and public launching on land immediately adjacent.

Private Use Areas

Waterfront property is in great demand by private individuals, families, and commercial developers. Demand is not as heavy here as it is elsewhere throughout the state because of the scattered population. We can be assured that not too far in the future, the demand will increase here as population rises and waterfront areas in the rest of the state become unavailable. Most of this development will be on privately held lands outside the project boundaries.

SECTION G
PLAN FOR DEVELOPMENT

Development of recreation facilities on the Wells reservoir should be accomplished through the combined efforts of the Douglas County Public Utility District, the State Parks and Game Commissions, the local public agencies entrusted with development and maintenance of recreation facilities, individuals and private business concerns.

The Public Utility District will provide directly, or through concession agreements, all public use facilities at the dam for the convenience of the visitors viewing the structure and fish facilities.

The interests of governmental agencies include development and utilization of fish, wildlife, and recreation resources, and safeguarding the health, comfort and welfare of the general public.

The State Parks and Recreation Commission is the logical agency to develop and maintain the largest portion of the Bridgeport Bar site. Contiguous to this should be a marina developed by the Douglas County Port District, and private boat club headquarters. Private land adjacent to the site may well house motel accommodations and daily fee golf course.

The State Department of Game has an interest in the establishment of boat launching sites for fishing. These will be primarily sites developed for launching only, and separate from major park developments. Mentioned earlier in the report is the conflict of interests between use of the Bridgeport Bar shoreline for goose nesting or for general public recreation. A possible alternate site for goose nesting is the area referred to as Cassimer Bar immediately upstream from the confluence with the Okanogan River. This will provide considerable shoreline with the gradual slope necessary for goose nesting, and is not considered feasible for general recreation use.

To resolve this problem is not within the scope of this report, but should be handled by the Public Utility District, The State Department of Game and the Bureau of Outdoor Recreation, acting as agent for the Federal Power Commission.

The interests of the general public are somewhat reflected in the requests of agencies and groups responsible for the direction of various public projects and activities. On the basis of such requests, desired improvements would be listed in the following order of importance:

- a. General and adequate access for all types of use.
- b. Areas developed as state and county waterside parks with facilities for boating, picnicking, camping and swimming.
- c. Areas reserved for organized group camping.
- d. Semi-private, such as boat clubs.
- e. Private.

In contrast to public agencies, the desires expressed by individuals quite naturally stress an interest in commercial investment and the use of the shoreline areas for private cabin or home site purposes.

Initial and Future Development

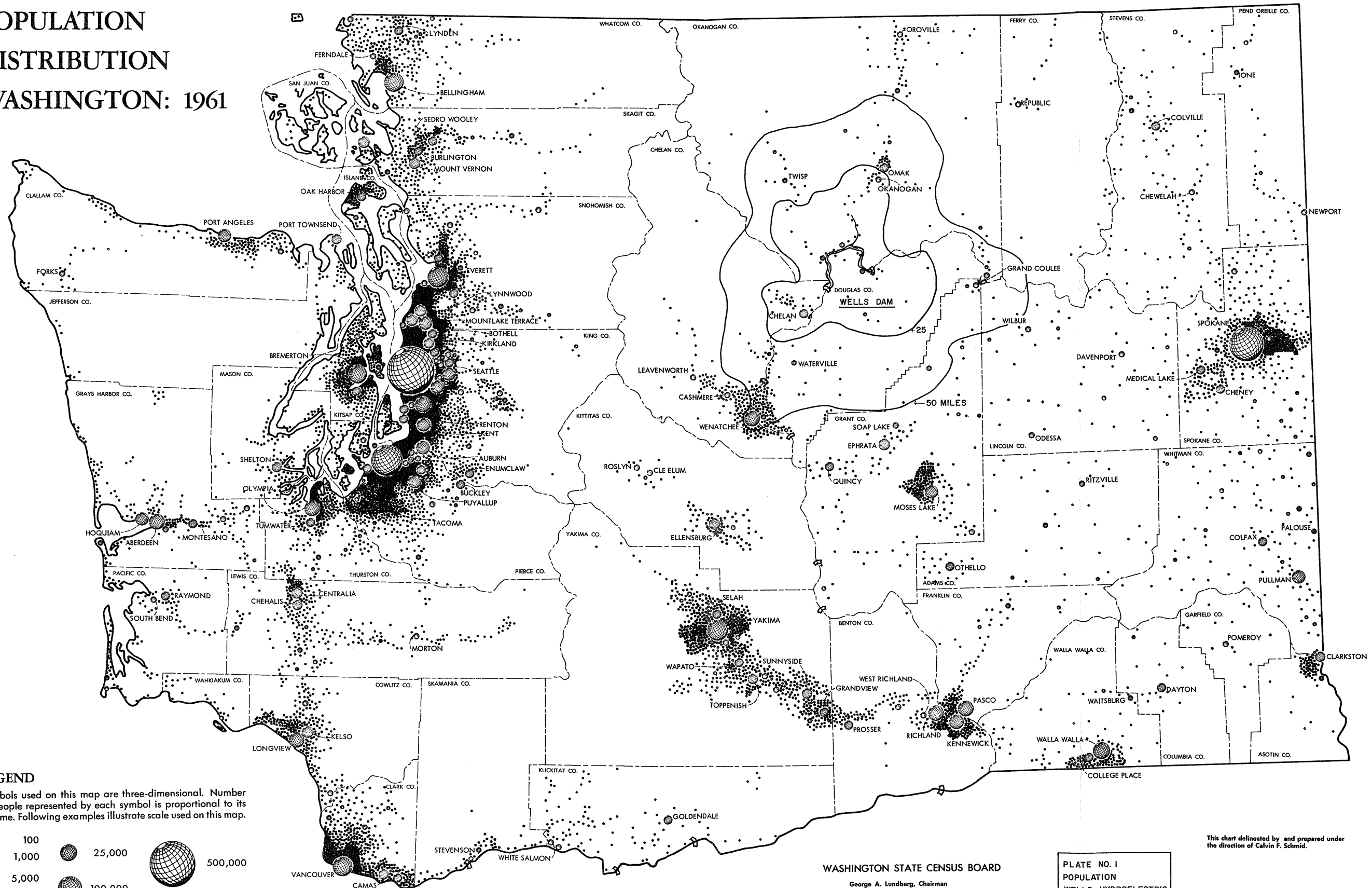
As indicated earlier, the only prime area suitable for extensive development is Bridgeport Bar.

This reservoir alone cannot provide all recreation facilities needed to supply demand in the distant future. It is not reasonable to assume this reservoir will supply all the needed facilities for the region. It cannot be known what will develop on other large bodies of water in the area, but there will unquestionably be additional parks throughout the market area. Most likely potential to fulfill demand is Banks Lake for water associated activities and supportive campsites. Additional camping will be provided by enlargement of and establishment of additional Forest Service Camps.

If no other areas were developed, the sites on the Wells pool would need to be developed to the maximum by 1984. Assuming one-half this demand will be met elsewhere in the market area, and assuming the same rate of growth in demand, the approximate date for maximum development would be the year 2000. Of course, predicting demand this far in the future is somewhat in the realm of soothsaying.

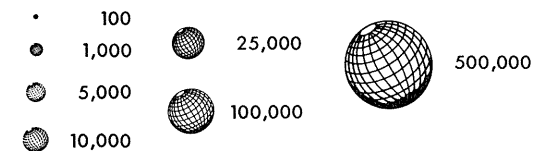
Of the 755 acres needed for the market area by 1985, this reservoir has sites suitable for 720 acres, or with the addition of one borderline area, 760 acres.

POPULATION DISTRIBUTION WASHINGTON: 1961



LEGEND

Symbols used on this map are three-dimensional. Number of people represented by each symbol is proportional to its volume. Following examples illustrate scale used on this map.



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Richard Taylor
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PLATE NO. 1
POPULATION
WELLS HYDROELECTRIC
PROJECT
LICENSE NO. 2149

This chart delineated by and prepared under the direction of Calvin F. Schmid.

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July 15, 1961.

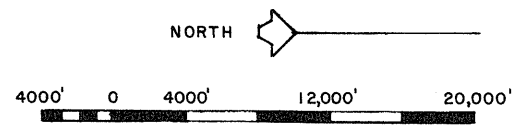
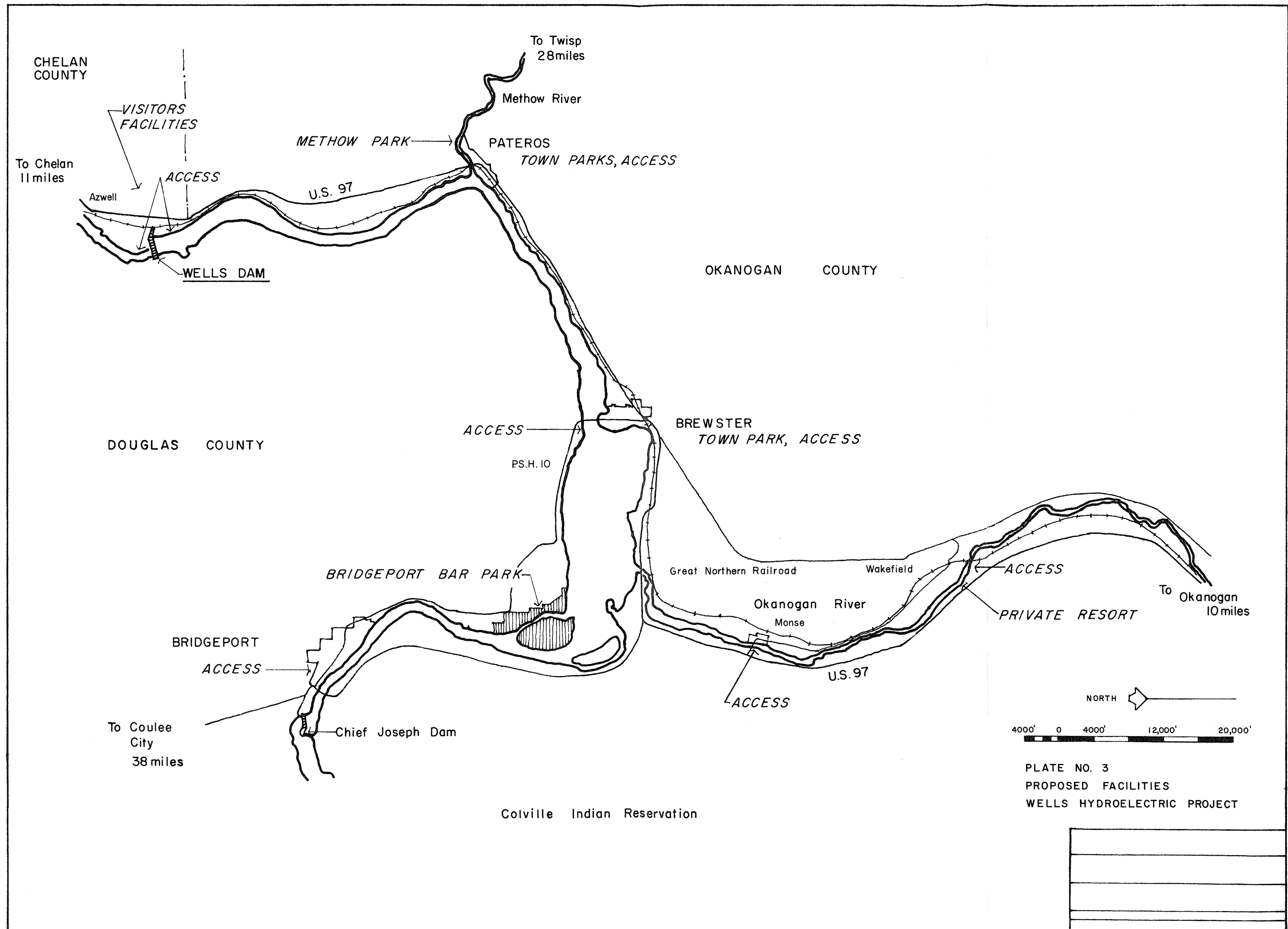
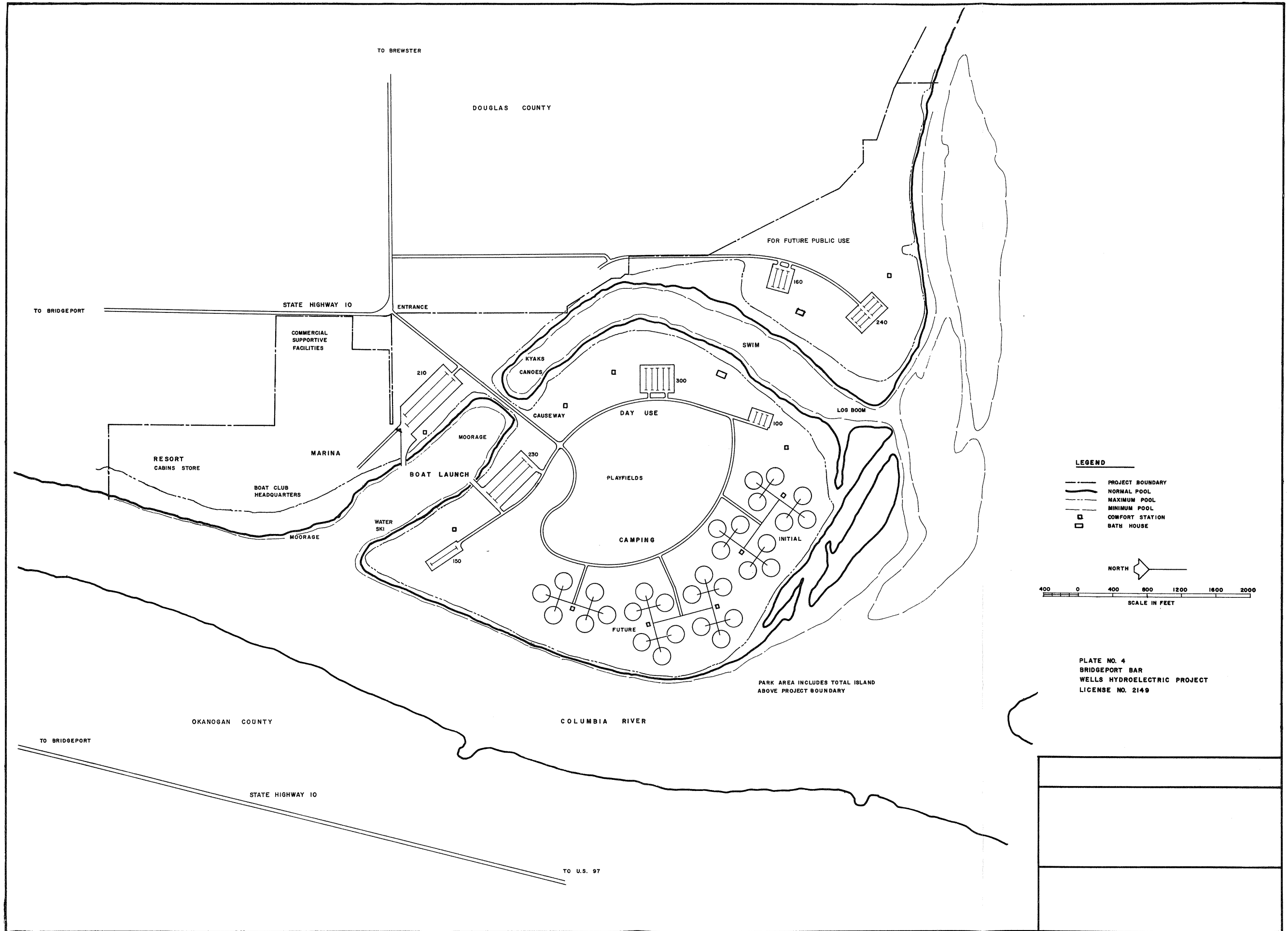


PLATE NO. 3
 PROPOSED FACILITIES
 WELLS HYDROELECTRIC PROJECT



LEGEND

- PROJECT BOUNDARY
- NORMAL POOL
- MAXIMUM POOL
- MINIMUM POOL
- COMFORT STATION
- BATH HOUSE

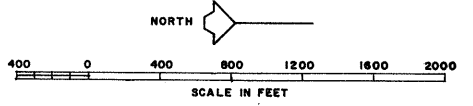


PLATE NO. 4
 BRIDGEPORT BAR
 WELLS HYDROELECTRIC PROJECT
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