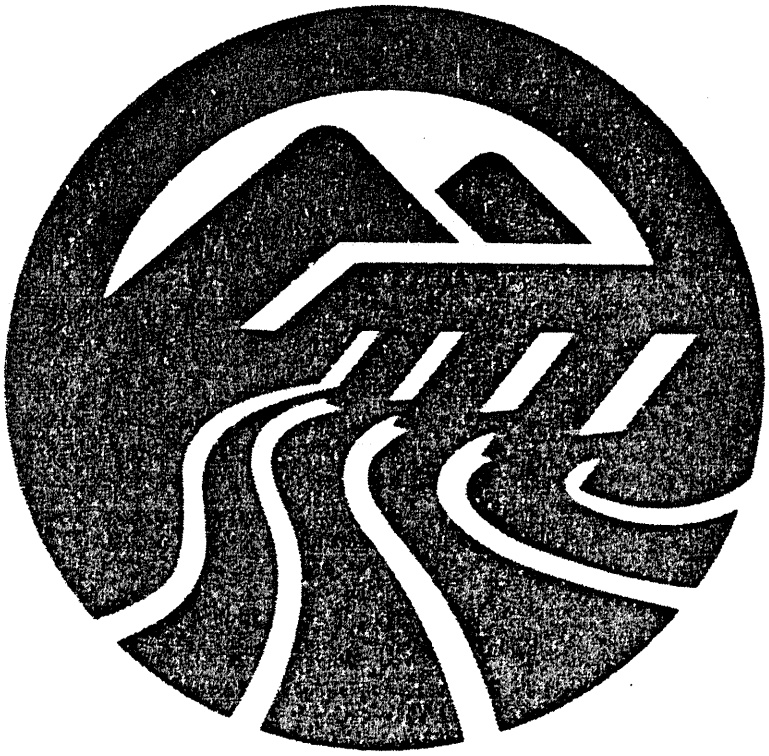
PUBLIC USE PLAN
1982



WELLS HYDROELECTRIC PROJECT
PUBLIC UTILITY DISTRICT NO.1 OF DOUGLAS COUNTY, WASHINGTON

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INTRODUCTION

BACKGROUND

In 1953, the Douglas County Public Utility District started the study of the Wells Project. In 1962, the Federal Power Commission issued a license to build and operate the Wells Hydroelectric Project. The first power was produced in 1967.

The Wells Project is one of a series of dams on the Columbia River and its tributaries that contribute flood control, irrigation storage and hydroelectric power. Dams further downstream and on the Snake River also have locks to permit ship and barge traffic as far as Lewiston, Idaho.

Most of the dams were built and are operated by the Corps of Engineers. Those on the Spokane River belong to the Washington Water Power Company. Five major dams on the mid-Columbia, Priest Rapids, Wanapum, Rock Island, Rocky Reach and Wells, were built and are operated by Public Utility Districts. Grand Coulee was built by the Bureau of Reclamation, and the reservoir is administered by the National Park Service as the Coulee Dam National Recreation Area. There are also storage reservoirs in Canada.

All the dams are operated on the basis of joint agreements to optimize power production.

The completion of the Canadian storage projects created a major increase in reliable water supply. This led to the construction of the third powerhouse at Grand Coulee; the increase in height and addition of generators at Chief Joseph Dam; the addition of four generating units at Rocky Reach Dam; and an increase in height and addition of generators at Rock Island Dam.

At Wells, Wanapum and Priest Rapids, there are plans to increase the reservoir levels, which would increase the power output of the existing generating units.

All of these improvements are designed to increase the power output of the Columbia River. The growth in use of electric power is exceeding the development of new power.

REASON FOR STUDY

The District is requesting an amendment to the license from the Federal Energy Regulatory Commission (successor to the Federal Power Commission), to allow up to a two foot rise at the dam in the reservoir elevation.

Although the two foot rise at the dam is minor compared with the creation of the original reservoir when the dam was built, it will have an impact on the shorelands.

Article 44 of the original license stated, in part:

> The licensee shall cooperate with the Secretary of the Interior in the preparation of a public use plan for the area. . . .

In response, the District prepared the "Wells Recreation Plan" in 1967 to serve as a guide for the coordinated development of recreation facilities contiguous to the Wells Project.

The "Wells Recreation Plan"[1] was submitted to the FPC in February 1967. A letter of response was sent by the Federal Power Commission Secretary, Mr. Gutride, in April of 1967, regarding the filing of Form No. 80, which stated in part: ". . .the report is considered acceptable by the staff."

The Regional Director of the Pacific Northwest Region, Bureau of Outdoor Recreation, Mr. Fred J. Overly, wrote to the District with comments regarding the recreation plan. Among the comments about the plan was the statement:

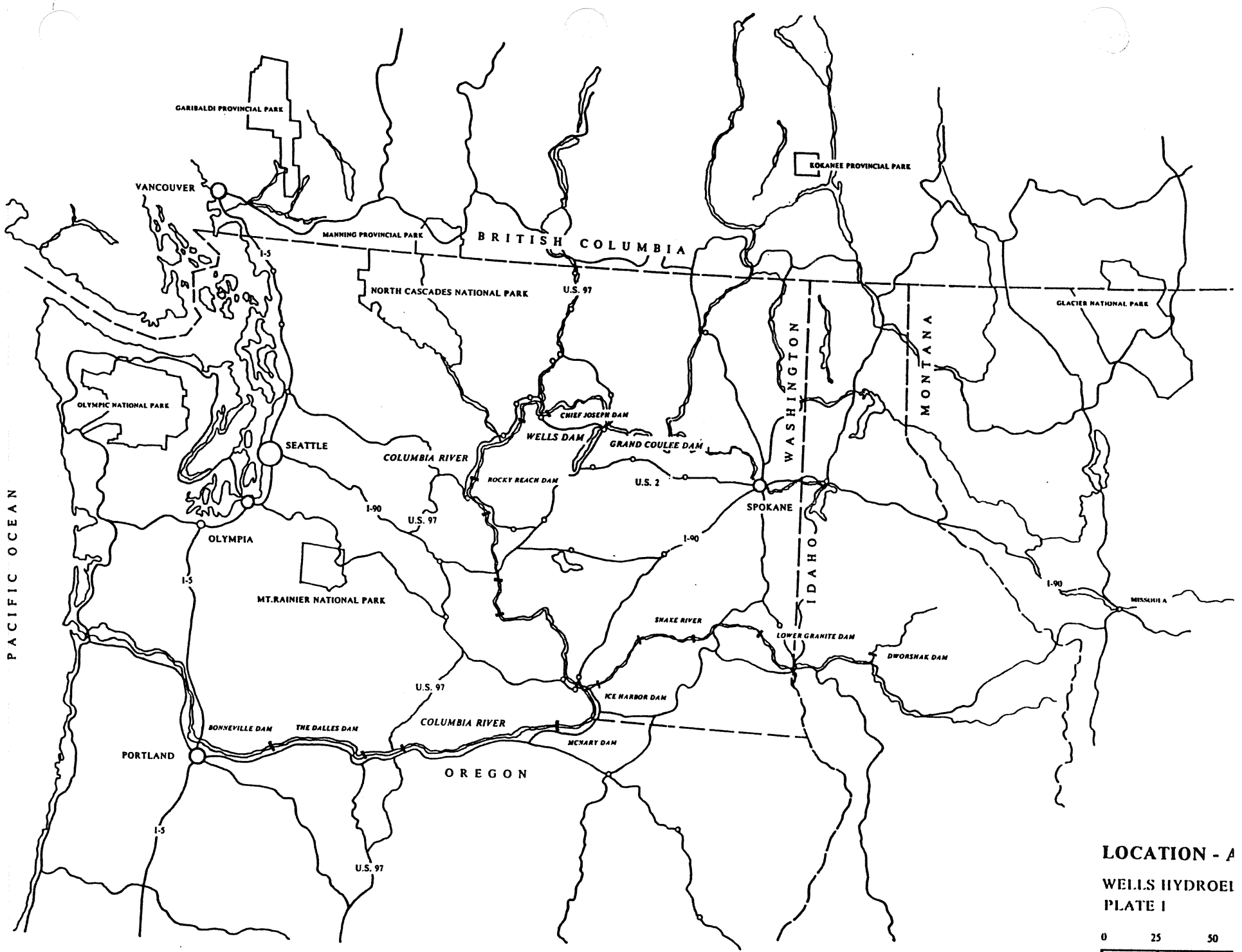
> The Public Use Plan when implemented appears to be largely adequate to meet the public recreation needs of the project.

The other comments in the letter referred primarily to the land retention and ownership, and the desirability of reviewing the public use patterns from time to time.

Every two years, the District prepares and submits to the Federal Energy Regulatory Commission a Form No. 80, Licensed Projects Recreation Report. Form 80 summarizes the project description, operation and management policies, and the available and projected recreation facilities. Although Form 80 satisfies the FERC requirements, fifteen years have passed since publication of the original Wells Recreation Plan, and it is appropriate to assess the validity of the findings and recommendations in that plan.

CHANGES

Conditions have changed. Up-to-date and more refined recreation information is available, and major recreation studies have been completed for the reservoirs that are adjacent to Wells. The national economy is presently characterized by high interest rates, inflation and unemployment. The long held assumption that leisure time and discretionary income will continue to rise is no longer valid. Since 1967 the price of gasoline has more than



LOCATION - A

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PLATE 1

0 25 50

SCALE IN MILES

quadrupled, from around $.35 per gallon to today's prices. For the first time since World War II gasoline consumption in the United States and in the state of Washington has decreased. Since the Arab oil embargo of 1973, energy has become a major concern in public policy planning at all levels of government. This is particularly important in attempting to predict demand for recreation facilities in the Wells region, because the region itself is sparsely populated, and a very substantial amount of demand is from the Seattle metropolitan region, 200 miles from Wells.

The hydroelectric power generated by Wells and the other dams in the region is being looked upon for assisting in meeting peak demands, as well as for the historical purpose of providing for the base power load demands.

The North Cascades Highway, crossing a new National Park, meets the Wells pool at Pateros, resulting in different traffic patterns along the reservoir.

Since 1967, the federal Bureau of Outdoor Recreation, later to be named the Heritage Conservation and Recreation Service, has had a major impact on the planning and provision of recreation opportunities. HCRS, although not an operating agency like the Corps of Engineers or the National Park Service, has administered the Federal Land and Water Conservation Fund. For states to receive money from the fund, they must prepare Statewide Comprehensive Outdoor Recreation Plans (SCORPS) based upon HCRS guidelines. In turn, state and local agency recreation plans must be compatible with the SCORP to qualify for the matching funds.

As of now, there is a moratorium on the Land and Water Conservation Fund, the HCRS has been dissolved, and has become the Division of External Services of the National Park Service.

The original Wells Recreation Plan was prepared at the time the reservoir was being filled. Since that time, the District has shown its continuing concern for public recreation in many ways:

1. Coordination and provision of local recreation opportunities.
2. Provision for regional recreation opportunities.
3. Provision of informational/educational presentations at the dam.
4. Fish and wildlife measures.

Local Recreation

The District relocated the town of Pateros during the original construction period, and the town developed a day use park along the water adjacent to City Hall, another park on the Methow River for day use, and a boat launch facility at the mouth of the Methow.

At Brewster the District formed the protected bay adjacent to the existing city park.

Regional Recreation

The 1967 recreation plan called for a state park development at a site then known as Bridgeport Bar. The suggested area encompassed 530 acres, all of which was being sought by the Washington State Department of Game. Eventually, the Game Department acquired 196 acres of the site between the road and the island.

The island, an area of 297 acres plus adjacent project lands, along with a 200 foot wide easement to the island from the road, was deeded to the Washington State Parks in 1967. The site is now called Chief Joseph State Park. As a part of the deed, the Parks and Recreation Commission agreed to ask the Legislature to appropriate at least $100,000 within five years for the development of a state park on the property, and an additional $100,000 within the following five year period.

Before the pool was raised, the State Parks Commission spent approximately $90,000 in the creation of a causeway to the island, and deepening the water channel between the island and the mainland.

Although funds have been requested from the Legislature, no additional money has been appropriated, and no additional development has occurred.

Informational and Educational Exhibits

The District has published a number of pamphlets giving data on the history of the project, points of interest in the area, and information of interest to visitors.

There are excellent displays at the visitor area at the dam. A viewing area overlooking the project structure includes a descriptive explanation of the project. In the dam a self guided tour acquaints the visitors with the design and operation of the power generating facilities. Another tour graphically acquaints the visitors with the life cycle of salmon. A viewing window allows close inspection of migrating salmon. Development of the prime visitor center continues with major exhibits depicting, historically, a time relationship of significant natural and human events of this geographical area, particularly as they relate to the Columbia River.

Fish and Wildlife Measures

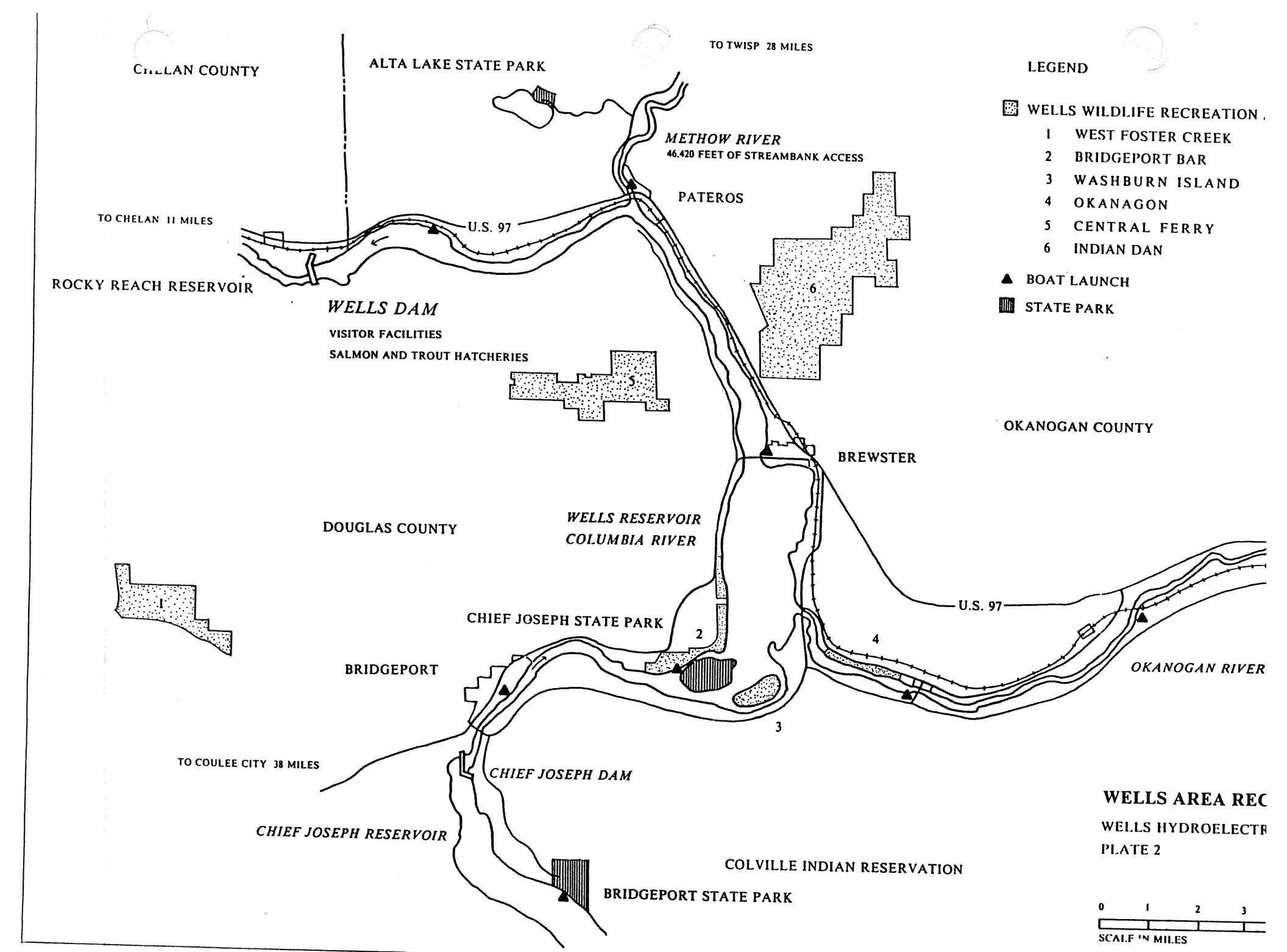
The District, in cooperation with the Washington Department of Game, has provided 5954 acres of land for use as Wildlife Recreation Areas. Three of the Areas encompassing 5459 acres are located away from the project. The 495 acres of wildlife lands adjacent to the reservoir are located at Washburn Island, along the Okanogan River, and across the channel from the state park lands at Bridgeport Bar. These areas serve a dual purpose of providing improved conditions for wildlife and expanded recreational opportunities.

As part of the gamefish mitigation agreement between the Department of Game and the District, six areas along the Methow River were acquired for parking and fisherman access. Also acquired under the agreement were 46,420 feet or the equivalent of streambank access for fishermen and general recreational use on the Methow River. The District also transferred $72,150 to the Game Department for additional streambank easements or parking areas.

To provide Operations and Maintenance funding for the wildlife mitigation program for the Wells Project the District transferred to the Department of Game a total of one million dollars to be invested to provide operating funds for the remainder of the Wells Project License. An additional quarter million dollars was given to the Game Department for initial development of Wells Wildlife Recreation Area lands.

The District built and provides annual operations and maintenance funds for a steelhead and trout hatchery at Wells Dam. As a result of releasing 50,000 pounds of steelhead each year from the Wells Hatchery an excellent recreational steelhead fishery has developed at the mouth of the Methow River. The 20,000 pounds of rainbow trout released from the hatchery annually support the summer trout fishery in the Methow and its tributaries. The District also built and is funding the operation of a salmon hatchery which produces 2,250,000 summer chinook migrants each year for release into the Columbia River at Wells Dam. These fish contribute to ocean sport and commercial fisheries from Alaska to Oregon and to a local sport fishery in North Central Washington.

A part of the agreement between the District and the Game Department assigns the management of project shorelands for public access to the Game Department.


CHELAN COUNTY
ALTA LAKE STATE PARK
TO TWISP 28 MILES
METHOW RIVER
46,420 FEET OF STREAMBANK ACCESS
PATEROS
TO CHELAN 11 MILES
U.S. 97
ROCKY REACH RESERVOIR
WELLS DAM
VISITOR FACILITIES
SALMON AND TROUT HATCHERIES
OKANOGAN COUNTY
BREWSTER
DOUGLAS COUNTY
WELLS RESERVOIR
COLUMBIA RIVER
CHIEF JOSEPH STATE PARK
BRIDGEPORT
OKANOGAN RIVER
TO COULEE CITY 38 MILES
CHIEF JOSEPH DAM
CHIEF JOSEPH RESERVOIR
COLVILLE INDIAN RESERVATION
BRIDGEPORT STATE PARK
LEGEND
WELLS WILDLIFE RECREATION
1 WEST FOSTER CREEK
2 BRIDGEPORT BAR
3 WASHBURN ISLAND
4 OKANAGON
5 CENTRAL FERRY
6 INDIAN DAN
BOAT LAUNCH
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WELLS AREA REC
WELLS HYDROELECTR
PLATE 2
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SCALE IN MILES

THE AREA

THE PROJECT

Wells Dam is located on the Columbia River between Rocky Reach and Chief Joseph Dam, at river mile 516. An unusual feature of the project is the unique hydro-combine design, with power units, spillways, fish passage facilities and switchyard in a single structure. The resulting low profile and compact design are visually pleasing and have minimum impact on the surrounding environment.

The reservoir is thirty miles long, and extends up the Methow and Okanogan Rivers. The three towns on the reservoir are Pateros, Brewster and Bridgeport.

A short portion of the land above the dam on the west side is Chelan County, and a major part of the shoreline is Douglas County on the east and south, and Okanogan County on the west and north.

Most of the shoreland is typified by steep slopes rising to benches twenty to forty feet above water level. Exceptions are at the mouth of the Okanogan River, Washburn Island, Bridgeport Bar and the shoreline at Pateros, which vary from a few feet to approximately ten feet above water level.

The Colville Indian Reservation begins at the Okanogan River and borders the reservoir to Chief Joseph Dam.

Access

Wells reservoir begins at Chief Joseph Dam, and runs west and north, past the town of Bridgeport to the confluence with the Okanogan River. Here it turns west and runs past Brewster to Pateros at the confluence with the Methow River, and then south to Wells Dam.

U.S. Highway 97 borders the reservoir on the west, coming from central California and central Oregon, and going on along the Okanogan River to British Columbia. The North Cascades Highway, SR 153, comes from Mt. Vernon in Western Washington, down the east slopes of the Cascades, along the Methow River, meeting U.S. 97 at Pateros. Good highway connects from Bridgeport to Grand Coulee, and on to Spokane, and U.S. 2 from Spokane meets the Columbia approximately 27 miles below Wells Dam.

Roads parallel both sides of the reservoir, with the exception of the east shoreline from Pateros to the dam.

The Burlington Northern Railroad closely parallels the reservoir on the west side from the dam to the Okanogan River, then turns north to Canada.

ADJACENT PROJECTS

Chief Joseph, a Corps of Engineers project, is the next dam upstream, about one mile above Bridgeport. The Chief Joseph reservoir is accessible by good road only at the area near the dam and along the upper reaches near Grand Coulee Dam. The only towns on the reservoir are Elmer City, three miles below Grand Coulee Dam, and the towns of Coulee Dam and Grand Coulee. The reservoir is about 50 miles long. Shorelands are typically steep.

Rocky Reach Dam, built and operated by the Chelan County Public Utility District, is about forty miles below Wells dam, and six miles north of Wenatchee. Wenatchee, located on the edge of Rock Island reservoir, is the primary city in this part of the state. East Wenatchee, across the river, is the population center of Douglas County.

THE REGION

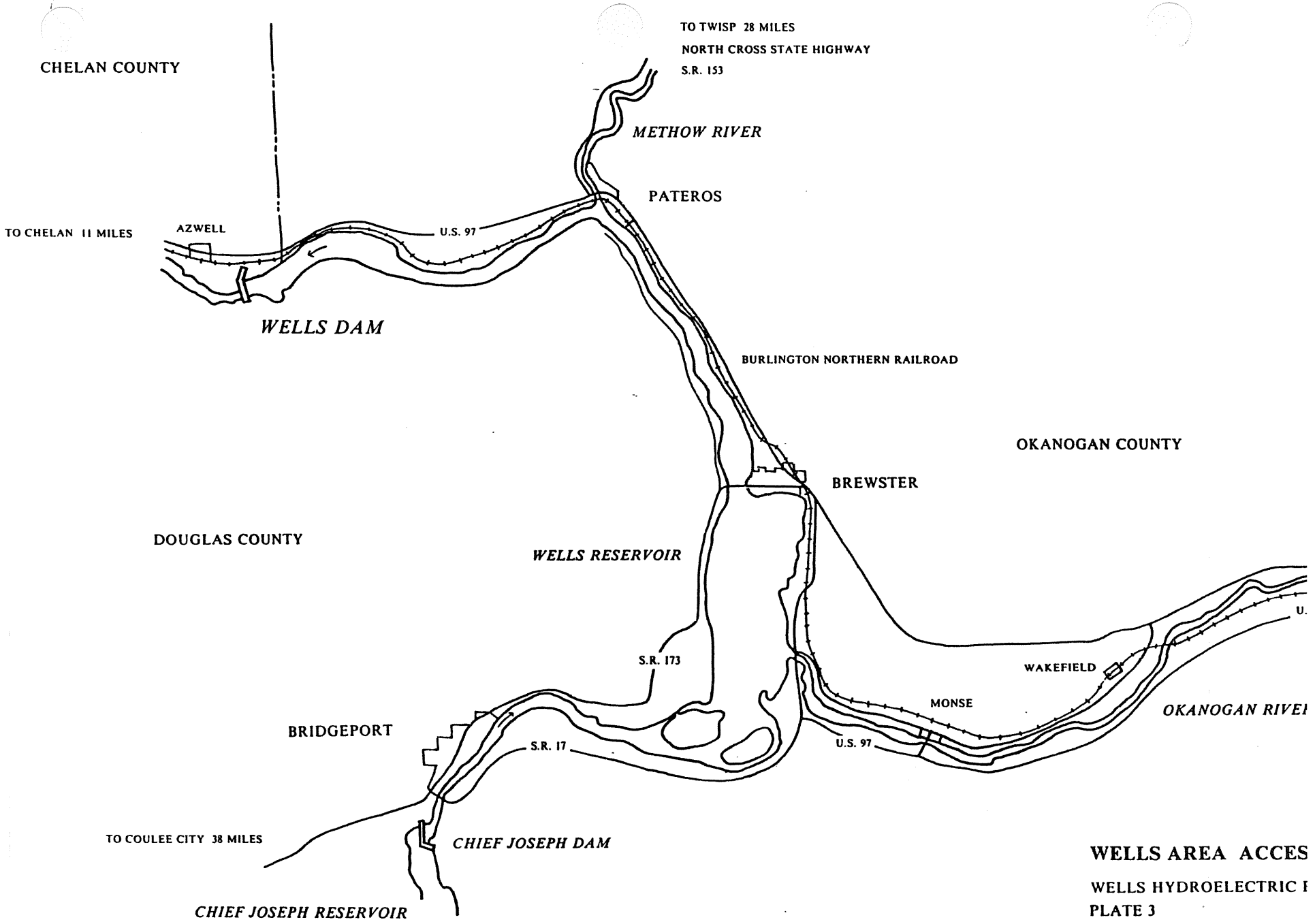
The terrain is typical of the Columbia River Valley. The valley is narrow, bounded by high plateaus. On the west, it is bordered by foothills of the Cascades; on the north, the Okanogan highlands; on the south and east, the Columbia lava plateau. Along the river, there are occasional alluvial fans where valleys empty into the river. The land forms create a strong impact on the region, controlling the climate, the economy, settlement patterns, and the transportation networks.

Adjacent to the Columbia and Okanogan rivers there are intensive orchard plantings, irrigated from the rivers. On the high plateaus of Douglas County, dryland crops predominate, with about a third of the land in wheat. The mountain lands to the west include the extensive holdings of the U.S. Forest Service, and north, the Colville Indian Reservation.

The region is sparsely populated. In 1978, the population of Chelan County was 42,400, with most of the people in the Wenatchee area; Douglas County was 20,600, with most of the people in East Wenatchee; and Okanogan County was 29,000 with about half the people in incorporated towns.[2]

The climate is dry and semi-arid, averaging about 10 inches of precipitation, most of which occurs in the winter. Temperatures average 25°F in the winter, 75° in the summer, with extremes to −30°F and 110°F, and average highs and lows of 100° and 0°F. There is an average of 180 frost free days along the river.

The economy of the area is based on agriculture, lumber, some mining, and tourism.


CHELAN COUNTY
TO TWISP 28 MILES
NORTH CROSS STATE HIGHWAY
S.R. 153
METHOW RIVER
PATEROS
TO CHELAN 11 MILES
AZWELL
U.S. 97
WELLS DAM
BURLINGTON NORTHERN RAILROAD
OKANOGAN COUNTY
BREWSTER
DOUGLAS COUNTY
WELLS RESERVOIR
S.R. 173
WAKEFIELD
MONSE
OKANOGAN RIVEI
BRIDGEPORT
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TO COULEE CITY 38 MILES
CHIEF JOSEPH DAM
CHIEF JOSEPH RESERVOIR
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WELLS AREA ACCES
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PLATE 3
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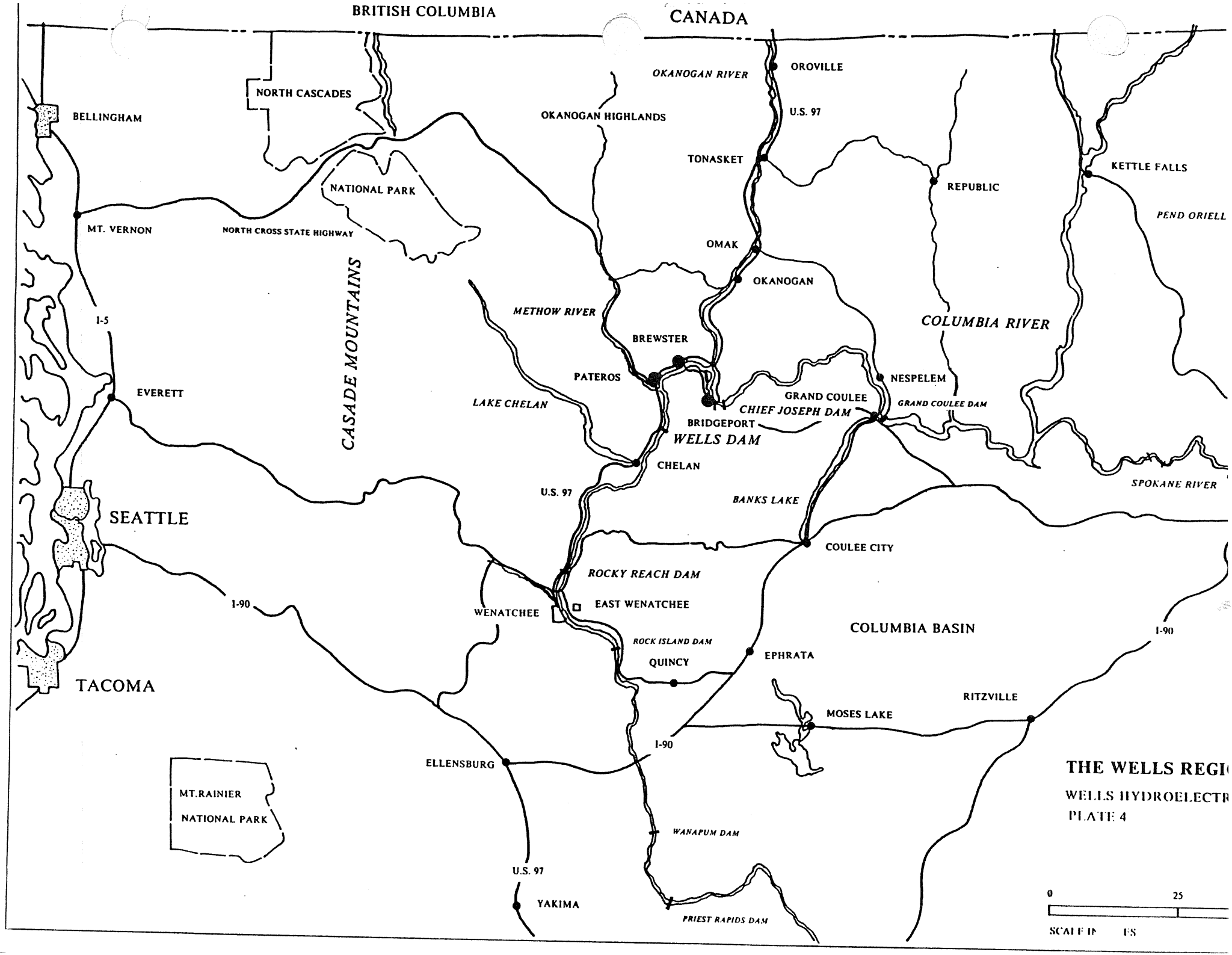
BRITISH COLUMBIA
CANADA
OKANOGAN RIVER
OROVILLE
NORTH CASCADES
BELLINGHAM
OKANOGAN HIGHLANDS
U.S. 97
TONASKET
KETTLE FALLS
REPUBLIC
NATIONAL PARK
PEND ORIELL
MT. VERNON
NORTH CROSS STATE HIGHWAY
OMAK
OKANOGAN
CASADE MOUNTAINS
METHOW RIVER
I-5
COLUMBIA RIVER
BREWSTER
PATEROS
NESPELEM
EVERETT
LAKE CHELAN
GRAND COULEE
GRAND COULEE DAM
CHIEF JOSEPH DAM
BRIDGEPORT
WELLS DAM
CHELAN
SPOKANE RIVER
U.S. 97
BANKS LAKE
SEATTLE
COULEE CITY
ROCKY REACH DAM
I-90
EAST WENATCHEE
WENATCHEE
COLUMBIA BASIN
I-90
ROCK ISLAND DAM
QUINCY
EPHRATA
TACOMA
RITZVILLE
MOSES LAKE
I-90
ELLENSBURG
MT.RAINIER
NATIONAL PARK
WANAPUM DAM
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PRIEST RAPIDS DAM
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WELLS HYDROELECTR
PLATE 4

THE PLANNING PROCESS

THE PLANNING PROCESS

The goal of this plan is to look at recreation as it relates to Wells reservoir.

Recreation, in its broadest sense, is the use of leisure time. As such, it includes reading, watching T.V., bowling, gardening, meditating, sky diving, napping, and hundreds of other activities. This plan will be concerned with recreation in the limited sense of public, outdoor recreation, requiring a physical setting. Public will include all facilities available to the general public, whether provided by private enterprise or public agencies.

The planning process will be concerned with three questions:

1. What facilities are needed and appropriate to provide public recreation opportunities?
2. Can Wells reservoir reasonably accommodate the facilities?
3. How will the facilities be developed and maintained?

Identifying needs for outdoor recreation resources involves analysis of present public participation in relation to existing resources and developed facilities. In the context of this report, needs will be used in the relationship: Demand – Supply = Needs. To determine 'need', then, both demand and supply must be quantified. Because demand is normally quantified in 'activity occasions' and supply is quantified in facilities, a method is used to convert activity occasions into facilities needs.

CONSIDERATIONS

It should be emphasized that all methods to anticipate recreation needs can only produce approximations. For the formula: demand – supply = needs, the supply of facilities available has been inventoried throughout the state. The determination of recreation demand is the most subjective part of the planning process. Demand is often considered synonymous with participation. Actually, the facilities that are available largely control what people are able to do, and if the facilities do not exist, then people are not participating in those activities. So user surveys or observation techniques actually measure participation rather than demand. Also, people may want to do things, but do not because they don't have the time, the money, or the mobility, or the facility may be too far away.

ALTERNATIVE METHODS FOR DETERMINING DEMAND

Two basic approaches have been developed to determine recreation demand. One technique observes what people do. Typical of this technique is the 'similar projects' method, developed by the Corps of Engineers to anticipate recreation use at new reservoirs by comparison with measured and observed use at an existing facility. The second technique, the

user survey, asks people what they do, how often, where, and when. Sometimes the survey asks what they would like to do and why they don't.

Regardless of which basic method is used, the results are usually tempered with the plans of those agencies providing recreation opportunities.

Agency Plans and Policies

Valuable information regarding demand and projected development can be furnished by the public agencies who have the responsibility for providing recreation opportunities. The policies of these agencies do not always coincide with the expressed wishes of the people they serve. The agencies live with the reality of costs, management, and maintenance of areas, which tends to stretch the distance between wishes and probabilities.

All the following agencies, considered to have potential direct involvement on the Wells reservoir, have been contacted:

Federal:
- U.S. Corps of Engineers
- Bureau of Sport Fishing and Wildlife

State:
- Washington State Parks and Recreation Commission
- Washington State Game Department
- Washington State Department of Fisheries

Counties:
- Douglas County Public Utility District
- Chelan County Public Utility District
- Douglas County Park Department
- Douglas County Port District
- Okanogan County Board of County Commissioners

Towns:
- Pateros
- Brewster
- Bridgeport

Agencies with planning and coordination functions, regulatory powers, or involvement in off-reservoir recreation opportunities are:

Federal:

Federal Energy Regulatory Commission

National Park Service, Division of External Services

Bureau of Reclamation

U.S. Forest Service

State:

Interagency Committee for Outdoor Recreation

Department of Transportation

Department of Natural Resources

Department of Ecology

County:

Douglas County Board of County Commissioners

Chelan County Board of County Commissioners

Douglas County Regional Planning Commission

Chelan County Regional Planning Commission

Of particular interest are the Corps of Engineers and Chelan County Public Utility District. They not only operate the adjacent reservoirs, but also each has recently prepared recreation plans for their reservoirs. The similar projects method was used by the Corps in determining initial recreation use for Chief Joseph reservoir. Chelan County Public Utility District, in the preparation of Recreation Exhibits for Rocky Reach and Rock Island, used a combination of the similar project method, input from agencies and public meetings, and SCORP survey information for determining needs.

Because Chief Joseph and Rocky Reach reservoirs are immediately upstream and downstream from the Wells pool, their findings will be analyzed for comparison purposes in later sections of this report.

Similar Projects Method

In 1969, the Corps of Engineers published Technical Report No. 2, *Estimating Initial Reservoir Recreation Use,*[3] which outlined a method comprised of the steps noted below:

The proposed reservoir characteristics are evaluated and compared with similar existing projects, and a similar project is selected for use in the process.

The day-use market areas are determined for the two projects. Day-use market areas are typically 75 to 100 miles from the reservoir.

The per capita use curve of the similar project is modified to reflect dissimilarities between the projects. Per capita use curves indicate annual day use per person in the market area related to distance traveled. Per capita day use decreases as travel distance increases.

Market area population for the two projects are compared, by distance, to calculate factors to be applied to account for differences in population distribution and quantity.

The factors are applied to the population per capita use rates to determine initial day-use of the proposed project.

Camping use for the similar project is calculated as a percentage of day-use, using the similar project data, and this is added to the day-use quantities to get total use. The result is the initial year total recreation use in activity occasions. An activity occasion is one person participating in one recreation activity for part or all of one day. One person may account for a number of activity occasions on any one day.

User Survey Method

Essentially, this technique involves asking a cross section of the people who will use the facilities such questions as what they prefer to do, how far they will travel and how often they will participate in various activities. This basic process, in a highly refined form, was used by the State of Washington Interagency Committee for Outdoor Recreation in the preparation of the Statewide Comprehensive Outdoor Recreation and Open Space Plan.[4] The reliability of this method is directly related to the quantity and refinement of the information gathered in the survey. The SCORP survey was very extensive, and should result in a high degree of confidence in the findings. A brief outline of the IAC's 1975/1976 Outdoor Recreation Survey follows:

> The purpose of the survey was to identify the percent of the population which participates in various activities; their basic recreational behavior in terms of frequency, length of stay, and location; and their general desires for recreational opportunities.

The survey began with telephone interviews with 10,000 households in the state, selected at random, which explained the purpose of the study, and obtained demographic information on those who consented to be in the study. A mail survey, consisting of a

questionnaire in diary form, was used by the respondents to record their daily recreational activities. Households were randomly grouped into two-week reporting periods throughout the year. Households that responded to the telephone survey and all four seasonal questionnaires were used for analysis purposes, a total of 4,922 individuals representing 1,754 households.

The questions covered 82 specific recreation activities. Some of the activities were then combined into general categories, resulting in shorter lists of activities.

For example:

82 Activities	37 Activities	24 Activities
Water Skiing	Water Skiing	Boating
Power Boating	Boating – Power	
Sailing	Boating – Other	
White Water Boating		
Other (row boats, canoeing)		

Forecasting of future use was based on two trends: forecasts of future population; increases in participation which are at a rate faster than population growth.

These growth rates were then incorporated into a gravity model, which is part of the Regional Recreation Data Program.[5] The model takes activity projections developed by the IAC at the county of origin for Washington, Oregon and Idaho, and then transfers these demand estimates to the county of destination. In the process, it also factors in the growth rates, which are in addition to population growth. For some activities, such as tennis and gardening, the county of origin and destination are the same. The transfer is done through the use of distance decay curves for individual activities and attractiveness indices for each individual activity. The model also factors in tourist participation in the Pacific Northwest States for other regions of the United States and Canada.

The next step is disaggregation of the output at the county of destination into the 37 activity categories to be compared with the supply inventory during the needs assessment.

Information gathered during the survey is sufficiently refined to give meaningful data for actual siting of recreational facilities. Table 1, from SCORP, indicates how many people participate in each activity and how often. A per capita participation rate is the result of multiplying these items together.

Table 1

STATEWIDE PARTICIPATION IN OUTDOOR RECREATION ACTIVITIES

Activity	Percent Participation	Rank	Participant Frequency	Rank	Per Capita Participation	Rank
Swimming	13.2	11	21.9	4	2.89	6
Boating	12.9	12	15.2	12	1.96	8
Visiting Beach/ Beachcombing	15.3	9	9.7	21	1.48	15
Fishing	22.8	4	15.4	11	3.51	5
Nature Study	9.2	16	13.0	16	1.20	19
Food Gathering/ Collecting	13.7	10	10.3	19	1.41	16
Gardening	23.4	3	24.9	3	5.83	1
Walking/Hiking	16.6	8	12.9	17	2.14	7
Camping	24.3	2	20.3	6	4.93	2
Picknicking	19.7	6	8.5	23	1.67	11
Snow Activities	11.2	13	11.3	18	1.27	18
ORV	6.6	19	14.2	13	.93	21
Horseback Riding	3.2	23	16.4	10	.52	22
Driving for Pleasure/ Sightseeing	36.0	1	13.7	15	4.93	3
Bicycling	6.9	18	27.9	2	1.93	9
Hunting	10.6	14	14.1	14	1.49	14
Shooting	3.5	22	9.6	22	.34	23
Field Games	8.2	17	18.8	8	1.54	13
Court Games	9.4	15	17.5	9	1.65	12
Playground Activities	3.0	24	10.2	19	.31	24
Jogging	4.0	21	30.9	1	1.24	20
Golf	6.3	20	21.7	5	1.37	17
Attend Sport/Cultural Event	18.0	7	9.8	20	1.76	10
Other	22.3	5	19.1	7	4.26	4

Table 2

AVERAGE HOURS PER ACTIVITY OCCASION

Activity	Average Hours	Activity	Average Hours
1. Outdoor Swimming	2.19	15. Bicycling	1.47
2. Boating	3.46	16. Hunting	5.41
3. Visit Beach/Beachcombing	2.61	17. Shooting	2.37
4. Fishing	4.16	18. Field Games	2.36
5. Nature Study	2.23	19. Court Games	1.83
6. Food Gathering	2.79	20. Playground Activities	1.97
7. Gardening	2.09	21. Jogging	1.16
8. Walking/Hiking	2.22	22. Golf	3.35
9. Camping	18.07	23. Attending Sport/ Cultural Events	3.28
10. Picnicking	3.22	24. Other	2.20
11. Snow Activities	4.40		
12. ORV	3.24		
13. Horseback Riding	2.41		
14. Driving for Pleasure/Sightseeing	4.31		

Another piece of information obtained from the survey was the amount of time each person spends participating in various activities. This data, shown in Table 2, is also of use to the site planner because it indicates 'turnover rates' that will tell how often a facility can be used by different groups in a day.

Other data tabulated from the survey include: outdoor recreation participation by age group; seasonal variations in participation; participation by resource type (river, lake, mountain, city, range); activities in which respondents wanted to participate more often; and reasons for not participating more often.

COMPARATIVE STANDARDS

The purpose of comparative standards is to convert activity occasions into resource and facility needs, so that demand (activity occasions) and supply have the same base. From SCORP:

> Annual activity occasions are multiplied by the percent of use that occurs on the average peak day. This gives the number of activity occasions occurring on the average peak day. This figure is then multiplied by the percent who wish to use developed facilities. The result is the number of average peak day users who desire facilities. When this figure is divided by the turnover rate, the number of average peak day users present at any one time who desire facilities is obtained. Dividing the number of average peak day users present at any one time who desire facilities by the number of people typically using each unit or facility results in the total facility requirements.

Peak days are considered to be weekend days of the most popular month for each activity. Table 3 indicates the result of that process. It was possible to derive the percent use in the peak month and percent of use on weekends because the survey was a diary type questionnaire.

SUPPLY

Demand is obtained from either an observance technique, such as the similar projects method, or a survey technique similar to SCORP, with the resulting activity occasions converted into facility requirements. To determine need, the existing supply (along with planned facility development by others) is subtracted from the demand.

Table 3

METHODOLOGY FOR COMPUTING PERCENT OF USE ON AVERAGE PEAK DAY

Activity	A % Use in Peak Month	X	B % Use on Week-ends	+	C Number of Week-end Days	=	D % Use on Average Peak Day
1. Swimming – Pool	38.4		40.1		14		1.10
2. Swimming – Beach	47.4		37.5		9		1.98
3. Boating – Water Skiing	40.0		56.8		9		2.52
4. Boating – Power	24.7		52.3		9		1.43
5. Boating – Other	30.8		44.4		9		1.52
6. Visit Beach/ Beachcombing *							
7. Fishing – From Boat	19.1		45.6		9		.97
8. Fishing – From Bank *							
9. Nature Study *							
10. Food Gathering *							
11. Gardening	25.0		38.0		9		1.05
12. Walking for Pleasure	11.5		41.2		9		.53
13. Day Hiking	31.3		46.6		10		1.46
14. Backpacking	21.8		45.9		9		1.11
15. Vehicular Camping	38.8		52.3		10		2.03
16. Camping – Other	24.3		56.0		9		1.51
17. Picnicking	33.2		61.4		9		2.27
18. Downhill Skiing	25.8		71.0		9		2.04
19. Cross-Country Skiing	31.3		57.2		9		1.99
20. Snowmobiling							
21. Other Snow Activities *							
22. Motorcycle	18.6		49.2		9		1.02
23. 4-Wheel Drive	28.3		63.0		9		1.98
24. Horseback Riding	16.2		45.4		8		.92
25. Driving for Pleasure/ Sightseeing *							
26. Bicycling	30.5		33.1		9		1.12
27. Hunting	44.1		54.3		9		2.66
28. Shooting	19.1		43.6		8		1.04
29. Field Games	35.0		29.7		10		1.04
30. Tennis	20.9		34.4		8		.90
31. Other Court Games	15.9		38.5		9		.68
32. Playground Activities	24.5		52.5		14		.92
33. Jogging *							
34. Golf	16.0		39.6		8		.79
35. Attend Sport Event *							
36. Attend Cultural Event *							
37. Other *							

*Activity not compatible with quantitative needs analysis because of the nature of the activity and/or lack of adequate supply inventory.

Table 4

Statewide Totals

	Amount
Population – 1978	3,774,300
Area (Square Miles)	66,572
Density/square mile	56.7
Population – 2000	5,051,100
Percent increase	33.8

WASHINGTON RECREATIONAL SUPPLY INVENTORY
State Total

Facility	Local	State	Federal	Private	Total
8 Recreational Sites	3160.0	846.0	695.0	1518.0	6219.0
Total Acres	66361.0	3735057.0	11420135.9	474570.0	15696123.9
Developed Acres	25350.6	8469.0	7803.9	*	41623.5
Undeveloped Acres	31010.4	875395.3	3563934.5	*	4480340.2
Multiple-Use Acres	0.0	2851192.7	7848397.5	*	10699590.2
Athletic Fields	3064.0	7.0	8.0	*	3079.0
Acres Athletic Fields	6776.1	14.6	25.6	*	6816.3
Lighted Tennis Courts	344.0	0.0	0.0	*	344.0
Unlighted Tennis Courts	1194.0	6.0	3.0	*	1202.0
Total Tennis Courts	1538.0	5.0	3.0	162.0	1708.0
Multi-Purpose Courts	693.0	0.0	1.0	*	694.0
Golf Par-3 Holes	90.0	0.0	0.0	126.0	216.0
Golf Regulation Hole	477.0	18.0	0.0	1962.0	2457.0
Outdoor Pools	100.0	2.0	2.0	*	112.0
Indoor Pools	62.0	0.0	0.0	*	62.0
Total Pools	170.0	2.0	2.0	142.0	316.9
Sq. Ft. Outdoor Pools	502856.0	1050.0	7000.0	*	510906.0
Soft Indoor Pools	297919.0	0.0	0.0	*	297919.0
Soft Total Pools	891168.0	1050.0	7000.0	298823.0	1198041.0
Lineal Ft. Swim Beach	40760.0	12701.0	22250.0	108930.0	184641.0
Paved Launch Lanes	209.0	293.0	54.0	*	536.0
Unpaved Launch Lanes	39.0	155.0	89.0	*	283.0
Total Launch Lanes	248.0	448.0	143.0	259.0	1098.0
Boat Moor Slps/Spces	6276.0	791.0	185.0	10741.0	17993.0
Boat Moorage Buoys	4.9	306.0	6.0	*	316.0
Boat Car/Trlr Parking	4074.0	19979.0	1278.0	*	25331.0
Fish Shore Access	293.0	536.0	539.0	*	1368.0
Fish Pier/Dock	98.0	10.0	34.0	*	142.0
Picnic Tables	10563.0	6639.0	2891.0	*	20093.0
Picnic Shelters	445.0	175.0	23.0	*	643.0
Camping Units	2475.0	7244.0	9101.0	22192.0	41012.0
Miles – Hike Trls	410.9	589.6	6298.2	1583.0	8881.7
Miles - Bridle Trails	115.2	258.2	5280.3	809.0	6462.7
Miles – Bicycle Trails	142.0	0.4	54.0	102.0	298.4
Miles – Mtrcycle Trls	17.6	330.7	1320.0	*	1668.3
Miles – 4–Whl Dr. Tr	2.0	27.9	71.0	*	100.9
Miles – Snomobile Trls	4.0	132.1	487.0	721.0	1344.1
Miles – X-Ski/SWNSO	10.5	0.0	1654.0	*	1664.5
Playground Equipment	1579.0	33.0	8.0	1.0	1621.0
Tot Lots	299.0	1.0	3.0	*	303.0
Nature Trails	176.0	14.0	63.0	1.0	254.0
Day Camp Areas	79.0	9.0	2.0	34.0	124.0
Group Camp Facilities	35.0	37.0	53.0	*	125.0
Env. Lrning Centers	38.0	8.0	2.0	*	48.0

* Information Not Available.

The IAC initiated an ongoing process of inventorying public lands and recreational facilities in the state in 1976/77. The inventory included a substantial number of facilities, broken out according to ownership. This information was coupled with an inventory of private recreation facilities undertaken by the National Association of Conservation Districts in 1974. The state totals are indicated in Table 4.

The supply data was gathered by county and then combined for planning districts and the state.

ABILITY OF WELLS RESERVOIR TO MEET NEEDS

The second question to be resolved by the planning process was, can the reservoir accommodate the facilities? Each activity requires facilities or resources to participate; boating requires water and launching ramps; large flat areas are needed for field games, and so on. Section V will analyze the physical base of Wells reservoir and inventory existing recreation sites and those with the potential to be developed to meet the needs.

DEVELOPMENT AND MANAGEMENT

The third question, how the facilities will be developed and maintained, will be addressed in Section VI. Throughout the planning process the work is coordinated with the various regulatory and planning agencies that are concerned with the project, and with the agencies that will undertake development and operation of the facilities.

RECREATION NEEDS

RECREATION NEEDS

The recreation needs for the Wells region will be based upon the 1979 SCORP data, for a number of reasons:

1. An extensive amount of data was gathered in the user survey on participation rates. The gravity model incorporated county of destination, tourist participation from out of the area, and projections for population and use growth.
2. All state and local recreation area acquisition and development must agree with the SCORP findings to be eligible for federal and state recreation funds.
3. The similar project method used by the Corps of Engineers and Chelan County Public Utility District produced extreme variation in projected recreation activity occasions, despite the fact that the two reservoirs are only thirty miles apart from the tailwaters of Chief Joseph Dam to Rocky Reach Reservoir.

To supplement SCORP findings, the plans of public recreation agencies will be reviewed, and the needs projected in the Rocky Reach Recreation Plan and the preliminary Chief Joseph Public Use Plan will be included. A comparison with the findings of the 1967 Wells Recreation Plan will be made.

1979 SCORP

The previous section reviewed the methods and some of the findings in the Statewide Recreation Plan. The total SCORP planning process to determine 'needs' looks like this.

1. Collect Data:

   A. Outdoor Recreation Survey – 4,922 individuals

      1. Annual activity occasions in 82 activities with sub-sets of 37 activities and 24 activities.
      2. Percent participation and participant frequency = per capita participation.
      3. Hours per activity occasion
      4. Seasonal variations
      5. Activities by age groups
      6. Participation by resource type
      7. Activities in which respondents wanted to participate more often, and why they did not.

B. Supply

1. Public Lands Inventory 1976/77. Divided into local, state and federal lands. Total acres, total developed acres, total multi-use acres. Totals of facilities.
2. NACD Inventory of Private Recreation Facilities. Not completely compatible with Public Lands Inventory because of different survey questions. Used where possible in needs assessment.

C. Population Forecasts. State Office of Financial Management, for years 1975, 1980, 1990, 2000.

2. Analysis

A. Survey information gathered by the IAC at county of origin, and population and use growth forecasts entered into gravity model. Output at the county of destination into 37 activities.
B. Comparative standards used to convert activity occasions into facility needs.
C. Resulting demand compared with supply to define needs statewide, by planning district, and by county, in 37 activity categories. Some categories not compatible with quantitative analysis. See Table 5.

Table 5

SUMMARY OF COMPARATIVE STANDARDS

Activity	% Who Wish to Use Facility (A)	Persons per Facility (B)	Turnover Rate	Daily Activity Occasion per Facility (C)	Facility
1. Swimming – Pool	80	.02	3	.06	Square Feet
2. Swimming – Beach	80	.50	2	1.00	Linear Feet
3. Boating – Water Skiing	90	3.00	16	48.00	Launch Lane
4. Boating – Power	90	3.00	16	48.00	Launch Lane
5. Boating – Other	75	3.00	16	48.00	Launch Lane
6. Visit Beach/Beachcombing	*				
7. Fishing – From Boat	90	3.00	16	48.00	Launch Lane
8. Fishing – From Bank	*				
9. Nature Study	*				
10. Food Gathering	*				
11. Gardening	*				
12. Walking for Pleasure	80	12.00	4	48.00	Trail Mile.
13. Day Hiking	90	4.00	3	12.00	Trail Mile.
14. Backpacking	90	3.00	1	3.00	Trail Mile.
15. Vehicular Camping	90	3.00	1	3.00	Camping Site
16. Camping – Other	90	3.00	1	3.00	Camping Site
17. Picnicking	90	3.00	2	6.00	Table
18. Downhill Skiing	(See detailed Needs Assessment)				
19. Cross-Country Skiing	90	.50	2	1.00	Trail Mile.
20. Snowmobiling	90	4.00	3	12.00	Trail Mile
21. Other Snow Activities	*				
22. Motorcycle	80	2.00	3	6.00	Trail Mile
23. Four-Wheel Drive	60	6.00	3	18.00	Trail Mile
24. Horseback Riding	75	4.00	1	4.00	Trail Mile
25. Driving for Pleasure/Sightsee	*				
26. Bicycling	60	12.00	10	120.00	Trail Mile
27. Hunting	*				
28. Shooting	80	1.00	3	3.00	Position
29. Field Games	95	9.00	2	18.00	Athletic Field
30. Tennis	90	2.00	5	10.00	Court
31. Other Court Games	90	8.00	3	24.00	Court
32. Playground Activities	95	4.00	2	8.00	Area
33. Jogging	*				
34. Golf	85	4.00	40	160.00	Course
35. Attend Sport Event	*				
36. Attend Culture Event	*				
37. Other	*				

*Activity not compatible with quantitative needs analysis because of the nature of the activity and/or lack of adequate supply inventory.

Table 6

SUMMARY OF ACTIVITY/FACILITY NEEDS[1]

Activity	Statewide	Planning Districts											
		1	2	3	4	5	6	8	9	10	11	12	13
Swimming – Outdoor Pool	3	4	1	1	3	1	1	4	4	2	2	4	2
Swimming – Beach	3	4	1	3	3	3	1	4	4	3	4	1	2
Boating	3	4	3	4	3	2	2	1	4	2	4	2	2
Visit Beach/Beachcombing	*												
Fishing – From Bank	*												
Nature Study	*												
Food Gathering	*												
Gardening	*												
Walking/Hiking	4	4	1	4	3	4	2	4	1	1	4	3	1
Camping	4	4	4	3	3	4	2	3	4	1	4	4	1
Picnicking	4	4	3	4	4	4	3	4	4	4	4	4	4
Downhill Skiing	4	2	1	4	4	1	2	4	1	1	1	3	1
Cross-Country Skiing	4	4	4	4	2	4	4	1	1	1	4	1	4
Snowmobiling	2	1	1	2	2	1	1	2	1	1	4	1	1
Motorcycle	3	1	1	1	2	4	4	1	1	1	4	1	4
4-Wheel Drive	1	1	1	2	1	1	1	1	1	1	4	2	1
Horseback Riding	4	4	2	3	1	2	4	4	1	1	4	2	2
Driving for Pleasure/Sightseeing	*												
Bicycling	1	1	3	2	2	1	1	1	1	1	1	3	1
Hunting	*												
Shooting	4	3	2	3	4	1	1	1	3	1	2	1	3
Field Games	3	4	2	2	4	2	3	3	4	4	3	3	2
Tennis	3	3	2	3	4	2	1	4	4	4	1	4	2
Other Court Games	2	1	2	2	3	1	2	2	3	4	1	1	2
Playground Activities	4	4	3	3	4	3	3	4	4	4	4	4	2
Jogging	*												
Golf	3	4	4	3	3	3	2	2	4	3	1	3	3
Attend Sport/Cultural Event	*												

*Not compatible with a quantitative analysis.

[1] % Unsatisfied	Code
76 – 100%	1
51 – 75	2
26 – 50	3
0 – 25	4

PLANNING DISTRICTS

The various state agencies that are involved with planning have divided the state into planning districts for analysis purposes. Wells dam and reservoir are located close to the center of Planning District 7. District 7 will be considered to be the day-use market area for the Wells Project. The district is made up of Douglas, Chelan and Okanogan Counties.

OUTPUT

In general, the need for facilities, by planning district, is indicated in Table 6. More specifically, the needs for each activity are quantified, by planning district, in a table that shows supply and needs for 1975, 1980, 1990 and 2000. Each table also shows three relative indicators:

1. Percent Satisfied: Divides the current supply by the supply required, indicates the peaking characteristic of recreational activities, and results in needs that are in terms of actual facilities.
2. Annual Participation/Supply: Divides annual activity occasions by existing supply. Result is the number of annual activity occasions which are accommodated by each unit of supply. The higher the number, the greater the pressure. Not affected by the assumptions of the comparative standards.
3. Population Served/Supply: Divides the region's population by the existing supply. The higher the number, the greater the potential use pressure. Valuable for activities in which little travel is required.

The following tables are for the categories of activities that can be quanitifed, and are applicable to Wells reservoir. (Nature study is not quantifiable. Downhill skiing not applicable).

SWIMMING – BEACH

Needs Assessment

Planning District	Supply	Needs 1975	Needs 1980	Needs 1990	Needs 2000	Relative Indicators – 1980: Percent Satisfied	Relative Indicators – 1980: Annual Pat/Supply	Relative Indicators – 1980: Pop. Serv. /Supply
1	6510.0	–	–	–	–	100	13.6	9
2	720.0	2739	2890	3188	3376	20	316.15	111
3	4815.0	1096	1786	3084	3830	73	86.5	43
4	20240.0	8684	10067	15253	18560	67	94.5	103
5	3724.0	2609	3355	4766	5572	53	120.0	51
6	3110.0	34567	37144	41914	45012	8	817.1	91
7	3912.0	659	1028	1508	1729	79	79.7	24
8	16700.0	–	–	–	–	100	27.0	11
9	5330.0	–	–	–	–	100	33.0	14
10	2850.0	595	1259	2000	2333	69	91.0	44
11	3150.0	–	–	504	840	100	60.1	14
12	1650.0	12148	12926	14447	15106	11	557.7	219
13	3000.0	3121	3890	6075	7117	44	145.0	23
State	75711.0	47615	56971	76939	88491	57	110.5	51

Supply and needs are given in lineal feet of designated beach. The comparative standard requires 1 lineal foot per daily activity occasion. The supply inventory shows 54 percent of the beaches are provided by local agencies, 17 percent by state and 29 by federal agencies. The table indicates a low to moderate need in District 7 for swimming beaches.

BOATING

Needs Assessments

Planning District	Supply	1975	1980	1990	2000	Relative Indicators – 1980: Percent Satisfied	Relative Indicators – 1980: Annual Pat/Supply	Relative Indicators – 1980: Pop. Serv. /Supply
1	94.0	–	–	–	–	100	3026.1	612
2	79.8	63	73	93	106	52	8967.4	999
3	395.0	–	–	28	71	100	3837.2	528
4	655.1	464	560	798	933	54	8168.1	3189
5	153.0	153	195	271	315	44	10031.2	1241
6	146.8	226	262	323	361	36	11718.8	1933
7	105.9	57	74	105	125	59	7567.7	892
8	36.8	199	216	262	289	15	31415.8	5045
9	97.6	–	–	4	15	100	3952.9	747
10	32.0	67	86	113	129	27	16992.2	3888
11	111.7	–	–	–	–	100	2177.3	381
12	60.7	105	120	145	159	34	13879.2	5914
13	28.3	39	48	67	76	37	12208.8	2411
State	1997.6	1150	1485	2146	2532	57	7733.6	1932

Supply and needs are presented in terms of launch lanes. The boating category includes water skiing, power boating, fishing from boat, and other. Each launch lane handles 48 activity occasions per day. Fishing from boat accounted for 50 percent of the total, power boating 25 percent, boating other 22 percent and water skiing 3 percent. Existing supply for District 7 is indicated below:

	Total Launch Lanes	Boat car/trailer parking spaces
Local	12	142
State	42	2053
Federal	13	82
Private	26	

Because fishing accounts for 50% of boating, it is apparent the location of launch lanes can be as critical a consideration as number of launch lanes.

CAMPING

Needs Assessment

Planning District	Supply	Needs 1975	Needs 1980	Needs 1990	Needs 2000	Relative Indicators – 1980 Percent Satisfied	Annual Pat/Supply	Pop. Serv. /Supply
1	4000.00	–	329	1236	1898	92	266.1	14
2	5941.0	–	–	–	394	100	194.8	13
3	4282.0	1477	2157	3533	4563	67	369.8	49
4	4684.0	2799	3542	5205	6453	57	431.9	446
5	4154.0	–	–	660	1230	100	237.9	46
6	2317.0	2508	3016	4043	4757	43	566.0	123
7	4886.0	964	1559	2837	3840	74	324.4	19
8	2537.0	1837	2228	3143	3841	53	461.9	73
9	2249.0	360	643	1212	1676	78	316.2	32
10	175.0	1522	1713	2087	2376	9	2653.7	712
11	2946.0	–	–	–	157	100	187.7	14
12	2498.0	–	–	–	–	100	104.2	144
13	343.0	1212	1380	1746	2038	20	1233.3	199
State	41012.0	7904	13062	23954	32164	76	324.2	94

Camping needs and supply are given in units, public and private; the category includes vehicular camping, overnight hiking/backpacking, organized group camping, tent camping and camping by boat. Facility requirements are based upon 3 persons per camp unit with a turnover rate of 1. Vehicular camping accounts for 73 percent of the occasions, indicating a higher level of development and capital investment. The supply inventories indicate the following for District 7:

	Camping Units
Local	327
State	1211
Federal	1157
Private	2191

As the table indicates, only one district exceeds the supply available in District 7, and the population/supply index shows little pressure from the local population.

PICNICKING

Needs Assessment

Planning District	Supply	1975	1980	1990	2000
1	651.0	–	–	144	210
2	583.0	336	413	574	660
3	1817.0	246	549	1109	1357
4	6730.0	–	–	494	966
5	2193.0	–	–	251	431
6	1586.0	617	754	1061	1245
7	1033.0	16	129	357	457
8	1458.0	–	85	397	507
9	649.0	–	–	–	7
10	916.0	–	–	–	–
11	363.0	–	62	155	209
12	1006.0	–	77	242	312
13	1108.0	–	–	–	–
State	20093.0	--	284	4311	6049

Relative Indicators – 1980

Percent Satisfied	Annual Pat/Supply	Pop. Serv. /Supply
100	440.4	18
59	754.4	137
77	574.8	115
100	389.2	310
100	401.4	87
68	651.3	179
89	496.5	91
94	467.2	128
100	348.7	112
100	315.4	136
85	516.5	117
93	475.1	359
100	255.0	61
99	444.0	192

Need and supply are given in terms of picnic tables. From the table it is apparent that needs are minimal statewide and very moderate for District 7. Comparative standards established 3 persons per table with a turnover rate of 2 for 6 daily occasions per table. Almost half of the picnic tables in District 7 are provided by the state, over a third by local agencies and the remainder by the federal management agencies.

Complete breakdowns from SCORP have been given for swimming, boating, camping and picnicking because they will be the primary quantifiable recreation activities at Wells reservoir. Other activity categories that would be appropriate to Wells reservoir but are not needed because present supply meets present and future demand are: Horseback Riding; Shooting; Walking for Pleasure; and Day Hiking.

Some of the categories are not quantifiable but would be appropriate to Wells reservoir: Fishing from Bank; Nature Study; Food Gathering; Driving for Pleasure; Bicycling; Hunting.

The remaining recreational activities that were surveyed rarely occur in rural waterfront environs. Some, such as downhill skiing and snowmobiling require mountains and/or reliable snow. Others, such as tennis and attending cultural events, are urban in character.

The preceding category tables were developed with the gravity model mentioned earlier. The model projects occasions to the county of destination. Previous SCORP editions identified activity occasions by county. They did not identify where the activity occurred. In other words, they determined how many times people in Seattle went camping during the year, but did not identify what part of the state they went to camp. This is critical for the Wells region, because most activity occasions in the area are by people from outside the region. The magnitude of the difference is clearly shown in the following table developed by the gravity model. The previous 1973 SCORP showed 84,000 camping occasions in District 7 in 1970. The gravity model in the 1979 SCORP showed 1,530,600 camping occasions in 1975. The state population during the period 1970/75 only increased by 2 percent. The Puget Sound District includes King, Kitsap, Pierce and Snohomish Counties, with a population of 2,051,200. District 7 has a population of 92,000. The sunny, dry climate of the Wells region is attractive to the people of the cool, cloudy Puget Sound Region.

DISTRICT 7 ACTIVITY OCCASIONS – IN 100's

Activity	Activity Occasions Received from Other Districts	Resident Activity Occasions Sent to Other Districts	Resident Activity Occasions Remaining In District	Total Activity Occasions Received
Camping	14845	3691	461	15306
Picnicking	3993	853	639	4632
Swimming	3078	2559	1987	5065
Fishing	5333	1973	1211	6544
Boating	3634	1008	595	4229
Water Ski	962	240	103	1065
Sightseeing	14581	3055	897	15478
Walking and Hiking	5260	905	391	5651
Hunting	3145	1509	412	3557

Categories where needs were already being met by existing facilities in the district were horseback riding, shooting, walking for pleasure and day hiking.

Needs from Rocky Reach and Chief Joseph Plans

All of the previous needs assessment from the 1979 SCORP were for all of District 7, comprising Douglas, Chelan and Okanogan Counties. The SCORP projects a total of 13,674,500 activity occasions in 1980, in all activity categories, in District 7.

Both the Rocky Reach and Chief Joseph recreation plans projected activity occasions for their reservoirs using the similar project method.

The Rocky Reach demand estimate included the adjacent Rock Island Reservoir. The projection was computed in Annual Recreation Days, which differ from activity occasions in that a number of occasions may occur during one recreation day. The plan projects 1975 market area use at 294,000 recreation days and out of market area use of 441,000 (+ 60%) for a total of 735,000 recreation days. Their computations show an average of 1.48 activity occasions per recreation day, so attendance at the two reservoirs will account for 1,087,000 activity occasions a year, about 8 percent of all activity occasions for all of District 7.

The Chief Joseph Public Use Plan anticipates a 1981 demand of 127,000 day use (market area) attendance days plus 22,400 (15%) overnight camping for a total of 149,400.

The substantial difference between the 149,000 at Chief Joseph and the 735,000 at Rocky Reach/Rock Island can be attributed primarily to the out of market area use. Chief Joseph anticipates 15%. Visitation at recreation areas within a 100-mile radius, separated into day use and overnight use indicated that state parks experienced 16% overnight use. Rocky Reach used McNary and Ice Harbor projects attendance to calculate market area use. At McNary, overnight use is approximately 15% of the total. The Rocky Reach plan used the attendance at The Dalles and Fort Peck reservoirs to compute out of market area use, which was 60%.

The market area use (day use) at Rocky Reach should be higher than Chief Joseph because there are more people in the area, and the people are concentrated in Wenatchee and East Wenatchee, on the banks of the Rock Island pool. Also, Rocky Reach and Rock Island are bounded by good highways, and Chief Joseph has very limited access. Chief Joseph is considerably farther away from Seattle.

It is expected that the total attendance of 735,000 will be about evenly split between Rocky Reach and Rock Island, with more camping at Rocky Reach, and more day use at Rock Island.

At Rocky Reach the District is planning the development of 304 campsites, 497 picnic sites, 4 swimming areas with approximately 3,400 lineal feet of beach, 12 boat launch lanes, 5 fishing access points and the necessary supportive facilities on Rocky Reach reservoir.

At Chief Joseph, the Corps of Engineers is planning to provide 99 campsites, 64 picnic tables, 400 lineal feet of beach, and 4 boat launch lanes.

National Park Service

A third agency which has a substantial impact on recreation opportunities in the Wells region is the National Park Service. They administer the Grand Coulee National Recreation Area, which encompasses the total shoreline of 130 miles along Lake Roosevelt, behind Grand Coulee Dam. The lake starts immediately upstream of Chief Joseph reservoir, and is only 45 miles from the upper end of the Wells pool.

In the summer of 1978 the Park Service started developing a General Management Plan for the recreation area. The plan will provide a blueprint for physical improvements and operations for the NRA in the years ahead. It is interesting to note that their method for determining need will be to utilize visitor surveys and local community workshops to acquire input for the plan. No set schedule, formulas, guidelines, standards and projections are anticipated. The approach will be to develop facilities as changing needs become known.

Forest Service

The U.S. Forest Service reports very heavy use of existing facilities. The Forest Service campgrounds contain over one-third of the 3,607 trailer and tent campsites within 100 miles. The ratio of overnight use to campsites for the Forest Service is about 350:1. This means that about 350 people a year camp at each site. With an average of three people in each family that camps, the sites are used approximately 116 nights a year. At the state parks in the area the ratio is 262:1, and at Coulee Dam National Recreation Area the ratio is 421:1.

Washington State Parks

The State Parks demand/need can be implied from their capital budget requests. In the 1977–79 Capital Budget Priority Listing are requests for acquisition funds for Pearrygin Lake in Okanogan County, and development funds for Chief Joseph State Park on the Wells reservoir in Douglas County. The estimated costs of these two projects amounts to 19 percent of the total 1977–79 listing.

Attendance at Washington State Parks in the region has increased each year. There are nine developed state parks in Chelan and Okanogan Counties, and none in Douglas County. Tables showing the attendance and facilities at parks within 100 miles of Chief Joseph are later in this section.

Local Agencies

Of the three counties in the district, only Douglas County has a developed park system. The Douglas County Parks and Recreation Plan, published in 1977, utilizes the SCORP data and techniques to define demand by activity type. The plan indicates adequate facilities for camping, hunting, and snow activities; a moderate demand for swimming pool and golfing; and a substantial demand for picnicking, swimming beach, boat ramps, walking trails and bicycling trails.

The three towns on the reservoir all have developed park areas. Two of the towns have expressed a demand for facilities, apparent from their capital improvement program.

The Colville Confederated Indian Tribes presently are not planning to develop any recreation areas on their lands adjacent to Wells reservoir. Reservation land extends from Chief Joseph Dam along the north bank of Wells pool and up the Okanogan River.

EXISTING FACILITIES

Table 7 lists the major recreation facilities within a 100-mile radius of Chief Joseph Dam, which is located at the upper end of Wells pool. Table 8 shows attendance at the major parks within that region.

In addition to the major regional facilities listed, which are of concern for satisfying out-of-district needs, there are existing recreation developments in the three towns on Wells reservoir which primarily serve local day use needs.

Brewster has one park, adjacent to high school playfields and the reservoir, with a multi-purpose slab, swimming pool, picnic shelter, restrooms and boat launch.

Bridgeport has four park areas, with two of those on the banks of the reservoir. There are beaches, boat ramps, picnic grounds, restrooms, campsites, children's play equipment and an outdoor swimming pool.

Pateros has two parks on the water and a boat launching area. One of the parks is on the edge of the main reservoir, and the other park and launch ramp are located on the shores of the Methow River.

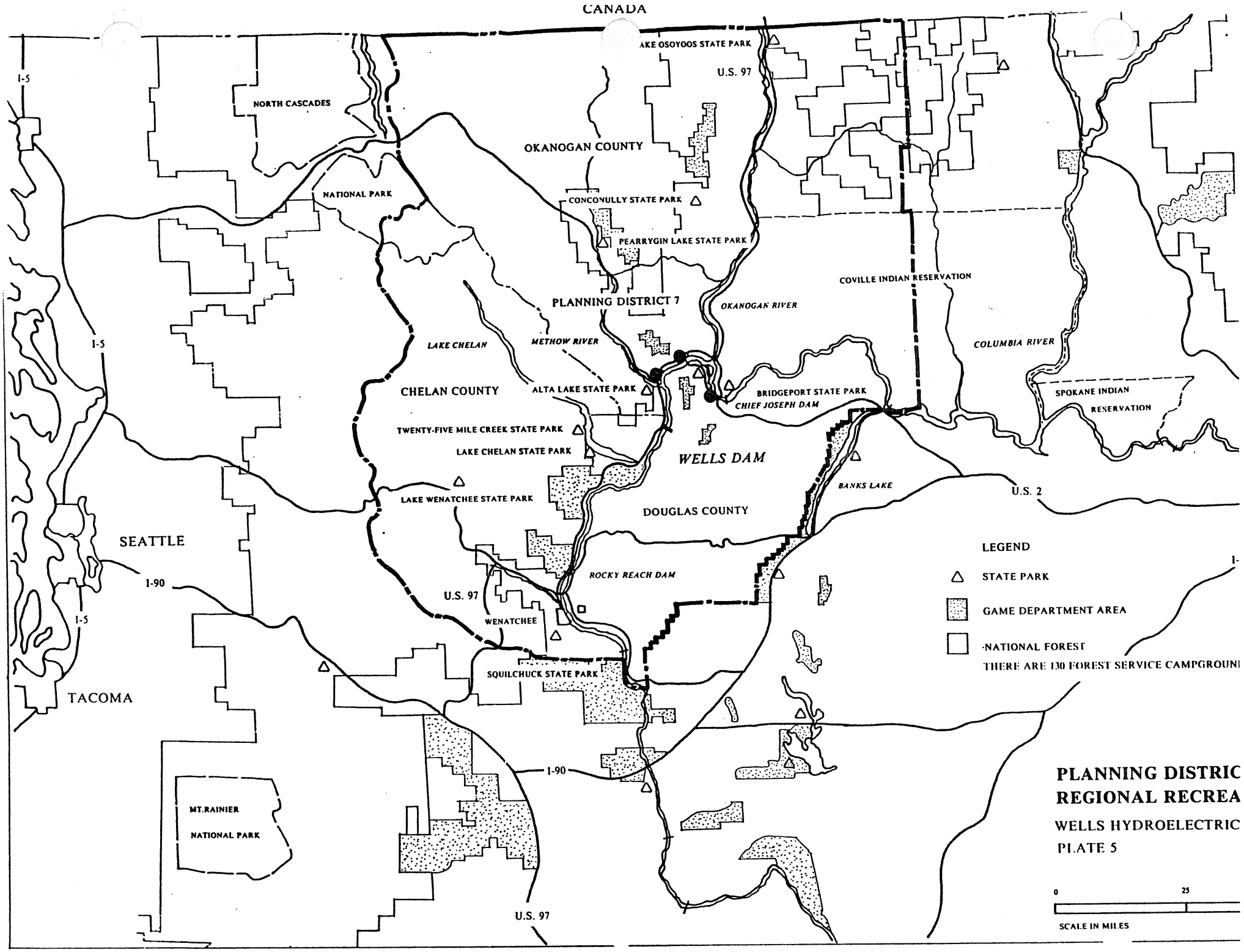
CANADA
AKE OSOYOOS STATE PARK
U.S. 97
I-5
NORTH CASCADES
NATIONAL PARK
OKANOGAN COUNTY
CONCONULLY STATE PARK
PEARRYGIN LAKE STATE PARK
COVILLE INDIAN RESERVATION
PLANNING DISTRICT 7
OKANOGAN RIVER
COLUMBIA RIVER
LAKE CHELAN
METHOW RIVER
CHELAN COUNTY
ALTA LAKE STATE PARK
BRIDGEPORT STATE PARK
CHIEF JOSEPH DAM
SPOKANE INDIAN
RESERVATION
TWENTY-FIVE MILE CREEK STATE PARK
LAKE CHELAN STATE PARK
WELLS DAM
BANKS LAKE
U.S. 2
LAKE WENATCHEE STATE PARK
DOUGLAS COUNTY
SEATTLE
I-90
ROCKY REACH DAM
U.S. 97
WENATCHEE
SQUILCHUCK STATE PARK
TACOMA
MT.RAINIER
NATIONAL PARK
LEGEND
STATE PARK
GAME DEPARTMENT AREA
NATIONAL FOREST
THERE ARE 130 FOREST SERVICE CAMPGROUN
PLANNING DISTRIC
REGIONAL RECREA
WELLS HYDROELECTRIC
PLATE 5
0
25
SCALE IN MILES

Table 7

RECREATION FACILITIES WITHIN 100-MILE RADIUS (1977)

WASHINGTON STATE PARKS	Campsites – Trailer	Campsites – Tent	Hiking Trails	Lake Swimming	Fishing	Picnic Areas		Sightseeing	Boat Launch	Horseback	Winter Sports	Hunting	Mountain Climbing	Nature Trails	Heritage Site	Golf Course
Alta Lake	16	184	x	x	x	x		x	x	x	x					x
Bridgeport	0	28			x	x					x					
Conconully	10	71		x	x	x		x			x					
Curlew Lake	18	82	x	x	x	x		x			x					
Lake Chelan	17	184	x	x	x	x		x	x							
Lake Wenatchee	0	197	x	x	x	x		x			x					
Potholes	60	166	x	x	x			x			x					
Osoyoos Lake	0	98		x	x	x		x			x					
Pearrygin Lake	30	58	x	x	x	x		x		x	x					
Squilchuck	0	20	x			x				x	x					
Steamboat Rock	100	0	x	x	x	x		x	x		x					
Sun Lakes	18	228	x	x	x	x		x	x	x	x					x
Wanapum (Gingko)	50	0			x	x		x								
Sub-Total Parks w/camping	319	1316	9	10	12	12		11	4	4	11			x	x	2
Dry Falls			x											x	x	
Fort Okanogan						x									x	
Gingko			x			x										x
Moses Lake					x	x	x									
Summer Falls			x		x	x		x								
Sub-Total Parks w/out camp.			3	1	2	4		1						2	3	1
TOTAL WASH. STATE	319	1316	12	11	14	16		12	4	4	11			2	3	3
COULEE DAM NAT'L REC. AREA (20 sites) Total	48	461	10	20	20		12	19								
NATIONAL FOREST CAMPGROUNDS																
Colville (13 sites)		127	1	3	8	6	11	4								
Mt. Baker (13 sites)	32	127	10		13	5										
Okanogan (54 sites)	40	295	24		48	10	1	5		10		13	1			
Snoqualmie (6 sites)	43	18	4		6	4			1							
Wenatchee (74 sites)	106	446	38	2	61	16	22	2	11	19		69	2	1		
TOTAL	221	1013	77	5	136	41	34	11	11	30		82	3	1		
BRITISH COLUMBIA PARKS																
Kokanee Region																
Boundary Creek		17				x										
Johnstone Creek		16				x										
Christina Lake				x	x	x										
Manning Region																
Bromley Rock		17	x	x	x	12										
Manning		288	x	x	x	x	x	x	x	x	x			x		
Stemwinder		23				x								x		
Okanogan Region																
Hayne's Point		41		x		9		x								
Inkaneep		7				x										
Okanogan Falls		20			x	x										
Vaseux Lake		9	x	x		x										
TOTAL B.C. PARKS		438	3	5	4	29	1	2	1	1	1			3		
GRAND TOTAL	540	3067	92	31	174	106	35	37	35	35	12	82	3	6	3	3

Table 8

VISITATION AT RECREATION AREAS WITHIN 100–MILE RADIUS

(1976)

Washington State Parks	Visitor Days Total	Day Use	Overnight Total	Trailer	Tent	Ratio: Over-Nite to Campsites*	Percent Overnite
Alta Lake	216,649	177,211	39,438	5,478	33,960	197:1	18%
Bridgeport	81,836	77,652	4,184	2,793	1,391	149:1	5
Conconully	71,111	54,309	16,802	12,240	4,562	207:1	24
Curlew Lake	82,448	65,000	17,448	9,242	8,206	174:1	21
Lake Chelan	365,513	258,467	107,046	16,238	90,808	533:1	29
Lake Wenatchee	173,984	158,697	15,287	9,268	6,019	78:1	9
Potholes	275,421	228,566	46,855	43,509	3,346	207:1	17
Osoyoos Lake	373,179	351,955	21,224	8,411	12,813	217:1	6
Pearrygin Lake	116,052	79,160	36,892	13,265	23,627	419:1	32
Squillchuck	36,585	31,111	5,474	2,747	2,727	274:1	15
Steamboat Rock	161,281	132,480	28,801	28,801	–	288:1	18
Sun Lakes	687,824	586,576	101,248	26,949	74,299	412:1	15
Wanapum	129,660	116,835	12,825	12,825	–	256:1	10
SUBTOTAL: PARKS WITH CAMPING	2,771,543	2,318,019	453,524	191,766	261,758	262:1	16%
Dry Falls	41,170	41,170					
Fort Okanogan	8,328	8,328					
Gingko	168,393	168,393					
Moses Lake	152,298	152,298					
Summer Falls	99,439	99,439					
Subtotal: Parks Without Camping	469,628	469,628					
Total: Washington State Parks	3,241,171	2,787,647	453,524	191,766	261,758		
Coulee Dam Nat'l Rec. Total	638,517	512,066	126,451	94,838	31,613	421:1	20%
NATIONAL FOREST CAMPGROUNDS							
Colville	135,800	53,000	82,800				
Mt. Baker-Snoqualmie	1,581,900	1,067,500	514,400				
Okanogan	306,100	29,000	277,100				
Wenatchee	1,295,300	155,500	1,139,800				
Total	** 3,319,100	1,305,000	2,014,100	–	–	350:1	61%
BRITISH COLUMBIA PARKS							
Kokanee Region							
Boundary Creek	2,250	0	2,250	1,665	585	132:1	100
Johnstone Creek	2,253	0	2,253	1,645	608	141:1	100
Christina Lake	31,089	31,089					0
Subtotal-Kokanee Region	35,592	31,089	4,503	3,310	1,193	136:1	13%

Manning Region							
Bromley Rock	24,225	18,207	6,018	4,393	1,625	354:1	25%
Manning	132,270	99,531	32,739	32,739	9,822	114:1	25%
Stemwinder	14,378	7,189	7,189	5,320	1,869	260:1	27%
Subtotal-Manning Region	170,873	124,927	45,946	32,630	13,316	260:1	27&
Okanogan Region							
Hayne's Point	42,829	21,424	21,406	14,769	6,637	522:1	50%
Inkaneep	4,614	2,307	2,307	1,407	900	329:1	50
Okanogan Falls	18,068	9,034	9,034	5,420	3,614	452:1	50
Vaseux Lake	8,154	4,077	4,077	2,079	1,998	453:1	50
Subtotal-Okanogan	73,666	36,842	36,823	23,675	13,148	439:1	50
Total B.C. Parks	280,131	192,848	87,272	59,615	27,657	278:1	31%
Total Parks	7,478,919	4,797,571	1,681,348			328:1	35%

*Divide by 3 to get approximate number of families camping.

**Ratio of overnight to campsites estimate because of national forest campgrounds reorganization.

NEEDS FROM THE 1967 WELLS RECREATION PLAN

In 1967 the information used to develop the later SCORPS was not available. The best available demand information at that time was published in the Outdoor Recreation Resource Review Commission Reports 19 and 26. It consisted of user participation rates, interpolated for the Western States. The conversion of participation rates into acreage requirements was accomplished by using formulas developed in the State Parks Outdoor Recreation Plan prepared in 1965. Attendance figures at state parks in the market area 50 miles from the reservoir were used to determine existing use. Those figures, subtracted from demand indicated by the ORRRC reports, gave 'need' for the market area. Projections for future need were based upon population growth projections of the state census board. Twenty percent of the anticipated use was computed and added to account for out of market area attendance.

The process resulted in attendance days which were then converted into peak day demand, then into units (i.e. campsites), then into acreage needed to accommodate that number of units. The resulting needs for 1965 were:

Swimming: 1640 attendance days, 48 acres
Picnicking: 970 attendance days, 242 units, 97 acres
Camping: 520 attendance days, 109 campsites, 62 acres
Boating: 520 attendance days, 173 parking spaces, 7 launch lanes, 43 acres
Water Skiing: 223 attendance days, 74 spaces, 3 launch lanes, 18 acres

All quantitities were increased by 35 percent for projected needs to 1985, resulting in: Swimming, 65 acres; Picknicking, 326 units; Camping, 147 campsites; Boating, 233 spaces and 9 launch lanes; and Water Skiing, 100 spaces and 4 launch lanes.

SUMMARY OF NEEDS

The previous information reviewed needs from a number of different points of view: SCORP needs for all of District 7, based upon user survey technique: Rocky Reach/ Rock Island needs based upon similar project technique; Chief Joseph needs based upon similar project technique; comments from the National Park Service, who are determining needs as they go along from comments from visitors and the local people; comments from the Forest Service; comments from counties and towns bordering Wells reservoir; and findings from the 1967 Wells Recreation Plan.

Sifting through and synthesizing these divergent views it is apparent that the state-of-the-art in recreation forecasting relies on a number of subjective judgments. It does become apparent that there is a need for certain facilities that are appropriate to a lake/shoreland environs. Those that require water are boating, fishing, water skiing, and swimming. Those that complement the above activities are picnicking and camping. Those that are enhanced by water are sightseeing, hiking, nature study, bicycling and horseback riding.

The primary needs that will be considered when assessing the potential of Wells reservoir for recreation development will be boating, fishing, swimming, picnicking and camping.

The SCORP needs for all of District 7 for 1980, deducting planned development at Rocky Reach and Chief Joseph reservoirs are:

Activity	SCORP Needs	less Rocky Reach	less Chief Joseph	= Remaining Need District 7
Boating (Launch Lanes)	74	−12	− 4	58
Swimming (Lineal Feet)	1028	−3400	−400	−2772
Picknicking (Tables)	129	−497	− 64	−432
Camping (Campsites)	1559	−304	− 99	1156

On the surface it appears that there will be no need for additional picnic and swimming facilities in District 7 when Chief Joseph and Rocky Reach development is complete, and the above figures do not include the planned development at Rock Island reservoir. However, regional parks typically provide a mix of boating, swimming, picnicking and camping, regardless of the abundance of specific facilities. Then, too, fishermen appreciate boat launch facilities near the good fishing holes. The findings of this section will be used as guidelines, rather than mandates, when assessing the potential for Wells reservoir to satisfy recreational needs for the region.

ENERGY

Energy consideration should influence any decisions relating to development of recreational facilities. As a result of the Arab oil embargo in 1973, energy has become a central issue in public safety planning. The main recreation use of energy is not in the obvious use of power boats, snowmobiles, and so on, but in transportation to and from recreational sites. In Washington, recreation travel accounts for about 8 percent of the state's total energy consumption, and about 15 percent of Washington's petroleum consumption.[4]

It is difficult to assess the impact of energy conservation policies on recreation behavior. Reductions in recreation travel, whether through cost increase or mandatory allocation policies, could have a major impact on the Wells region. The IAC has proposed policies that give priority to and encourage projects that are located close to the state's population centers.

In the 1973 SCORP origin-destination survey District 7, with 2.5% of the state population, received more visitors than any other district, and more than twice as many visitors as the Seattle district. The Seattle district accounted for 25% of the visitors to the Wells region.

The Wells region would be affected more than any other area in the state by change in recreational travel patterns.

Firm trends are not yet apparent, but any future plans for recreation development will require careful analysis of recreation travel trends and policies.

WELLS RECREATION RESOURCES

WELLS RECREATION RESOURCES

This section deals with the ability of Wells reservoir to satisfy the needs identified in the previous section.

Adverse Factors:

Highways and railroad tracks effectively limit sites to small, irregular areas on the west side from the dam to the Okanogan River.

The land north of the reservoir and east of the Okanogan River is part of the Colville Indian Reservation and not open to the general public for recreation use, with the exception of Fort Okanogan State Park. The park is an interpretive museum of the history of the Okanogan region.

The south portion of the reservoir on the east side has no road access, thereby limiting use to boating access. The nature of the terrain places extreme limitations on availability of suitable park sites on the total pool with the exception of the Bridgeport Bar and Washburn Island sites. In these respects, the reservoir is more like Chief Joseph Reservoir than Rocky Reach.

Sites

There is one prime site and one secondary site with the potential to become major regional waterfront parks. The prime site is Bridgeport Bar. From recommendation made in the 1967 Wells Recreation Plan, the project boundary was expanded to assure adequate land for a regional park on this site. The site is located five miles downstream from Bridgeport and seven miles upstream from Brewster on the east side of the reservoir. The site has gradual slopes on most of the shoreline and protected moorage and swimming areas. In marked contrast with the rest of the shorelands, the soil is good for growing trees and turf. Because of the dryness and heat in this region during the recreation season, trees are a welcome amenity in recreation areas.

A secondary site, Washburn Island, is across the river from Bridgeport Bar. It is a large, flat island connected to the shore at each end with earth fill dams, and the contained water was used for steelhead rearing. The island, owned by the District, is presently being used by the Game Department for farming.

Other potential sites on the reservoir are small, up to 20 acres, and adaptable for day-use by the local people. One is on the Methow River where the road swings away from the river for a short way, affording an area for boat launching, picnicking and day use.

All other sites on the reservoir are suitable only for boat launching because of size or slope restrictions.

In addition to general shoreland access throughout the reservoir, the District has provided for extensive fisherman access and parking. Through the Game Department, the District has six areas along the Methow River and over 46,000 feet of streambank access for fishermen and general recreational use on the Methow. The District also transferred $72,150 to the Game Department for additional streambank easements or parking areas. This is in addition to the Wildlife Recreation Areas provided for the enjoyment of the public by the District through the Game Department.

The anticipated raising of the water level of the reservoir two feet at the dam will have some effect on the recreational use of the reservoir. At the Bridgeport Bar site, it will enhance the use by creating deeper water in the channel between the site and the mainland. At Brewster, it will enhance the existing launching and swimming sites in the same manner. At Pateros, it will make the swimming area and launch site on the Methow, both of which have filled partially with silt, more useable with the additional depth of water. At the other park on the reservoir at Pateros, the District has placed rip-rap along the shore to protect it from the proposed rise in water level.

The rise will not affect Bridgeport at the upper end of the reservoir.

When the 1967 Recreation Plan was prepared, the Bridgeport Bar site was sought by the Game Department for bird nesting and wildlife recreation, and by the State Parks for a regional park. The conflict between use of the site for game or a regional park has since been resolved. The 'bar' part of the site, which is an island connected to the mainland by a causeway, totaling 297 acres, has been deeded to the State Parks, and is now called Chief Joseph State Park. The balance of the acreage, on the mainland, is a Game Department Wildlife Recreation Area. The Game Department encourages hunting in the Wildlife Area by releasing birds during the hunting season each weekend.

Only a small channel of water separates the State Park and the Game area, creating a conflict in use because of the proximity between the two sites. This is somewhat alleviated by the fact that most hunting is in the fall, while primary park use is in the summer.

Chief Joseph State Park will provide those facilities typical of major regional waterfront parks. Initial development will have 60 campsites, boat launching facilities, picnic areas, swimming beach and the necessary supportive facilities. The site is conveniently located midway between Bridgeport and Brewster, and will add a needed boat launch to this stretch of the river.

The District has provided a new boat launch area approximately 2.5 miles upstream from the dam at the Star Ranch. With this addition there are six boat launch areas uniformly located along the length of the reservoir and one on the Okanogan River at Monse.

The launch area at Pateros is heavily used by fishermen taking advantage of the excellent steelhead fishery that has developed as a result of the District's fishery and wildlife program, through the Game Department.

Section I. described the recreation developments at the dam and the three towns on the reservoir, as well as the very extensive land holdings acquired by the District and turned over to the Game Department for Wildlife Recreation Areas.

The 1967 Wells Recreation Plan outlined the needs for parks at the three towns on the reservoir, for convenient boat launch locations throughout the length of the reservoir, and for a major regional park to serve the needs of tourists.

All the recommendations of the plan have been carried out with the exception of the regional park.

The land for the park was acquired and donated to the State Parks Commission in 1967. The Parks Commission spent $90,000 creating a causeway and deepening the water channel between the island and the mainland. Although funds have repeatedly been requested from the Legislature, no additional money has been appropriated, and no additional development has occured.

Fortunately, raising the pool will provide some additional income and create the opportunity for the District to participate in the development of the regional park.

Under an agreement with the State Parks Commission, the District will give $25,000.00 per year for the 30 years remaining in the license. Initial payment for the first five years, $125,000.00, will be made to allow immediate improvements.

Although the Park Commission does not plan to begin major development of the park for five or six years, it makes sense to do some work immediately. There are plans to add or enlarge culverts to enhance water flow under the causeway, and this work will be easier and less expensive if done before the water level is raised.

In the hot and sunny Wells region, large trees provide a welcome relief. The State intends to have a master plan prepared for the park, and plant the trees now so they will be well established when the park opens. Temporary irrigation will be provided.

CONCLUSION

The intention of this report was to review the changes that have occurred and the refined information that has become available since the preparation of the Wells Recreation Plan in 1967.

Review of the 1979 SCORP findings, the plans of various public agencies, and changing conditions in the economy, indicate that the 1967 Recreation Plan was an appropriate guide for recreation development on Wells Reservoir.

The recommendations of the plan have been carried out with the exception of the regional park. The cooperative agreement between the District and the State Parks Commission will provide funds for immediate improvement, and will ensure additional supplemental funding over the coming thirty years.

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