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# RECREATION NEEDS FORECAST AND ANALYSIS

**FIRST DRAFT**

**ROCKY REACH HYDROELECTRIC PROJECT  
FERC Project No. 2145**

April 30, 2001



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## **SECTION 1: INTRODUCTION**

This Needs Analysis provides an assessment of the current and future recreation use, demand and needs at public recreation sites and waters within the Rocky Reach Hydroelectric Project boundary. The first four sections of this report provides background information regarding the Rocky Reach Hydroelectric Project and study area, and discusses goals and objectives of the needs analysis and methodologies used to analyze recreation needs in the study area. Section 5 of this report summarizes the existing recreation facilities in the study area and Section 6 provides information regarding existing and projected future recreation use and demands based on field monitoring, population projections, and existing recreation related studies and planning documents. Section 7 of this document essentially pulls together information from the preceding two sections of this document regarding supply and demand to analyze recreation needs. Specific recreation facility/activity needs in the Project area are described in Section 7. Section 8 provides a discussion regarding the ability of the Project area to accommodate needs identified in the analysis. The conclusion, Section 9 of this report, provides a summary of recreation facility needs identified in the Project study area.

### **1.1 Background**

The Public Utility District No. 1 of Chelan County (Chelan PUD) owns and operates the Rocky Reach Hydroelectric Project (Project). Chelan PUD is permitted to operate the Project according to terms and conditions contained in an existing Federal Energy Regulatory Commission (FERC) license, No. 2145, that was issued on July 12, 1956. On September 1, 1966, the Chelan PUD filed an application with the Federal Power Commission (FPC) to amend the Project license for the addition of four generating units. The FPC, later FERC, issued the license amendment on May 23, 1968. The existing license expires on June 30, 2006.

Chelan PUD is seeking a new federal license to operate the Rocky Reach Project and is in the process referred to as “relicensing.” The FERC relicensing process is based on laws and regulations that require years of extensive planning, including environmental studies, agency consensus and public involvement. The process to obtain a new license has changed considerably since the existing license was issued in 1956. The Federal Power Act (FPA) was amended in 1986 by the Electric Consumers Protection Act (ECPA). The amendment requires the FERC, in addition to power and development purposes, to give equal consideration to the purposes of enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

As part of the relicensing efforts, a Recreation Use Assessment was conducted in 1999 and 2000 to assess recreation occurring at existing developed recreation sites and dispersed uses within the project boundary (Chelan PUD 2001a). A Recreation Resources Inventory (Chelan PUD 2001b) was also prepared that assesses developed and undeveloped recreational sites located on public and private lands, mitigation lands, lands owned and/or managed by federal, state and local agencies, and lands owned by non-governmental organizations. This Recreation Needs Forecast and Analysis is the next step in the recreation planning process, with the ultimate goal of

developing a Recreation Resource Management Plan that will address short and long term goals for the life of the new license.

### **1.2 Project Location**

The Rocky Reach Dam is located approximately seven miles north of the city of Wenatchee on the Columbia River in mid-Washington State. The dam is 215 river miles below the Canadian border and 473 river miles above the mouth of the Columbia River at Astoria, Oregon (Figure 1-1).

The Rocky Reach Project Reservoir, also known as Lake Entiat, extends upriver approximately 43 miles (to Wells Dam) and has a surface area of 9,100 acres. The reservoir contains 36,400 acre-feet of usable storage. The mid-line of the reservoir forms the boundary between Chelan County on the west and Douglas County on the east. The drainage area of the project at the dam is about 90,000 square miles. The watershed lies east of the Cascade Mountains and West of the Rocky Mountains, consisting of parts of Washington, Idaho, Montana, and British Columbia. The normal headwater elevation is 707 feet above sea level. The normal tailwater elevation is 614.7 feet above sea level. The average annual minimum water temperature of 34 degrees Fahrenheit normally occurs during the month of February. The average annual maximum water temperature of 65°F occurs during the months of August and September.

### **1.3 The Columbia River**

The Columbia River begins in icefields of the Arrow Lakes region of British Columbia and enters Washington in the northeast corner of the state, flowing south and west 145 miles through Lake Roosevelt to Grand Coulee Dam. The river continues west through Chief Joseph Dam into the Wells Reservoir where it again turns south and enters Rocky Reach Reservoir (Lake Entiat). The river continues on through a series of other dams, eventually flowing west to the Pacific Ocean. There are 11 dams on the main stem of the Columbia River in the United States. The Rocky Reach Project is the eighth dam upstream from the Pacific Ocean, located in what is known as the mid-Columbia reach (the river reach from Chief Joseph Dam to Priest Rapids Dam). The Rocky Reach Dam lies between the Douglas County Public Utility District's Wells Dam (upstream) and Chelan County PUD's Rock Island Dam (downstream).

### **1.4 Physical Setting**

The State of Washington encompasses a wide range of geographic diversity, from the marine influenced ocean shores and the Puget Sound, over the rugged Cascade Mountain Range to the rolling hills of central Washington, to the ancient mountain ranges of north central and eastern Washington. The Rocky Reach Project is located on the Columbia River between two significantly different physiographic areas. In the Cascade Mountains to the west, a metamorphosed sedimentary, volcanic, and granitic rock predominates. On the Columbia River Plateau to the east, vast, thick layers of basalt cover bedrock. The vegetation ranges from forest and alpine meadows in the Cascades, down to the fertile, irrigated valleys near the Columbia and back up to sparsely vegetated arid plateaus to the east.

**Figure 1-1: Project Location Map**

### **1.5 Climate**

The climate in the vicinity of the Rocky Reach Project is the semi-arid type, which is typical of eastern Washington. There is a seasonal range of temperatures in the area with winter averaging about 25°F and summer about 75°F. Spring and Fall temperatures average 50°F. Extreme temperatures can approach -30°F in winter and 110°F in summer. The precipitation is generally low with an annual average of about 10 inches, the bulk of which falls between October and March. There are usually no more than 8 to 15 inches of snow on the ground.

### **1.6 Regional Economy**

The economy of the north central Washington region encompassing Chelan and Douglas counties is based primarily on agriculture. Chelan County provides 80 percent of the jobs in the two-county area and contains 75 percent of the total number of employers. Apples, pears, cherries, and other fruits are important crops in the Columbia River basin. The region's economy is also supported by other types of agriculture (wheat, hay, potatoes), retail trades, services, manufacturing, recreation and tourism.

### **1.7 Regional Population**

The region is sparsely populated. In 1999, the population of Chelan County was 63,000 people; Douglas County, 31,700 people; and the population of the entire state of Washington, 5.7 million people. The largest community on the Rocky Reach Reservoir is the city of Entiat, with a 1999 estimated population of 935. The cities of Wenatchee (1999 population estimate of 25,620) and East Wenatchee (1999 population estimate of 5,395) are located approximately seven miles south of Rocky Reach Dam.

### **1.8 Land Ownership and Use in Project Area**

The Columbia River valley surrounding the Rocky Reach Reservoir is a wide canyon characterized by basalt cliffs and exposed rock outcroppings. The limited valley is generally rural in nature.

U.S. Highway 97 runs near the east bank of the reservoir from Rocky Reach Dam north and northeast to Beebe Bridge, where it crosses the river and runs along the west bank north towards the town of Pateros. Highway 97A runs near the west bank of the reservoir from Rocky Reach Dam to where it turns north towards Lake Chelan. Railway right-of-way is situated between Highway 97A and the west bank of the reservoir up to where Highway 97A turns north towards Lake Chelan. From this point the railroad right-of-way continues to run adjacent to the west bank for the entire length of the reservoir. The city of Entiat and the community of Chelan Falls are located on the west bank of the reservoir. The community of Orondo is located along the east bank of the reservoir (refer to Figure 1-1).

Project boundary encroachment includes two sanitary sewer outfalls, storm water outfalls, irrigation withdrawals, and recreational development that is part of Chelan PUD's existing recreation plan. Within the project boundary, agricultural uses, recreational sites developed by Chelan PUD and some residential lands surround approximately half the reservoir. Agricultural uses consist primarily of fruit orchards and some pasture lands. Irrigation pumps and pumphouses to withdraw water from the Columbia River are often located on agricultural lands.

Recreation sites provide for swimming, boating, fishing, personal watercraft, camping, picnicking, water-skiing, and other recreational uses. Recreational use generated at these sites is intensive during the summer season, Memorial Day through Labor Day.

The remainder of the land surrounding the reservoir is generally undeveloped. These lands can be characterized as drylands. They include shrub steppe and grasslands vegetation with patches of exposed rock. Much of the undeveloped shoreline lies in areas where the reservoir is in close proximity to the railroad on the westerly side and to State Routes 97A (westerly) and 97 (easterly). Narrow strips of riparian vegetation, including wetland areas, may be present along those areas of the reservoir where the shoreline slopes are relatively gentle.

Ownership of lands outside and/or adjacent to the project boundary include State Department of Natural Resources, State Department of Fish and Wildlife, State Parks and Recreation Commission, USDA Forest Service, Bureau of Land Management, Chelan PUD, Railroad, State Department of Transportation, city of Entiat and private.

Land ownership in the Project area and developed recreation sites are shown on Figure 1-1.



## ***SECTION 2: STUDY AREA***

The study area is the Rocky Reach Project boundary from Rocky Reach Dam to Wells Dam. The Rocky Reach Project boundary is defined by elevation contours on each side of the reservoir beginning at the elevation of 711 feet msl at Rocky Reach Dam and increasing to the elevation of 734 feet msl at the Wells Project tailrace. The boundary varies in elevation along the reservoir and corresponds to areas likely to be impacted by water surface elevation with the probable maximum flood (Rocky Reach Project Periodic Safety Inspection Report, 1997).

The Rocky Reach Project contains a total of 1,345 acres of land, of which Chelan PUD owns approximately 100 acres, or seven percent. The seven public recreation sites within the study area include almost 400 acres of land. Chelan PUD owns all seven public recreation sites with the exception of Entiat Park and Orondo River Park, which are also partially owned by the City of Entiat and the Port of Douglas County, respectively. Chelan PUD also owns other lands along the reservoir including Turtle Rock Island and other lands set aside for fish and wildlife habitat. Specific land ownership along the Rocky Reach shoreline is currently being researched and mapped and will be provided in the Project Lands Management Study Report.

The Needs Analysis includes areas impacted by and/or immediately adjacent to the project boundary.



### ***SECTION 3: GOALS AND OBJECTIVES***

The purpose of the recreation needs analysis is to evaluate recreation use and demands and identify recreation needs within the waters and public lands of the Rocky Reach Hydroelectric Project boundary, which extends from Rocky Reach Dam to Wells Dam. The Needs Analysis includes areas impacted by and/or immediately adjacent to the project boundary.

The needs analysis is intended to identify recreation needs in the Project study area that recreation resource managers and providers should strive to address over the next 20 years. (Currently state and national growth projections are available only to the year 2020.) Recreation resource managers and providers in the Project area include Chelan County PUD, Washington State Parks and Recreation Commission (WSPRC), Washington Department of Fish and Wildlife (WDFW), U.S. Bureau of Land Management (BLM), U.S. Forest Service (USFS), City of Entiat, and Port of Douglas County.

The needs analysis does not assign specific responsibility for implementing potential actions, nor does it propose that Chelan PUD fund all needs identified in the analysis. The intent of the needs analysis is to provide information for Chelan PUD, as well as other recreation resource managers and providers, to use in making decisions regarding the management, planning, design and construction of recreation resources in the project area.



## ***SECTION 4: METHODOLOGY***

A number of inter-related factors are used to identify recreation needs including occupancy and utilization levels, population growth projections and projected increases in demand by activity type, visitor survey responses, signs of overuse, perceptions of visitor crowding, density of boating use, and published recreation related studies and plans. The needs analysis involves several steps including an evaluation of the existing recreation supply in the study area and recreation demand. Recreation supply is based on an inventory of existing public recreation facilities in the study area. The Recreation Use Assessment Report (Chelan PUD, 2001a), provides information regarding current visitor use and activity participation. Growth projections, based on a weighted average of population growth of visitors to the study area, are used to project future recreation use in the study area over a 20 year period from 2000 to 2020 (currently state and national growth projections are available only to the year 2020). The visitor use data, population projections, as well as demographic trends, local and regional demand information obtained from existing studies and planning documents, and visitors opinions are used to project the likely future demand for recreation in the study area.

Needs are analyzed for specific recreation facilities/activity categories in the study area including: camping facilities; boating facilities; non-boating day-use facilities including picnic facilities, swimming/sunbathing facilities, trails, playgrounds and interpretation facilities; dispersed use and displaced use. Recreation needs based on the premise that the need equals the difference between current supply and demand (supply - demand = needs) is reviewed. The project area demands are compared with the existing facility and reservoir capacity to determine if future demands can be accommodated with existing facilities. Capacity review is based on facility and physical capacity, design standards, as well as social capacity including perceptions of visitor crowding. It is important to acknowledge that capacity assessments involve many variables and there are different ways to analyze the capacity of a given area, given different management or different standards. This assessment takes a comprehensive look at capacity using all the studies and research currently available for the Project area to evaluate the status of recreation sites and the surface-water areas. Information obtained from existing local and regional recreation demands and needs analyses and planning studies is also reviewed to analyze potential recreation demands and needs in the project area. This information is used to help make decisions regarding current and future recreation facility needs. Regular review of the Project's Recreation Plan over the life of the new license will allow for changes in demands and needs over time to be reflected in Chelan PUD's Management Plan.

This needs analysis addresses publicly owned recreation facilities in the study area as well as dispersed use along publicly owned undeveloped shorelines and watercraft use within the Rocky Reach Reservoir.



## **SECTION 5: RECREATION SUPPLY**

Seven developed public parks and recreation facilities are located in the Project study area. All seven of these sites were constructed by Chelan PUD. These facilities are shown on Figure 1-1 and include:

- Rocky Reach Dam Day-use Recreation Facilities and Visitors Center (owned and operated by Chelan PUD)
- Lincoln Rock State Park (owned by Chelan PUD, maintained and operated by WSPRC)
- Orondo River Park (owned by Chelan PUD and Port of Douglas County, maintained and operated by Port of Douglas County)
- Entiat Park (owned by Chelan PUD and City of Entiat, maintained and operated by City of Entiat)
- Daroga State Park (owned by Chelan PUD, maintained and operated by WSPRC)
- Chelan Falls and Powerhouse Parks (owned and operated by Chelan PUD)
- Beebe Bridge Park (owned and operated by Chelan PUD)

These recreation facilities occupy 397 acres of land along the reservoir and provide widely available public access to Rocky Reach Project lands and waters. The facilities all have restrooms with showers, and a variety of amenities such as RV and tent camp sites, RV dump stations, boat launches and docks, picnic shelters with power, amphitheaters, landscaping and lawns, swimming beaches, athletic fields, and concession buildings. Table 5-1 summarizes the existing facilities at the recreation sites in the Project study area.

Five out of the seven recreation sites in the study area have camping facilities. These include Lincoln Rock State Park, Orondo River Park, Entiat Park, Daroga State Park, and Beebe Bridge Park. These sites have a total of 292 campsites and 2 group sites.

Six out of the seven parks in the Rocky Reach study area have boating facilities including a total of 11 launch lanes, 17 boat tie-up docks and 250 boat trailer parking spaces. Orondo River Park also has a marina with marine gas available. Rocky Reach Dam and Visitor Center is the only recreation site that does not have boating facilities.

All seven public recreation sites in the study area have day-use facilities. Currently 942 day-use parking spaces, around 438 picnic tables, a total of 1,975 linear feet of swimming beaches, and approximately 5 miles of developed trails/walkways are provided at project recreation sites.

All seven project recreation sites provide playground equipment. Additional facilities such as horseshoe pits, baseball fields, volleyball courts, tennis courts, basketball courts, and open court areas are also provided at all sites, although available facilities vary from site to site.

The Rocky Reach Dam Site has a visitor center and museum and provides concessions, tours of the dam and fish viewing. A museum is located at the north end of Entiat Park.

<b>Table 5-1: Existing Facilities at Public Recreation Sites in Project Study Area</b>								
<b>Site</b>	<b>Acres</b>	<b>Camping</b>	<b>Picnic &amp; Day-Use Facilities</b>	<b>Boating Facilities</b>	<b>Swimming Beach</b>	<b>Trails/Walkways</b>	<b>Interpretation Facilities</b>	<b>ADA Compliance</b>
<b>Rocky Reach Dam and Visitor Center</b>	38	No	20 picnic tables, 2 shelters formal gardens, visitor center, museum, playground equipment 2 horseshoe pits 3 restrooms 241 parking spaces	No	No	0.45 mi.	Yes	Yes
<b>Lincoln Rock State Park</b>	65	94 RV/tent spaces RV dump	166 picnic tables, 3 shelters, amphitheater, playground equipment, 1 baseball field 2 volleyball courts 2 tennis courts 2 basketball courts 3 horseshoe pits 1 open court area concession building 6 restrooms/44 toilets/ 12 showers 148 day-use parking spaces	3 launch lanes 6 tie up docks 102 boat trailer parking spaces	175 linear feet	.94 mi.	No	Yes
<b>Orondo River Park</b>	5	14 RV/tent sites Grassy area: 10-15 tents	14 picnic tables, 1 shelter playground equipment 1 volleyball court 1 horseshoe pit 1 restroom/4 toilets/4 showers 22 day-use parking spaces	1 launch lane 3 tie up docks marina overnight moorage 14 boat trailer parking spaces	225 linear feet	No	No	ADA improvements are in process

**Table 5-1: Existing Facilities at Public Recreation Sites in Project Study Area**

Site	Acres	Camping	Picnic & Day-Use Facilities	Boating Facilities	Swimming Beach	Trails/Walkways	Interpretation Facilities	ADA Compliance
<b>Entiat Park</b>	40	31 RV sites 50 tent sites allowed (1991) in day-use area (25 tents allowed in 2001)	108 picnic tables, 1 shelter playground equipment 1 volleyball court 2 horseshoe pits 3 restrooms/12 toilets/4 showers 43 day-use parking spaces	1 launch lane 2 tie up docks 17 boat trailer parking spaces	250 linear feet	No	Museum	Yes
<b>Daroga State Park</b>	140	28 RV/tent campsites + 17 boat/walk-in tent sites 2 group camping areas (capacity 100 people) RV dump station	75 picnic tables, 3 shelters playground equipment 1 baseball field 1 soccer field tennis courts 2 basketball courts 1 open court area 4 restrooms/38 toilets/12 showers 114 day-use parking spaces	2 launch lanes 3 tie up docks 76 boat trailer parking spaces	475 linear feet	2.5 miles	No	Yes
<b>Chelan Falls and Powerhouse Parks</b>	53	No	11 picnic tables + 16 in 2 shelters playground equipment 2 softball fields 1 soccer field 2 volleyball courts 1 tennis court 1 basketball court 2 horseshoe pits 2 open court areas 3 restrooms/24 toilets/4 showers 178 parking spaces	2 launch lanes 2 tie up docks 25 boat trailer parking spaces	375 linear feet	0.2 mile	No	Yes

<b>Table 5-1: Existing Facilities at Public Recreation Sites in Project Study Area</b>								
<b>Site</b>	<b>Acres</b>	<b>Camping</b>	<b>Picnic &amp; Day-Use Facilities</b>	<b>Boating Facilities</b>	<b>Swimming Beach</b>	<b>Trails/Walkways</b>	<b>Interpretation Facilities</b>	<b>ADA Compliance</b>
<b>Beebe Bridge Park</b>	56	46 RV/tent sites	14 picnic tables + 14 in 1 shelter playground equipment 1 baseball field 1 soccer field 1 volleyball court 2 tennis courts 1 open court area 3 restrooms/24 toilets/6 showers 196 day-use parking spaces	2 launch lanes 1 tie up dock 16 boat trailer parking spaces	475 liner feet	0.6 mile	No	Yes

## **SECTION 6: RECREATION DEMAND**

Demand for recreation facilities in the Project area is assessed by projecting recreation visitation based on existing conditions and future growth rates. Recreation planning documents and surveys conducted in the Project area also provide information regarding recreation-activity demands and trends. This section provides information regarding existing and projected future recreation use and demands based on field monitoring, population projections, and existing recreation related studies and planning documents.

### **6.1 Existing Project Area Recreation Use**

#### **6.1.1 Existing Recreation Use at Public Recreation Sites**

As discussed in the Recreation Use Assessment Report (Chelan PUD, 2001a), estimated visitor use for Rocky Reach Project area recreation sites was calculated using several types of data. These included observational counts of people and occupied campsites; traffic counter data, counts of vehicles and vehicles with trailers at boat launch sites, and campground fee receipt data, where available. Use of camping facilities was based on fee receipt data, where available, or when not available based on observational counts of the number of campsites occupied. Although the number of people observed camping was also documented during field observations, these numbers were not used when determining visitor use because many people camping may not be at the campsites to count when observations are conducted. Since many boaters are out in the water and not at the boat launches during observational counts, estimated use for boating activities are based on the number of parked vehicles with trailers at recreation sites and observations of type of use. The estimated use for non-boating day-use activities are based on the number of people observed participating in different activities at day-use facilities and traffic counter data. The number of vehicles observed at the Rocky Reach Day-Use area were also reviewed to estimate visitor center use and interview data was also reviewed to estimate hang gliding activity at Project recreation sites.

The following presents visitor use data based on 1999 and 2000 data collection and monitoring efforts. Refer to the Recreation Use Assessment Report (Chelan PUD, 2001a) for further information. Visitor use estimates for each of the seven Rocky Reach recreation sites are provided (Table 6-1) and visitor use estimates by activity for all recreation sites are summarized (Table 6-2). Average daily, weekday and weekend visitor use estimates are provided for peak-, fall- and spring- seasons. Peak-season monitoring at recreation sites was conducted between May 30 and September 9, 1999. Fall-season monitoring was conducted between September 10 and October 31, 1999 and spring-season monitoring was conducted between April 1 and May 26, 2000. Fall and spring season visitor use estimates are based on only the days/nights that campground and day-use areas were open.

<b>Table 6-1: Estimated Average Daily Use Rocky Reach Recreation Sites<sup>1</sup></b>									
<b>SITE</b>	<b>Peak-Season (1999) Average # People/Day</b>			<b>Fall (1999) Average # People/Day</b>			<b>Spring (2000) Average # People/Day</b>		
	<b>Avg. Peak</b>	<b>Week-day</b>	<b>Week-end<sup>2</sup></b>	<b>Avg. Peak</b>	<b>Week-day</b>	<b>Week-end<sup>2</sup></b>	<b>Avg. Peak</b>	<b>Week-day</b>	<b>Week-end<sup>2</sup></b>
Rocky Reach Dam Recreation Facilities and Visitor Center (Day-Use):	568	530	660	331	305	390	359	335	425
Lincoln Rock State Park:									
Camping/Overnight:	337	285	455	215	185	285	124	100	170
Boating:	89	72	132	15	0	54	7	0	24
Non-Boating Day-Use:	552	458	773	256	255	256	172	165	196
Orondo River Park:									
Camping/Overnight:	63	50	90	8	5	15	14	10	20
Boating:	20	19	25	2	0	12	0	0	0
Non-Boating Day-Use:	131	101	205	23	10	53	17	15	30
Entiat Park:									
Camping/Overnight <sup>3</sup> :	RV 59 Tent 56	RV 43 Tent 42	RV 92 Tent 88	All 40	All 25	All 80	All 2	All 0	All 5
Boating:	55	42	90	4	0	12	3	0	12
Non-Boating Day-Use:	244	183	390	107	80	163	50	10	153
Daroga State Park:									
Camping/Overnight (Group):	69	55	97	12	0	38	0	0	0
Camping/Overnight (Other):	120	97	175	58	40	95	34	25	49
Boating:	60	54	78	8	6	15	2	0	6
Non-Boating Day-Use:	285	256	352	83	69	110	101	85	149
Chelan Falls/Powerhouse Parks:									
Boating:	6	5	8	0	0	0	1	0	2
Non-Boating Day-Use:	281	250	352	115	100	145	122	115	148
Beebe Bridge Park:									
Camping/Overnight:	159	135	210	38	25	75	12	8	20
Boating:	68	60	90	5	0	21	1	0	2
Non-Boating Day-Use:	275	220	405	181	180	179	114	110	128
<b>TOTAL</b>	<b>3497</b>	<b>2957</b>	<b>4767</b>	<b>1501</b>	<b>1285</b>	<b>1998</b>	<b>1135</b>	<b>978</b>	<b>1539</b>
<p><sup>1</sup> Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)</p> <p><sup>2</sup> Weekend refers to Friday and Saturday nights for camping/overnight and Saturday and Sunday for day-use.</p> <p><sup>3</sup> Differentiation between RV and tent camping at Entiat Park during peak-season based on on-site surveys. No data available to separate fall- and spring-season RV and tent camping.</p>									

**Table 6-2: Rocky Reach Project Recreation Sites - Estimated Average Daily Use By Activity**

Activity	Peak-Season (1999) Average # People/Day			Fall (1999) Average # People/Day			Spring (2000) Average # People/Day		
	All Days*	Weekday	Weekend	All Days*	Week-day	Week-end	All Days*	Week-day	Week-end
Camping	863	707	1207	371	280	588	186	143	264
Boating	298	252	423	34	6	114	14	0	46
Visiting Dam/Visitor Center	245	220	302	231	214	273	180	161	234
Shore Fishing	2	3	1	0	0	0	3	2	6
Visiting Beach/Sunbathing	117	90	176	0	0	0	23	10	50
Swimming/Wading	99	67	174	0	0	0	10	4	20
Nature Study/Photography	3	4	0	0	0	0	14	24	0
Hang Gliding	8	4	14	0	0	0	8	0	16
Walking	336	338	330	227	259	162	117	97	159
Skating	5	2	10	0	0	0	14	17	10
Jogging	50	58	34	0	0	0	0	0	0
Picnicking	598	450	945	183	131	260	261	160	498
Off-road vehicle riding	0	0	0	11	15	6	0	0	0
Bicycling on-road	8	8	7	5	2	8	29	17	40
Bicycling off-road	98	94	108	40	34	56	0	0	0
Sightseeing	185	180	200	30	8	76	13	6	20
Using Playgrounds	210	225	175	13	0	44	50	82	30
Group Activity	213	127	415	0	0	0	84	84	83
Other activity	159	128	246	356	336	411	129	171	63
<b>Total:</b>	<b>3497</b>	<b>2957</b>	<b>4767</b>	<b>1501</b>	<b>1285</b>	<b>1998</b>	<b>1135</b>	<b>978</b>	<b>1539</b>

\*Based on 1999/2000 data collection and field monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)

### Visitor Use at Recreation Sites

Seven developed public recreation sites were monitored during the summer and fall of 1999 and the spring of 2000. Based on field monitoring and data collection efforts an average of almost 3,500 people per day visited developed recreation sites in the Rocky Reach Project area during the peak-season. An estimated average of 1,500 people per day visited developed recreation sites in the Rocky Reach Project area during the fall-season, and an estimated average of 1,135 people per day visited developed public recreation sites in the Rocky Reach Project area during the spring-season.

Table 6-1 shows the estimated visitor use Rocky Reach Project recreation sites based on 1999/2000 monitoring efforts (Chelan PUD, 2001a). Estimated visitor use at each recreation sites is broken out into camping, boating and non-boating activities.

### Visitor Use by Activity

Table 6-2 provides a summary of the estimated average number of people per day that participate in different activity categories at the seven developed public recreation sites in the Project area.

As Shown of Table 6-2, during the peak-season, camping facilities received the most visitor use followed by picnicking. Boating was the third most popular activity on weekends, whereas, on weekdays walking was third and boating had the fourth highest use.

During the fall-season, camping had the highest average use followed by other activity then visiting the dam/visitor center. On fall weekdays, other activity had the highest use followed by camping, whereas on weekends camping had the highest use followed by other activity.

Picnicking had the highest average visitor use followed by camping, then visiting the dam/visitor center during spring-season monitoring. On spring weekdays other activity had the highest use followed by visiting the dam/visitor center and then picnicking, whereas on weekends picnicking had the highest use followed by camping then visiting the dam/visitor center.

### ***6.1.2 Existing Watercraft Activity and Dispersed Use***

Watercraft activity and shoreline activity or dispersed use is described in Section 5.2.1 of the Rocky Reach Project Recreation Use Assessment Report (Chelan PUD, 2001a).

### Watercraft Activity

Based on peak-season observations, an average of 42.5 watercraft were observed per day during weekday boat runs and an average of 101.5 watercraft were observed per day during weekend boat runs. Most watercraft activity was spread out between the north end of Turtle Rock Island and Beebe Bridge. Motorized boats made up nearly 70 percent of the peak-season watercraft use in the Rocky Reach Reservoir. Personal watercraft (jetskis) made up 29 percent, non-motorboats made up one percent, and airplanes and windsurfers made up less than one percent of the watercraft use.

No watercraft were observed during fall-season weekday boat runs and only five watercraft were observed during the weekend boat run. Watercraft observed on the weekend boat run were between Orondo Park and Beebe Bridge. All watercraft observed were motorboats.

During the spring-season weekday boat run, only two watercraft were observed, one between the north end of Turtle Rock Island and Orondo River Park and the other between Daroga State Park and Beebe Bridge. During the spring-season weekend boat run, a total of 12 watercraft were observed. These included three motorized watercraft between Rocky Reach Dam and Turtle Rock Island, eight motorized watercraft, between Orondo River Park and Beebe Bridge, and one non-motorized watercraft between Rocky Reach Dam and the north end of Turtle Rock island. Two out of the 11 motorized watercraft observed were jetskis.

Table 6-3, below, summarizes the average number of watercraft observed during boat runs on the Rocky Reach Reservoir. As can be expected, most of the watercraft use occurs during peak-season weekends and the majority of watercraft observed during all seasons were motorized.

Type of Watercraft	Peak-Season (2000) Average # Watercraft Observed per Day		Fall (1999) # Watercraft Observed per Day		Spring (2000) # Watercraft Observed per Day	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
Motorboat angling	1.5	6	0	2	0	0
Motorboat skiing/tubing	11.5	34	0	2	0	6
Motorboat other/unidentified	15	32	0	1	2	3
Jetskis	13.5	28	0	0	0	2
Airplanes	0.5	0	0	0	0	0
Non-motorboat angling	0	0	0	0	0	0
Non-motorboat other	0.5	1	0	0	0	1
Windsurfers	0	0.5	0	0	0	0
Total:	42.5	101.5	0	5	2	12

Based on 1999/2000 instantaneous counts by boat. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)

Dispersed Shoreline Use

During peak-season boat runs, an average of 34 people were observed on weekdays and an average of 64.5 people were observed on weekends at undeveloped shorelines along the Rocky Reach Reservoir. Activities observed during peak-season boat runs were mostly swimming/visiting the beach, and some shore angling and other shore activity. Most dispersed shoreline use was observed at a beach on Chelan PUD owned Turtle Rock Island and on mostly private and some state, Chelan PUD and BLM owned undeveloped shorelines between Daroga State Park and Beebe Bridge. A few people were observed on the Entiat River Sandbar, located at the mouth of the Entiat River, and along undeveloped shorelines. Undeveloped shorelines

include those privately owned and owned by Chelan PUD and managed by WDFW between Beebe Bridge and Wells Dam.

No people were observed along undeveloped shorelines during 1999 fall-season weekend and weekday boat runs.

During the spring-season, only one person was observed shore angling along undeveloped shorelines between Rocky Reach Dam and the north end of Turtle Rock Island. No people were observed along undeveloped shorelines during spring-season weekend boat runs.

Table 6-4, below, summarizes the average number of people observed on undeveloped shorelines of Rocky Reach Reservoir. Almost all dispersed shoreline activity occurred during the peak-season with most activity on weekends.

<b>Activity</b>	<b>Peak-Season (2000) Average # People Observed per Day</b>		<b>Fall (1999) # People Observed per Day</b>		<b>Spring (2000) # People Observed per Day</b>	
	<b>Weekday</b>	<b>Weekend</b>	<b>Weekday</b>	<b>Weekend</b>	<b>Weekday</b>	<b>Weekend</b>
Angling	0	4.5	0	0	1	0
Swimming/Visiting Beach	34	59.5	0	0	0	0
Other Shore Activity	0	0.5	0	0	0	0
<b>Total:</b>	<b>34</b>	<b>64.5</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>

Based on 1999/2000 instantaneous counts by boat. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)

**6.2 Estimated Growth**

Estimated growth in Project-area recreation is based on the location of visitors and growth rates for these locations. The location of visitors was determined based on the 1999 and 2000 surveys and documentation of vehicle license plate numbers. During surveys at recreation sites, people were asked where they are from. During car runs, observers documented license plate numbers of vehicles at recreation sites and Washington State Department of Licensing provided county of origin for each vehicle license plate number. The percentages of peak-, fall- and spring- season visitors who came from different areas are shown, respectively, on Table 6-5, Table 6-6 and Table 6-7. The annual population growth rates for each area and weighted average based on the percentage of people and the growth rate for each area are also shown on Tables 6-5, 6-6 and 6-7.

<b>Table 6-5: Population Weighting Factors for Estimating Recreation-Use Projections (Peak-Season)</b>			
<b>Area</b>	<b>% of People from each area (column a)</b>	<b>Annual Growth Rate of Population<sup>1</sup> (column b)</b>	<b>Weighted Annual Average (a) x (b)</b>
Chelan/Douglas Counties	21%	1.62	0.34%
Seattle Metro Area <sup>2</sup>	61%	1.49	0.91%
Other Washington Counties	17%	1.64	0.27%
Other U.S. States	1%	0.89	0.01%
British Columbia, Canada	0%	1.09	0.00%
<b>Weighted Average</b>			1.54%
1 Based on 1999-2020 projections provided by Washington OFM			
2 Includes King, Snohomish, Kitsap, Pierce, and Thurston counties			

<b>Table 6-6: Population Weighting Factors for Estimating Recreation-Use Projections (Fall-Season)</b>			
<b>Area</b>	<b>% of People from each area (column a)</b>	<b>Annual Growth Rate of Population<sup>1</sup> (column b)</b>	<b>Weighted Annual Average (a) x (b)</b>
Chelan/Douglas Counties	26%	1.69	0.44%
Seattle Metro Area <sup>2</sup>	45%	1.4	0.63%
Other Washington Counties	21%	1.58	0.33%
Other U.S. States	6%	0.89	0.05%
British Columbia, Canada	2%	1.09	0.02%
<b>Weighted Average</b>			1.48%
1 Based on 1999-2020 projections provided by Washington OFM			
2 Includes King, Snohomish, Kitsap, Pierce, and Thurston counties			

<b>Table 6-7: Population Weighting Factors for Estimating Recreation-Use Projections (Spring-Season)</b>			
<b>Area</b>	<b>% of People from each area (column a)</b>	<b>Annual Growth Rate of Population<sup>1</sup> (column b)</b>	<b>Weighted Annual Average (a) x (b)</b>
Chelan/Douglas Counties	30%	1.73	0.52%
Seattle Metro Area <sup>2</sup>	40%	1.55	0.62%
Other Washington Counties	21%	1.71	0.36%
Other U.S. States	5%	0.89	0.04%
British Columbia, Canada	4%	1.09	0.04%
<b>Weighted Average</b>			<b>1.58%</b>
1 Based on 1999-2020 projections provided by Washington OFM			
2 Includes King, Snohomish, Kitsap, Pierce, and Thurston counties			

**6.2.1 Recreation Sites and Activity in Project Area**

Estimated peak-season growth projections for Rocky Reach Project recreation sites are shown on Table 6-8. Table 6-9 shows estimated peak-season growth projections for Rocky Reach recreation sites by activity. Growth projections are based on the annual weighted average of 1.54 percent, as calculated in Table 6-5. Growth projections are shown in 10-year increments from the year 2000 to 2020. Average daily use estimates are shown for all days, for weekdays, and for weekends. During this 20-year period, the total average number of people per day at recreation sites in the Project area during the peak-season is estimated to grow by almost 1,325 additional visits. This is based on the premise that as populations grow, demands for recreation opportunities will grow correspondingly, assuming demand can be met.

Table 6-10 shows estimated fall-season growth projections for Rocky Reach Project recreation sites and Table 6-11 shows estimated fall-season growth projections for Rocky Reach Project recreation sites by activity. Growth projections are based on the annual weighted average of 1.48 percent, as calculated in Table 6-6. During this 20-year period, the total average number of people per day at Recreation sites in the Project area during the fall-season is estimated to grow by almost 545 additional visits.

Table 6-12 shows estimated spring-season growth projections for Rocky Reach Project recreation sites and Table 6-13 shows estimated spring-season growth projections for Rocky Reach Project recreation sites by activity. Growth projections are based on the annual weighted average of 1.58 percent, as calculated in Table 6-7. During this 20-year period, the total average number of people per day at recreation sites in the Project area during the spring-season is estimated to grow by almost 420 additional visits.

**Table 6-8: Projected Peak-Season Visitation at Rocky Reach Project Recreation Sites<sup>1</sup>**

RECREATION SITES	Est. <sup>2</sup> Daily Capacity	Average 1999 # People/Day			Average 2000 # People/Day			Average 2010 # People/Day			Average 2020 # People/Day		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
Rocky Reach Dam Recreation Facilities and Visitor Center (Day-Use):	1,190	568	530	660	577	538	670	672	627	780	782	731	910
Lincoln Rock State Park:													
Camping/Overnight:	470	337	285	455	342	289	462	399	337	538	465	393	627
Boating:	612	89	72	132	90	73	134	105	85	156	123	99	182
Non-Boating Day-Use:	888	552	458	773	561	465	785	653	542	915	761	631	1066
Orondo River Park:													
Camping/Overnight:	130	63	50	90	64	51	91	75	59	106	87	69	124
Boating:	84	20	19	25	20	19	25	24	22	30	28	26	34
Non-Boating Day-Use:	132	131	101	205	133	103	208	155	119	243	181	139	283
Entiat Park:													
Camping/Overnight RV:	155	59	43	92	60	44	94	70	51	109	81	59	127
1999 Tent <sup>3</sup> :	250	56	42	88	57	43	89	66	50	104	77	58	121
2001 Tent <sup>3</sup> :	125												
Boating:	102	55	42	90	56	43	91	65	50	106	76	58	124
Non-Boating Day-Use:	258	244	183	390	248	186	396	289	217	461	336	252	538
Daroga State Park:													
Camping/Overnight (Group):	100	69	55	97	70	56	99	82	65	115	95	76	134
Camping/Overnight (Other):	225	120	97	175	122	98	178	142	115	207	165	134	241
Boating:	456	60	54	78	61	55	79	71	64	92	83	74	108
Non-Boating Day-Use:	684	285	256	352	289	260	358	337	303	416	393	353	485
Chelan Falls/Powerhouse Parks:													
Boating:	150	6	5	8	6	5	8	7	6	9	8	7	11
Non-Boating Day-Use:	1,068	281	250	352	285	254	358	332	296	416	387	345	485
Beebe Bridge Park:													
Camping/Overnight:	230	159	135	210	161	137	213	188	160	248	219	186	289
Boating:	96	68	60	90	69	61	91	80	71	106	94	83	124
Non-Boating Day-Use:	1176	275	220	405	279	223	411	325	260	479	379	303	558
<b>TOTAL</b>	<b>8,458</b>	<b>3497</b>	<b>2957</b>	<b>4767</b>	<b>3550</b>	<b>3003</b>	<b>4840</b>	<b>4137</b>	<b>3499</b>	<b>5636</b>	<b>4820</b>	<b>4076</b>	<b>6571</b>

1 Based on 1999 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)

2 Estimated capacity is measure of physical capacity based on number of campsites & parking spaces.

3 During 1999 monitoring, 50 tent sites in the day-use area were allowed. The number of tent sites allowed has been reduced to 25 in the day-use area in 2001.

**Legend:** AD = All-Days; WD = Weekdays; WE = Weekends

<b>Table 6-9: Projected Peak-Season Visitation by Activity at Rocky Reach Project Recreation Sites</b>												
<b>ACTIVITY</b>	<b>Average 1999 # People/Day</b>			<b>Average 2000 # People/Day</b>			<b>Average 2010 # People/Day</b>			<b>Average 2020 # People/Day</b>		
	<b>AD</b>	<b>WD</b>	<b>WE</b>	<b>AD</b>	<b>WD</b>	<b>WE</b>	<b>AD</b>	<b>WD</b>	<b>WE</b>	<b>AD</b>	<b>WD</b>	<b>WE</b>
Camping	863	707	1207	876	718	1226	1021	836	1428	1190	975	1664
Boating	298	252	423	303	256	430	353	298	500	411	347	583
Visiting Dam/Visitor Center	245	220	302	249	223	307	290	260	357	338	303	416
Shore Fishing	2	3	1	2	3	1	2	4	1	3	4	1
Visiting Beach/Sunbathing	117	90	176	119	91	179	138	106	208	161	124	243
Swimming/Wading	99	67	174	100	68	177	117	79	206	136	92	240
Nature Study/Photography	3	4	0	3	4	0	4	5	0	4	6	0
Hang Gliding	8	4	14	8	4	14	9	5	17	11	6	19
Walking	336	338	330	341	343	335	398	400	390	463	466	455
Skating	5	2	10	5	2	10	6	2	12	7	3	14
Jogging	50	58	34	51	59	34	59	69	40	69	80	47
Picnicking	598	450	945	607	457	959	707	532	1118	824	620	1303
Off-road vehicle riding	0	0	0	0	0	0	0	0	0	0	0	0
Bicycling on-road	8	8	7	8	8	7	9	9	8	11	11	10
Bicycling off-road	98	94	108	100	95	110	116	111	128	135	130	149
Sightseeing	185	180	200	187	183	203	219	213	237	255	248	276
Using Playgrounds	210	225	175	213	228	178	248	266	207	289	310	241
Group Activity	213	127	415	216	129	421	252	150	491	294	175	572
Other activity	159	128	246	161	130	250	188	151	291	219	176	339
<b>Total of All Activities</b>	<b>3497</b>	<b>2957</b>	<b>4767</b>	<b>3549</b>	<b>3001</b>	<b>4841</b>	<b>4136</b>	<b>3496</b>	<b>5639</b>	<b>4820</b>	<b>4076</b>	<b>6572</b>
Based on 1999 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)												
<b>Legend:</b> AD = All-Days; WD = Weekdays; WE = Weekends												

**Table 6-10: Projected Fall-Season Visitation at Rocky Reach Project Recreation Sites<sup>1</sup>**

RECREATION SITES	Est. <sup>2</sup> Daily Capacity	Average 1999 # People/Day			Average 2000 # People/Day			Average 2010 # People/Day			Average 2020 # People/Day		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
Rocky Reach Dam Recreation Facilities & Visitor Center (Day-Use):	1,190	331	305	390	336	310	396	389	358	458	451	415	531
Lincoln Rock State Park:													
Camping/Overnight:	470	215	185	285	218	188	289	253	217	335	293	252	388
Boating:	612	15	0	54	15	0	55	18	0	63	20	0	74
Non-Boating Day-Use:	888	256	255	256	260	259	260	301	300	301	349	347	349
Orondo River Park:													
Camping/Overnight:	130	8	5	15	8	5	15	9	6	18	11	7	20
Boating:	84	2	0	12	2	0	12	2	0	14	3	0	16
Non-Boating Day-Use:	132	23	10	53	23	10	54	27	12	62	31	14	72
Entiat Park:													
Camping/Overnight 1999 <sup>3</sup> :	405	40	25	80	41	25	81	47	29	94	54	34	109
Camping/Overnight 2001 <sup>3</sup> :	280												
Boating:	102	4	0	12	4	0	12	5	0	14	5	0	16
Non-Boating Day-Use:	258	107	80	163	109	81	165	126	94	192	146	109	222
Daroga State Park:													
Camping/Overnight (Group):	100	12	0	38	12	0	39	14	0	45	16	0	52
Camping/Overnight (Other):	225	58	40	95	59	41	96	68	47	112	79	54	129
Boating:	456	8	6	15	8	6	15	9	7	18	11	8	20
Non-Boating Day-Use:	684	83	69	110	84	70	112	98	81	129	113	94	150
Chelan Falls/Powerhouse Parks:													
Boating:	150	0	0	0	0	0	0	0	0	0	0	0	0
Non-Boating Day-Use:	1,068	115	100	145	117	101	147	135	118	170	157	136	197
Beebe Bridge Park:													
Camping/Overnight:	230	38	25	75	39	25	76	45	29	88	52	34	102
Boating:	96	5	0	21	5	0	21	6	0	25	7	0	29
Non-Boating Day-Use:	1176	181	180	179	184	183	182	213	212	210	246	245	244
<b>TOTAL</b>	<b>8,458</b>	<b>1501</b>	<b>1285</b>	<b>1998</b>	<b>1524</b>	<b>1304</b>	<b>2027</b>	<b>1765</b>	<b>1510</b>	<b>2348</b>	<b>2044</b>	<b>1749</b>	<b>2720</b>

1 Based on 1999 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)  
 2 Estimated capacity is measure of physical capacity based on number of campsites & parking spaces.  
 3 During 1999 monitoring, 50 tent sites in the day-use area were allowed. The number of tent sites allowed has been reduced to 25 in the day-use area in 2001.  
**Legend:** AD = All-Days; WD = Weekdays; WE = Weekends

ACTIVITY	Average 1999 # People/Day			Average 2000 # People/Day			Average 2010 # People/Day			Average 2020 # People/Day		
	AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
Camping	371	280	588	376	284	597	436	329	690	505	381	801
Boating	34	6	114	35	6	116	40	7	134	46	8	155
Visiting Dam/Visitor Center	231	214	273	234	217	277	272	252	321	314	291	372
Shore Fishing	0	0	0	0	0	0	0	0	0	0	0	0
Visiting Beach/Sunbathing	0	0	0	0	0	0	0	0	0	0	0	0
Swimming/Wading	0	0	0	0	0	0	0	0	0	0	0	0
Nature Study/Photography	0	0	0	0	0	0	0	0	0	0	0	0
Hang Gliding	0	0	0	0	0	0	0	0	0	0	0	0
Walking	227	259	162	230	263	164	267	304	190	309	353	221
Skating	0	0	0	0	0	0	0	0	0	0	0	0
Jogging	0	0	0	0	0	0	0	0	0	0	0	0
Picnicking	183	131	260	186	133	264	215	154	306	249	178	354
Off-road vehicle riding	11	15	6	11	15	6	13	18	7	15	20	8
Bicycling on-road	5	2	8	5	2	8	6	2	9	7	3	11
Bicycling off-road	40	34	56	41	35	57	47	40	66	54	46	76
Sightseeing	30	8	76	30	8	77	35	9	89	41	11	103
Using Playgrounds	13	0	44	13	0	45	15	0	52	18	0	60
Group Activity	0	0	0	0	0	0	0	0	0	0	0	0
Other activity	356	336	411	361	341	417	418	395	483	485	457	560
<b>Total of All Activities</b>	<b>1501</b>	<b>1285</b>	<b>1998</b>	<b>1522</b>	<b>1304</b>	<b>2028</b>	<b>1764</b>	<b>1510</b>	<b>2347</b>	<b>2043</b>	<b>1748</b>	<b>2721</b>
Based on 1999 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)												
<b>Legend:</b> AD = All-Days; WD = Weekdays; WE = Weekends												

**Table 6-12: Projected Spring-Season Visitation at Rocky Reach Project Recreation Sites**

RECREATION SITES	Est. <sup>2</sup> Daily Capacity	Average 2000 # People/Day			Average 2010 # People/Day			Average 2020 # People/Day		
		AD	WD	WE	AD	WD	WE	AD	WD	WE
Rocky Reach Dam Recreation Facilities & Visitor Center (Day-Use):	1,190	359	335	425	420	392	497	491	458	582
Lincoln Rock State Park:										
Camping/Overnight:	470	124	100	170	145	117	199	170	137	233
Boating:	612	7	0	24	8	0	28	10	0	33
Non-Boating Day-Use:	888	172	165	196	201	193	229	235	226	268
Orondo River Park:										
Camping/Overnight:	130	14	10	20	16	12	23	19	14	27
Boating:	84	0	0	0	0	0	0	0	0	0
Non-Boating Day-Use:	132	17	15	30	20	18	35	23	21	41
Entiat Park:										
Camping/Overnight 1999 <sup>3</sup> :	405	2	0	5	2	0	6	3	0	7
Camping/Overnight 2001 <sup>3</sup> :	280									
Boating:	102	3	0	12	4	0	14	4	0	16
Non-Boating Day-Use:	258	50	10	153	58	12	179	68	14	209
Daroga State Park:										
Camping/Overnight (Group):	100	0	0	0	0	0	0	0	0	0
Camping/Overnight (Other):	225	34	25	49	40	29	57	47	34	67
Boating:	456	2	0	6	2	0	7	3	0	8
Non-Boating Day-Use:	684	101	85	149	118	99	174	138	116	204
Chelan Falls/Powerhouse Parks:										
Boating:	150	1	0	2	1	0	2	1	0	3
Non-Boating Day-Use:	1,068	122	115	148	143	135	173	167	157	203
Beebe Bridge Park:										
Camping/Overnight:	230	12	8	20	14	9	23	16	11	27
Boating:	96	1	0	2	1	0	2	1	0	3
Non-Boating Day-Use:	1176	114	110	128	133	129	150	156	151	175
<b>TOTAL</b>	<b>8,458</b>	<b>1135</b>	<b>978</b>	<b>1539</b>	<b>1326</b>	<b>1145</b>	<b>1798</b>	<b>1552</b>	<b>1339</b>	<b>2106</b>

1 Based on 2000 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)  
 2 Estimated capacity is measure of physical capacity based on number of campsites & parking spaces.  
 3 During 1999 monitoring, 50 tent sites in the day-use area were allowed. The number of tent sites allowed has been reduced to 25 in the day-use area in 2001.  
**Legend:** AD = All-Days; WD = Weekdays; WE = Weekends

ACTIVITY	Average 2000 # People/Day			Average 2010 # People/Day			Average 2020 # People/Day		
	AD	WD	WE	AD	WD	WE	AD	WD	WE
Camping	186	143	264	218	167	309	254	196	361
Boating	14	0	46	16	0	54	19	0	63
Visiting Dam/Visitor Center	180	161	234	211	188	274	246	220	320
Shore Fishing	3	2	6	4	2	7	4	3	8
Visiting Beach/Sunbathing	23	10	50	27	12	58	31	14	68
Swimming/Wading	10	4	20	12	5	23	14	5	27
Nature Study/Photography	14	24	0	16	28	0	19	33	0
Hang Gliding	8	0	16	9	0	19	11	0	22
Walking	117	97	159	137	113	186	160	133	218
Skating	14	17	10	16	20	12	19	23	14
Jogging	0	0	0	0	0	0	0	0	0
Picnicking	261	160	498	305	187	583	357	219	681
Off-road vehicle riding	0	0	0	0	0	0	0	0	0
Bicycling on-road	29	17	40	34	20	47	40	23	55
Bicycling off-road	0	0	0	0	0	0	0	0	0
Sightseeing	13	6	20	15	7	23	18	8	27
Using Playgrounds	50	82	30	58	96	35	68	112	41
Group Activity	84	84	83	98	98	97	115	115	114
Other activity	129	171	63	151	200	74	177	234	86
<b>Total of All Activities</b>	<b>1135</b>	<b>978</b>	<b>1539</b>	<b>1327</b>	<b>1143</b>	<b>1801</b>	<b>1552</b>	<b>1338</b>	<b>2105</b>
Based on 2000 Monitoring. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)									
<b>Legend:</b> AD = All-Days; WD = Weekdays; WE = Weekends									

Estimated physical capacities of recreation sites, based on the number of campsites and parking spaces, are also shown on Table 6-8, Table 6-10, and Table 6-12 for comparison with estimated current and future use. Further discussions regarding capacity for specific activities/facilities are provided in Section 7 of this report.

**6.2.2 Watercraft and Dispersed Shoreline Activity**

It is assumed that watercraft activity in Rocky Reach Reservoir and dispersed use along undeveloped shorelines can be expected to grow at about the same rate as other recreation activities in the area. Average annual growth rates of 1.54 percent, 1.48 percent and 1.58 percent, respectively, are used to estimate the growth of peak-, fall- and spring- season watercraft and dispersed shoreline activity (Tables 6-5, 6-6 and 6-7).

Watercraft Activity

Table 6-14 shows the current and projected peak-season weekday and weekend watercraft activity within the Rocky Reach Reservoir. During this 20-year period (2000 to 2020), the average number of peak-season watercraft within the Rocky Reach Reservoir is estimated to grow by an average of 15 additional watercraft on weekdays and 35 additional watercraft on weekends.

<b>Table 6-14: Projected Peak-Season Watercraft Activity</b>						
<b>ACTIVITY</b>	<b>Average 2000 # Watercraft/Day</b>		<b>Average 2010 # Watercraft/Day</b>		<b>Average 2020 # Watercraft/Day</b>	
	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>
Motorboat angling	1.5	6	2	7	2	8
Motorboat skiing/tubing	11.5	34	13	40	16	46
Motorboat other/unidentified	15	32	17	37	20	43
Personal water craft (jetskis)	13.5	28	16	33	18	38
Airplanes	0.5	0	0.6	0	0.7	0
Non-motorboat angling	0	0	0	0	0	0
Non-motorboat other	0.5	1	0.6	1	0.7	1
Windsurfers	0	0.5	0	0.6	0	0.7
<b>Total of All Activities</b>	<b>42.5</b>	<b>101.5</b>	<b>49.2</b>	<b>118.6</b>	<b>57.4</b>	<b>136.7</b>
Based on 2000 boat run observations. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)						
<b>Legend:</b> WD = Weekdays; WE = Weekends						

Table 6-15 shows the current and projected fall-season watercraft activity within the Rocky Reach Reservoir. During this 20-year period (2000 to 2020), the average number of fall-season watercraft within the Rocky Reach Reservoir is estimated to grow by an average of almost 2 additional watercraft on weekends.

<b>Table 6-15: Projected Fall-Season Watercraft Activity</b>								
ACTIVITY	Average 1999 # Watercraft/Day		Average 2000 # Watercraft/Day		Average 2010 # Watercraft/Day		Average 2020 # Watercraft/Day	
	WD	WE	WD	WE	WD	WE	WD	WE
Motorboat angling	0	2	0	2	0	2.4	0	2.7
Motorboat skiing/tubing	0	2	0	2	0	2.4	0	2.7
Motorboat other/unidentified	0	1	0	1	0	1.2	0	1.4
Personal water craft (jetskis)	0	0	0	0	0	0	0	0
Airplanes	0	0	0	0	0	0	0	0
Non-motorboat angling	0	0	0	0	0	0	0	0
Non-motorboat other	0	0	0	0	0	0	0	0
Windsurfers	0	0	0	0	0	0	0	0
<b>Total of All Activities</b>	0	5	0	5	0	6	0	6.8

Based on 1999 boat run observations. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)  
**Legend:** WD = Weekdays; WE = Weekends

Table 6-16 shows the current and projected spring-season weekday and weekend watercraft activity within the Rocky Reach Reservoir. During this 20-year period (2000 to 2020), the average number of spring-season watercraft within the Rocky Reach Reservoir is estimated to grow by an average of less than 1 additional watercraft on weekdays and almost 4.5 additional watercraft on weekends.

<b>Table 6-16: Projected Spring-Season Watercraft Activity</b>						
ACTIVITY	2000 Average # Watercraft/Day		2010 Average # Watercraft/Day		2020 Average # Watercraft/Day	
	WD	WE	WD	WE	WD	WE
Motorboat angling	0	0	0	0	0	0
Motorboat skiing/tubing	0	6	0	7	0	8
Motorboat other/unidentified	2	3	2.3	4	2.7	4
Personal water craft (jetskis)	0	2	0	2	0	3
Airplanes	0	0	0	0	0	0
Non-motorboat angling	0	0	0	0	0	0
Non-motorboat other	0	1	0	1.2	0	1.4
Windsurfers	0	0	0	0	0	0
<b>Total of All Activities</b>	2	12	2.3	14.2	2.7	16.4

Based on 2000 boat run observations. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a)  
**Legend:** WD = Weekdays; WE = Weekends

Dispersed Shoreline Activity

Table 6-17 shows the current and projected peak-season weekday and weekend activity along undeveloped shorelines. During this 20-year period (2000 to 2020), the average number of peak-season dispersed activity along Rocky Reach Reservoir shorelines is estimated to grow by an average of 12 additional people on weekdays and just over 23 additional people on weekends.

<b>Table 6-17: Projected Peak-Season Dispersed Shoreline Activity</b>						
<b>ACTIVITY</b>	<b>Average 2000 # People/Day</b>		<b>Average 2010 # People/Day</b>		<b>Average 2020 # People/Day</b>	
	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>
Angling	0	4.5	0	5	0	6
Swimming/Visiting Beach	34	59.5	40	69	46	81
Other Shore Activity	0	0.5	0	0.6	0	0.7
<b>Total of All Activities</b>	34	64.5	40	74.6	46	87.7
Dispersed shoreline activity includes activities along undeveloped public shorelines. Based on 2000 boat run observations. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a) <b>Legend:</b> WD = Weekdays; WE = Weekends						

No people were observed on undeveloped shorelines during fall-season observations.

During spring-season observations, only one person was observed on undeveloped shorelines during a weekday boat run. Table 6-18 shows current and projected spring-season activity along undeveloped shorelines. During this 20-year period (2000 to 2020), the average number of spring-season dispersed activity along Rocky Reach Reservoir shorelines is estimated to grow by an average of less than 1 person.

<b>Table 6-18: Projected Spring-Season Dispersed Shoreline Activity</b>						
<b>ACTIVITY</b>	<b>Average 2000 # People/Day</b>		<b>Average 2010 # People/Day</b>		<b>Average 2020 # People/Day</b>	
	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>	<b>WD</b>	<b>WE</b>
Angling	1	0	1.2	0	1.4	0
Swimming/Visiting Beach	0	0	0	0	0	0
Other Shore Activity	0	0	0	0	0	0
<b>Total of All Activities</b>	1	0	1.2	0	1.4	0
Dispersed shoreline activity includes activities along undeveloped public shorelines. Based on 2000 boat run observations. Refer to Recreation Use Assessment Report (Chelan PUD, 2001a) <b>Legend:</b> WD = Weekdays; WE = Weekends						

### **6.3 Existing Planning Documents and Studies**

The following discusses relevant recreation plans, studies and planning documents of project area landowners and managing agencies that provide information regarding recreation demand, trends, goals, and/or recreation management in the project area.

#### ***6.3.1 U.S. Forest Service***

The USFS has only a small parcel of land in the project area. This parcel has been highly altered by a previous railroad grade and adjacent road development. The ROS classification for this area is Roaded Modified. The USFS does not have any developed recreation facilities located within the Rocky Reach Project boundary. The Entiat Ranger Station, Wenatchee National Forest, is located in the town of Entiat. USFS facilities are located in the vicinity of the project area in the Entiat Valley, approximately 25 miles west of the Project Reservoir. Most recreation sites in the Entiat Valley are located within the Roaded Natural and Semi Primitive Non-Motorized ROS classes.

#### **U.S. Forest Service, Land and Resource Management Plan**

The U.S. Forest Service, Land and Resource Management Plan (USFS, 1990) is part of the 50-year framework for long-range planning established by the Forest and Rangeland Renewable Resources Planning Act (RPA) as amended by the National Forest Management Act (NFMA). As such, it establishes general strategy for managing the Wenatchee National Forest System in an environmentally sound manner to produce goods and services in a way that maximizes long-term public benefits. The Forest Plan establishes multiple use goals, objectives and desired future conditions. The following is a summary of recreation related goals:

- Provide a well-balanced array of recreation opportunities across the breadth of the recreation opportunity spectrum (ROS) in accordance with resource capability, public demands, and expectations for outdoor recreation.
- Provide a diverse system of safe, well-maintained trails for the enjoyment of all users.
- Respond to new opportunities to develop partnerships and joint ventures with other agencies and the private sector to magnify our abilities to meet expanding public demand for outdoor recreation.
- Provide an information program to assist the public in understanding management of various resources and to assist them in their search for a variety of challenging and pleasing experiences.
- Provide for the identification, protection, interpretation, and management of cultural resources so as to preserve their historical, cultural, archeological, and/or architectural values for the benefit of the public.
- Provide to the forest visitors a variety of landscape character with visually appealing scenery.
- Manage designated wilderness to perpetuate wilderness character, natural ecological processes, and to provide appropriate outdoor recreation opportunities.

Recreation Setting Forest Management Objectives include significantly upgrading and improving developed recreation sites, facilities and trailheads, and developing more interpretive sites. Objectives also include expansion of existing developed sites where overcrowding has occurred

and construction of new sites where recreation area planning indicates sufficient public demand exists and where high quality opportunities are present.

### Recreation Opportunity Spectrum

The National Forest land within the Wenatchee National Forest has been divided into management areas, each with different management goals, resource potential and limitations. The Recreation Opportunity Spectrum (ROS) essentially overlays the Forest Plan Management Areas. The ROS provides a framework for defining the types of outdoor recreation opportunities the public might desire. It identifies a variety of recreation experience opportunities categorized into seven classes on a continuum from primitive to urban. The seven classes are (USFS, 1999):

**Primitive:** Area is characterized by an essentially unmodified natural environment of fairly large size. Interaction between users is very low, and evidence of other users is minimal. The area is managed to be essentially free from evidence of management restrictions and controls. Motorized use within the area is not permitted.

**Semi-primitive Non-motorized:** Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Interaction between users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but subtly. Motorized recreation use is not permitted, but local roads used for other resource management activities may be present on a limited basis. Use of such roads is restricted to minimize impacts on recreational experience opportunities.

**Semi-primitive Motorized:** Area is characterized by a predominantly natural or natural-appearing environment of moderate to large size. Concentration of users is low, but there is often evidence of other users. The area is managed in such a way that minimum onsite controls and restrictions may be present, but subtle. Motorized recreation use of local primitive or collector roads with predominantly natural surfaces and trails suitable for motor bikes is permitted.

**Roaded Natural:** Area is characterized by predominantly natural-appearing environments with moderate evidence of the sights and sounds of man. Such evidence usually harmonizes with the natural environment. Interaction between users may be moderate to high, and evidence of other users prevalent. Resource modifications and utilization practices are evident but harmonize with the natural environment. Conventional motorized use is allowed and incorporated into construction standards and design of facilities.

**Roaded Modified:** Area is generally natural appearing, but has significant vegetation management and resource modification. Modifications generally harmonize with the natural environment. A moderate opportunity exists for isolation and undisturbed activities but some interaction with other visitors can be expected. Conventional motorized use is allowed and incorporated into construction standards and signs of facilities.

**Rural:** Area is characterized by natural environment that has been substantially modified by development of structures, vegetative manipulation, or pastoral agricultural development. Resource modification and utilization practices may be used to enhance specific recreation activities and to maintain vegetative cover and soil. Sights and sounds

of humans are readily evident, and the interaction between users is often moderate to high. A considerable number of facilities are designed for use by a large number of people and facilities are often provided for special activities. Moderate user densities are present away from developed sites. Facilities for intensified motorized use and parking are available.

**Urban:** Area is characterized by a substantially urbanized environment, although the background may have natural-appearing elements. Renewable resource modification and utilization practices are often used to enhance specific recreation activities. Vegetative cover is often exotic and manicured. Sights and sounds of humans are predominant on site and in nearby areas. Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site.

#### Existing Information Analysis for Rocky Reach Hydroelectric Project

The US Forest Service prepared the Existing Information Analysis (USFS, 1999) for use during the Rocky Reach Hydroelectric Project relicensing efforts. The analysis provides information regarding Forest Service land and facilities in the Project area. The document states that the small parcel of Forest Service land in the project area that has been highly altered by a previous railroad grade and adjacent road development is not suitable for recreation use. The analysis reviews the three USFS campgrounds in closest proximity to the Project area (Fox Creek, Lake Creek, and Silver Falls) and states that no expansion opportunity is available at these sites. Trailhead improvements and safety issues were identified needs at the Silver Falls complex.

#### Emerging Markets for Outdoor Recreation in the United States

The emphasis of the Emerging Markets for Outdoor Recreation in the United States (USFS et al., 1995) report is on the opportunities available to manufacturers and retailers to supply products, equipment, and services for outdoor recreation in the United States now and in the future. In 1994 and 1995 approximately 17,000 Americans over age 15 were surveyed to learn about the outdoor recreation activities of people over age 15 in the United States. The study provides some information regarding regional differences in outdoor recreation participation. It discusses the United States in terms of four major regions – the Northeast, the Midwest, the South, and the West. In the West, almost 80 percent of people participate in viewing activities (visiting a nature center, visiting a visitor center, visiting a prehistoric site, visiting a historic site, bird watching, wildlife viewing, fish viewing, other wildlife viewing, sightseeing, visiting a beach or waterside, and water-based nature study.) Of this category, the most popular activities are visiting a beach or waterside and sightseeing. Approximately 70 percent of people engage in at least one of the fitness activities (running/jogging, bicycling, and walking), with walking being the most popular. Social activities (yard games, picnicking, family gathering) are the third most popular group in the West, with 69 percent of people participating. In the West swimming activities showed almost 53 percent participation and outdoor adventure activities such as hiking, backpacking, mountain climbing, etc. showed 47 percent participation. Camping in the West had 36 percent participation and boating in the West had almost 27 percent participation.

### **6.3.2 US Department of Interior Bureau of Land Management**

The U.S. Bureau of Land Management (BLM) manages lands in the project area and vicinity. The Spokane Resource Management Plan (U.S. BLM, 1987) provides a broad framework for multiple use management on public lands. The Spokane Resource Management Area includes lands scattered throughout eastern Washington in 19 counties. The proposed management alternative emphasizes a balance between production of commodities and enhancement of natural resources and provides for the protection of cultural, soil, water, botanical wilderness and recreational resources. Protection is also stressed for aquatic, riparian, big-game, small-game, and non-game habitats, and provides for the orderly development of renewable and non-renewable resources. Standard design features that could be applied as stipulations or requirements on proposed recreation projects include:

- Project work undertaken within recreation sites would be designed and constructed to fit general layout and themes of site.
- Project work undertaken near recreation sites would be designed and constructed with an adequate buffer to provide for protection of scenic values of the recreation site.

### **6.3.3 Interagency Committee for Outdoor Recreation**

The Washington State Interagency Committee for Outdoor Recreation's (IAC) mission is to provide quality service to their boards and the public while providing for recreation opportunities and protection of fish and wildlife. IAC has an ongoing process to assess public goals, values, and needs and incorporates these in its programs.

#### Washington State Comprehensive Outdoor Recreation Planning

State law requires the IAC to prepare and update a strategic plan for the acquisition, renovation and development of recreational resources and the preservation and conservation of open space. The IAC Washington State Comprehensive Outdoor Recreation Planning (SCORP) currently includes the "State of Washington Outdoor Recreation and Habitat Assessment and Policy Plan 1995 - 2001" (IAC, 1995a) as well as other planning documents described below. The SCORP Assessment and Policy Plan is currently being updated and is expected to be published sometime in 2001. Preliminary results of the 2000 statewide survey, which will be included in the updated Assessment and Policy Plan, are also summarized below.

#### *Summary of Findings from State of Washington Outdoor Recreation and Habitat Assessment and Policy Plan 1995-2001 and Associated Documents*

In preparation of the 1995 Assessment and Policy Plan (IAC, 1995a), IAC initiated a three-part public involvement process including a survey of recreation professionals, a series of 21 public focus group meetings statewide, and use of an issues identification and consensus (modified Delphi process). The results of the three-part public involvement process were presented in "Voices of Washington: Public Opinion on Outdoor Recreation and Habitat Issues" (IAC 1995b). Previous planning efforts include "Washington Outdoors: Assessment and Policy Plan 1990 - 1995 (IAC, 1990) and "Washington State Trails Plan Policy and Action Document" (IAC, 1991). The 1990 - 1995 Assessment and Policy Plan conducted surveys of households to determine the growth of different outdoor activities. Although the 1995 - 2001 Assessment and Policy Plan conducted other forms of public participation, new household surveys were not conducted

because the 1990 participation projections were determined to remain accurate. The 1991 Trails Plan is an element of the SCORP program providing statistical data and research findings and discussions surrounding trail-based recreation. Other SCORP efforts include the 1992 stewardship planning that resulted in the publication "Legacy at Risk", the 1993 "Nonhighway and Off-Road Vehicle Activities (NOVA) Plan", and the 1995 "Boating Facilities Program Plan".

SCORP documents provide information regarding recreation demand by region. The state was divided into four geographic regions. Chelan County is part of Region 3, which includes Chelan, Douglas, Okanogan, Kittitas, Yakima, Adams, Grant, Lincoln, Benton and Franklin counties. The counties that comprise Region 3 are considered by the IAC to be similar in biophysical and social criteria. The participation a region generates (origin of demand) and the recreation participation it accommodates (destination of demand) was examined. Region 3 satisfies more recreation demand than it generates for all activity categories. For example, the regions' households create approximately 14 percent of the state's demand for camping while the region is a destination for over 30 percent of the state's camping activity (IAC, 1990). The excess demand that is being satisfied in Region 3 is generated in other areas of the state. This is also demonstrated in the Recreation Use Assessment Report (Chelan PUD, 2001), which shows the majority of visitors at Project study area recreation sites originating from outside out of the area.

According to the Washington IAC, demand for most recreation opportunities is generally proportional to population growth. Therefore, it can be expected that the recreation demand will increase at approximately the same rate as the population growth. The IAC estimated an increase in population of seven percent in Region 3 between 1989 to 2000.

Washington IAC studies indicate that the types of recreation facilities and activities demanded generally depend on the age of the population. Since "baby-boomers" are getting older, the median age of the population is also getting older. IAC predicted that Washington would have about 52 percent more residents aged 40 to 59 in the year 2000 than in 1989. It is anticipated, therefore, that the demand will increase in Washington State for opportunities such as trail activities, passive recreation, and nature appreciation (IAC 1990).

Surveys conducted by the IAC reflected a public desire for outdoor recreation settings that are safe, mostly natural or natural appearing. The surveys indicated a demand in Washington for settings that include water access more than any other type of setting. IAC surveys indicated that the most popular and most rapidly growing outdoor activities in Washington are those that take advantage of trails (IAC 1995a & b). The Washington State Trails Plan, an element of the SCORP, was developed to determine the needs of trail users. According to the Trails Plan, approximately 75 percent of all state households walk or hike for recreation and 26 percent use vehicles off-road for recreation (IAC 1991).

Activities expected to exhibit the highest growth and demand in Washington State from 1995 through 2001 are walking, bicycling, participating in field sports, golfing, camping, mountain bicycling, running/jogging, sport fishing and picnicking (Table 6-19). Survey results and public comments found that for Washington State, a strong public demand for non-motorized trails and

all water access continues to be unmet, and that additional land and facilities are needed. Natural areas, trails, playgrounds, beaches, picnic areas, outdoor swimming pools, water viewpoints, boating access, and sport fields and courts were identified by IAC as the most desired facilities in parks (IAC, 1995a).

The IAC estimated 1987 recreation participation and projected year-2000 recreation participation in mid-eastern Washington state (Region 3). Recreation participation is expressed in terms of household trips. A household trip can include one or all members of a household. Some activities such as jogging will have a short duration, while others such as camping can last for several days. In the ten county Region 3, the greatest amount of recreation growth from 1987 to 2000 was anticipated in the areas of nature study, hiking/walking/climbing, sightseeing/picnicking, camping, and water activities, respectively. Specific activities expected to have the greatest amount of growth in Region 3 are outdoor photography, walking in neighborhood parks, visiting the beach, sailing, tent and recreational vehicle camping, and day hiking (Table 6-20). The SCORP does not take into account recreation consumption in the area by people outside of Washington State. Therefore, the increased demand for recreation in the Project vicinity may actually be even higher than was predicted by the SCORP for the region.

<b>Table 6-19: Popular and Growing Washington State Outdoor Recreation Activities</b>	
<b>Source: Assessment and Policy Plan 1995 - 2001 (IAC, 1995)</b>	
<b>Activities Popular in 1995</b>	<b>Activities Expected to Exhibit High Growth 1995 - 2001</b>
Walking for pleasure/exercise	Walking
Running/jogging	Bicycling
Visiting zoos, fairs	Participating in field sports
Bicycling	Golfing
Mountain bicycling	Camping
Tent camping (campgrounds)	Mountain bicycling
Tent camping (backcountry)	Running/jogging
RV camping	Sport fishing
Day hiking	Picnicking
Attending sports events	Participating in court sports
Golfing	Attending sports events
Power boating	Day hiking
Waterskiing/jet skiing	Attending cultural/musical events
Sailing	Swimming/swimming outdoors
Canoeing/kayaking	Bird watching, wildlife viewing
White water rafting	Driving for pleasure and Hunting (tie)
Wind surfing	Boating
Sunbathing/beach combing	Power boating
Rock climbing	Hiking and Cross-country skiing (tie)
Attending cultural/musical events	Gardening

<b>RECREATION ACTIVITY</b>	<b>Recreation Participation in Household Trips (in 1,000's)</b>		
	<b>1987</b>	<b>2000</b>	<b>% Growth: Region 3</b>
<b>Fishing:</b>			
Freshwater from Boat	424	480	13
Freshwater from Bank or Dock	764	858	12
<b>Water Activities:</b>			
Swimming/Wading in Outdoor Pool	868	1051	21
Swimming/Wading at a Beach	693	841	21
Water Skiing	188	219	16
Sailing	43	57	32
Windsurfing/Sailboarding	11	14	23
Lake Power Boating	230	270	18
River Power Boating	74	87	18
Lake Non-Motorized Boating	116	147	27
River Non-Motorized Boating	46	59	28
Visiting the Beach/Beachcombing	554	740	34
<b>Nature Study:</b>			
Visiting Interpretive Centers/Displays	217	282	30
Nature Study and Wildlife Observation	406	502	24
Outdoor Photography	689	948	37
<b>Hiking, Walking, Climbing:</b>			
Day Hiking	559	730	31
Walking in Neighborhood Park	1457	1978	36
Backpacking (along trails)	185	234	26
Backpacking (no trails)	33	42	27
Climbing and Mountaineering	45	58	28
<b>Camping:</b>			
Organized Group Camping	77	96	25
Tent Camping with Motorized Vehicles	348	456	31
Recreation Vehicle Camping	556	729	31
Horse Camping with Pack Stock	12	14	18
Horse Camping without Pack Stock	15	18	22
<b>Riding Motorized Vehicle Off-Road:</b>			
Motorcycling	196	247	26
All-Terrain Vehicle Driving	136	167	23
4-Wheel Drive Vehicles	191	244	28
Dune Buggy Driving	63	72	15
<b>Non-Motorized Riding:</b>			
Bicycle Riding on the Road	936	1127	20
Bicycling off Road	158	198	25
Horseback Riding	97	107	10
<b>Sightseeing, Picnicking:</b>			
Sightseeing and Exploring	1058	1355	28
Train or Bus Touring	76	93	23
Picnicking	675	878	30
<b>Hunting:</b>			
Big Game	226	266	18
Upland Birds, Small Game, and Waterfowl	281	281	6
Bow Hunting	34	39	13

**Table 6-20: Estimated 1987 and 2000 Recreation Participation in Region 3**

RECREATION ACTIVITY	Recreation Participation in Household Trips (in 1,000's)		
	1987	2000	% Growth: Region 3
<b>Sports, Games, other:</b>			
Football, Rugby	287	294	14
Soccer	333	388	17
Baseball	747	838	12
Softball	848	965	14
Outdoor Basketball	449	504	12
Outdoor Tennis	276	317	15
Other Outdoor Court Games	170	200	18
Using park Playground Equipment	877	997	14
Jogging/Running	1283	1563	22
Golf	561	653	16
<b>AVERAGE GROWTH</b>			21.8
Source: IAC (1990). Region 3 includes Chelan, Douglas, Okanogan, Kittitas, Yakima, Adams, Grant, Lincoln, Benton and Franklin counties.			

The 1995 - 2001 IAC SCORP provides recommendations for federal, state, and local agencies and the public sector in outdoor recreation and habitat preservation activities. Examples of Washington SCORP recommendations include (IAC 1995a):

- Federal - identifying and pursuing funding for adequate maintenance and operation of USFS recreation facilities, especially campgrounds and trails.
- State Parks - expanding existing parks, camping and trail opportunities; accommodate emerging outdoor uses such as mountain bicycling; and continue to provide services for recreational boating. Undertake a statewide acquisition and development plan.
- Other State Agencies - Use the Aquatic Lands Enhancement Account to help meet public demand for water access; promote public appreciation of fish and wildlife by increasing compatible public access to wildlife recreation lands; fully implement the Bicycle Policy Plan and the Bicycle Element of the Highway System Plan; fully implement recommendations of the Heritage Corridors program to improve access to recreation sites and facilities; and place more emphasis on public access and public recreation in the management of the Shoreline Management Act.
- Local Agencies - Emphasize the development of trails and paths for walking and bicycling; provide water access sites; provide local parks that preserve natural characteristics; and be the principal public providers of swimming pools, play courts and fields.
- Private Sector - Encourage the private sector to contribute needed recreation opportunities to the public.

*Summary of Preliminary Results of 2000 Statewide Survey*

Preliminary observations from a statewide survey conducted by the IAC in 2000 include the following (IAC, 2001):

- Young children "play" using a mix of traditional dedicated settings (playgrounds, ball fields, and courts) and non-recreational setting such as sidewalks and streets near their homes and schools.
- Middle to older age groups participated to the highest percentage in walking and hiking, using a mix of sidewalks, streets, road shoulders, and trails in various settings.
- Activities requiring high levels of physical exertion generally show a decline in participation related to age. For example, bicycle riding engaged 42% of the 0-9 age group then gradually declined among age groups to 9% by the 65+ age group.
- Less physically active and more time-intensive activities show increases in participation rates with age. For example, nature activities increased from 30% for the 10-19 age group to 37% for the 20-34 age group, then 49% for the 35-49 age group, then 50% for the 50-60 age group, and then to 56% for the 65+ age group.
- Many of the results from this survey agree with national survey results. For example, the National Survey on Recreation and the Environment (USFS et al, 1995) has found that walking is the most popular activity in the United States (roughly 67% of all adults), followed by bicycle riding. Nature activities such as bird watching are growing rapidly across the United States.

An Assessment of Recreation on Public Land (Note: This information will be updated pending a new study by IAC, which is anticipated for completion in 2001.)

In 1997 the State Legislature directed the IAC to collect resource information specifically focusing on federal and state-owned recreation lands. An Assessment of Recreation on Public Lands (IAC, 2000) looked at recreation trends in the state as a whole, the location and uses of public lands, the needs of different types of recreation, the role of private landowners in providing recreation opportunity and the current level of knowledge about recreation in Washington. The following summarizes some of the findings.

Nearly 90 percent of the State's households engage in some form of outdoor recreation during the year, and public demand for outdoor recreation opportunities does not appear to be diminishing.

Local recreation lands are generally located within or in close proximity to cities and towns and appear to be managing more use than any other recreation lands, public or private, especially walking, jogging and field sports. IAC estimated that local recreation lands are the destination of approximately half of all outdoor recreation-related household trips in Washington; although only about 2.2 percent of public lands are under local jurisdiction. Approximately 6.4 percent of lands reported as "Outdoor Recreation, Habitat, and Environmental Projection Lands" are state owned and over 91 percent are federal. An estimated 25 percent of all outdoor recreation takes place on state lands, which offer opportunities for camping, hiking, hunting, fishing, bicycling, ORV riding and winter recreation, and are generally not located near urban counties. An estimated 25 percent of all outdoor recreation use takes place on federal lands which are

generally managed for multiple-use and are relatively undeveloped, removed from populated areas, and often difficult or time consuming to access. Federal lands generally offer the most opportunities for primitive and self-contained recreation pursuits.

#### **6.3.4 Chelan County**

The Chelan County Comprehensive Plan (Chelan County, 2000) was developed under the Growth Management Act (GMA) which required the fastest growing counties, including Chelan County, to adopt new comprehensive land use plans in compliance with the new law. County-wide planning policies were adopted to guide the physical development of the community. These policies are used by local elected officials, planning commissions, private firms, and individuals when making decisions about land use development or changes, capital improvements programming, and the enactment of development regulations and related growth management legislation. Goals for the Open Space/Recreation component of the Land Use Element include:

- Encourage the retention of open space
- Encourage the development and maintenance of recreational facilities and opportunities to meet the needs of residents and visitors.
- Park and recreation planning and development should take into consideration impacts to surrounding land uses critical areas, and significant natural, scenic, historic, or cultural features.
- Encourage coordination of federal, state, local and private recreation planning.

#### **6.3.5 Douglas County**

##### Douglas County Comprehensive Plan

The Douglas County Comprehensive Plan (Douglas County Board of Commissioners, 1995) was developed as part of the Growth Management Act planning program initiated by Douglas County and its communities. The County and Cities agreed that the County Planning staff would be responsible for ensuring all requirements of the GMA were met for all of the communities. The following are goals and policy statements in regard to park and recreation issues:

Open space/Recreation - Encourage the retention of open space and development of recreational opportunities, conserve fish and wildlife habitat, increase access to natural resource lands and water, and develop parks.

Master Planned Resorts - To provide opportunities for Master Planned Resorts (MPRs) which will provide a mixture of recreational, commercial, lodging and resort-residential land uses that are appropriate for the site and are compatible with the traditional land uses where the MPR is proposed.

##### Douglas County Recreation Comprehensive Plan

The Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) analyzes the supply, demand, and need for public and private park and recreation facilities and services within the Eastmont Recreational Service Area (ERSA). The

ERSA was created in the 1970s and coincides with the boundaries of Eastmont School District, which consists of lands within the Wenatchee Valley including Wenatchee, East Wenatchee, Chelan and Douglas counties between Turtle Rock Island and Rock Island Hydro Park on the Columbia River.

The Plan reviews the total acres of park lands within Wenatchee, East Wenatchee, Chelan and Douglas Counties. The total acres of park land is compared with NRPA standards of 34.45 acres for all types of park land per every 1,000 persons in the population. Based on this comparison, approximately 175 acres of park lands exist per every 1,000 persons within the urban growth area. The Plan states that the combined park lands provide a significant amount of land for park, recreation and open space interests within the urban growth area to satisfy most local and significant regional interest. However, the Plan indicates that the present allocation is not balanced between different types of park, recreation, and open space land requirements, particularly within the developing urban area.

A telephone survey of resident households in Douglas County was conducted. When survey participants were asked to prioritize project proposals, indoor swimming pools received the highest priority followed respectively by children's playgrounds and play areas, athletic fields, open spaces and neighborhood parks, off-road walking and hiking trails, and picnic tables and shelters.

The plan includes proposals concerning elements of the park, recreation, and open space plan based on results of field analysis, environmental inventories, demand analysis, workshop planning sessions, and telephone survey of resident households. The proposals outline the vision developed for parks, recreation and open space systems within the Wenatchee Valley for the next 20 years. The main park proposals are summarized below. All of these proposals are outside of the Rocky Reach Project area, except where noted.

- Acquisition of 780 acres of resource conservancy lands.
- Addition/acquisition of two boat ramps, 1 swimming beach and access point, 82 picnic tables, and 12 picnic shelters.
- Development of water access system (water trails) including supporting trailheads and services on the Wenatchee River and Columbia River (between Rocky Reach and Rock Island Dams). Includes addition of 2 handcarry launch sites, 2 overnight campsites (1 at Lincoln Rock State Park), and expanded storage facilities.
- Develop a system of horse trails including the addition of 50 miles of new trails, and addition of 8 horse trailheads. A couple miles of horse trail is proposed on the east side of the Columbia River extending north to Lincoln Rock State Park and one horse trailhead is proposed at Lincoln Rock State Park.
- Development of walking and hiking trails including addition of almost 2 miles of park trails and over 60 miles of hiking trails throughout the Wenatchee Valley, and addition of 12 trailheads including parking and restroom services. A couple miles of hiking trail is proposed on the east side of the Columbia River extending north to Lincoln Rock State Park, and one trailhead is proposed at Lincoln Rock State Park.

- Addition of over 60 miles of off-road mountain biking trails, and 12 trailheads with parking and restroom services. A couple miles of hiking trail is proposed on the east side of the Columbia River extending north to Lincoln Rock State Park, and one trailhead is proposed at Lincoln Rock State Park.
- Development of almost 50 miles of on-road bicycle touring routes and 11 trailheads with parking and restroom services.
- Development of almost 15 miles of multipurpose trails and 5 trailheads including parking and restroom services. A couple miles of hiking trail is proposed on the east side of the Columbia River extending north to Lincoln Rock State Park, and one trailhead is proposed at Lincoln Rock State Park.
- Development of 7 new playgrounds.
- Addition of 2 tennis courts, 8 volleyball courts, 9 soccer fields, and 18 baseball/softball fields (2 baseball/softball fields proposed at Lincoln Rock State Park).
- Development of 2,000 square feet of nature interpretive facilities including shelters, trails and directory system.

### ***6.3.6 Shoreline Master Program, Chelan and Douglas Counties***

The Shoreline Master Program designates shorelines as Urban, Rural, Conservancy, or Natural Environments. Each of these Environments represent a specific type of geographic area having common characteristics, defined boundaries, and specific regulations governing use activities; all as required by the Shoreline Management Act. The following describes each Environment:

- Urban Environment - an area of high intensity land use including residential, commercial, and industrial development in addition to open space and public uses.
- Rural Environment - an area characterized by intensive agricultural and recreational uses and those areas having a high capacity to support active agricultural practices and intensive recreational development.
- Conservancy Environment - an area characterized by a potential for diffuse outdoor recreation activities, timber harvesting on a sustained yield basis, passive agricultural uses such as pasture and range lands, and other related development.
- Natural Environment - an area containing some unique natural or cultural features considered valuable in a natural or original condition which are relatively intolerant of intensive human uses.

Shorelines along Rocky Reach Reservoir in Chelan County include a mixture of Rural and Conservancy environments, with the exception of shorelines in the town of Entiat which are designated Urban Environment (Chelan County Board of Commissioners, 1982).

Rocky Reach Reservoir shorelines within Douglas County are designated as Rural Environment (Douglas County Regional Planning Commission).

### ***6.3.7 City of Entiat***

#### City of Entiat Comprehensive Land Use Plan

The City of Entiat Comprehensive Land Use Plan (Entiat, 1997) was prepared by the Citizens of Entiat to address growth issues in the Entiat Planning Area. It represents their land use policy

plan for growth to the year 2017. Open space/recreation objectives include encouraging the retention of open space and development of recreational opportunities; conserving fish and wildlife habitat; and increasing access to natural resource lands and water. Open space/recreation goals include meeting the parks and recreation needs of residents and tourists, and ensuring that parks and recreation development respects significant natural and cultural features and maintains the land and water environments that support fish and wildlife. Open space/recreation policies include the following:

- Orient parks and recreation facilities so that they take advantage of significant natural features.
- Significant natural, historic and archaeological resources should be preserved and protected as much as possible.
- Facilities that interpret and educate the public on nature and historic development of the area are encouraged.
- As park and recreational facilities interface with the natural environment, great care must be exercised to insure that the land and water resources that support fish and wildlife remain viable.
- Coordination with other public agencies.

#### Master Plan: Entiat Park

The Master Plan for Entiat Park (Chelan PUD, 1992) was developed by Chelan PUD in cooperation with the City of Entiat. The plan provides for the consolidation of the two ends of Entiat City Park and the reorganization and expansion of park facilities. The development program for Entiat Park is primarily limited to improving existing facilities through expansion and updating materials and layout. The general use patterns of the park are expected to remain the same with some addition of new facilities. The following is a list of goals related to parks and recreation services that have been recommended under this plan for Entiat Park.

- New Park Entry and Exit
  - Expand existing entrance at southern portion of Entiat Park and close northern park entry to provide one entry with addition of office/control booth.
  - Park exit at northern end of Park with controlled entrance for service and emergencies.
  - Two-way access connecting north and south ends of park
- Boat Ramp and Parking
  - Provide a double bay boat launch
  - Parking for 35 boat trailers (25 ft, length)
  - Parking for 14 day-use trailers (50 ft. length)
  - Overflow boat trailer parking (15 spaces)
  - Restroom parking (five spaces)
- Development of Silico Saska Park (Old Entiat Park - south end)
  - Picnic shelter and picnic area
  - Play areas
  - Develop existing amphitheater
  - Dedication monument for Entiat Indians
  - Parking lot for 34 cars.

- Development of southern undeveloped section of park:
  - 14 Overnight RV stations
  - 16 tent sites
  - Parking for 16 cars
  - New restrooms with showers
- Development of northern end of park (Will Risk Park and Museum):
  - Reverse RV stations (31 spaces) to face the river and place park road behind RV stations away from river
  - Addition of play area
  - New group tent camping
  - New restroom with showers
  - RV dump station
  - Park dumpster and enclosure
  - Access road for museum and eight parking spaces
- Trails
  - Create pedestrian trail linking park ends
  - Add up to three new dock systems
  - Provide for future connection to expand trail system including a new trailhead commencing at the southern most end of the park for accessing other lands along the Entiat River to the west.

#### Entiat Outdoor Learning Center

In coordination with Chelan PUD, City of Entiat, US Forest Service, Entiat School District and others, day-use and interpretive facilities are planned on land adjacent to the Entiat River from the mouth upriver for approximately one-third mile. These lands, owned by Chelan PUD and leased to the City of Entiat, have a long history of development and disturbance including early settlement, logging, original city development, roads, farming and recreational use.

The facilities would be designed for multiple uses including day-use, swimming, non-motorized boating, small public gatherings and use by schools or other groups as an outdoor classroom. The site would include turn-around and parking for 10 vehicles and three school busses. Plans include barrier-free accessible trails, a restroom and changing rooms, day-use shelter, picnic tables and an amphitheater. A secluded dock and non-motorized boat take out platform is planned that would support swimming, canoeing, and rafting activities. There would be an additional take out point for rafters near the parking area. A variety of signing from site identification, to information bulletin boards, to interpretive and educational signs is also planned for the site. Future plans include potentially extending the trail at the site to connect with Entiat Park.

Construction of a trail from Entiat Valley Road at Entiat Way down to the river terrace, and an information kiosk near the entrance to the site have been completed, as well as installation of fencing and rock barriers and site cleanup. The Entiat Outdoor Learning Center project is expected to be completed in the year 2005.

Entiat Sternwheeler

Plans by a private party are underway to bring a historic sternwheeler to Entiat to be used commercially for lake tours and group gatherings. Options for landing the sternwheeler at Entiat Park docks are being reviewed.

**6.3.8 Chelan PUD**

1999/2000 Recreation Use Assessment Study Report

The Recreation Use Assessment (Chelan PUD 2001a) provides information regarding existing recreation use at public water-based recreation sites in the study area based on monitoring conducted in 1999 and 2000. Comparisons of use estimates with physical capacity estimates in the Assessment Report provide information regarding whether existing facilities at Project area recreation sites are accommodating demands. Information regarding recreation demand in the study area is also provided based on survey results including perceptions of crowding, visitor satisfaction and comments received. This information obtained from monitoring efforts and summarized in the Recreation Use Assessment Report is reviewed in further detail in this Needs Analysis report.

Recreation Resources Inventory

The Recreation Resources Inventory (Chelan PUD, 2001b) for the Rocky Reach Project assesses developed and undeveloped recreational sites located on public and private lands, mitigation lands, lands owned and/or managed by federal, state and local agencies, and lands owned by non-governmental organizations. The Inventory also identifies potential lands for future recreational development. Information from the Recreation Resources Inventory Summary Report is used as input in this Needs Analysis report.

## **SECTION 7: RECREATION NEEDS AND POTENTIAL**

To assess the need for additional facilities/activities in the Rocky Reach Project area, results from recreation monitoring, a comparison of recreation supply and demand, and management standards are reviewed. Recreation monitoring conducted in the Project area in 1999 and 2000 provided information regarding recreation supply and demand in the Project area. This information, summarized in the two previous sections of this report, is used in the comparison of supply and demand. The recreation demand minus the existing recreation supply is estimated to approximate actual recreation need. The physical condition and capacities of existing recreation facilities are reviewed to determine recreation supply, and existing recreation use in the Project area is reviewed to estimate existing demand. Future needs are a function of expected growth in supply and demand. If the supply is greater than the demand, there is no need for new facilities. If the demand is greater than the supply, then the need for facilities to meet that demand must be determined. Visitor survey responses supply further information regarding the social capacity of recreation sites and visitors' perceptions of recreation facility needs. Potential recreation demand and needs are also assessed based on existing recreation planning studies available that provide information regarding recreation trends.

Recreation needs in the Project area are analyzed by the following facility/activity categories:

- Camping Facilities - Review of camping opportunities in at Project area recreation sites.
- Boating Activities/Facilities - The Project study area offers a number of boating facilities including boat ramps and docks. This assessment reviews boating facilities as well as boating activity within the reservoir.
- Non-Boating Day-Use Activities/Facilities - Review of day-use facility needs for picnic, swimming/sunbathing (beach), trail activities, and other day-use facility/activities where potential needs have been identified.
- Dispersed Use - Review of dispersed shoreline activities at undeveloped public shorelines and potential need for facilities to accommodate current and future use.

Americans with Disabilities Act (ADA) compliance and displaced use at public recreation sites in the study area are also discussed in this section

### **7.1 Camping Facilities**

Public camping facilities within the Project area are located at Lincoln Rock State Park, Orondo River Park, Entiat Park, Daroga State Park, and Beebe Bridge Park (refer to Table 5-1).

#### **7.1.1 Results of 1999/2000 Rocky Reach Recreation Surveys and Monitoring**

During peak-season on-site interviews, visitors at Rocky Reach Project recreation sites were asked what their primary reason was for visiting the Rocky Reach Project area. Camping was the most popular response, while motor boating was the second most popular reason for visiting the Project area.

Campers often participate in other recreation activities as part of their camping experience, such as swimming, picnicking, boating, fishing and sightseeing. Visitor-use estimates by activity showed Rocky Reach Project camping facilities had the highest number of visitors during the peak-season, with picnicking showing the second highest use (Table 6-2). During fall-season monitoring camping facilities had the greatest use, while picnicking had the highest use during spring-season monitoring.

Visitors surveyed throughout the study area rated camping activity at project recreation sites an average of 8.8, on a scale of 1 to 10 with 10 being the highest. Of those surveyed in the study area that were camping, less than six percent indicated that fewer people would make the activity better, and ten percent of those surveyed indicated that better facilities would make the camping activity better. Other comments received from survey responses regarding camping activities included needs for cleaner, better maintained and more bathrooms, warm showers, cleaner and more trash bins, more RV/sewer hook-ups, facilities in tent areas, lower fees, more campsites, selling wood at campground offices and signs at some campgrounds saying no reservations - first come first served.

Survey respondents rated recreation sites with campgrounds well above average. On a scale of 1 to 10 with 10 being the highest, Lincoln Rock State Park was rated an average of 9.3, Orondo River Park 8.7, Entiat Park 8.5, Daroga Park 9.3, and Beebe Bridge Park 9.5. Specific comments regarding each of these sites are included in the Recreation Use Assessment Report (Chelan PUD, 2001a). In summary, the greatest number of comments from visitors at Project area campgrounds were related to needs for cleaner, better maintained and more bathroom/shower facilities. Orondo River Park received the greatest number of comments (48%) regarding needs for cleaner/better/more restroom and shower facilities followed by Entiat Park (30%), then Lincoln Rock State Park and Daroga State Park (each with 24%). No survey respondents at Beebe Bridge Park indicated needs related to cleaner or better restroom facilities.

Less than 6 percent of survey respondents at Lincoln Rock State Park and Beebe Bridge Park and less than 5 percent of survey respondents at Entiat Park, indicated that fewer people would make the site better. Less than 4 percent of survey respondents at Orondo Park and two percent of survey respondents at Daroga State Park indicated that fewer people would make the site better.

Five percent of survey respondents at Orondo River Park made comments regarding needs for more campsites, especially RV sites. Less than two percent of survey respondents at Daroga State Park made comments regarding needs for more campsites with utilities in the Project area. No other survey respondents at other Project area campgrounds made comments regarding needs for more campsites.

### ***7.1.2 Comparison of Supply and Demand***

Physical capacity estimates, or the number of available campsites at Rocky Reach Project recreation sites (supply) is compared with existing use estimates based on 1999 and 2000 monitoring efforts and projected use estimates based on growth estimates described in Section 6.2 of this report (demand).

There are a total of 292 campsites and 2 group sites at Rocky Reach Project recreation sites (see Table 5-1). During 1999 monitoring, the City of Entiat allowed a maximum of 50 tent sites in the day-use area; this number is included in the 292 campsite total. Due to limited capacity of the Entiat sewer treatment facility, Entiat Park has reduced the number of tent sites allowed in the day-use area in 2001 to 25.

Use estimates of the number of people camping at recreation sites were based on the number of campsites occupied multiplied by a factor of 5 people per campsite. The number of occupied group camping areas at Daroga State Park were multiplied by 50 people per group sites, since they each have a capacity of 50 people per site. In this way a direct comparison can be made regarding campsite occupancy whether or not numbers of campsites or numbers of people are used. Using the same multipliers used to estimate use estimates, the capacity of campgrounds at Rocky Reach campgrounds was 1,560 people per day/night in 1999, when peak-season monitoring was conducted. Since the allowed number of tent sites at Entiat Park has been reduced from 50 to 25 tent sites in 2001, the future project area campground capacity is shown as 1,435 people per night.

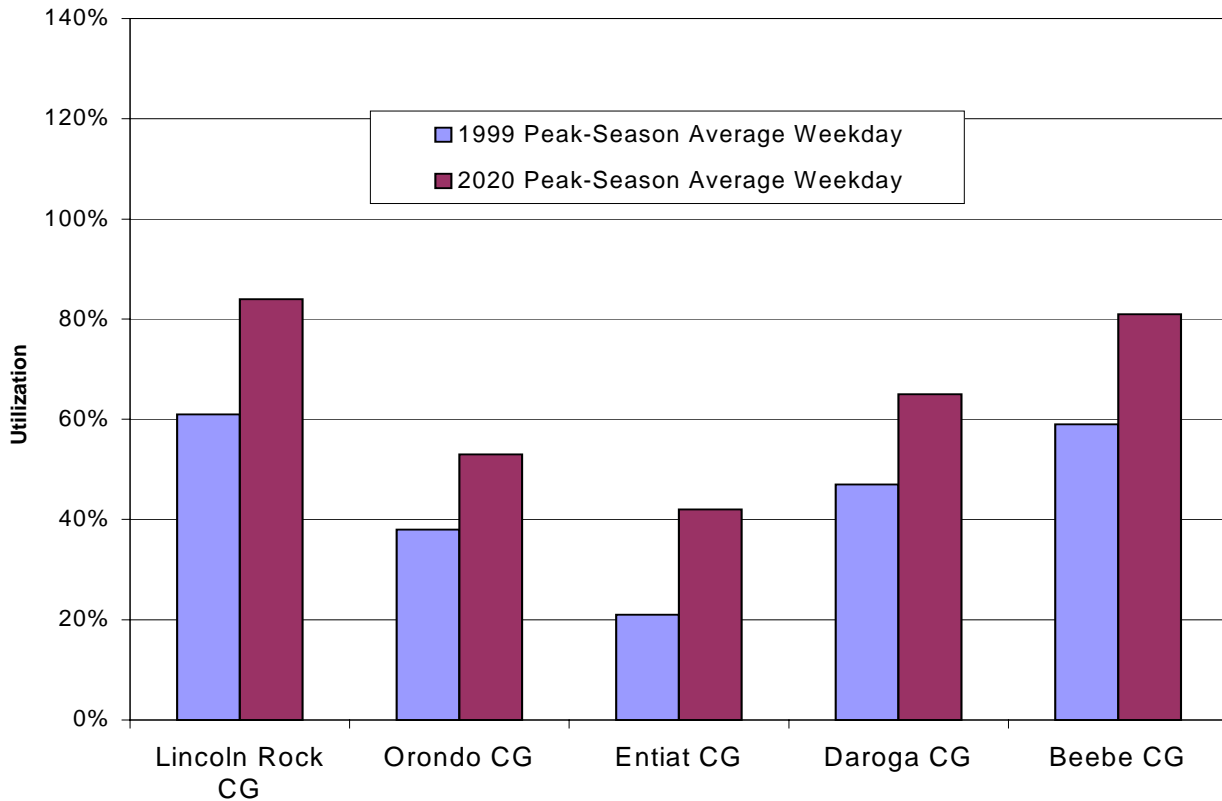
Current (1999) estimated average peak-season camping activity at Rocky Reach Project recreation sites is 707 people on weekdays, and 1,207 people on weekends. Projected 2020 average use estimates for camping activity is 975 people on weekdays and 1,664 people on weekends. Rocky Reach Project area campground utilization based on a comparison of current and projected campground use with existing campground capacity, described above, is shown on Table 7-1. During peak-season weekends (the busiest time of the year) Rocky Reach Project campgrounds are an average of approximately 77 percent utilized. Average peak-season weekend utilization at campgrounds is projected to be over 100 percent in the year 2020, while projected 2020 peak-season weekday campground utilization is less than 70%.

Campgrounds are generally the busiest during July and August, with all campgrounds being full during many July and August weekends and on holidays. Campgrounds are not generally as busy during the weekdays and during other peak-season months. Review of current peak-season campground use at individual recreation sites showed campground utilization at both Lincoln Rock State Park and Beebe Bridge Park campgrounds currently (based on 1999 monitoring) at around 60 percent during average peak-season weekdays, whereas campground utilization at other campgrounds was below 50 percent during peak-season weekdays. Using current campground capacity numbers, projected 2020 campground utilization for average peak-season weekdays is over 80 percent at Lincoln Rock State Park and Beebe Bridge Park, over 60 percent at Daroga State Park, over 50 percent at Orondo River Park, and around 30 percent at Entiat Park (Figure 7-1).

Current Facilities (Campsites)	Daily <sup>1</sup> Capacity (People/Day)	Current (1999) Peak-Season Average Daily Use				2020 Daily Peak-Season Average Daily Use			
		People/Day <sup>2</sup>		Utilization		People/Day <sup>2</sup>		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
292 (1999) standard and 2 group	1,560 (1999)	707	1,207	45%	77%				
167 (2001) standard and 2 group	1,435 (2001)					975	1,664	68%	116%

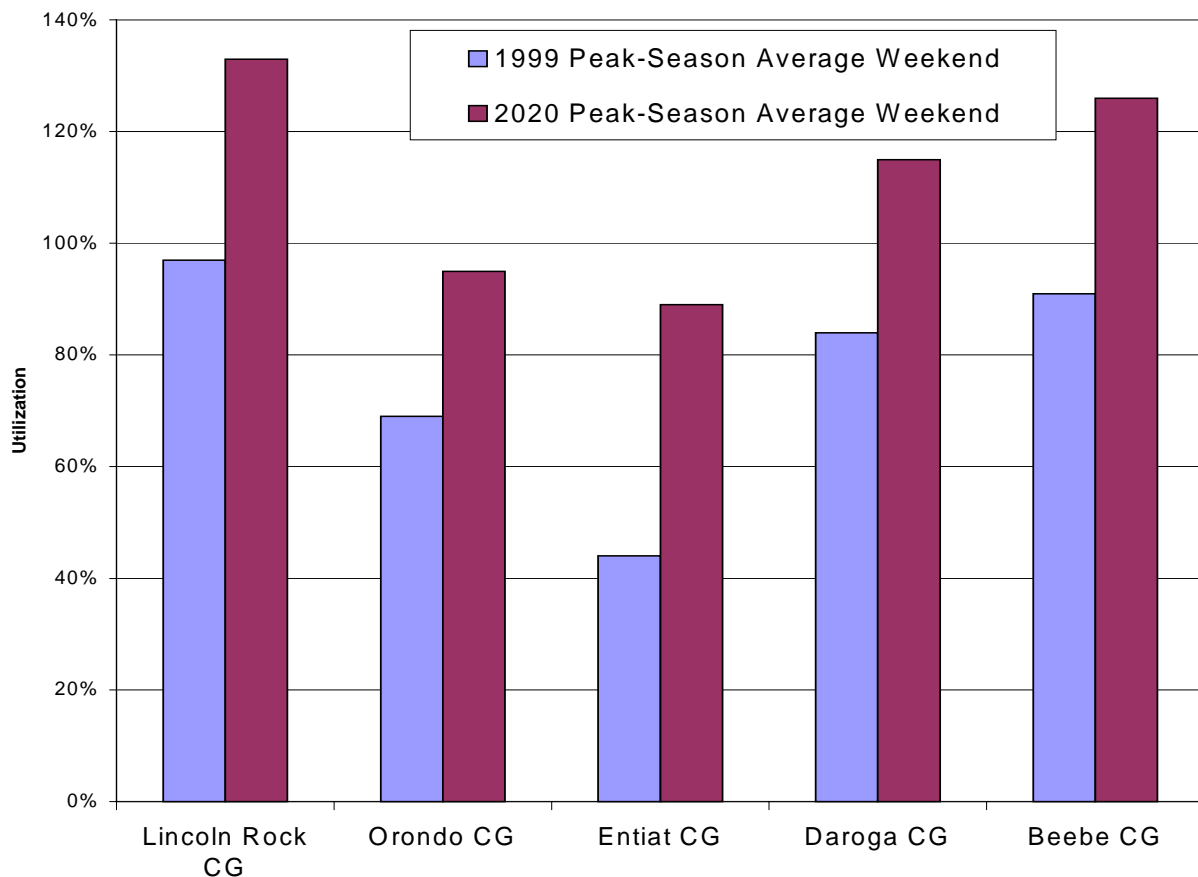
1 Daily Capacity based on Design Standard of 5 people/day per standard campsite and 50 people/day per group site.  
 2 Estimates based on number of campsites occupied multiplied by 5 people/day per standard campsite and 50 people/day per group site.  
 WD = Weekday, WE = Weekend

**Figure 7-1: Peak-Season Weekday Campground Utilization**



Based on 1999 monitoring, Lincoln Rock State Park and Beebe Bridge State Park are currently full during most peak-season weekends, and campground utilization at Daroga State Park is almost 85 percent during average peak-season weekends. Average current (1999) campground utilization at Orondo River Park Campground and Entiat Park Campground is around 69 percent and 44 percent, respectively. Using current campground capacity numbers, projected 2020 use estimates show campground utilization at Lincoln Rock State Park, Beebe Bridge Park and Daroga State Park at over 100 percent on peak-season weekends. Orondo Park and Entiat Park campgrounds are, respectively, projected to be around 95 percent and 89 percent utilized during average 2020 peak-season weekends. (Figure 7-2).

**Figure 7-2: Peak-Season Weekend Campground Utilization**



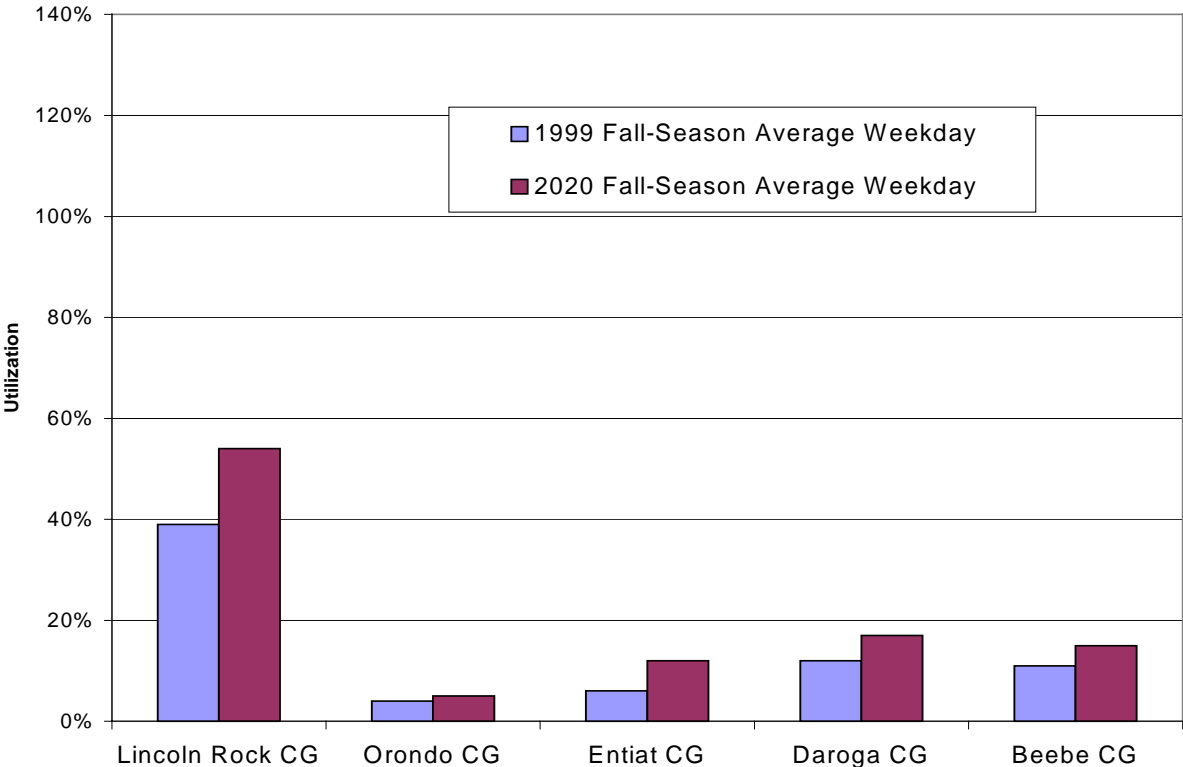
Current (1999) and projected (2020) average fall-season and spring-season campground utilization for all Rocky Reach Project recreation sites is relatively low. Based on 1999/2000 monitoring, off-season campground utilization is the highest during fall-season weekends (Tables 7-2 and 7-3). Using current campground capacity numbers, the projected 2020 fall-season average weekend utilization for Rocky Reach Project campgrounds is 56 percent. Review of individual campgrounds showed that currently (1999/2000) campground utilization at all campgrounds is well under 50 percent during fall and spring season weekdays and weekends,

with the exception of Lincoln Rock State Park Campground (Figure 7-3 through Figure 7-6). Lincoln Rock State Park was 60 percent utilized during average fall-season weekends and is projected to be over 80 percent utilized during 2020 average fall-season weekends, using current campground capacity numbers.

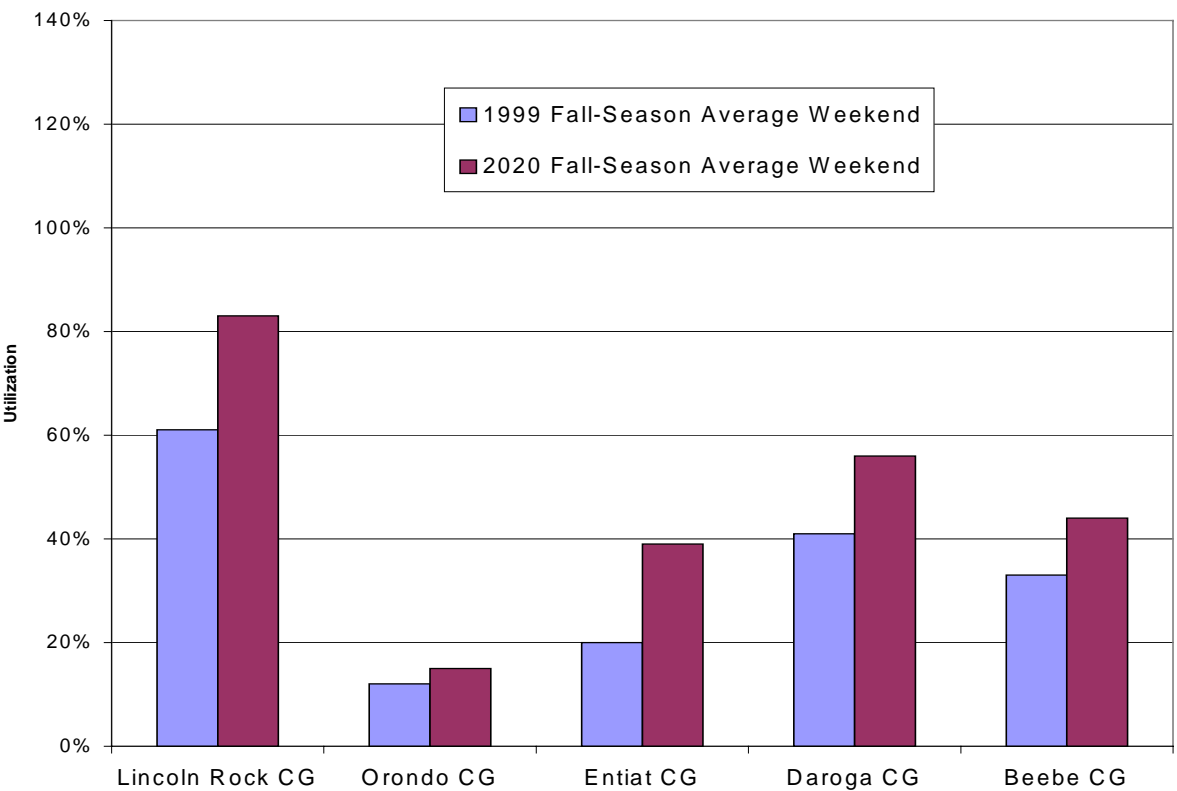
Current Facilities (Campsites)	Daily <sup>1</sup> Capacity (People/Day)	Current (1999) Fall-Season Average Daily Use				2020 Daily Fall-Season Average Daily Use			
		People/Day <sup>2</sup>		Utilization		People/Day <sup>2</sup>		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
292 (1999) standard and 2 group	1,560 (1999)	280	588	18%	38%				
167 (2001) standard and 2 group	1,435 (2001)					381	801	27%	56%
3 Daily Capacity based on Design Standard of 5 people/day per standard campsite and 50 people/day per group site. 4 Estimates based on number of campsites occupied multiplied by 5 people/day per standard campsite and 50 people/day per group site. WD = Weekday, WE = Weekend									

Current Facilities (Campsites)	Daily <sup>1</sup> Capacity (People/Day)	Current (2000) Spring-Season Average Daily Use				2020 Daily Spring-Season Average Daily Use			
		People/Day <sup>2</sup>		Utilization		People/Day <sup>2</sup>		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
292 (1999) standard and 2 group	1,560 (1999)	143	264	9%	17%				
167 (2001) standard and 2 group	1,435 (2001)					196	361	14%	25%
5 Daily Capacity based on Design Standard of 5 people/day per standard campsite and 50 people/day per group site. 6 Estimates based on number of campsites occupied multiplied by 5 people/day per standard campsite and 50 people/day per group site. WD = Weekday, WE = Weekend									

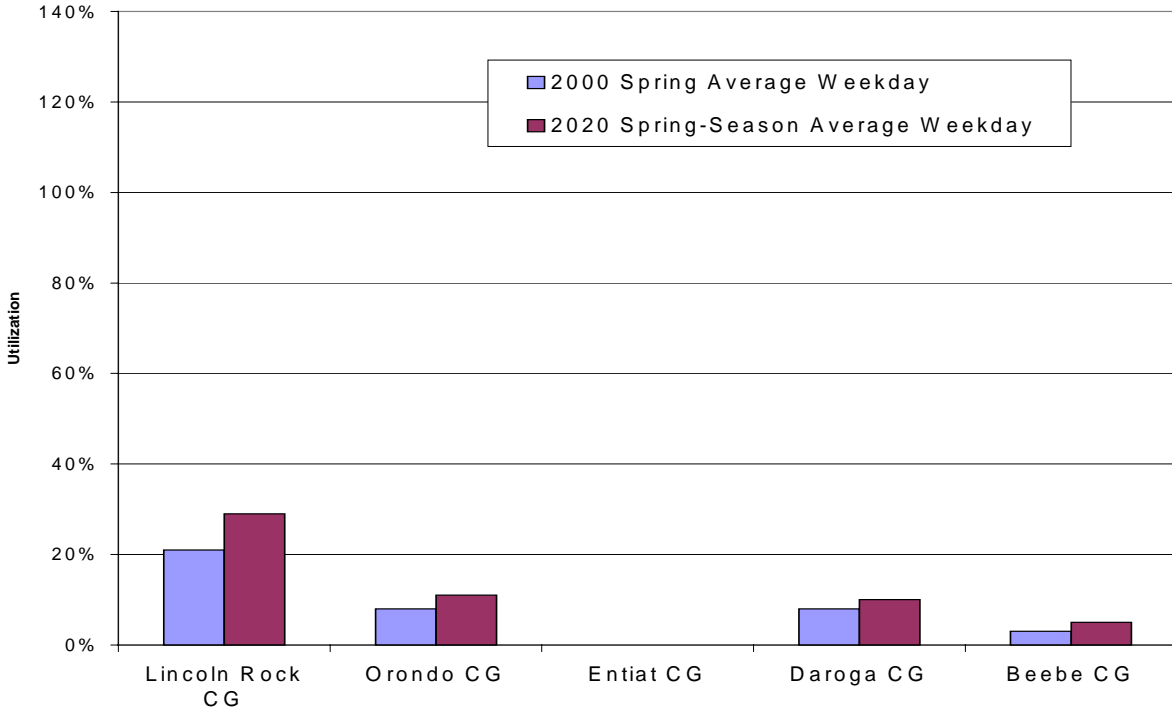
**Figure 7-3: Fall-Season Weekday Campground Utilization**



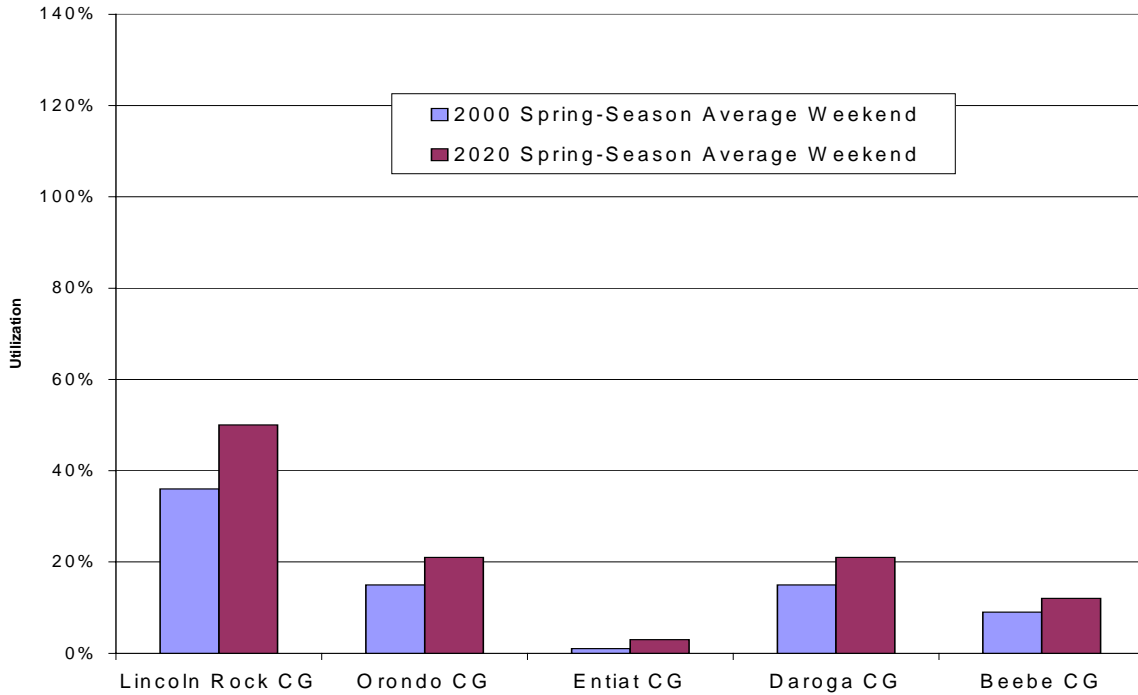
**Figure 7-4: Fall-Season Weekend Campground Utilization**



**Figure 7-5: Spring-Season Weekday Campground Utilization**



**Figure 7-6: Spring-Season Weekend Campground Utilization**



Federal land management agencies including US Forest Service, Bureau of Land Management and others have categorized percentage measurements of facility utilization into threshold level definitions. Threshold level definitions are described in Appendix A. As described in Appendix A, average seasonal utilization of 40 percent is considered "Optimal Use", 60 percent is considered "Well Utilized", 80 percent is considered "Heavily Utilized" and 100 percent would be considered "Extreme Use".

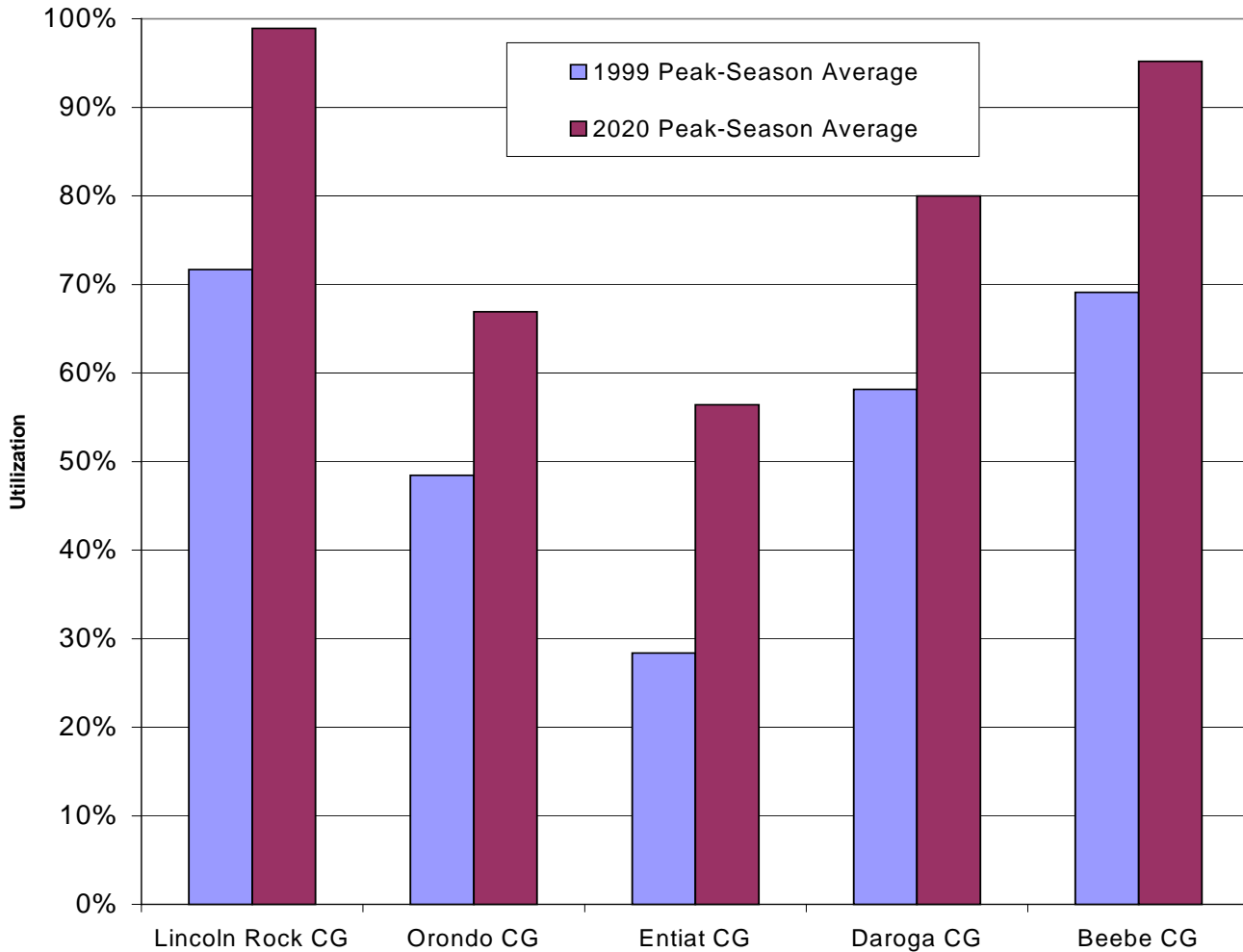
Table 7-4 shows overall average current (1999/2000) and projected (2020) peak-, fall- and spring- season utilization for all Rocky Reach Project campgrounds using current campground capacity numbers. Figure 7-7 through Figure 7-9 shows average current (1999/2000) and projected (2020) peak-, fall- and spring- season utilization for each Rocky Reach Project campground using current campground capacity numbers. Average use estimates for Rocky Reach Project campgrounds are shown as "All-Days" on Table 6-8, Table 6-10 and Table 6-12.

<b>Table 7-4: Average Rocky Reach Project Campground Utilization</b>					
<b>Peak-Season</b>		<b>Fall-Season</b>		<b>Spring Season</b>	
<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (2020) Utilization</b>	<b>Projected (2020) Utilization</b>
55%	83%	24%	35%	12%	17%

Based on average seasonal facility capacity threshold level definitions, current (1999) peak-season Rocky Reach Project campgrounds would be considered Well Utilized (Table 7-4). Figure 7-7 reviews average peak-season utilization at individual campgrounds. Lincoln Rock State Park Campground and Beebe Bridge Park Campground would currently be considered between Well Utilized to Heavily Utilized (between 60 and 80 percent) during the peak-season. Average peak-season utilization at Daroga State Park Campground is near 60 percent and would be near the Well Utilized definition. The excess camping capacity that occurs at Daroga State Park, even during holidays and peak-season weekends, is generally at the 17 walk-in/boat-in campsites. Orondo River Park Campground is close to 50 percent utilized during the peak-season and would be considered between Optimal Use and Well Utilized. Entiat Park Campground is near 30 percent capacity and would be considered below its Optimal Use, based on a capacity including RV campsites and allowing 50 tent sites in the day-use area. When separating out the RV camping and tent camping at Entiat Park, the RV campground would be near 40 percent capacity during the peak-season, or near the Optimal Use definition. Tent camping at Entiat Park, using a capacity of 50 tent sites, would be just over 20 percent capacity during the peak-season and well below the Optimal Use definition

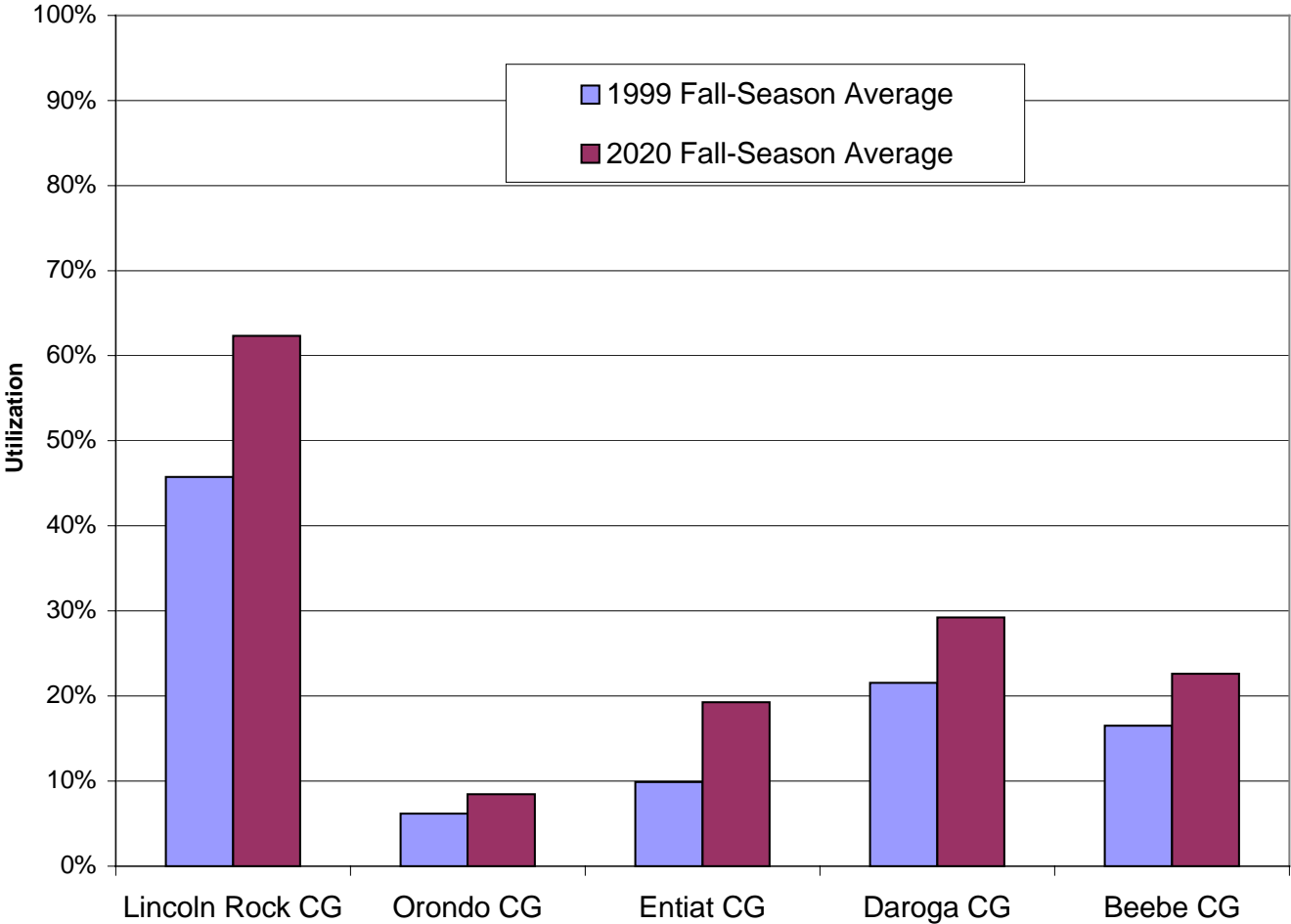
Projected (2020) Rocky Reach Project campgrounds, based on existing capacity, would be Heavily Utilized (Table 7-4). Projected average peak-season utilization shows Lincoln Rock State Park Campground and Beebe Bridge Park Campground near the Extreme Use definition and Daroga State Park Campground at the Heavily Utilized definition. Orondo River Park Campground would be between the Well Utilized and Heavily Utilized definitions and Entiat Park would be just below the Well Utilized definition. (See Figure 7-7.)

**Figure 7-7: Average Peak-Season Campground Utilization**

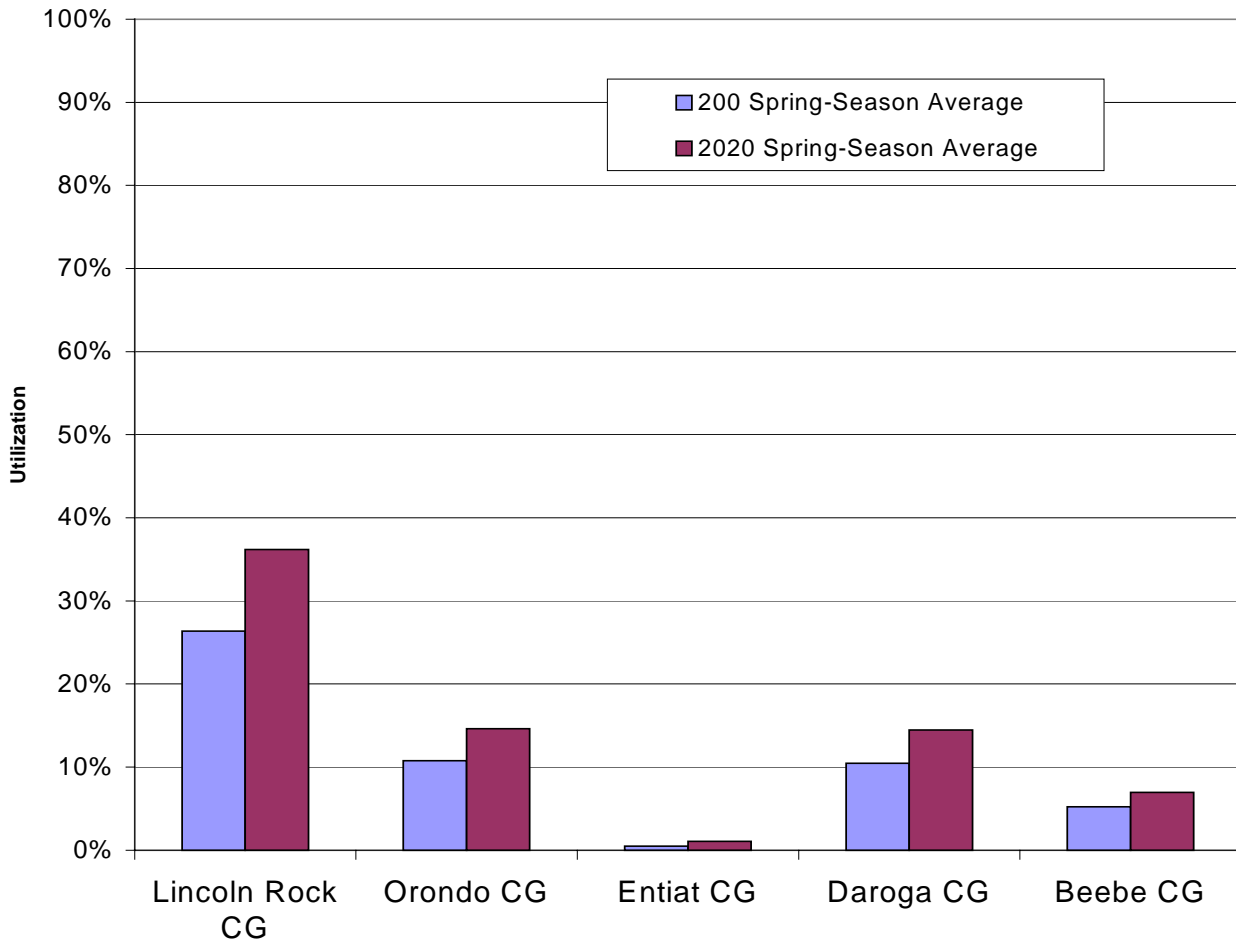


During the off-seasons, current (1999/2000) and projected (2020) use at all Rocky Reach Project campgrounds are below the Optimal Use facility capacity threshold level definition (Table 7-4), with the exception of Lincoln Rock State Park Campground ( and Figure 7-9). Current (1999) average fall-season utilization at Lincoln Rock State Park Campground is just over the Optimal Use definition (46%), while projected (2020) average fall-season utilization is just over the Well Utilized definition (62%). Both current and projected average spring-season utilization estimates at Lincoln Rock State Park Campground are below the Optimal Use definition.

Figure 7-8: Average Fall-Season Campground Utilization



**Figure 7-9: Average Spring-Season Campground Utilization**



**7.1.3 Demands/Trends and Plans from Existing Planning Documents and Studies**

According to SCORP surveys, growth in camping, especially RV camping, from 1987 to 2000 was expected to exhibit growth at rates slightly higher than average growth rates for recreation activities in the region. Camping was also expected to exhibit higher rates in the future (IAC, 1990, 1995a and 1995b).

In a Nationwide study (USFS et al., 1995), in the western states, over 36 percent of people were found to participate in camping, with over 28 percent participating in camping at developed areas and over 20 percent participating in primitive camping.

The Master Plan for Entiat Park (Chelan PUD, 1992) lists goals related to parks and recreation services that have been recommended under the plan. Goals listed, related to campground facilities, include:

- Development of 14 overnight RV stations and 16 tent sites with new restrooms and showers and parking at the southern undeveloped section of the park.
- Realignment of existing RV stations, addition of new group tent camping, RV dump station, and new restrooms with showers at the northern end of the park.

The Rocky Reach Project Recreation Resources Inventory (Chelan PUD, 2001b) indicated that potential park expansion area may exist for additional campsites and/or cabins and associated facilities at Daroga State Park.

#### ***7.1.4 Summary of Camping Facility Needs***

Camping is the most popular reason visitors come to the Rocky Reach Project area. Visitors appear to be satisfied with camping facilities in the Project area, although the quality of camping facilities, especially bathroom and shower facilities needs to be maintained, and in most cases improved over time. Surveys also indicated some concerns regarding too many people. A higher percentage of survey respondents at Lincoln Rock State Park and Beebe Bridge Park indicated that fewer people would make the site better as compared to the other three campgrounds in the Project area. This could be because Lincoln Rock State Park and Beebe Bridge Park campgrounds are full more often than the other three campgrounds in the project area.

Comparisons of overall Project area campground capacity with visitor use indicates that generally Rocky Reach Project area campgrounds are well utilized during the peak-season. They are generally meeting current demand except on peak-season holidays and during weekends in July and August. Lincoln Rock State Park and Beebe Bridge Park campgrounds are currently the most heavily utilized, while the other campgrounds currently have some additional capacity. RV campsites are generally more utilized than tent sites. Off-season use is well below capacity. Based on IAC SCORP studies, the need for camping facilities, especially RV camping facilities may be even greater than average projections indicate. Based on field monitoring and studies, it appears that additional campsites, especially RV sites, would be needed in the Project area to accommodate increasing peak-season demands.

#### **7.2 Boating Activities/Facilities**

Public boating facilities within the Project area are located at Lincoln Rock State Park, Orondo River Park, Entiat Park, Daroga State Park, Chelan Falls Park and Beebe Bridge Park (refer to Table 5-1).

##### ***7.2.1 Results of 1999/2000 Rocky Reach Recreation Surveys and Monitoring***

During peak-season on-site interviews, visitors at Rocky Reach Project recreation sites were asked what their primary reason was for visiting the Rocky Reach Project area. Camping was the most popular response followed by motor boating and water skiing.

Boaters often participate in other recreation activities as part of their boating experience, such as camping, swimming, picnicking, fishing and sightseeing. Visitor-use estimates by activity showed Rocky Reach Project boating facilities had the fourth highest number of visitors during the peak-season. Camping had the highest use followed by picnicking and walking activities (Table 6-2). During fall- and spring- season monitoring boating facilities had significantly less use with the majority of boating activity occurring on weekends.

Visitors surveyed throughout the study area were asked to rate their primary activity on a scale of 1 to 10 with 10 being the highest. Survey respondents rated motor boating an average of 8.7, water skiing an average of 8.15, jetskiing an average of 8.3, and boat fishing an average of 8.5. Survey respondents did not indicate that other boating activities such as canoeing and windsurfing were their primary reason for visiting the Rocky Reach Project area, therefore, these activities were not rated. Of those surveyed in the study area that were motor boating, 7 percent indicated that fewer people would make the activity better, while 18 percent of water skiers and 10 percent of jetskiers indicated that fewer people would make the activity better. Twenty-eight percent of motor boaters, 9 percent of water skiers, 20 percent of jet skiers and 50 percent of boat anglers indicated that better docking would make their boating activity better. Other comments received from survey respondents regarding boating activities included desires for more docks/moorage, keeping the water level constant, removing stumps in the middle of the lake and reducing debris in the water, lower boat launch fees, more boat launches, and stocking smallmouth bass.

Survey respondents rated all recreation sites with boat launches well above average. On a scale of 1 to 10 with 10 being the highest, Lincoln Rock State Park was rated an average of 9.3, Orondo River Park 8.7, Entiat Park 8.5, Daroga Park 9.3, Chelan Falls Park 9, and Beebe Bridge Park 9.5. Specific comments regarding each of these sites are included in the Recreation Use Assessment Report (Chelan PUD, 2001a). In summary, the second greatest need identified from survey respondents at Lincoln Rock State Park (11%), Entiat Park (19%), and Daroga State Park (18%), following cleaner/better maintained restroom/shower facilities, were more and better docking facilities. Survey respondents at Orondo River Park (4%) identified only better docking as their second greatest need, following cleaner/better maintained restrooms/showers, The greatest need indicated from survey respondents at Beebe Bridge Park (37%) was more and better docking facilities. No survey respondents at Chelan Falls Park indicated needs for more docking or better docking facilities.

### ***7.2.2 Comparison of Supply and Demand***

Recommended standards and physical capacity estimates, or the number of available boat launches and boat trailer parking spaces at the Rocky Reach Project recreation sites (supply), are compared with existing use estimates based on 1999 and 2000 monitoring efforts and projected use estimates based on growth estimates described in Section 6.2 of this report (demand).

Estimates of boating activity on Rocky Reach Reservoir were based on the number of watercraft observed during boat runs. Daily use estimates of the number of people participating in boating activities at recreation sites are based on the number of parked vehicles with trailers multiplied by an average of 3 people per boat and a turnover rate of 2.

As explained in the Recreation Use Assessment Report (Chelan PUD, 2001a), a number of standards exist regarding watercraft capacity for waterbodies. The standards range from several boats per acre to 33 acres per boat. Most boaters in the study area would feel that several boats per acre would exceed their social capacity. The standard recommended by the state Organization for Boating Access (SOBA) is based on a typical 8,000-acre lake. For this size of lake the SOBA recommends that the lake will support 240 boats at one time. This corresponds to approximately 33 acres per boat (NRPA, 1970). The boater capacity standards recommended by SOBA are conservative, and due to the rural nature of the area would be the most appropriate for the Rocky Reach Project Reservoir.

The surface acres in Rocky Reach Reservoir is approximately 9,059. Using SOBA standards, the recommended number of watercraft that the area can support at one time is approximately 275. Table 7-5 shows a comparison of current and projected peak-season watercraft use with watercraft capacity based on SOBA recommended standards. Based on 2000 observations during the peak-season, an average of 42.5 watercraft were on Rocky Reach Reservoir at one time on weekdays, and an average of 101.5 watercraft were on the Rocky Reach Reservoir at one time on weekends. The current (2000) average number of peak-season watercraft on Rocky Reach Reservoir is well below the recommended standard. Future projections of peak-season watercraft use within Rocky Reach Reservoir indicate that in 2020 an average of 57 weekday and almost 137 weekend watercraft can be expected in Rocky Reach Reservoir at one time. The projected average watercraft use on Rocky Reach Reservoir would equal approximately 21 percent utilization on weekdays and 50 percent utilization on weekends based on SOBA recommended capacity. Boat counts made during a holiday weekend observation, however, exceeded recommended standards on Rocky Reach Project Reservoir in the reach between Daroga State Park and Beebe Bridge. It is expected that some peak-season weekends in July and August and holidays will exceed recommended capacity standards in the future.

SOBA Recommended Standard	Capacity <sup>1</sup> (# Watercraft)	Current (2000) Peak-Season Average				2020 Daily Peak-Season Average			
		# Watercraft		Utilization		# Watercraft		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
33 acres/boat	275	42.5	101.5	16%	37%	57.4	136.7	21%	50%

Current (1999) watercraft activity in Rocky Reach Reservoir during the fall-season was around 5 watercraft at one time on weekends while no watercraft were observed during the weekday observation. Projected year 2020 fall-season watercraft activity on Rocky Reach Reservoir is less than 7. During spring-season observations 2 watercraft were observed at one time on a weekday and 12 watercraft were observed during the weekend observation. Projected year 2020 spring-season watercraft on Rocky Reach Reservoir is less than 3 on weekdays and less than 17 on weekends. This level of current and projected off-season watercraft use on Rocky Reach Reservoir is well below recommended standards.

When comparing supply and demand for boating facilities in the Rocky Reach Project area, boat launches and trailer parking are reviewed. These are the two most relevant and potential limiting factors for boating use. Six out of the seven parks in the Rocky Reach study area have boating facilities. Rocky Reach Dam and Visitor Center is the only recreation site that does not have boating facilities. At these six recreation sites in the project study area, there are a total of 11 launch lanes, 17 boat tie up docks, and 250 boat trailer parking spaces. Orondo Park has a marina with marine gas available (refer to Table 5-1).

Based on 1999 monitoring, current average peak-season boat launch use is estimated to be 252 people per day on weekdays and 423 people per day on weekends. Projected (2020) average peak-season boat launch use is estimated to be 347 people per day on weekdays and 583 people per day on weekends.

Using Bureau of Reclamation (BOR) general design standards for boat launches of 40 boats per launch lane per day and 3 persons per boat, the existing 11 launch lanes at project recreation sites have the capacity to accommodate 440 boats per day or 1,320 people per day. Based on comparisons of boat launch capacity with estimated current (1999) and projected (2020) boat launch use, there appears to be adequate capacity to meet current and future demands (Table 7-6).

Current Facilities (Launch Lanes)	Daily Capacity <sup>1</sup> (People/Day)	Current (1999) Peak-Season Daily Average				2020 Daily Peak-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
11	1,320	252	423	19%	32%	347	583	26%	44%

1 Daily capacity based on design standard of 40 boats/launch lane/day and 3 persons/boat  
WD = Weekdays WE = Weekends

Currently there are 250 boat trailer parking spaces at recreation sites in the project study area. Using a turnover rate of 2, it can be estimated that approximately 500 vehicles per day can park at publicly owned boat launch facilities. Using an average of 3 people per car, it can be assumed that public boat launch parking can accommodate approximately 1,500 people per day. Based on comparisons of boat trailer parking spaces with estimated current (1999) and projected (2020) boat launch use, there appears to be adequate capacity to meet current and future demands (Table 7-7)

Current Facilities (Trailer Parking)	Daily Capacity <sup>1</sup> (People/Day)	Current (1999) Peak-Season Daily Average				2020 Daily Peak-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
250	1,500	252	423	17%	28%	347	583	23%	39%

1 Daily capacity based on 3 people/boat and a turnover rate of 2.  
WD = Weekdays WE = Weekends

Figure 7-10 summarizes boat launch utilization at individual recreation sites during the busiest time of the year; boating activity at all recreation sites was greater during peak-season weekends (refer to Table 6-8). Entiat Park boat launch, has the highest average peak-season weekend utilization, with current utilization at 70 percent and projected (2020) utilization is expected to be over 100 percent with the one existing launch lane. In comparison, projected (2020) weekday launch lane utilization at Entiat Park is less than 50%. Current (1999) average weekend utilization at Beebe Bridge Boat and Lincoln Rock State Park are just under 40 percent, although during peak hours on busy peak-season weekends visitors may experience a wait to launch or retrieve their boat at Lincoln Rock State Park due to its close proximity to Wenatchee. Projected (2020) average weekend peak-season boat launch lane utilization at Lincoln Rock State Park and Beebe Bridge Park is expected to be just over 50 percent. The other three boat facilities appear to have adequate boat launch lane capacity to meet current and future demands, with Chelan Falls Park being the least utilized.

**Figure 7-10: Peak-Season Weekend Boat Launch Utilization**

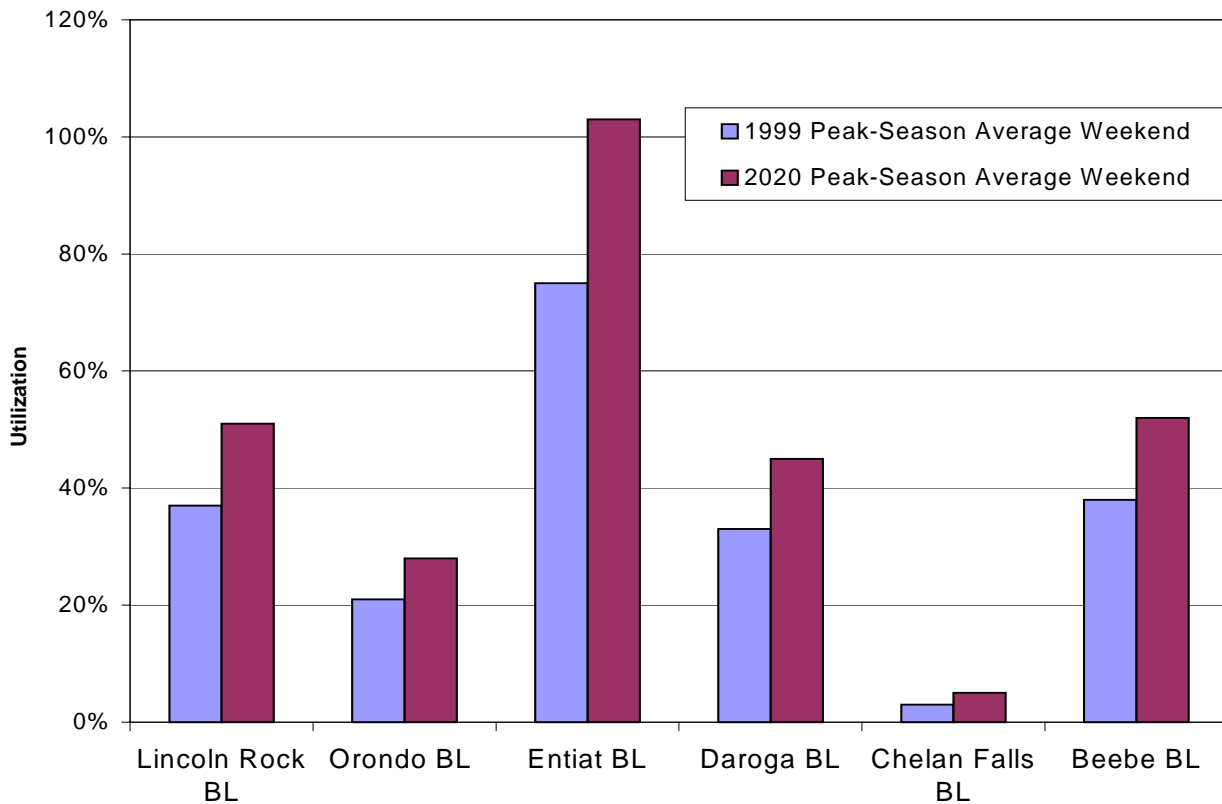
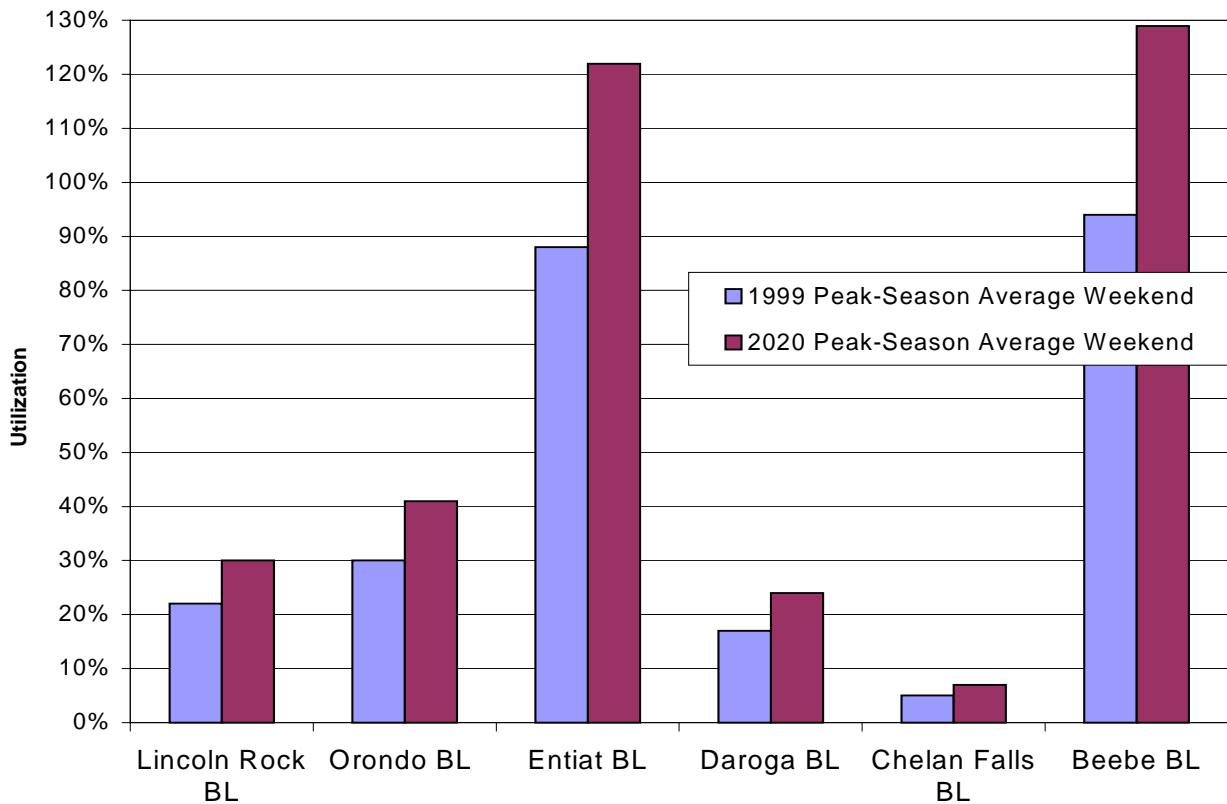


Figure 7-11 summarizes boat trailer parking utilization during the busiest time of the year (peak-season weekends). Based on a comparison of the number of boat trailer parking spaces with boating activity estimates, Beebe Bridge Park boat trailer parking is currently (1999) over 90 percent utilized and Entiat Park boat trailer parking is currently almost 90 percent utilized.

Projected 2020 boat trailer parking utilization is 129 percent at Beebe Bridge Park and 122 percent at Entiat Park. In comparison, projected (2020) average peak-season weekday boat parking utilization is 86 percent at Beebe Bridge Park and 48 percent at Entiat Park.

Although designated boat trailer parking spaces at Beebe Bridge Park and Entiat Park show high peak-season weekend utilization based on estimated boating activity at the sites, it is possible that many boat trailers park at their campsites, therefore, the boat trailer parking spaces may not always be full. The existing number of boat trailer parking spaces at other recreation facilities appear to be more than adequate to meet current and future demands (Figure 7-11).

**Figure 7-11: Peak-Season Weekend Boat Trailer Parking Utilization**



Current (1999) and projected (2020) average fall-season and spring-season boat launch lane and boat trailer parking utilization for all Rocky Reach Project recreation sites is relatively low. Based on 1999/2000 monitoring, off-season boating activity was the highest during fall-season weekends (Table 7-8 through and Table 7-11). Using current boat launch lane and boat trailer parking capacity numbers, the projected 2020 fall-season average weekend utilization for Rocky Reach Project launch lanes is 12 percent and 10 percent for boat trailer parking. Review of individual sites showed the highest current (1999) and projected (2020) boat launch lane utilization was 15 percent and 21 percent, respectively, at Lincoln Rock State Park during

average fall-season weekends. The highest current and projected off-season boat trailer parking utilization was 22 percent and 30 percent, respectively, at Beebe Bridge Park during average fall-season weekends.

<b>Table 7-8: Launch Lane Capacity Vs. Fall Use</b>									
Current Facilities (Launch Lanes)	Daily Capacity <sup>1</sup> (People/Day)	Current (1999) Fall-Season Daily Average				2020 Daily Fall-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
11	1,320	6	114	.5%	9%	8	155	.6%	12%

1 Daily capacity based on design standard of 40 boats/launch lane/day and 3 persons/boat  
WD = Weekdays WE = Weekends

<b>Table 7-9: Launch Lane Capacity Vs. Spring Use</b>									
Current Facilities (Launch Lanes)	Daily Capacity <sup>1</sup> (People/Day)	Current (2000) Spring-Season Daily Average				2020 Daily Spring-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
11	1,320	0	46	0	4%	0	63	0	5%

1 Daily capacity based on design standard of 40 boats/launch lane/day and 3 persons/boat  
WD = Weekdays WE = Weekends

<b>Table 7-10: Vehicle/Trailer Parking Capacity Vs. Fall Use</b>									
Current Facilities (Trailer Parking)	Daily Capacity <sup>1</sup> (People/Day)	Current (1999) Fall-Season Daily Average				2020 Daily Fall-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
250	1,500	6	114	.4%	8%	8	155	.5%	10%

1 Daily capacity based on 3 people/boat and a turnover rate of 2.  
WD = Weekdays WE = Weekends

<b>Table 7-11: Vehicle/Trailer Parking Capacity Vs. Spring Use</b>									
Current Facilities (Trailer Parking)	Daily Capacity <sup>1</sup> (People/Day)	Current (2000) Spring-Season Daily Average				2020 Daily Spring-Season Daily Average			
		(People/Day)		Utilization		(People/Day)		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
250	1,500	0	46	0%	3%	0	63	0%	4%

1 Daily capacity based on 3 people/boat and a turnover rate of 2.  
WD = Weekdays WE = Weekends

As discussed under camping facilities, Federal land management agencies including US Forest Service, Bureau of Land Management and others have categorized percentage measurements of facility utilization into threshold level definitions. Threshold level definitions are described in Appendix A. As described in Appendix A, average seasonal utilization of 40 percent is

considered "Optimal Use", 60 percent is considered "Well Utilized", 80 percent is considered "Heavily Utilized" and 100 percent would be considered "Extreme Use".

Table 7-12 and Table 7-13 shows overall average current (1999/2000) and projected (2020) peak-, fall- and spring- season utilization for all Rocky Reach Project launch lanes and boat trailer parking using existing capacity numbers. Figure 7-12 and Figure 7-13 show average current (1999) and projected (2020) peak-season boat launch lane and boat trailer parking utilization for each Rocky Reach Project boat launch facility using current capacity numbers. Average use estimates for Rocky Reach Project boating facilities are shown as "All-Days" on Table 6-8, Table 6-10 and Table 6-12.

Based on average seasonal facility capacity threshold level definitions, current (1999/2000) and projected (2020) future Rocky Reach Project boat launch lanes and boat trailer parking would be well below the Optimal Use definition (below 40 percent utilization) during all seasons (Table 7-12 and Table 7-13).

<b>Table 7-12: Average Rocky Reach Project Boat Launch Lane Utilization</b>					
<b>Peak-Season</b>		<b>Fall-Season</b>		<b>Spring Season</b>	
<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (2000) Utilization</b>	<b>Projected (2020) Utilization</b>
23%	31%	3%	4%	1.1%	1.4%

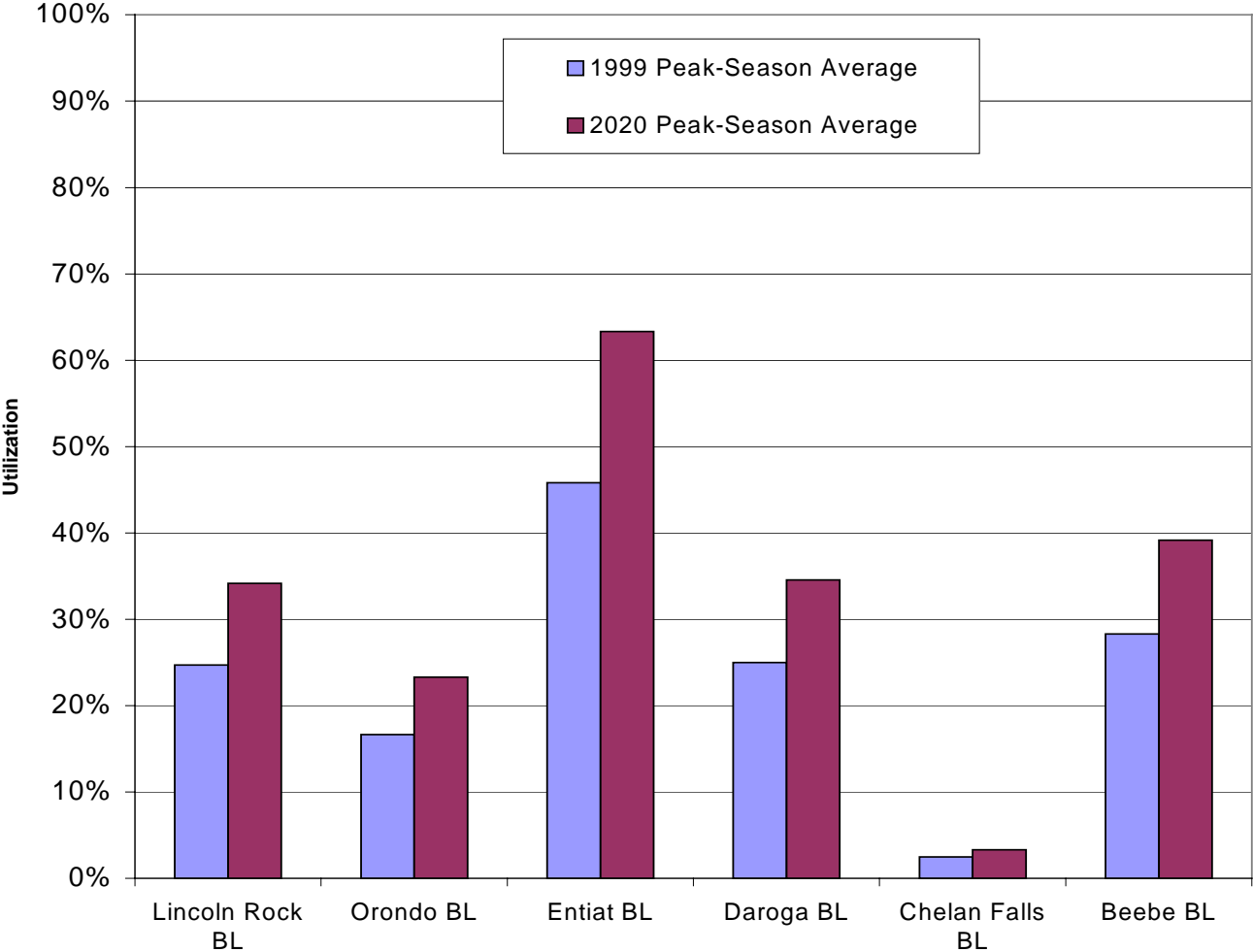
<b>Table 7-13: Average Rocky Reach Project Boat Trailer Parking Utilization</b>					
<b>Peak-Season</b>		<b>Fall-Season</b>		<b>Spring Season</b>	
<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (2020) Utilization</b>	<b>Projected (2020) Utilization</b>
20%	27%	2%	3%	.9%	1.3%

Review of boating activity and boat launch lanes at individual recreation sites shows current (1999) and projected (2020) peak-season utilization for all sites, except Entiat Park, below 40 percent or below the Optimal Use threshold level definition. Current average peak-season boat launch lane utilization at Entiat Park is near 50 percent, which is between the Optimal Use and Well Utilized definition. Projected (2020) average peak-season boat launch lane utilization at Entiat Park is over 60 percent, which is just over the Well Utilized definition (Figure 7-12).

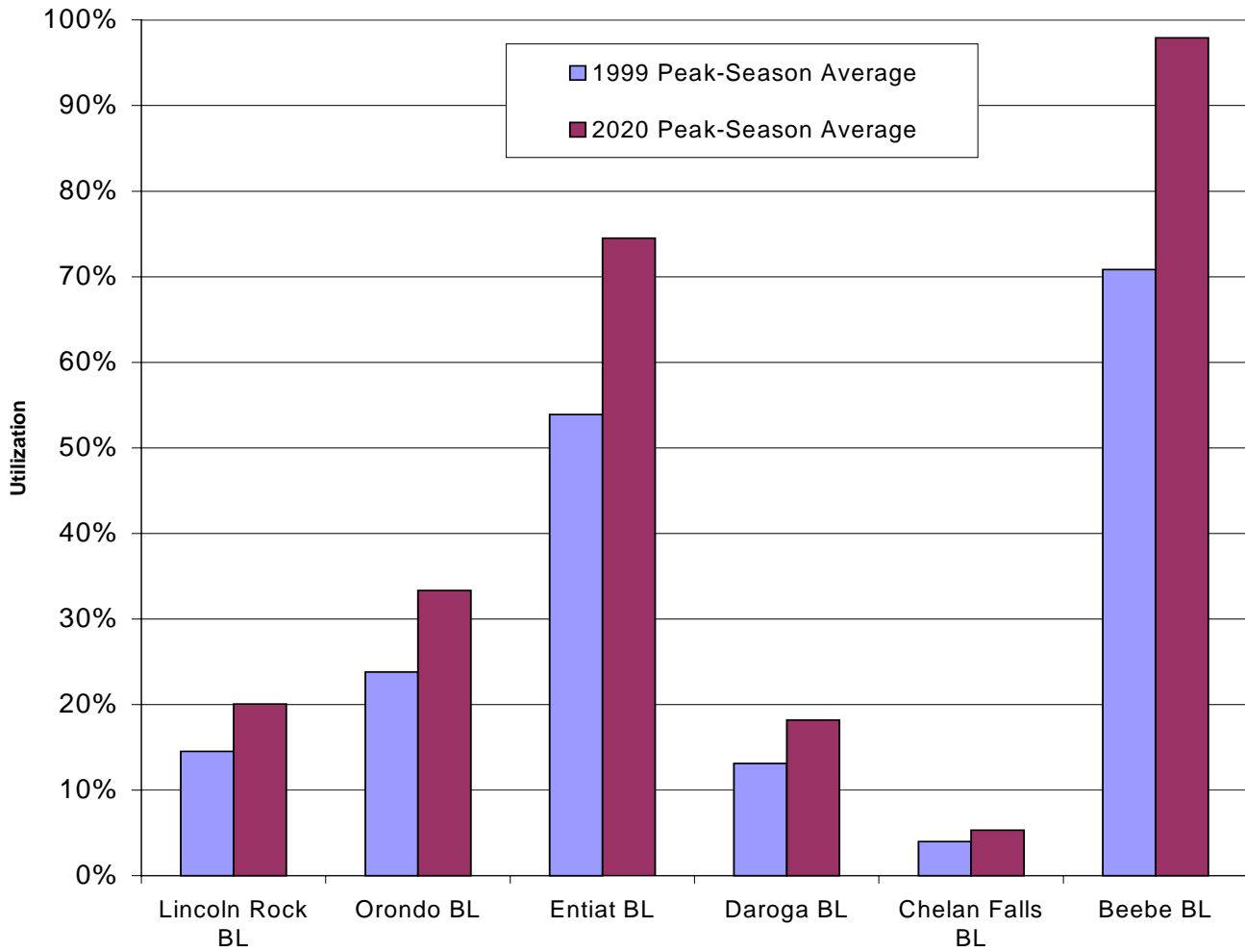
Review of boating activity and boat trailer parking at individual recreation sites shows current (1999) and projected (2020) peak-season utilization for all sites, except Beebe Bridge Park and Entiat Park, below 40 percent or below the Optimal Use threshold level definition. Current average peak-season boat trailer parking utilization at Beebe Bridge Park is over 70 percent, which is between the Well Utilized and Heavily Utilized definition. Projected (2020) average peak-season boat trailer parking utilization at Beebe Bridge Park is almost 100 percent, which is defined as Extreme Use (Figure 7-13). Current average peak-season boat trailer parking

utilization at Entiat Park is just over 50 percent, which is between the Optimal Use and Well Utilized definition. Projected (2020) average peak-season boat trailer parking utilization at Entiat Park is over 70 percent, which is near the Heavily Utilized definition (Figure 7-13).

**Figure 7-12: Average Peak-Season Boat Launch Lane Utilization**



**Figure 7-13: Average Peak-Season Boat Trailer Parking Utilization**



Recommended standards for vehicle/trailer space are discussed in the Recreation Use Assessment Report (Chelan PUD, 2001a). Standards range from one vehicle/trailer space for 70 acres of water to one vehicle/trailer space for 50 acres of water. For Rocky Reach Reservoir, this amounts to between 130 and 180 publicly owned vehicle/trailer parking spaces (Table 7-14). At public recreation sites along the Rocky Reach Reservoir there is currently 250 boat trailer parking spaces, which is well over recommended standards for waterbodies the size of Rocky Reach Reservoir.

<b>Table 7-14: Vehicle/Trailer Parking Capacity Vs. Waterbody Surface Acres</b>		
<b>Current Facilities (Trailer Parking Spaces)</b>	<b>Recommended Standard</b>	<b>Recommended Boat Trailer Parking Spaces</b>
250	1 trailer parking space per 70 - 50 acres of water	130 - 180

### ***7.2.3 Demands/Trends and Plans from Existing Planning Documents and Studies***

According to previous SCORP projections from 1987 to 2000, growth in motor boating, including water skiing, is expected to grow at a slightly lower than average rates, whereas non-motorized boating is expected to grow at a slightly higher than average rates. Boating access was listed as one of the more desired facilities in parks (IAC, 1990, 1995a and 1995b).

In a Nationwide study (USFS et al., 1995), in the western states, over 26 percent of people were found to participate in boating activities. Of this category motor boating was the most popular.

Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) provides park proposals within the Wenatchee Valley for the next 20 years. Proposals related to boating facilities include the addition of two boat ramps south of the Rocky Reach Project area and development of a water trail system between Rocky Reach Dam and Rock Island Dam.

The Master Plan for Entiat Park (Chelan PUD, 1992) lists goals related to parks and recreation services that have been recommended under the plan. Goals listed, related to boating facilities, include development of a double bay boat launch, additional boat trailer parking and restroom parking.

The Entiat Outdoor Learning Center, which is currently under development at the mouth of the Entiat River, includes plans for a secluded dock and non-motorized boat take out platform that would support swimming, canoeing and rafting activities. There would also be an additional take out point for rafters near the parking area.

### ***7.2.4 Summary of Boating Facility Needs***

Motor boating is the second most popular reason visitors come to the Rocky Reach Project area. Visitors appear to be satisfied with boating in the Project area, although surveys indicated needs for more docks and better docks. Surveys indicated some concerns, especially by water skiers, regarding too many people.

Comparisons of watercraft activity in the Rocky Reach Reservoir with recommended standards indicate that average watercraft activity is below capacity standards, although the number of watercraft may exceed recommended capacity standards within certain reaches during busy holiday weekends. If boating activity continues to increase, as expected, future watercraft activity in Rocky Reach Reservoir will likely exceed standards within certain reaches during busy peak-season weekends and holidays.

Comparisons of overall Project area boat launch lane and boat trailer parking capacity with visitor use estimates indicate that there is sufficient capacity to meet current and future demands at Rocky Reach Project area boating facilities. However, when reviewing individual sites, it appears that there is a need for additional boat launch facilities at Entiat Park, including launch lanes and boat trailer parking to meet current peak-season weekends demands and future needs. Additionally, it appears that peak-season boat trailer parking at Beebe Bridge Park is currently near capacity on peak-season weekends and additional boat-trailer parking will be needed at Beebe Bridge Park to meet future demands. Since survey respondents did not indicate needs for more parking at Beebe Bridge Park, it is likely that many boat trailers are able to park at their campsites or may park in the day-use area, therefore, the need for additional boat trailer parking at Beebe Bridge Park may not be as great as activity/facility comparisons indicate.

Based on IAC SCORP studies, needs for additional motor boating facilities may be slightly less than average projections indicate, while needs for non-motorized boating facilities may be slightly higher than average projections. The health of the economy and gas prices can also affect boating activity and future demands for boating facilities.

### **7.3 Non-Boating Day-Use Activities/Facilities**

Day-use facilities are provided at all seven public recreation sites in the Project area. All seven project recreation sites provide picnic facilities. Swimming beaches are provided at all facilities except for Rocky Reach Dam Day-use area. Five out of the seven recreation sites have designated trails/walkways and all seven facilities provide playground equipment. Rocky Reach Dam site has a visitor center and museum and provides concessions, tours of the dam and fish viewing. A museum is also located at the north end of Entiat Park. Additional facilities such as horseshoe pits, baseball fields, volleyball courts, tennis courts, basketball courts, and open court areas are also provided at all sites, although available facilities vary from site to site (refer to Table 5-1).

Many day-use visitors in the Rocky Reach Project area during the peak-season stated that they were also camping, indicating that if the capacity of campgrounds were increased, the day-use areas would also be affected.

On-site survey respondents rated non-boating day-use activities at Rocky Reach Project recreation sites an average of 8.5, on a scale of 1 to 10 with 10 being the highest. Only two percent of survey respondents, who stated that a non-boating day-use activity was their primary reason for visiting the Rocky Reach area, said that fewer people would make their activity better. Other comments received from survey respondents regarding what could make the non-boating day-use activities better for them during their visit included cleaner, better and more bathrooms and showers, cleaner and more trash bins, cleaner beaches - less geese, less milfoil, sand on beaches, more and fixed sprinklers, better parking, more play areas/more swings, more walking trails, more picnic tables, swimming pool, and fire pits.

Survey respondents rated all recreation sites in the Project area well above average. On a scale of 1 to 10 with 10 being the highest, Rocky Reach Dam Day-Use area was rated an average of 9.5, Lincoln Rock State Park was rated an average of 9.3, Orondo River Park 8.7, Entiat Park 8.5,

Daroga Park 9.3, Chelan Falls and Powerhouse Parks 9.0, and Beebe Bridge Park 9.5. Specific comments regarding each of these sites are included in the Recreation Use Assessment Report (Chelan PUD, 2001a). The greatest number of non-boating day-use related comments from visitors at Project area recreation sites regarding what could make the recreation site or their primary activity better during their visit included needs for cleaner, better maintained and more bathroom/shower facilities. Orondo River Park received the greatest number of comments (48%) regarding needs for cleaner/better/more restroom and shower facilities followed by Entiat Park (30%), then Lincoln Rock State Park and Daroga State Park (each with 24%). No survey respondents at Rocky Reach Dam Day-Use area, Chelan Falls and Powerhouse Parks or Beebe Bridge Park indicated needs related to cleaner or better restroom facilities.

Less than 6 percent of survey respondents at Lincoln Rock State Park and Beebe Bridge Park and less than 5 percent of survey respondents at Entiat Park, indicated that fewer people would make the site better. Less than 4 percent of survey respondents at Orondo Park and two percent of survey respondents at Daroga State Park indicated that fewer people would make the site better. No visitors surveyed at Rocky Reach Day-use area or Chelan Falls and Powerhouse parks indicated needs for fewer people at the sites.

The IAC SCORP states that natural areas, trails, playground, beaches, picnic areas, outdoor swimming pools, water viewpoints, boating access and sport fields and courts are the most desired facilities in parks.

The following describes survey and monitoring results, supply and demand comparisons, and available demand and trends information related to specific day-use facilities. Non-boating day-use parking at Rocky Reach Project recreation sites is reviewed in detail. Picnic tables, swimming beaches, trails/walkway playground equipment, and interpretation facilities at Project recreation sites are also summarized.

### ***7.3.1 Non-Boating Day-Use Parking***

#### **Survey Results**

Only one percent of non-boating day-use survey respondents stated that better parking would make their day-use activity better. However, seven percent of survey respondents at Lincoln Rock State Park and Orondo River Park made comments regarding needs for more parking, and two percent of survey respondents at Entiat Park and Daroga Park indicated needs for more parking. No visitors surveyed at Beebe Bridge Park, Rocky Reach Dam Day-Use area or Chelan Falls and Powerhouse Parks indicated needs for more parking.

#### **Comparison of Non-Boating Day-Use Parking Supply and Demand**

The number of available non-boating day-use facilities at Rocky Reach Project recreation sites (supply) are compared with existing use estimates based on 1999 and 2000 monitoring efforts and projected use estimates based on growth estimates described in Section 6.2 of this report (demand).

There are a total of 942 day-use parking spaces located at all seven Rocky Reach Project recreation sites (see Table 5-1). Currently there is day-use parking available in the project area to

accommodate approximately 5,400 people per day. This estimate is based on the number of day-use parking spaces multiplied by an average of 3 people per vehicle and a turnover rate of 2 per day minus 250 (the estimated number of Chelan PUD employees that use the Rocky Reach Dam site parking area per day).

Daily use estimates of the number of people participating in day-use activities at recreation sites were based on the number of people observed participating in different day-use activities multiplied by a turnover rate of 2, and traffic counter data.

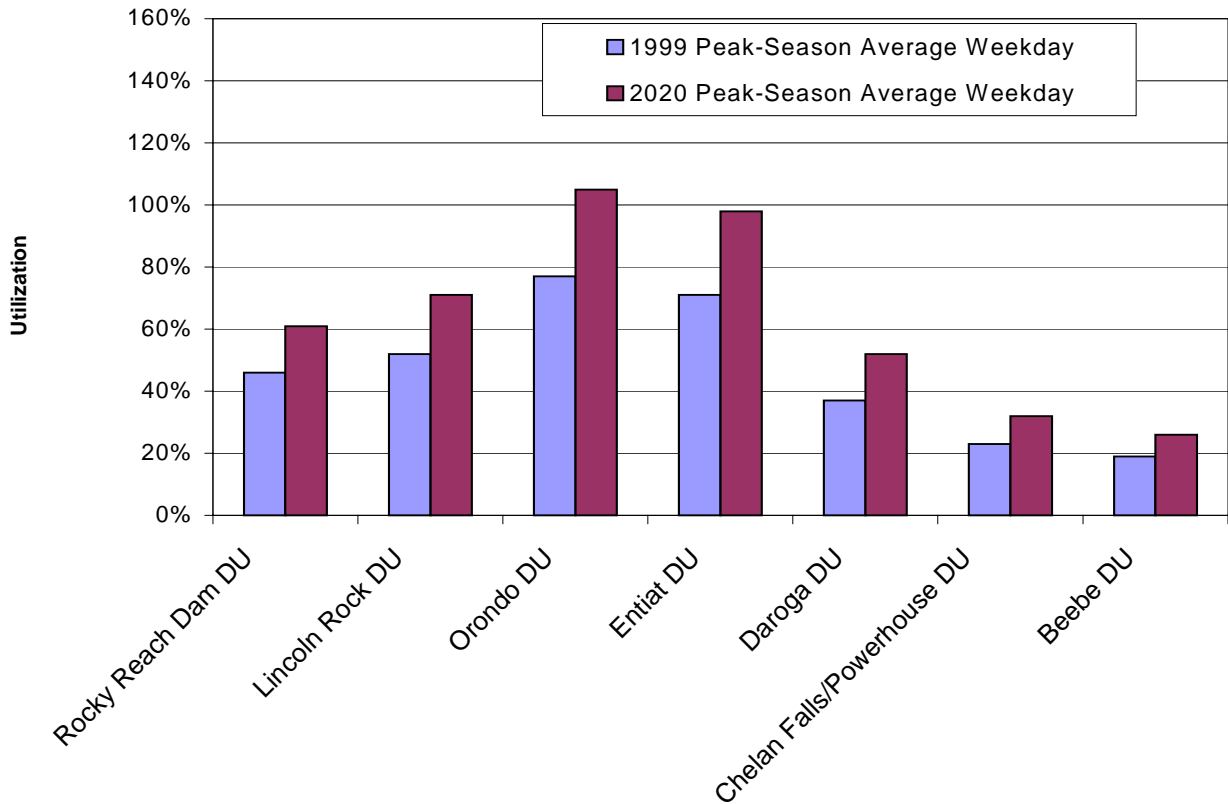
Comparisons of current (1999) and projected peak-season average weekday and weekend day-use activity with the existing day-use parking capacity is shown on Table 7-15. Current (1999) day-use parking utilization is 37 percent for average peak-season weekdays, and 58 percent for average peak-season weekends. Projected (2020) day-use parking utilization is 51 percent for average peak-season weekdays and 80 percent for average peak-season weekends.

Day-Use Parking Spaces	Daily <sup>1</sup> Capacity (People/Day)	Current (1999) Peak-Season Average Daily Use				2020 Daily Peak-Season Average Daily Use			
		People/Day		Utilization		People/Day		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
942	5,400	1,998	3,137	37%	58%	2,754	4,325	51%	80%

1 Daily Capacity based on Design Standard of 3 people/day per car and a turnover rate of 2.  
WD = Weekday, WE = Weekend

Review of current peak-season day-use at individual recreation sites showed adequate non-boating day-use parking capacity to meet current (1999) and projected (2020) future peak-season weekday demand at Lincoln Rock State Park, Daroga State Park, Chelan Falls and Powerhouse Parks, and Beebe Bridge Parks (Figure 7-14). Current (1999) peak-season weekday day-use parking utilization at Orondo River Park is almost 80 percent and Entiat Park is over 70 percent. Projected (2020) future peak-season weekday parking utilization is over 100 percent and Orondo River Park and near 100 percent at Entiat Park.

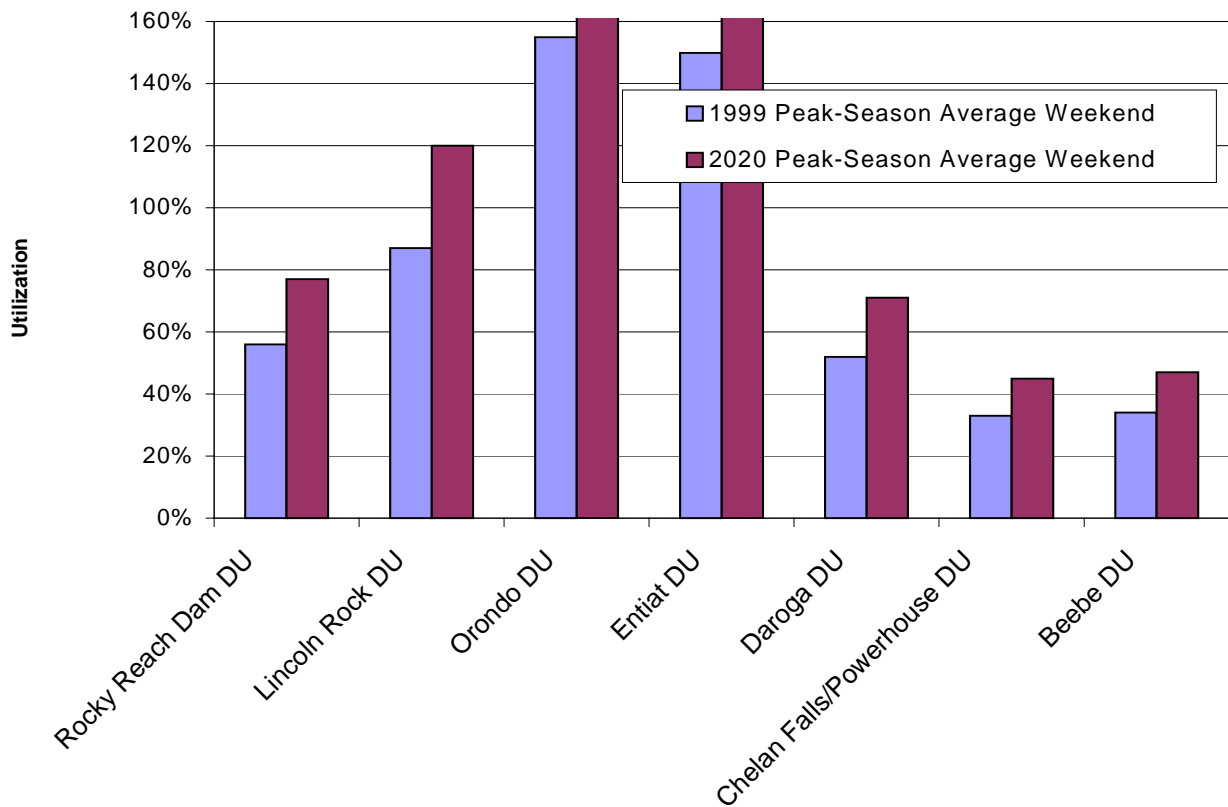
**Figure 7-14: Peak-Season Weekday Day-Use Parking Utilization**



Current (1999) and projected (2020) peak-season weekend day-use parking utilization at Orondo River Park and Entiat Park is well over 100 percent. Current (1999) peak-season weekend day-use parking utilization at Lincoln Rock State Park is almost 90 percent and projected (2020) future day-use parking utilization is well over 100 percent. At the other four Project area recreation sites adequate day-use parking capacity appears to exist to meet current and projected future day-use parking demand (Figure 7-15).

Most people camping at Project area recreation sites will also use day-use facilities. They could be counted as participating in a day-use activity yet they may not park their vehicles at a designated day-use parking space. Therefore, day-use parking areas may be less utilized than comparisons here show. Due to tent camping allowed in the Entiat Park day-use area, the day-use area can become very crowded with visitors who are camping as well as participating in day-use activities.

**Figure 7-15: Peak-Season Weekend Day-Use Parking Utilization**



Current (1999/2000) and projected (2020) average fall-season and spring-season day-use parking utilization for all Rocky Reach Project recreation sites is relatively low. Based on 1999/2000 monitoring, off-season day-use parking utilization is the highest during fall-season and spring-season weekends (Table 7-16 and Table 7-17). Using current day-use parking capacity numbers, the projected 2020 fall-season average weekend utilization for Rocky Reach Project recreation site day-use parking is 33 percent. Projected 2020 spring-season weekend utilization for day-use parking is 31 percent. Review of individual recreation sites showed that current (1999/2000) and projected (2020) day-use parking utilization at all recreation sites is generally well under 50 percent during fall and spring season weekdays and weekends, with the exception of Entiat Park and Orondo River Park (Figure 7-16 through Figure 7-19). Entiat Park was around 60 percent utilized during average fall-and spring-season weekends and is projected to be over 80 percent utilized during 2020 average fall-season and spring-season weekends, using current day-use parking capacity numbers. Projected 2020 day-use parking utilization at Orondo River Park is near 60 percent during fall-season weekend using current day-use parking capacity numbers.

**Table 7-16: Non-Boating Day-Use Parking Capacity Vs. Fall-Season Day-Use Activity**

Day-Use Parking Spaces	Daily <sup>1</sup> Capacity (People/Day)	Current (1999) Peak-Season Average Daily Use				2020 Daily Peak-Season Average Daily Use			
		People/Day		Utilization		People/Day		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
942	5,400	999	1296	19%	24%	1359	1765	25%	33%

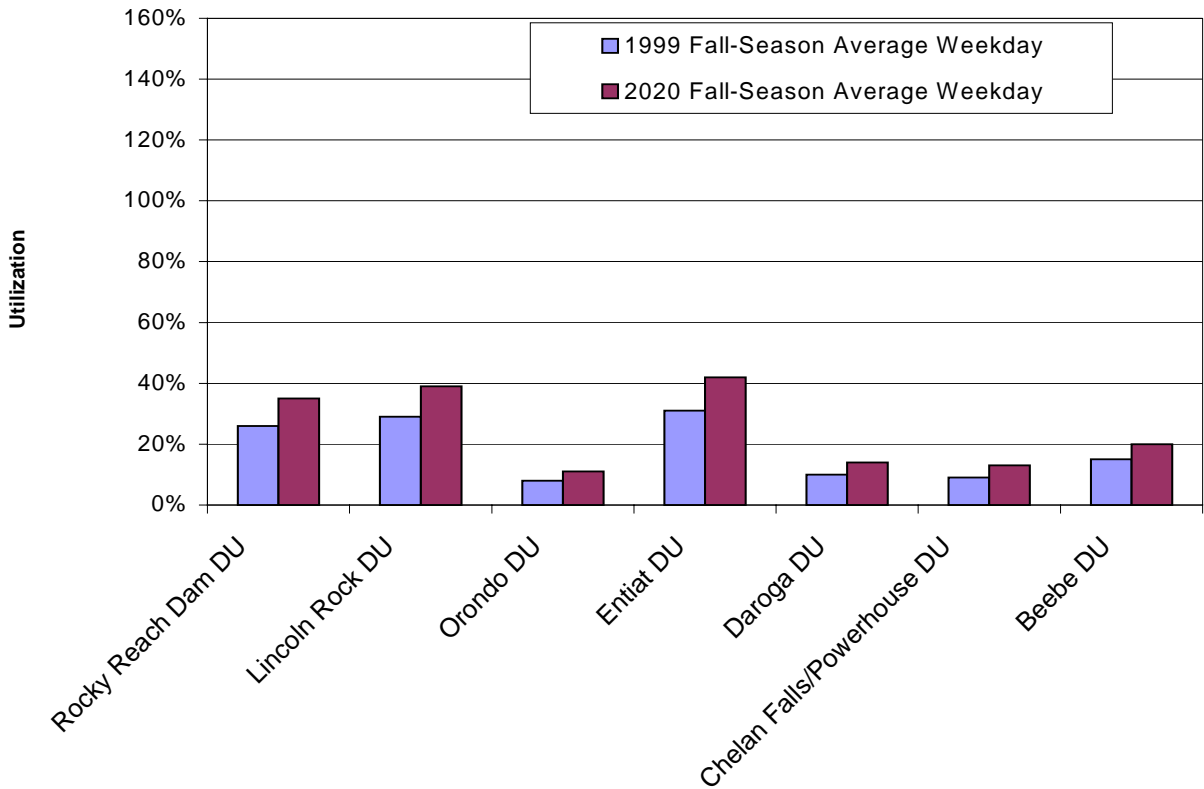
1 Daily Capacity based on Design Standard of 3 people/day per car and a turnover rate of 2.  
WD = Weekday, WE = Weekend

**Table 7-17: Non-Boating Day-Use Parking Capacity Vs. Spring-Season Day-Use Activity**

Day-Use Parking Spaces	Daily <sup>1</sup> Capacity (People/Day)	Current (2000) Peak-Season Average Daily Use				2020 Daily Peak-Season Average Daily Use			
		People/Day		Utilization		People/Day		Utilization	
		WD	WE	WD	WE	WD	WE	WD	WE
942	5,400	835	1229	16%	23%	1142	1681	21%	31%

1 Daily Capacity based on Design Standard of 3 people/day per car and a turnover rate of 2.  
WD = Weekday, WE = Weekend

**Figure 7-16: Fall-Season Weekday Day-Use Parking Utilization**



**Figure 7-17: Fall-Season Weekend Day-Use Parking Utilization**

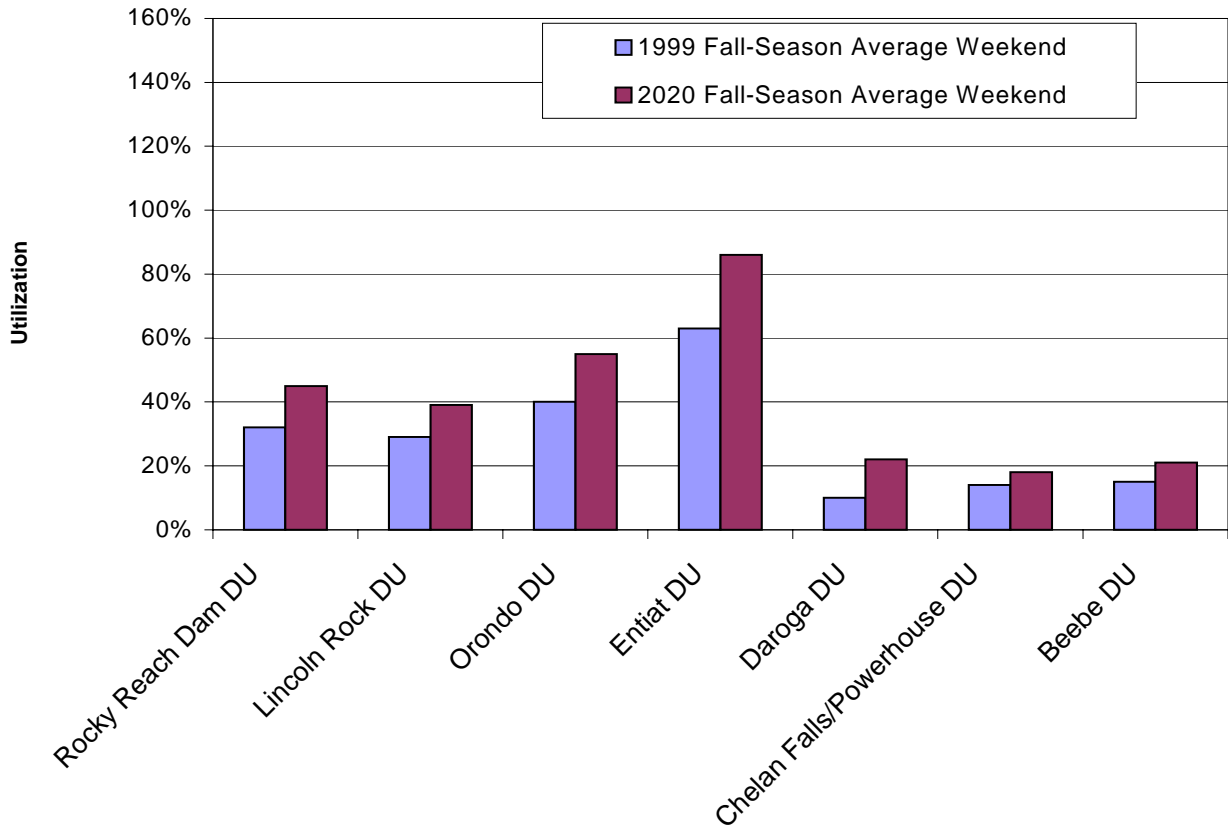
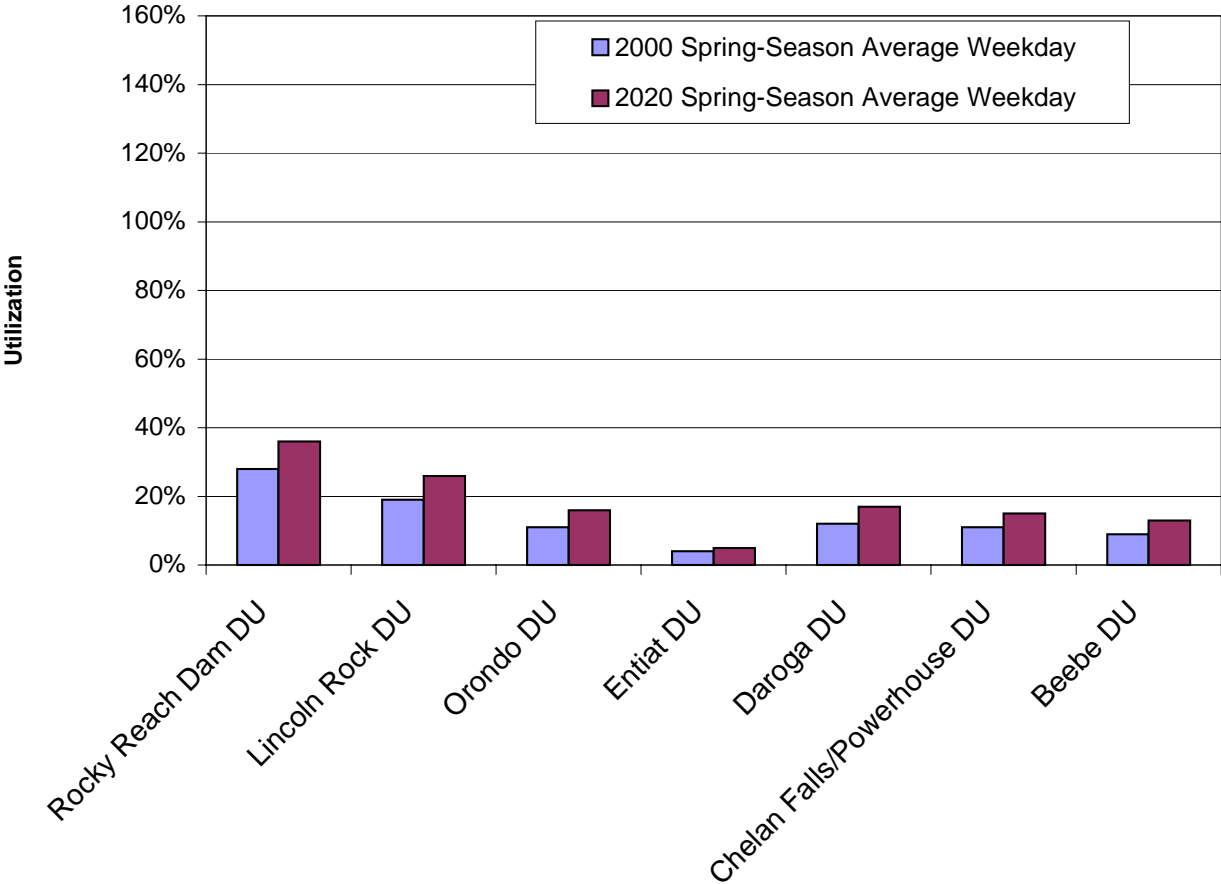
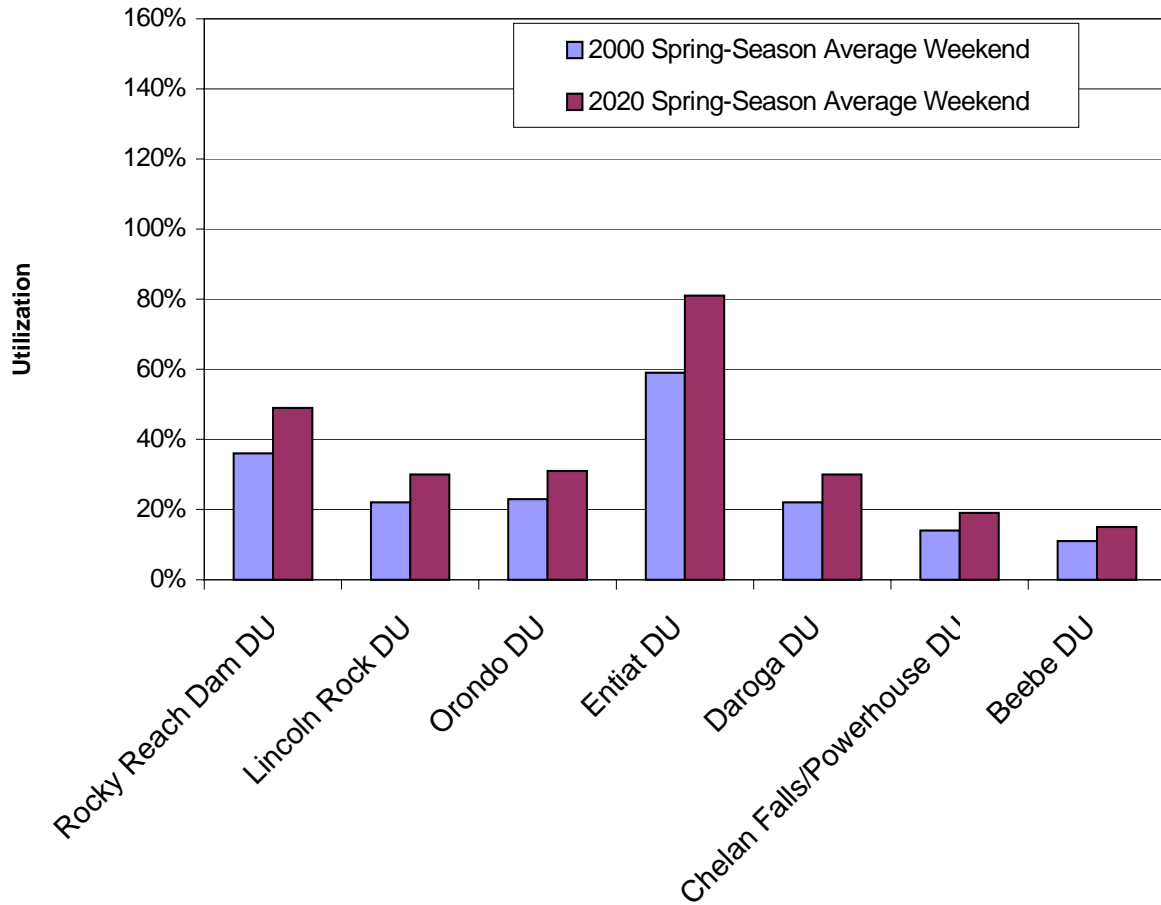


Figure 7-18: Spring-Season Weekday Day-Use Parking Utilization



**Figure 7-19: Spring-Season Weekend Day-Use Parking Utilization**



Federal land management agencies including US Forest Service, Bureau of Land Management and others have categorized percentage measurements of facility utilization into threshold level definitions. Threshold level definitions are described in Appendix A. As described in Appendix A, average seasonal utilization of 40 percent is considered "Optimal Use", 60 percent is considered "Well Utilized", 80 percent is considered "Heavily Utilized" and 100 percent would be considered "Extreme Use".

Table 7-18 shows overall average current (1999/2000) and projected (2020) peak-, fall- and spring- season utilization for all Rocky Reach Project day-use parking using current parking capacity numbers. Figure 7-20 through Figure 7-22 shows average current (1999/2000) and projected (2020) peak-, fall- and spring- season day-use parking utilization for each Rocky Reach

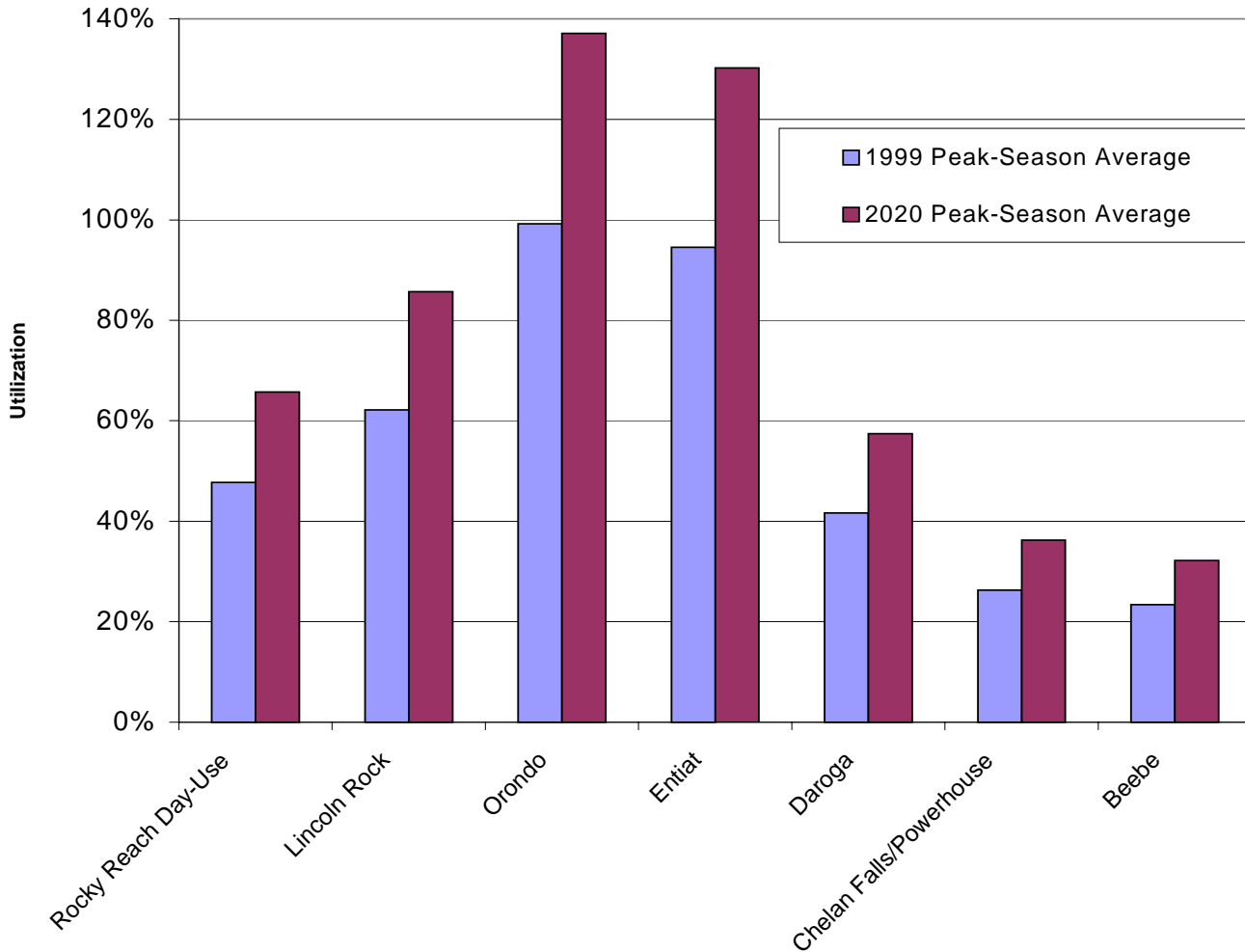
Project recreation site using current day-use parking capacity numbers. Average use estimates for Rocky Reach Project day-use activities are shown as "All-Days" on Table 6-8, Table 6-10 and Table 6-12.

<b>Table 7-18: Average Rocky Reach Project Day-Use Parking Utilization</b>					
<b>Peak-Season</b>		<b>Fall-Season</b>		<b>Spring Season</b>	
<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (1999) Utilization</b>	<b>Projected (2020) Utilization</b>	<b>Current (2000) Utilization</b>	<b>Projected (2020) Utilization</b>
43%	60%	20%	28%	17%	24%

Based on average seasonal facility capacity threshold level definitions, current (1999) peak-season Rocky Reach Project non-boating day-use parking facilities would be considered near their Optimal Use (Table 7-18). Orondo River Park and Entiat Park day-use parking facilities would currently be considered Extreme Use (near 100%) during the peak-season. Average peak-season day-use parking utilization at Lincoln Rock State Park is near 60 percent and would be near the Well Utilized definition. Rocky Reach Day-Use area parking is close to 50 percent utilized during the peak-season and would be considered between Optimal Use and Well Utilized. Daroga State Park day-use parking is near 40 percent capacity and would be considered near its Optimal Use. Both Chelan Falls and Powerhouse Parks and Beebe Bridge Park day-use parking facilities' utilization would be below their Optimal Use. See Figure 7-20 for average peak-season utilization at individual recreation sites.

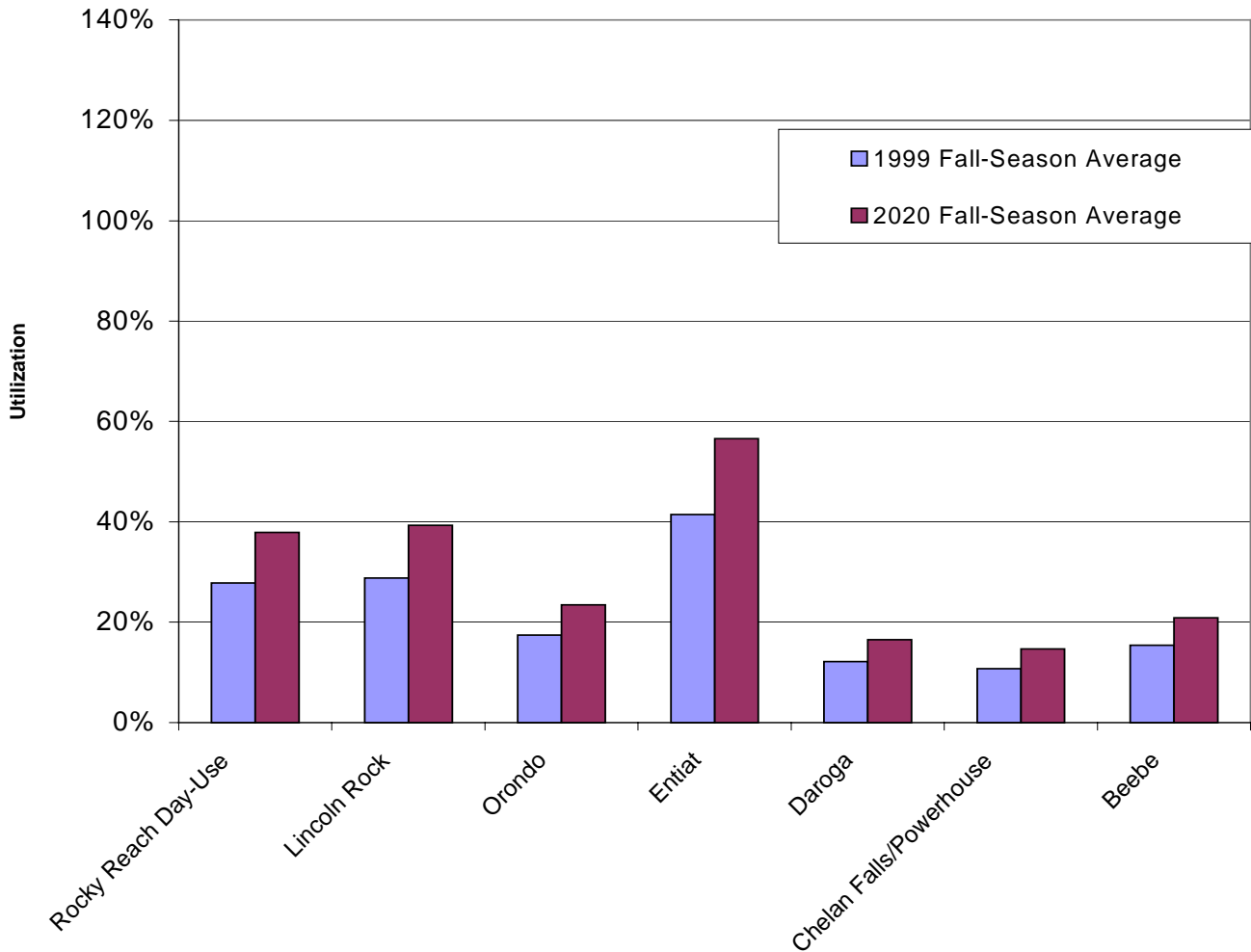
Projected (2020) Rocky Reach Project day-use parking facilities, based on existing capacity, would be considered Well Utilized (Table 7-18). Projected average peak-season utilization shows Orondo River Park and Entiat Park day-use parking facilities above the Extreme Use definition and Lincoln Rock State Park day-use parking facilities above the Heavily Utilized definition. Projected 2020 Rocky Reach Day-Use area parking is over 60 percent utilized during the peak-season and would be considered between above the Well Utilized definition. Future Daroga State Park day-use parking is expected to be near 60 percent capacity and would be considered above the Well Utilized definition. Both Chelan Falls and Powerhouse Parks and Beebe Bridge Park projected 2020 day-use parking facilities' utilization would be below their Optimal Use. (See Figure 7-20)

**Figure 7-20: Average Peak-Season Day-Use Parking Utilization**

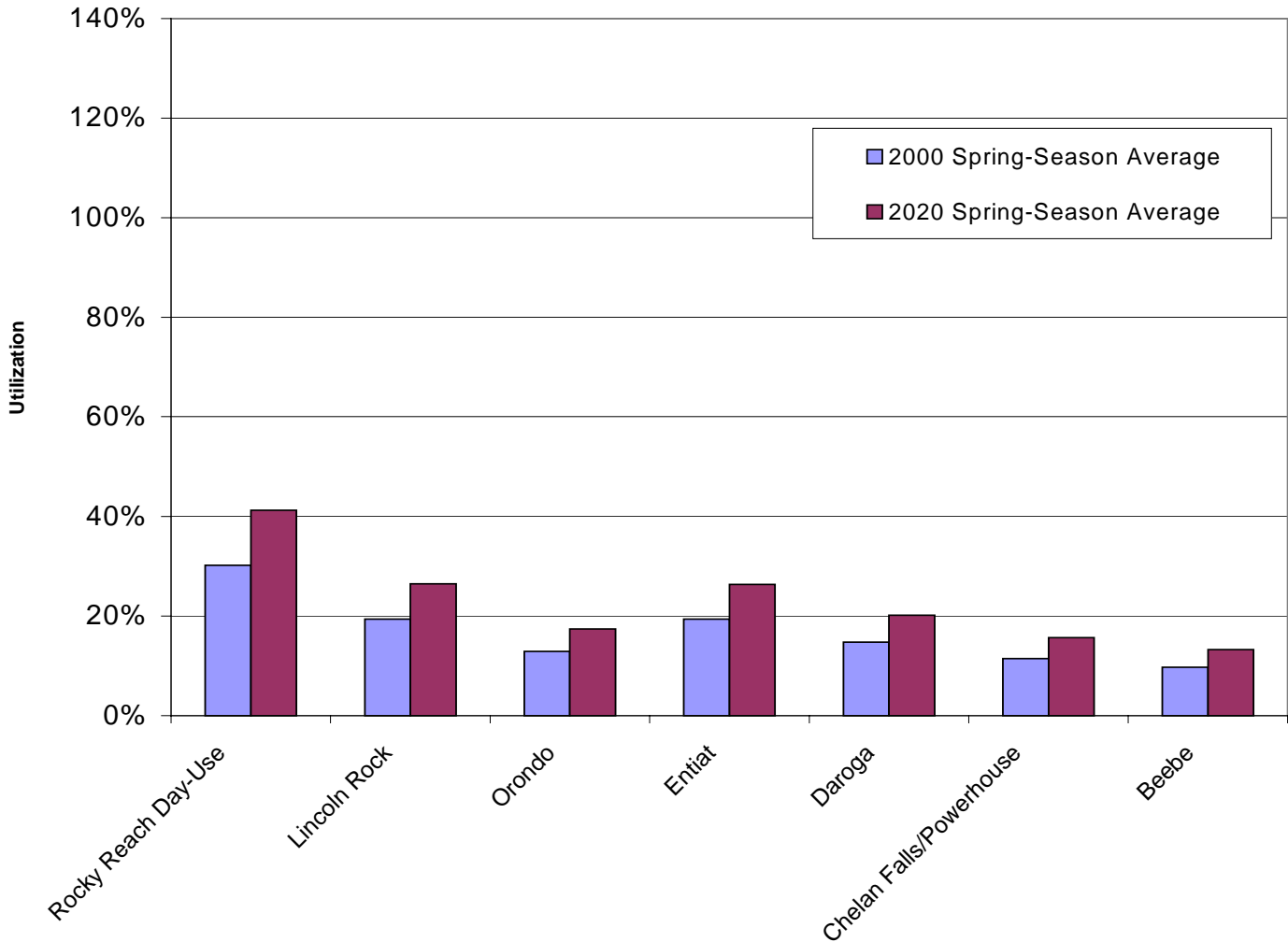


During the off-seasons, current (1999/2000) and projected (2020) use at all Rocky Reach Project recreation sites are near or below the Optimal Use day-use parking facility capacity threshold level definition (Table 7-18), with the exception of Entiat Park (Figure 7-21 and Figure 7-22). Current (1999) average fall-season day-use parking utilization at Entiat Park is just over the Optimal Use definition, while projected (2020) average fall-season utilization is near the Well Utilized definition. Both current and projected average spring-season day-use parking utilization at Entiat Park are below the Optimal Use definition.

Figure 7-21: Average Fall-Season Day-Use Parking Utilization



**Figure 7-22: Average Spring-Season Day-Use Parking Utilization**



Demands/Trends and Plans from Existing Planning Documents and Studies

The Master Plan for Entiat Park (Chelan PUD, 1992) lists goals related to parks and recreation services that have been recommended under the plan. The plan lists several goals related to the improvements and additions of day-use facilities including the addition of 34 parking spaces at the south end of the park.

Summary of Non-Boating Day-Use Parking Needs

Overall, average non-boating day-use parking in the project area appears to be meeting current demands. However, surveys indicate needs for additional parking at Lincoln Rock State Park and

Orondo River Park. A few survey respondents at Entiat Park and Daroga Park also indicated needs for more parking while no comments were made regarding needs for parking at other Project area recreation sites. Comparison of non-boating day-use parking supply with estimated number of visitors participating in day-use activities at each recreation site indicates that additional day-use parking is needed to meet current and future demands at Orondo River Park and Entiat Park, and at Lincoln Rock State Park to meet future peak-season demands. Off-season day-use parking utilization is relatively low except for at Entiat Park. Since most people camping at Project area recreation sites will also use day-use facilities, they could be counted as participating in a day-use activity yet they may not park their vehicles at a designated day-use parking space. Therefore, day-use parking areas may be less utilized than comparisons show. Due to tent camping allowed in the day-use area at Entiat Park, the day-use parking area will be used by visitors camping also.

### **7.3.2 Picnic Facilities**

#### Survey Results

Picnicking is a popular activity in the Rocky Reach Project area. During peak-season on-site interviews, visitors at Rocky Reach Project recreation sites were asked what their primary reason was for visiting the Rocky Reach project area. Picnicking was the sixth most popular primary reasons for visiting the Project area; although surveys indicate that 70 percent of the people that came to the project area for other activities also participate in picnicking.

Visitor use estimates by activity showed picnicking as the second highest average use during the peak-season of all activities documented. Picnicking had the fifth highest average use during the fall-season, while picnicking had the highest use of all other activities during the spring-season.

Survey respondents throughout the study area were asked to rate their primary activity on a scale of 1 to 10 with 10 being the highest. Survey respondents rated picnicking an average of 9.2.

Ten percent of survey respondents at Orondo River Park made comments regarding needs for more picnic tables. Two percent of survey respondents at Entiat Park indicated needs for more picnic tables and one comment was received from a survey respondent at Chelan Falls Park regarding needs for more picnic tables. No comments regarding needs for more picnic tables were made at the other recreation sites during on-site surveys.

#### Comparison of Picnicking Supply and Demand

Currently there are around 438 picnic tables located at all seven Rocky Reach Project recreation sites (Table 5-1). Using general design standards of 4 people per table and a turnover of 2, the existing picnic tables have capacity for approximately 3,504 people per day.

Based on observations in the Rocky Reach Project area (1999), it is estimated that an average of 598 people per day participate in picnicking during the peak-season. Approximately 450 people per day participate in picnicking activities during peak-season weekdays and an average of approximately 945 people participate in picnicking activities during peak-season weekends.

Based on comparisons with the picnic table supply and visitor use, current (1999) average peak-season picnic table utilization is around 13 percent for weekdays and 27 percent for weekend days. Projected (2020) average peak-season picnic table utilization is around 18 percent for weekdays and around 37 percent for weekend days. Current (1999) average picnic table utilization for all peak-season days is around 17 percent and projected (2020) average peak-season utilization is around 24 percent. Using seasonal facility capacity threshold definitions, as described in Appendix A of this report, both current and projected future picnic facility utilization is well below the Optimal Use definition (Table 7-19). There appears to be adequate capacity to meet both current and future needs for picnic facilities in the Project area.

<b>Table 7-19: Peak-Season Picnic Table Utilization</b>													
Current # Picnic Tables	Daily Picnic Capacity <sup>1</sup> (people/day)	Current (1998) Participation in Picnicking Activities						Future 2020 Participation in Picnicking Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
438	3,504	598	450	945	17%	13%	27%	824	620	1303	24%	18%	37%
1 Capacity is based on general design standard of 4 people/table and a turnover rate of 2. AD=All Days, WD=Weekdays, WE=Weekends													

Off-season picnic table utilization is significantly less than during the peak-season (Table 7-19 and Table 7-20). Based on 1999/2000 monitoring, average utilization was the highest during spring-season weekends. Average current (2000) and projected (2020) utilization during average spring-season weekends is 14 percent and 19 percent, respectively.

<b>Table 7-20: Fall-Season Picnic Table Utilization</b>													
Current # Picnic Tables	Daily Picnic Capacity <sup>1</sup> (people/day)	Current (1999) Participation in Picnicking Activities						Future 2020 Participation in Picnicking Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
438	3,504	183	131	260	5%	4%	7%	249	178	354	7%	5%	10%
1 Capacity is based on general design standard of 4 people/table and a turnover rate of 2. AD=All Days, WD=Weekdays, WE=Weekends													

<b>Table 7-21: Spring-Season Picnic Table Utilization</b>													
Current # Picnic Tables	Daily Picnic Capacity <sup>1</sup> (people/day)	Current (2000) Participation in Picnicking Activities						Future 2020 Participation in Picnicking Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
438	3,504	261	160	498	7%	5%	14%	357	219	681	10%	6%	19%
1 Capacity is based on general design standard of 4 people/table and a turnover rate of 2. AD=All Days, WD=Weekdays, WE=Weekends													

The U.S. Army Corps of Engineers (COE) bases need on the number of visits to picnic sites (NRPA, 1970). For every 4,000 visitors to a recreation project annually, the COE recommends a picnic table or site. Total annual visitation at Rocky Reach Project Parks, based on peak-, fall-, and spring-season 1999/2000 monitoring, is approximately 493,200 people, assuming little or no activity occurs during the winter months. Total annual projected future 2020 visitation Rocky Reach Project parks is 679,835 people, assuming little or no activity occurs during the winter months. Based on these standards and assumptions, the current supply of picnic tables available for public use meets the current and projected (2020) future needs of picnickers (Table 7-22).

<b>Table 7-22: Annual Picnic Capacity</b>					
<b>Current # Picnic Tables</b>	<b>COE Standard</b>	<b>Current (1999/2000) Annual Visits</b>		<b>Future 2020 Annual Visits</b>	
		<b>(People/Year)</b>	<b># Tables</b>	<b>(People/Year)</b>	<b># Tables</b>
438	1 Table or site/ 4,000 visits	493,200	123	679,835	170

Demands/Trends and Plans from Existing Planning Documents and Studies

According to previous SCORP projections from 1987 to 2000, growth in picnicking, is expected to grow at a slightly higher than average rate and is expected to exhibit higher growth in the future. Picnic areas were listed as one of the more desired facilities in parks (IAC, 1990, 1995a and 1995b).

In a Nationwide study (USFS et al., 1995), in the western states, over 50 percent of people were found to participate in picnicking activities.

Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) lists proposals for development for parks, recreation and open space systems within the Wenatchee Valley for the next 20 years. Included in their list of proposals is the addition of 82 picnic tables to be located at numerous areas south of the Rocky Reach Project area.

The Master Plan for Entiat Park lists goals related to parks and recreation services that have been recommended under the plan. Goals listed related to picnic facilities include the addition of a picnic shelter and picnic area at the south end of the park.

The Entiat Outdoor Learning Center, which is currently under development at the mouth of the Entiat River, includes plans for a day-use shelter, picnic tables and an amphitheater.

Summary of Picnic Facility Needs

Picnicking is a popular activity in the Rocky Reach Project area and visitors appear to be satisfied with picnicking facilities in the Project area. Comparison with the picnic table supply with visitor use indicates that there is overall adequate capacity to meet both current and future needs for picnic facilities in the Project area, although a few visitor surveys respondents indicated needs for additional picnic tables at Orondo River Park and Entiat Park.

### **7.3.3 Swimming/Sunbathing (Beach) Facilities**

#### Survey Results

During peak-season on-site interviews, visitors at Rocky Reach Project recreation sites were asked what their primary reason was for visiting the Rocky Reach Project area. Swimming was not generally visitors' primary reason for visiting the project area; it rated as the twelfth most popular reasons for visiting the Project area. However, visitor surveys indicate that over 50 percent of people that came to the project area for other activities also were found to participate in beach activities during their visit.

Visitor use estimates by activity showed beach activities had the sixth highest average use, when compared to all activities documented at recreation sites, during the peak-season. No visitors were observed participating in beach activities during the fall-season, while beach activities had the eighth highest average use during the spring-season.

Survey respondents throughout the study area were asked to rate their primary activity on a scale of 1 to 10 with 10 being the highest. Swimming activities were rated an average of 9.2.

Five percent of survey respondents at Lincoln Rock State Park and at Orondo River Park made comments regarding needs for better swimming beaches or more sand on beaches. Two percent of survey respondents at Entiat Park indicated needs for more beach access at the park. Three percent of survey respondents at Daroga State Park indicated desires for better or more sand on swimming beaches. No comments regarding needs for better swimming beaches were made at the other recreation sites during on-site surveys.

#### Comparison of Swimming Beach Supply and Demand

Currently there is a total of 1,975 linear feet of designated swimming beaches located at five out of the seven public recreation sites in the Rocky Reach Project area (Table 5-1). Assuming an average beach width of 50 feet, it is estimated that approximately 2.4 acres of swimming beaches are available at project recreation sites.

Using general design standards of 220 people per acre and a turnover rate of 3 for swimming beaches, the current swimming beaches in the project area have capacity for approximately 1,584 people per day.

Based on comparisons with the supply of designated beaches and visitor use, current (1999) average peak-season beach utilization is around 10 percent for weekdays and 22 percent for weekend days. Projected (2020) average peak-season beach utilization is around 14 percent for weekdays and around 31 percent for weekend days. Current (1999) average beach utilization for all peak-season days is around 14 percent and projected (2020) average peak-season utilization is around 19 percent. Using seasonal facility capacity threshold definitions, as described in Appendix A of this report, both current and projected future swimming/sunbathing facility utilization is well below the Optimal Use definition (Table 7-23). There appears to be adequate capacity to meet both current and future needs for swimming/sunbathing beaches in the Project area.

**Table 7-23: Peak-Season Beach Utilization**

Current Designated Beaches (Acres)	Daily Beach Capacity <sup>1</sup> (people/day)	Current (1999) Participation in Beach Activities						Future 2020 Participation in Beach Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
2.4	1,584	216	157	350	14%	10%	22%	297	216	483	19%	14%	31%

<sup>1</sup> Capacity is based on general design standard of 220 people/acre and a turnover rate of 3.  
AD=All Days, WD=Weekdays, WE=Weekends

Off-season beach utilization is significantly less than during the peak-season (Table 7-24 and Table 7-25). Based on 1999/2000 monitoring, average utilization was the highest during spring-season weekends. Average current (2000) and projected (2020) utilization during average spring-season weekends is 4 percent and 6 percent, respectively.

**Table 7-24: Fall-Season Beach Utilization**

Current Designated Beaches (Acres)	Daily Beach Capacity <sup>1</sup> (people/day)	Current (1999) Participation in Beach Activities						Future 2020 Participation in Beach Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
2.4	1,584	0	0	0	0%	0%	0%	0	0	0	0%	0%	0%

<sup>1</sup> Capacity is based on general design standard of 220 people/acre and a turnover rate of 3.  
AD=All Days, WD=Weekdays, WE=Weekends

**Table 7-25: Spring-Season Beach Utilization**

Current Designated Beaches (Acres)	Daily Beach Capacity <sup>1</sup> (people/day)	Current (2000) Participation in Beach Activities						Future 2020 Participation in Beach Activities					
		Average # (People/Day)			Utilization			Average # (People/Year)			Utilization		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
2.4	1,584	33	14	70	2%	1%	4%	45	19	95	3%	1%	6%

<sup>1</sup> Capacity is based on general design standard of 220 people/acre and a turnover rate of 3.  
AD=All Days, WD=Weekdays, WE=Weekends

Demands/Trends and Plans from Existing Planning Documents and Studies

According to national, as well as state and local surveys and studies, beach areas and water access are considered the more desirable facilities at parks. Beach activities, such as visiting the beach are expected to exhibit high growth in the future.

According to previous SCORP projections from 1987 to 2000, growth in swimming/wading at a beach is expected to grow at a slightly lower than average rate, whereas growth in visiting the beach and beachcombing activities are expected exhibit growth rates higher than average growth rates for recreation activities in the region. Surveys indicated a demand in Washington for

settings that include water access more than any other type of setting. Beach areas were listed as one of the more desired facilities in parks (IAC, 1990, 1995a and 1995b).

In a Nationwide study (USFS et al., 1995), in the western states, 80 percent of people were found to participate in viewing activities, and of the different types of viewing activity, visiting the beach or waterside and sightseeing was the most popular.

Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) lists proposals for development of parks, recreation and open space systems within the Wenatchee Valley for the next 20 years. Included in their list of proposals is the addition of one swimming beach and water access point to be located south of the Rocky Reach Project area.

The Entiat Outdoor Learning Center, which is currently under development at the mouth of the Entiat River, includes plans for a secluded dock that would support swimming as well as other activities.

#### Summary of Swimming Beach Needs

Many visitors at Rocky Reach Recreation sites participate in beach activities during their visit and visitors appear to be satisfied with beach facilities at recreation sites. Comparison with the beach area supply with visitor use indicates that there is overall adequate capacity to meet both current and future needs for beach facilities in the Project area. A few visitor surveys respondents, however, indicated needs for more sand or better beaches at Lincoln Rock State Park, Orondo River Park and Daroga State Park. Additionally, a few survey respondents at Entiat Park requested additional beach access at the park.

#### **7.3.4 Trails**

##### Survey Results

Peak-season visitor surveys indicated that trail type activities such as walking, jogging, skating and off-road bicycling were not visitors' primary reasons for visiting recreation sites in the Rocky Reach Project area. However, most people that came to the project area for other activities were found to participate in walking, and other trail related activities in the Project area.

Visitor use estimates by activity showed trail related activities combined such as walking, jogging, skating and off-road vehicle riding had the second highest average use during the peak-season and fall-season of all activities documented. During the spring-season, combined trail related activities had the fourth highest use.

Only one survey respondent out of 300 people surveyed made comments regarding needs for walking trails. The survey respondent that made the comment was at Orondo River Park.

##### Comparison of Trail Supply and Demand

There are currently just over 5 miles of designated trails/walking paths within the Rocky Reach Project area. These trails/walking paths are available at Rocky Reach Dam Site, Lincoln Rock State Park, Daroga State Park, Chelan Falls and Powerhouse Parks and Beebe Bridge Park (Table

5-1). During field observations many visitors were observed walking around Rocky Reach Project parks, going from one area of the park to another.

Using National Recreation and Park Administration (NRPA) general standards for trails of 90 people per day per mile, it can be assumed that the existing trails/walkways at project recreation sites have the capacity for 450 people per day.

Estimated use of trails/walkways is based on use estimates for trail type activities including walking, skating, jogging and off-road bicycling. The use estimates do not indicate or assume that all people observed walking, skating, jogging or off-road bicycling were using park trails/walkways. However, for lack of more detailed data regarding the number of people actually using trails, it will be assumed for the purposes of this report that they were. Based on comparisons with the supply of designated trails/walkways and use estimates for trail type activities, current (1999) and projected (2020) future average peak-season trail/walkway utilization is over 100 percent for all peak-season days (Table 7-26). More trail type use occurred during peak-season weekdays than during peak-season weekends. Based on these comparisons, the existing developed trails/walkways at Rocky Reach Project recreation sites are not accommodating all of the trail type of activities that occur at the sites.

Current Trails/Walkways (Mi.)	Daily Trail Capacity <sup>1</sup> (people/day)	Current (1999) Participation in Trail/Walkway Activities						Future 2020 Participation in Trail/Walkway Activities					
		Average # (People/Day)			Utilization (%)			Average # (People/Year)			Utilization (%)		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
5	450	489	492	482	109	109	107	674	679	665	150	151	148

<sup>1</sup> Capacity is based on general design standard of 90 people per day per mile.  
AD=All Days, WD=Weekdays, WE=Weekends

Off-season use estimates for trail type activities is significantly less than during the peak-season (Table 7-27 and Table 7-28). Based on 1999/2000 monitoring, more trail type use occurred during the fall-season than during the spring-season, and during the fall-season more use occurred on weekdays than on weekends. Average current (1999) and projected (2020) utilization during average fall-season weekdays are 65 percent and 89 percent, respectively.

Current Designated Beaches (Acres)	Daily Trail Capacity <sup>1</sup> (people/day)	Current (1999) Participation in Trail/Walkway Activities						Future 2020 Participation in Trail/Walkway Activities					
		Average # (People/Day)			Utilization (%)			Average # (People/Year)			Utilization (%)		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
5	450	267	293	218	59	65	48	363	399	297	81	89	66

<sup>1</sup> Capacity is based on general design standard of 90 people per day per mile.  
AD=All Days, WD=Weekdays, WE=Weekends

**Table 7-28: Spring-Season Trail/Walkway Utilization**

Current Designated Beaches (Acres)	Daily Trail Capacity <sup>1</sup> (people/day)	Current (2000) Participation in Trail/Walkway Activities						Future 2020 Participation in Trail/Walkway Activities					
		Average # (People/Day)			Utilization (%)			Average # (People/Year)			Utilization (%)		
		AD	WD	WE	AD	WD	WE	AD	WD	WE	AD	WD	WE
5	450	131	114	169	29	25	38	179	156	232	40	35	52

1 Capacity is based on general design standard of 90 people per day per mile.  
AD=All Days, WD=Weekdays, WE=Weekends

Demands/Trends and Plans from Existing Planning Documents and Studies

According to previous SCORP projections walking in neighborhood parks, bicycling, and running/jogging activities were expected to exhibit higher than average growth and demand in Washington State. Due in part to the “baby-boomer” population getting older, it is anticipated that more passive recreation will increase and the most rapidly growing outdoor activities in Washington will be those that take advantage of trails. Trails were listed as one of the more desired facilities in parks (IAC, 1990, 1995a and 1995b). Surveys conducted in 1986 and 1987 indicated that over 75 percent of Washington households participate in some form of trail related recreation and participation was expected to increase significantly (IAC, 1991). These surveys indicated that: 75 percent walk along neighborhood street or roads; 55 percent walk in neighborhood parks; 46 percent day hike on trails; 19 percent hike/backpack overnight along trails; and 12 percent climb or mountaineer. Surveys also indicated demands for more close-in (local) facilities.

In an assessment of recreation on public lands prepared by the IAC (IAC, 2000), it is estimated that approximately half of all outdoor recreation-related household trips in Washington are at recreation areas within close proximity to cities and towns, and trail-type activities are the most popular of all outdoor recreation activities in Washington State.

In a Nationwide study (USFS et al., 1995), in the western states, 70 percent of people were found to participate in running/jogging, bicycling, and walking, with walking being the most popular.

Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) lists proposals for development of parks, recreation and open space systems within the Wenatchee Valley for the next 20 years. Included in their list of proposals is the development of almost 100 miles of multi-use trails south the Rocky Reach Project area. The proposals includes extending the trail system north to connect to Lincoln Rock State Park and adding a trailhead at Lincoln Rock State Park.

The Master Plan for Entiat Park (Chelan PUD, 1992) lists goals related to parks and recreation services that have been recommended under the plan. Goals listed, related to trails include development of a pedestrian trail linking the north and south ends of the park. The plan also includes providing for future connection to expand the trail system including a new trailhead commencing at the southern most end of the park for accessing other lands along the Entiat River to the west.

The Entiat Outdoor Learning Center, which is currently under development at the mouth of the Entiat River, includes plans for barrier-free accessible trails, as well as future plans to extend the trail to connect with Entiat Park.

The Rocky Reach Recreation Inventory (Chelan PUD, 2001b) identified plans developed by Washington State Parks and Recreation Commission for a trail extending from Lincoln Rock State Park to the Wenatchee Loop Trail system. The Inventory also identified the potential for a trail connecting Chelan Falls Park and Powerhouse Park.

### Summary of Trail Needs

Many visitors at Rocky Reach Recreation sites participate in trail activities such as walking, jogging, skating, and off-road bicycling during their visit. Comparisons of the supply of designated trails/walkways at recreation sites with use estimates for trail type activities indicates that there is not adequate capacity to meet both current and future needs. However, visitor surveys at project recreation sites indicated few needs for additional trails or walkways. National and state surveys have indicated demands for more trails especially those that provide water access as well as natural areas and habitat. Observations indicate that most visitors at recreation sites participate in trail type activities throughout recreation sites and not necessarily on designated trails. Development of additional trails at recreation sites may enhance trail type activities and protect natural environments and habitats at Parks from deteriorating due to overuse.

### **7.3.5 Playground Equipment**

Peak-season visitor surveys indicated that using playgrounds was not generally visitors' primary reason for visiting recreation sites in the Rocky Reach Project area. However, over 40 percent of people that came to the project area for other activities were found to use playgrounds at Project area recreation sites.

Visitor use estimates by activity showed playground activity had the seventh highest average use during the peak-season of all activities documented. Relatively fewer people were observed using playground equipment during fall and spring season observations, as compared to the number of people participating in other activities. Fall-season and spring-season playground use rated ninth and seventh, respectively, as compared to all other activities documented.

Survey respondents throughout the study area were asked to rate their primary activity on a scale of one to ten with ten being the highest. Survey respondents rated using playgrounds an average of nine.

Twenty-eight percent of survey respondents at Rocky Reach Dam Day-Use area made comments regarding needs for more swings. Less than two percent of survey respondents at Daroga State Park indicated needs for another play area or more swings. No comments regarding needs for play equipment were made at the other recreation sites during on-site surveys.

The Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) lists proposals for development of parks, recreation and open space systems within the Wenatchee Valley for the next 20 years. Included in their list of proposals is the development seven new playgrounds south the Rocky Reach Project area.

The Master Plan for Entiat Park (Chelan PUD, 1992) lists goals related to parks and recreation services that have been recommended under the plan. Goals listed, include the development of play areas at the north and south ends of Entiat Park.

In summary it appears that current play equipment is generally meeting demands based on survey comments. The needs for additional swings at Rocky Reach Dam Day-Use area and Daroga State Park, however, should be reviewed. Any future improvements to parks in the project area should also consider play areas and or equipment.

### ***7.3.6 Interpretation Facilities***

Currently, interpretive facilities are offered at Rocky Reach Dam and a museum is located at the north end of Entiat Park.

The need for interpretation facilities at Rocky Reach Project recreation sites was not indicated during surveys; however, interpretive facilities are in high demand regionally. The Washington SCORP anticipates increase in demand for visiting interpretive facilities (IAC, 1990, 1995a and 1995b). Additionally, a national survey provides evidence that almost 80 percent of people in the western United States participate in viewing activities (USFS et al., 1995).

The Douglas County Recreation and Open Space Plan (Douglas County Parks and Recreation Department, 2000) includes proposals for development of 2,000 square feet of nature interpretive facilities including shelters, trails and directory system south of the Rocky Reach Project area.

The Entiat Outdoor Learning Center, currently under development, plans include a day-use area, amphitheater and trails with a variety of information bulletin boards and interpretive and educational signs.

In summary, additional interpretive facilities should be considered when making improvements to existing recreation sites within the Project study area.

### ***7.4 Dispersed Shoreline Use***

During peak-season boat runs, an average of 34 people were observed on weekdays and an average of 64.5 people were observed on weekends at undeveloped shorelines along the Rocky Reach Reservoir. Generally, it has been found that people recreating at undeveloped areas boat in to these areas to get away from people; they desire more secluded undeveloped locations. Most dispersed shoreline use was observed at a beach on Chelan PUD owned Turtle Rock Island and on mostly private and some state, Chelan PUD and BLM owned undeveloped shorelines between Daroga State Park and Beebe Bridge. A few people were observed on the Chelan PUD owned Entiat River Sandbar and along privately owned undeveloped shorelines and undeveloped

shorelines owned by Chelan PUD and managed by WDFW between Beebe Bridge and Wells Dam. Few people were observed along undeveloped shorelines during the off-season.

Table 7-29 summarizes peak-season shoreline activity observed during peak-season 2000 observations. From 2000 to 2020 the growth in undeveloped shoreline activity, based on population projections is estimated to grow by an average of 12 additional people on weekdays and just over 23 additional people on weekends. Addition of facilities in specific locations would likely encourage increased use at these areas and change the secluded nature and recreation experience of visitors. There have been no comments from visitors in the Rocky Reach area to indicate, at this time, a need for facilities along undeveloped shoreline areas. Review of use along undeveloped shorelines, especially on Turtle Rock Island, should be continued to ensure that lands and waters are not degraded due to human activities.

<b>Table 7-29: Current and Projected Peak-Season Dispersed Shoreline Activity</b>				
	<b>2000 Average # People /Day</b>		<b>2020 Average # People/Day</b>	
	<b>Weekday</b>	<b>Weekend</b>	<b>Weekday</b>	<b>Weekend</b>
<b>Total Shoreline Activity</b>	34	64.5	46	87.7

**7.5 Americans With Disabilities Act (ADA) Compliance**

The Americans with Disabilities Act (ADA) was signed into law in 1990. This legislation mandated that a range of facilities be reasonably accessible to persons with disabilities. In 1991, the ADA Accessibility Guidelines for Buildings and Facilities (ADAAG) were published by the Architectural and Transportation Barriers compliance Board, which provided guidelines on how to implement the ADA. The Guidelines require that all areas of newly designed or newly constructed buildings and facilities, and altered portions of existing buildings and facilities, provide accessible features as outlined in the Guidelines (ADAAG, 1998). The ADAAG Guidelines are currently being revised. Proposed rules were published in July 1999. The proposed rules amend the ADAAG Guidelines by adding a new special application section for newly constructed and altered recreation facilities that are not adequately addressed by the existing guidelines. Proposed guidelines provide additional accessibility provisions for boating facilities including boat launch ramps and boat slips.

A Design Guide for Universal Access to Outdoor Recreation, by PLAE, Inc. in conjunction with other public and private partners (PLAE, 1993), provides guidelines for various elements and spaces of outdoor recreation environments. The PLAE guidelines are based on the ADAAG guidelines, with modifications and additions in response to the special context and requirements of outdoor recreation settings. Many of the PLAE guidelines, such as those for outdoor recreation access routes and recreation trails, provide different measurements for use in different settings. Other PLAE guidelines, such as those for restrooms and picnic tables, require the same set of measurements regardless of the setting in which they are applied. In general, recreation sites in urban/rural settings are expected to have an easy level of accessibility

ADA accessible facilities exist at all Rocky Reach Project recreation sites. Plans are currently under way to improve ADA accessibility at Orondo River Park. Additional ADA accessible facilities will also be provided at all project recreation sites as existing facilities are improved or replaced.

### **7.6 Displaced Use**

Extensive study of displaced use was conducted using data obtained from on-site interviews at all Rocky Reach Project recreation sites in 1999. Additionally, surveys were also conducted during the summer of 2000 at Entiat Park and USFS campsites to obtain additional information regarding the interrelationship between Entiat Park and USFS sites. The results of the surveys and analysis of displaced use is provided in the Recreational Use Assessment (Chelan PUD, 2001a), Section 5.9. In summary, 1999 on-site interview responses at Project recreation sites found that most visitors were displaced from recreation sites outside of the Project area to Project area recreation sites. Visitors displaced from Project area sites were found to generally go to other Project area recreation sites. Surveys conducted at Entiat Park in 2000 found no indications of displaced camping occurring at USFS campgrounds from Entiat Park. No survey respondents at USFS Campgrounds in 2000 indicated that they were staying at a USFS campground because a Project area recreation site was too full or too crowded.

## ***SECTION 8: ABILITY OF PROJECT AREA TO ACCOMMODATE NEEDS***

State and National studies indicate that as populations grow, demand for recreation opportunities will also grow. Existing recreation sites and areas could accommodate additional recreation facilities. Existing planning documents and studies, summarized in Section 6.3 of this document, have indicated several potential projects and expansion opportunities that would help satisfy future demands. These potential projects include:

- Potential campground expansion opportunities at Entiat Park and Daroga State Park.
- Boat facility additions and improvements at Entiat Park and development of non-motorized boating facilities near the mouth of the Entiat River.
- Additional day-use parking at the South End of Entiat Park
- Potential picnic facility additions at Entiat Park and near the mouth of the Entiat River.
- Addition of a secluded dock at the mouth of the Entiat River that could support swimming activity.
- Development of trails near the mouth of the Entiat River. Development of a pedestrian trail linking the north and south ends of Entiat Park and future connection of the southern most end of the park to lands near the mouth of the Entiat River to the west. Trail from Lincoln Rock State Park to connect to the Wenatchee Loop Trail system. Potential trail opportunity to connect Chelan Falls Park and Powerhouse Park.
- Development of play areas at the north and south ends of Entiat Park.
- Interpretive and educational signs within the proposed day-use area, and trails near the mouth of the Entiat River.
- Potential development of athletic fields at Chelan Falls and Beebe Bridge parks.

The ability of the Project study area to accommodate recreation needs is based on the opportunities as well as constraints of the resources in the Project area. Careful consideration needs to be given to whether available land has the capacity to carry facilities as well as whether these lands and the surrounding area and resources can withstand the impacts of additional visitation that new facilities may create. Economic impacts to the community from construction as well as operation and maintenance must also be considered when decisions are made regarding additional facilities or improvements to meet future needs.



## ***SECTION 9: CONCLUSION***

The assessment of recreation needs in the Project study area is based on data collection, field monitoring and surveys conducted at public water-based recreation sites during the 1999/2000 peak-season, 1999 fall-seasons and 2000 spring-season, as presented in the Recreation Use Assessment Report (Chelan PUD, 2001a). This assessment is also based on demographic data, and available existing recreation-related plans, reports, studies, and surveys.

The needs analysis does not assign specific responsibility for implementing potential actions, nor does it propose that Chelan PUD fund all needs identified in the analysis. The intent of the needs analysis is to provide information for Chelan PUD, as well as other recreation resource managers and providers, to use in making decisions regarding the management, planning, design and construction of recreation resources in the project area. The following summarizes the recreation facility needs identified in the Project study area.

Visitor survey responses indicated needs for cleaner and better maintained bathroom and shower facilities at Orondo River Park, Entiat Park, Lincoln Rock State Park and Daroga State Park.

Based on field monitoring and studies, it appears that additional campsites, especially RV sites, would be needed in the Project area to accommodate increasing peak-season demands.

Based on field monitoring and studies there appears to be needs for additional boat ramps and parking at Entiat Park and possibly additional boat-trailer parking at Beebe Bridge Park to meet future peak-season demands. Potential needs for non-motorized boating opportunities should also be considered in future park planning efforts.

Visitor survey responses indicated needs for more docks and better docking facilities at all recreation sites that have boating facilities, except for Chelan Falls Park,

Comparisons of the non-boating day-use parking supply with the estimated number of visitors participating in day-use activities, indicate that additional non-boating day-use parking is needed to meet future peak-season day-use activity needs in the Project area at Orondo River Park, Entiat Park and Lincoln Rock State Park.

Overall there appears to be adequate capacity to meet both current and future needs for picnic facilities in the Project area, although based on a few visitor survey responses the need for additional picnic tables at Orondo River Park and Entiat Park should be considered.

Overall there appears to be adequate capacity to meet both current and future needs for beach facilities in the Project area. However, based on a few visitor survey responses, needs for more sand or other beach improvements at Lincoln Rock State Park, Orondo River Park and Daroga State Park should be considered. Based on a few survey responses, the need for an additional beach at the south end of Entiat Park should be reviewed if further expansion of the Park to the south is implemented.

Observations indicate that many people participate in walking, jogging, skating and other trail type activities throughout parks, but not necessarily on existing designated trails. Development of additional trails at, and connecting to, recreation sites should be considered to enhance trail type activities and protect natural environments and habitats at Parks from deteriorating due to overuse.

Playground equipment appears to be meeting visitor needs, although needs for additional swings at the Rocky Reach Dam Day-Use Area and Daroga State Park that were identified during on-site surveys should be reviewed. Future improvements at parks should also consider play areas and or equipment.

Additional interpretive facilities should be considered when making improvements to recreation sites within the Project study area.

Review of recreation use along undeveloped shorelines, especially on Turtle Rock Island, should be continued to ensure that lands and waters are not degraded due to human activities.

## ***SECTION 10: REFERENCES***

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## ***APPENDIX A: SEASONAL FACILITY CAPACITY THRESHOLD DEFINITIONS***

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40 percent - “Optimal Use” - Allows a facility or use area to rest and revegetate during slow periods or periods of closure. Peak capacity is typically reached during summer holiday weekends and during a few summer weekends. This level of use is optimal for many older facilities and those in sensitive resource areas. Newer facilities may accommodate higher percentages of use due to the incorporation of sensitive design features and siting.

60 percent - “Well Utilized” - Indicates a well utilized facility or use area which reaches capacity during summer holidays, most summer weekends, and a few summer weekdays. A newer well-designed facility should function satisfactorily at this level of use, if allowed to rest during the off-season. An older facility will likely not be able to accommodate this level of use without significant impact or degradation of the user experience. Many visitors will perceive some crowding; however, off-peak periods are still available for those visitors who desire more solitude. Some impacts may be expected and will likely need to be addressed.

80 percent - “Heavily Utilized” - Indicates a very high level of use with capacity reached or exceeded during all summer weekends, many summer weekdays, and all summer holidays. The visitor experience is more urban with fewer opportunities for solitude. Many more visitors will perceive some crowding and many will likely go elsewhere. Sustained use at this level requires hardened or paved facilities, increased levels of management and crowd control, a full reservation system, and a more aggressive monitoring program. Impacts and maintenance levels increase substantially at this higher level.

100 percent - “Extreme Use” - Indicates an extreme use level with facilities always at or above capacity, even during weekdays. The visitor experience becomes much more urban in nature with little or no opportunities for solitude. Most visitors will perceive crowding and many will likely go elsewhere. Sustained use at this level requires more hardened or paved facilities, increased levels of management, full reservations, and increased levels of monitoring and crowd control. Impacts and maintenance levels likely increase substantially at this higher level.