
ROCKY REACH RECREATION RESOURCES MANAGEMENT PLAN

Final Draft

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

May 2, 2005



**Public Utility District No. 1 of Chelan County
Wenatchee, Washington**

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EXECUTIVE SUMMARY

The Recreation Resources Management Plan (RRMP) contained in this Chapter updates the existing Recreation Plan (Exhibit R to the existing License) submitted by Chelan PUD in 1976 in conjunction with the addition of four generating units to the Rocky Reach Hydroelectric Project (Project) dam powerhouse in 1968. It describes Chelan PUD's plans for the utilization, design, and development of Project recreation facilities and public access within the Project Boundary, as required by 18 CFR 4.51 (f) (5). The RRMP was prepared in consultation with the Social Sciences Working Group (SSWG), comprised of appropriate local, state and federal recreation agencies and planning commissions, the National Park Service, the United States Department of Agriculture Forest Service, and other federal and state agencies with land management responsibilities within the Project Boundary.

The SSWG identified Project impacts and developed proposed Protection, Mitigation, and Enhancement measures (PMEs) based on five primary considerations:

- 1) Ongoing Project-related impacts
- 2) Consistency with relicensing and other relevant recreation study results
- 3) Effectiveness of proposed measure
- 4) Cost (including cost-sharing opportunities)
- 5) The presence or absence of federal reservation lands giving rise to mandatory conditioning authority under section 4(e) of the Federal Power Act.

Chelan PUD will implement the following PMEs, as specified in section 4 of this Chapter:

- 1) Continued operation and maintenance of Rocky Reach Visitor Center and Park, Entiat Park, Chelan Falls/Powerhouse Parks, Beebe Bridge Park, Daroga State Park and Lincoln Rock State Park.
- 2) Renovations and enhancements at Lincoln Rock State Park and Daroga State Park.
- 3) Completion of a paved one mile trail from Lincoln Rock State Park to a fish by-pass viewing station approximately 300 feet downstream of Rocky Reach Dam.
- 4) Design and implementation of an irrigation system throughout Orondo Park.
- 5) Revitalization of Entiat Park, including:
 - 5.1 Design and implement the Entiat Park upgrades.
 - 5.2 Wastewater treatment plant upgrade to accommodate usage of Park facilities.
 - 5.3 Ball field development.
 - 5.4 Design and construction of Entiatqua Trail.
 - 5.5 Trade-lease/purchase of 17.85 shoreline acres currently owned by Chelan PUD to city of Entiat.
 - 5.6 Partnership agreement between Chelan PUD and the city of Entiat for O & M at Entiat Park.
 - 5.7 Convene annual meetings with the community of Entiat.
- 6) Establish and implement a Recreation Enhancement Fund.
- 7) Completion of a Recreation Use Study in year 23 of the New License.

- 8) Development and implementation of Recreation Resources Monitoring and Evaluation Program.

SECTION 1: INTRODUCTION

1.1 Purpose

The Recreation Resources Management Plan (RRMP) contained in this chapter updates the existing Recreation Plan (Exhibit R to the existing License) submitted by Chelan PUD in 1976 in conjunction with the addition of four generating units to the Rocky Reach Hydroelectric Project (Project) dam powerhouse in 1968. It describes Chelan PUD's plans for the utilization, design, and development of Project recreation facilities and public access to the Project lands and waters, as required by 18 CFR 4.51(f)(5). The plan was prepared in consultation with appropriate local, state and federal recreation agencies and planning commissions, the National Park Service (NPS) and the United States Department of Agriculture Forest Service (USDA Forest Service) and other federal and state agencies with land management responsibilities within the Project Boundary.

1.2 Exhibit R Summary

The 1976 Exhibit R identified seven sites within the Project Boundary for recreational development. Three were completed by the Chelan PUD and opened to the public in the late 1970s, one in the 1980s and three in the 1990s. These recreation sites represent Chelan PUD's commitment to providing recreational facilities and access to the Rocky Reach Hydroelectric Project Reservoir (Reservoir). Over one million people visit these parks each year. As-built drawings of these sites are contained in Appendix A.

The seven sites are described below. The locations of these recreation sites, as well as other public recreation sites on the Reservoir, are shown on Figure 1.

Rocky Reach Visitor Center and Park

Located on the west side of the Dam, this Park provides several educational and interpretative opportunities for visitors. It consists of a four-story public information and tour center, landscaped grounds, fish viewing rooms and an innovative fish by-pass system, interpretive history gallery and turbine exhibit, picnic shelters, restrooms and playground equipment. The Park is owned and operated by Chelan PUD.

Orondo Park

Located 15 miles north of Rocky Reach Dam on the east side of the Reservoir, this Park was originally developed in the early 1970s. Under Exhibit R, additional lands were acquired, and the Park was expanded over several years to include irrigated lawns, a gazebo, swimming area, boat launch, day moorage, day-use area, restrooms, 14 RV camping sites and tent camping in a grassy area within the Park. This Park is owned in part by Chelan PUD and owned in part and operated by the Port of Douglas County.

Entiat Park

Entiat Park is located 15 miles north of Rocky Reach Dam on the west side of the Reservoir. Built in the 1970s, this Park was a result of the joining of two existing community parks, Silico Saska and Will Risk Memorial Park. This Park provides 4,000 feet of shoreline and includes a

day-use picnic area, restrooms, boat launch and boat handling facilities. In addition, overnight tent camping, RV sites with partial hook-ups, and day moorage facilities are available. This Park is owned in part by Chelan PUD and in part by the City of Entiat. It is operated by the City of Entiat.

Lincoln Rock State Park

This Park is located just north of the east side of the Dam. Beginning as a 17-acre site (called Eastbank in the 1976 Exhibit R), this Park was later expanded to 60 acres and re-named Lincoln Rock State Park. The Park offers 94 campsites with full and partial hookups, three picnic shelters, five restrooms, outdoor activity courts, swim area, boat launch and docking facilities and a multi-use play area. This Park is owned by Chelan PUD and operated by Washington Department of Parks and Recreation Commission (Washington State Parks).

Daroga State Park

Daroga Park is located 25 miles north of the Dam on the east side of the Reservoir. This Park's 140 acres offers facilities consisting of a camp loop with 28 camping units, 17 hike-in or boat-in camp units, and one large group camp area with a current capacity of 50 people. Partial hookups are provided for recreational vehicles. Other Park facilities include three picnic shelters, five restrooms, outdoor activity courts, multi-use sports field, shoreline trails, large landscaped day-use areas, wind surfing beach area, swim area, playground area, boat launching and docking facilities. This Park is owned by Chelan PUD and operated by Washington State Parks.

Chelan Falls/Powerhouse Park

This Park is located 34 miles north of the Dam on the west side of the Reservoir. The development of these sites provides a boat ramp, a boat dock, trails, an extensive day-use picnic area, restrooms, irrigated landscaping, two swim beaches and expansive playfields. This Park is owned and operated by Chelan PUD.

Beebe Bridge Park

This Park is located 34 miles north of the Dam on the east side of the Reservoir. Beebe Bridge Park provides two loops of overnight camping (46 units), full hook-ups for recreational vehicles, restrooms, guest parking, day-use and picnic facilities, swim beach, boat ramp, boat docks and irrigated landscaping. This Park is owned and operated by Chelan PUD.

1.3 Planning Process

The Federal Energy Regulatory Commission (FERC) alternative licensing process for the Project required extensive planning, including environmental studies, consultation with relevant agencies and organizations, and public involvement. This RRMP is the result of a five-year planning process undertaken by a Social Sciences Working Group (SSWG) consisting of the USDA Forest Service, NPS, Washington Department of Ecology (WDOE) Washington Department of Fish and Wildlife (WDFW), Interagency Committee for Outdoor Recreation (IAC), Washington State Parks, Bureau of Land Management (BLM), Entiat Focus Group, Entiat School District, Boat Club of Wenatchee, Columbia Breaks Fire Interpretative Center, Entiat Valley Chamber of Commerce, Trout Unlimited, City of Entiat, landowners along the Project Boundary, Chelan PUD and other interested stakeholders.

The SSWG identified relicensing-related recreation issues, including the need for recreation use monitoring, a recreation needs analysis, and the development of recreation enhancement options. Agency and public involvement has been an integral part in the identification of recreation issues.

Early in the relicensing process, agencies, the public, and Chelan PUD developed an overall plan to gather information for the ultimate development of the RRMP. The SSWG developed individual study plans and scopes of work for the studies. Meetings, discussions, and reviews continued as the studies proceeded, allowing the SSWG to obtain further information and participate in the preparation of final study results and reports. The studies conducted as part of the relicensing process to assess and record recreational use at Reservoir recreation facilities and other related public recreational sites included the following:

- *1999/2000 Recreation Use Assessment Study Report*, March 2, 2001. This report provides the results of data collection efforts and surveys regarding existing recreational use. It was conducted during the summer and fall of 1999 and spring of 2000.
- *Recreation Needs Forecast and Analysis*, September 21, 2001. This report provides an analysis of the current and future recreation use, demand, and needs at public recreation sites along the Reservoir. The study was conducted in late 1999 and early 2000.
- *Socioeconomic Study*, December 1, 2000. This study documents historical and forecasted socioeconomic impacts associated with the Project's operation.
- *Project Lands Management Study Report*, May 30, 2003. This report summarizes applicable federal, state and local land management plans, identify conflicts or gaps critical to shoreline or land management practices and review the effectiveness of land management plans and shoreline master programs.

In addition, the following studies were also referenced and provided important information during development of the RRMP.

- *Recreation Resources Inventory Summary Report*, September 21, 2001
- *Sportsmans Access on the Wenatchee River*, December 15, 2000
- *Washington State Comprehensive Outdoor Recreation Planning Document (SCORP) 2002-2005*, October 2002

This RRMP is based on the results of these studies, as well as the extensive consultation effort undertaken through the SSWG. It is also consistent with the relevant recreation management planning documents prepared by federal, state, and other local recreation management agencies.

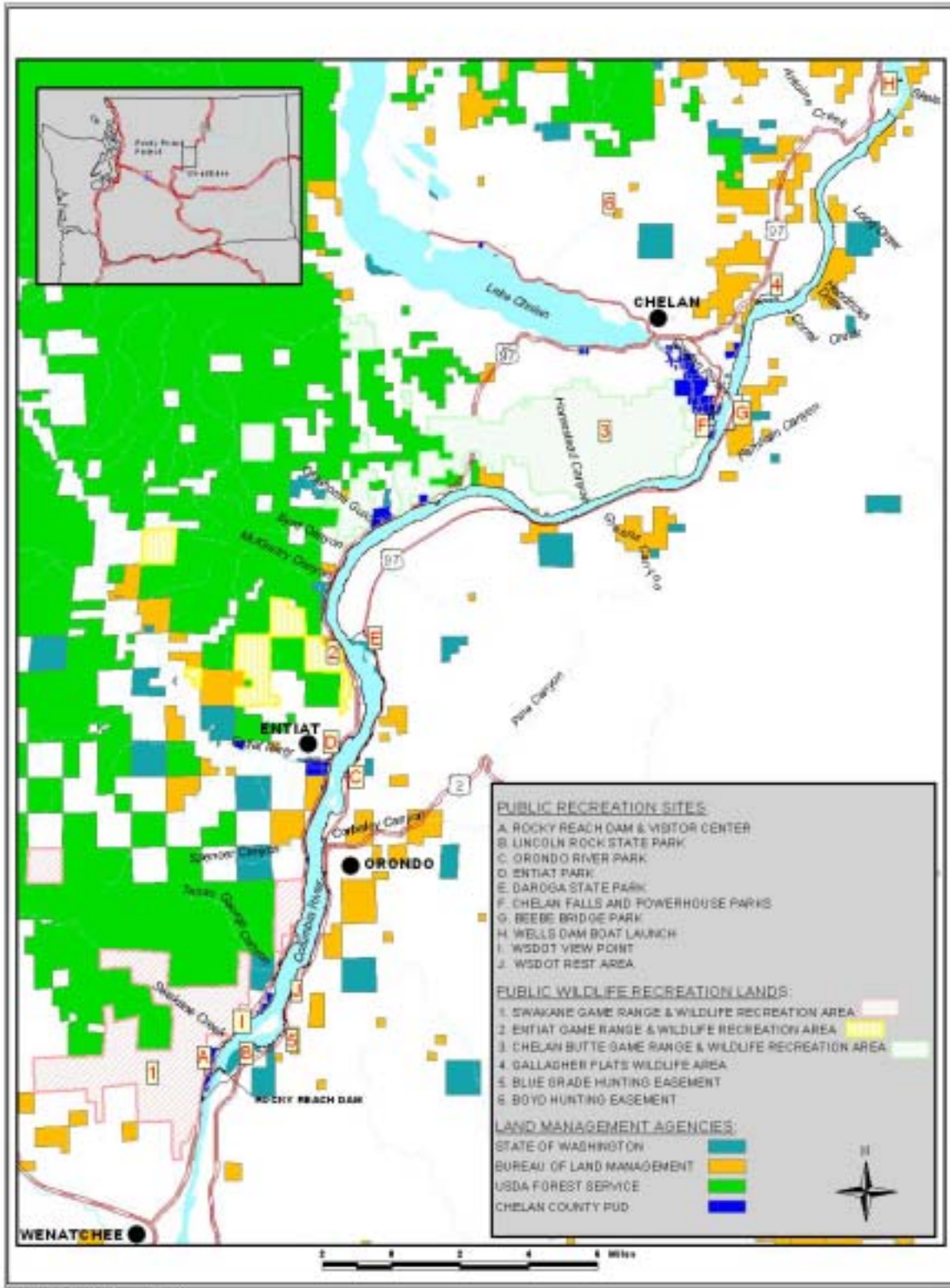


Figure 1: Public Recreation Sites and Designated Wildlife Recreation Lands

SECTION 2: BACKGROUND AND EXISTING CONDITIONS

2.1 Existing Recreation Development

2.1.1 Public Recreation Facilities

For each of the existing public recreation facilities shown on Figure 1, the facilities provided and site acreage is shown in Table 1.

Chelan PUD constructed seven public recreation sites that provide access to the Rocky Reach Hydroelectric Project Reservoir (Reservoir). All seven sites are adjacent to the Reservoir. All seven of these sites have irrigated lawns, hardened surfaces, paved trails, and flush toilets, and can accommodate a high level of use. In addition, some sites offer undeveloped and riparian areas.

Upstream of the Project is Douglas County PUD's Wells Dam. Douglas County PUD operates and maintains a boat launch at the tailrace of Wells Dam. This boat launch also provides access to the Reservoir.

2.1.2 Private Recreation Facilities

Few private recreation sites are available on the Reservoir, and none of the private facilities are open to the general public.

Wenatchee Boat Club

The Wenatchee Boat Club is located on the west bank of the Reservoir, upstream of the Rocky Reach Dam and Visitor Center and across the river from Turtle Rock Island. The marina is open to club members only. The marina has 24 boat moorage slips and four day-use boat slips. The marina site also has a boat launch and a small campground with 18 campsites.

Residential Subdivisions

Sun Cove, a residential development located on the east side of the Reservoir on US 97 between Daroga State Park and Beebe Bridge Park, has a park, boat launch, and boat moorage for use by property owners in the subdivision. The McDonald residential subdivision, north of Entiat, has a dock for use by subdivision property owners. Many private homes along the Reservoir have their own private docks.

2.1.3 Public Recreation Sites

Washington State Department of Transportation (WSDOT) has a viewpoint, located on the west side of the Reservoir just north of Rocky Reach Dam, on US 97A.

2.1.4 Public Recreation Use Areas

The Washington State Department of Fish and Wildlife (WDFW), Bureau of Land Management (BLM), and USDA Forest Service own lands in the vicinity of the Reservoir that are managed for hunting, fishing access and other dispersed recreation. A description of these wildlife areas appears in section 2.1.5 below. In addition, section 2.1.6 summarizes dispersed recreation on non-park Chelan PUD-owned lands. No developed recreation facilities are located on these

lands. For further information on designated wildlife recreation areas and dispersed recreation activities on the Reservoir, see the *Recreation Resources Inventory Summary Report* (September 21, 2001, Chelan PUD 2001b).

2.1.5 Wildlife Areas

The Swakane, Entiat and Chelan Butte Units (collectively the Chelan Wildlife Area) are located in Chelan County just west and northwest of the Reservoir. Under a 1963 agreement (1963 Agreement) with the Washington Department of Game (now WDFW) to mitigate for the effects of dam construction on wildlife, Chelan PUD provided \$700,000 for mitigation, including the purchase of 20,397 acres of wildlife habitat. Per the 1963 Agreement, these lands are owned and managed by WDFW. In addition, WDFW has agreements with the US Bureau of Land Management (BLM) and State of Washington Department of Natural Resources (DNR) to coordinate management of approximately 10,000 acres of BLM and DNR lands intermingled with WDFW lands in the Chelan Wildlife Area. The lands are popular areas for hunting upland birds, deer and big horn sheep. Wildlife viewing is also popular.

The Swakane and Entiat Units together cover approximately 14,200 acres. The Swakane Unit is five miles north of Wenatchee, just west of Rocky Reach Dam and extends to the Entiat River. This area has approximately 25 miles of dirt roads, primitive, undeveloped campsites, and parking areas. Because this area is easily accessible, it is a very popular hunting area. The 1988 Dinkleman fire burned nearly all of the Swakane Unit, changing the habitat primarily to grass.

The Entiat Unit is located between the Navarre Coulee Road and Entiat River on US 97A. This area has approximately 35 miles of dirt roads, primitive, undeveloped campsites, and parking areas. Both areas are important winter range for mule deer and offer year-round habitat for upland game birds. Non-game species including birds and small mammals also inhabit the areas.

The Chelan Butte Unit is located between 25 Mile Creek Road on US 97A and Chelan Falls and extends to just outside of the town of Chelan on the south-facing slopes of Chelan Butte. The Chelan Butte Unit covers approximately 8,200 acres. This area has over 20 miles of dirt roads, primitive, undeveloped campsites, and parking areas. Chelan Butte Unit is also a popular hunting area. This area contains upland game habitat favorable for game birds including chukar, quail, grouse, and mourning doves. The area was burned in the 1994 Tyee fire.

A 173-acre parcel called Gallagher Flats was purchased by Chelan PUD, as part of the 1963 Agreement to mitigate Project impacts. Gallagher Flats is located upstream of Beebe Bridge, along the west bank of the Reservoir. These lands were subsequently exchanged by WDFW with WSDOT for other lands now contained in the Chelan Butte Unit.

Also as part of the 1963 Agreement, Chelan PUD acquired hunting easements on two privately owned areas for which WDFW has management responsibilities. These two sites are not located adjacent to the Reservoir but are mentioned here because they were included as part of the 1963 agreement to mitigate impacts resulting from construction of the Project. The Blue Grade hunting easement is located in Douglas County just east of Lincoln Rock State Park. The Boyd hunting easement is located in Chelan County, west of the Project and north of Lake Chelan.

Both of these areas are designated on WDFW maps as hunting easements, but are otherwise undeveloped.

Chelan PUD also purchased 22 fishing access easements on private lands along the Wenatchee River as part of the 1963 Agreement. These lands provide public stream bank accesses and fishing areas along the Wenatchee River as off-site mitigation for sports fishing access areas inundated by Project construction. These easements were deeded to WDFW and are located from the Wenatchee River mouth (located approximately five miles downstream of Rocky Reach Dam) upstream to approximately one mile below the City of Leavenworth. Some of these easements include parking, and others include only public access across private lands from the road to the shoreline and lands along the shoreline. ([Easement locations to be referenced here.](#))

2.1.6 Other Chelan PUD Owned Lands Used for Dispersed Recreation

Chelan PUD-owned Turtle Rock Island is a 160-acre island located approximately two miles upstream from the Rocky Reach Dam. A small (less than one acre) sandy beach attracts boat-in visitors to the island. While no recreational facilities are located on the island, boat-in visitors use the beach for swimming and relaxing. Given the small size of the beach area, use is limited by the number of boats (approximately four to five) the beach can accommodate at one time. The island currently provides wildlife habitat, and is the site of a fish hatchery owned by Chelan PUD and operated by WDFW.

The Entiat River, at its confluence with the Columbia River, is used for dispersed recreation activities. Most of this area is owned by Chelan PUD. Several established trails leading to the Entiat River provide recreational access. Many people use these trails, visit the beach, and swim along the Reservoir shoreline adjacent to the mouth of the Entiat River.

2.1.7 Availability of Public Boat Launches on the Reservoir

The boat launches that provide public access to the Project are listed below, along with their current seasonal availability:

- Lincoln Rock State Park Boat Launch (March to October)
- Orondo River Park Boat Launch (May to September)
- Entiat Park Boat Launch (Mid-April to Mid-October)
- Daroga State Park Boat Launch (March to October)
- Chelan Falls Boat Launch (Open year-round)
- Beebe Bridge Park Boat Launch (Early April to November)
- Douglas Co. PUD Boat Launch (Open year-round)

2.1.8 Trails Near the Reservoir

Developed designated trails are located within public recreation sites developed by Chelan PUD:

- Rocky Reach Dam Site, 0.45 mile
- Lincoln Rock State Park, 1.3 miles
- Daroga State Park, 2.5 miles
- Chelan Falls and Powerhouse Parks, 0.2 mile

- Beebe Bridge Park, 0.6 mile

Numerous additional trails also exist in the vicinity of the Project, including:

- The Columbia Breaks Fire Interpretive Center Foundation has developed a 1/2 mile interpretive trail, "Trail of Fire and Forest," located on the west side of Highway 97A, at the north end of the town of Entiat. The interpretive trail was designed to explain various elements of fire history, fire suppression and fire ecology. The graveled self-guided loop interpretive trail currently passes two historic lookouts and has twelve numbered stations highlighting interpretive messages that are described in the trail brochure. The trail goes through the 18-acre future site of the proposed Columbia Breaks Fire Interpretive Center and amphitheater.
- The Apple Capital Recreation Loop Trail located in Wenatchee and East Wenatchee, just south of the Project, traverses more than 10 miles of Columbia River shorelines. The trail has three bridges - two over the Columbia River and one spanning the Wenatchee River. Wenatchee Confluence State Park is located near the northwest end of the Apple Capital Recreation Loop Trail.
- Entiat River Valley, located west of the Reservoir, has many multiple use trails that can be accessed from the Entiat Valley Road off of Highway 97A.
- Badger Mountain, located several miles east of the Reservoir, also has many hiking and mountain biking trails.

2.1.9 Existing Recreation Use Sites near the Reservoir

During development of the *Recreation Resource Inventory Summary Report*, the Social Sciences Working Group (SSWG) decided that the inventory should include descriptions of public recreation facilities at the lower end of Wells Hydroelectric Project, upstream of the Reservoir, and at the upper end of Rock Island Hydroelectric Project, downstream of the Reservoir. In addition, the USDA Forest Service requested that it include descriptions of USDA Forest Service recreation sites in the Entiat River Valley, west of the Reservoir. These recreation use sites are described in the *Recreation Resource Inventory Summary Report*.

2.2 Existing Recreational Use

Recreation sites along the Reservoir provide facilities for a variety of recreation activities, such as camping, fishing, picnicking, boating, walking, swimming, field sports, tennis, basketball, horseshoes, and playground activities.

The *1999/2000 Recreational Use Assessment Study Report* (March 2, 2001, Chelan PUD 2001c) estimated average daily use by activity at the seven Chelan PUD-developed recreation sites on the Project Table 2 summarizes the estimated average daily use by activity for the peak, fall, and spring seasons. Field data was collected in the peak-season, from Memorial Day weekend through Labor Day weekend of 1999 and 2000. Off-season data collection was conducted in the fall months of mid-September through October 1999 and in the spring months of April and May 2000. Data was collected by Chelan PUD, Washington State Parks, Port of Douglas County, the

City of Entiat and other recreation facility managers within the study area. Additional methods used for assessing daily use included observation, license plate monitoring, boat counts, on-site interviews and written surveys.

During the peak-season monitoring (most peak-season use is during July and August), camping had the greatest use followed by picnicking, walking and boating. During the fall-season monitoring, camping showed the greatest use followed by visits to the dam and the visitor center. Picnicking had the highest visitor use followed by camping during spring-season monitoring. As can be seen from Table 2, significantly more daily visitor use occurred during peak-season monitoring (1999) than during the fall- and spring-season monitoring. More visitor use occurred during fall-season monitoring (1999) than during spring-season monitoring (2000).

2.3 Existing Recreation Facilities and Physical Capacity

Collectively, existing facilities on the Reservoir include 397 acres of developed recreational land, 213 RV sites, 100 tent sites, 4 RV dump sites, 13 picnic shelters, 11 boat launch lanes, 19 boat docks, 250 boat trailer parking spaces, 408 picnic tables, 170 toilets, 1,975 linear feet of swimming beaches, and 4.69 miles of trails/walkways. The facilities all have restrooms with showers, and a variety of amenities such as picnic shelters with power, amphitheatres, landscaping and lawns, RV and tent camp sites, RV dump stations and concession buildings. Table 1 summarizes the existing facilities at the recreation sites in the Project study area. With the exception of Orondo Park, Entiat Park, and Lincoln Rock State Park, these facilities were mostly developed during the early 1990s. The following reviews existing camping, boating, and non-boating day-use facilities in the project study area and the physical capacities of these facilities. Further comparisons of visitor use and facility capacity are provided in the *Recreation Needs Forecast and Analysis* (September 21, 2001, Chelan PUD 2001a).

2.3.1 Camping

Existing Facilities

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 (Table 1).

As explained in the *1999/2000 Recreation Use Assessment Study Report*, during the 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 reduced the number of tent sites allowed in the day-use area to 25 in 2001.

Physical Capacity

Use estimates of the number of people camping at recreation sites were based on the number of campsites occupied multiplied by a factor of five people per campsite. The number of occupied group camping areas at Daroga State Park was 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 above multipliers, the capacity of campgrounds at Rocky Reach Project 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, the current (2001) There are currently 248 tent/RV sites and 17 group camping sites. Reservoir campground capacity is 2,090 people per night.

2.3.2 Boating

Existing Facilities

Six out of the seven parks on the Reservoir have boating facilities. Rocky Reach Dam and Visitor Center is the only recreation site that does not have boating facilities. There are a total of 11 launch lanes, 19 boat tie-up docks, and 250 boat trailer parking spaces at the six recreation sites. Orondo Park has a marina with marine gas available (Table 1). Douglas County PUD operates and maintains a boat launch at the tailrace of Wells Dam. This boat launch provides access to the Rocky Reach Reservoir but is located within the Wells Project boundary; therefore it is not evaluated in detail or included in the *Recreation Resources Inventory Summary Report*. The site consists of a one-lane boat launch and about six boat trailer parking spaces. There is additional parking along the dirt access road. Portable restrooms are placed at the site in the summer. Unlike the other boat launches on the Reservoir, the Wells Dam boat launch is used mainly by locals and by walleye and steelhead anglers. Due to the swift currents near the site, relatively few other recreation boaters use this launch, although some water skiers have used the launch but need to motor down river. Parking in the designated parking area fills up on some weekends and evenings, but there is generally always additional boat trailer parking space along the dirt access road (pers. comm. G. Brett, Douglas County PUD, March 2001).

Physical Capacity

Reservoir recreation sites have the capacity to accommodate 440 boats or 1,320 people per day, using Bureau of Reclamation (BOR) general design standards for boat launches of 40 boats per launch lane per day and three persons per boat. Currently there are 250 boat trailer parking spaces at recreation sites in the project study area.

Using a turnover rate of two, it can be estimated that approximately 500 vehicles per day can park at publicly owned boat launch facilities. Using an average of three people per car, it can be estimated that public boat launch parking can accommodate approximately 1,500 people per day.

2.3.3 Non-Boating Day-Use Activities

All seven public recreation sites in the study area have day-use facilities (Table 1). The following summarizes day-use parking, picnic, beach, trails and other day-use facilities provided on the Reservoir and discusses the physical capacity of day-use facilities.

Parking Facilities

Currently, there are 918 day-use parking spaces on the Reservoir recreation sites. Currently there is day-use parking available on the Reservoir to accommodate approximately 5,500 people per day. This estimate is based on the number of day-use parking spaces, multiplied by an average of three people per vehicle and a turnover rate of two per day.

Picnic Facilities

Currently there are approximately 438 picnic tables at Reservoir recreation sites. The existing picnic tables have capacity for approximately 3,504 people per day using general design standards of four people per table and a turnover rate of two per day.

Swimming/Sunbathing (Beach) Facilities

A total of 1,975 linear feet of swimming beaches is provided at Reservoir recreation sites. Assuming an average beach width of 50 feet, it is estimated that approximately 2.4 acres of swimming beaches are available at Reservoir recreation sites. The current swimming beaches on the Reservoir have capacity for approximately 1,056 people per day using general design standards of 220 people per acre and a turnover rate of two per day for swimming beaches.

Trails

Reservoir recreation sites currently have a total of over five miles of developed trails/walkways. The existing trails/walkways at Reservoir recreation sites are assumed to have the capacity for 450 people per day using National Recreation and Park Administration (NRPA) general standards for trails of 90 people per day per mile.

Other Day-Use Facilities

Six of the seven Reservoir recreation sites provide playground equipment. Additional facilities, such as horseshoe pits, baseball fields, volleyball courts, tennis courts, basketball courts, and open court areas are provided at all sites, although available facilities vary from site to site (Table 1). The Rocky Reach Dam Site has a visitor center and museum, and provides concessions, tours of the dam and fish bypass system, and fish viewing opportunities.

2.3.4 Park Acreage

The majority of park visitors are not from the local Chelan/Douglas County region, but it would not be appropriate to plan for parks at Rocky Reach Project recreational facilities based on the population of the Seattle Metropolitan area. Currently, there are not standards available that provide recommendations related to the number of park acres per number of park visitors.

City and County park planners generally use standards for planning city and regional parks. For instance, National Recreation and Park Administration standards for regional parks include 5-10 acres per 1,000 population. However, this is based on the population of the region that is accommodated by the park.

2.4 Social Capacity

Recreation site capacity is based on the physical capacity of existing facilities and design standards as described above, as well as social capacity. Social capacity refers to visitors' perceptions of crowding and conflict, as well as visitor attitudes towards recreation sites and

their recreation experience. On-site surveys conducted at Reservoir recreation sites in 1999 included questions intended to determine the social capacity of Project recreation sites. Visitors were generally satisfied with the recreation sites along the Reservoir and in the activities that they participated in during their visit. Less than 2 percent of those responding indicated that “fewer people” would have made their experience better. Results of the visitor survey are provided in the *1999/2000 Recreational Use Assessment Study Report*. Further evaluation of survey responses in regards to social capacity is presented in the *Recreation Needs Forecast and Analysis*.

2.5 Accessible Facilities

Facilities with barrier-free access exist at all Reservoir recreation sites. Projects are currently underway to improve accessibility at Orondo River Park. Additional accessible facilities will also be provided at all Reservoir recreation sites as existing facilities are improved or replaced.

2.6 Socioeconomics

The community of Entiat is located on the west side of the Project reservoir in Chelan County. The downtown core of Entiat had to be relocated to accommodate the initial development and inundation of the Rocky Reach Hydroelectric Project. When the Project began operations, Chelan PUD compensated land owners that were affected by dam construction and subsequent reservoir inundation. In addition, Chelan PUD provided infrastructure in upland areas of the town site. Chelan PUD paid a total of approximately \$3.1 million during 1956-1961 in compensation to property owners in the area adjacent to the Columbia River. Chelan PUD also provided planning assistance to the city of Entiat during this period. In addition, Chelan PUD made payments for legal assistance and infrastructure development totaling approximately \$426,000.

Relocation of the downtown core of Entiat changed the character and the economic welfare of the community during subsequent decades. A detailed analysis of the impact of the Project on the city of Entiat and Entiat School District No. 127 is provided in the appendix of the Socioeconomic Study Report (McHugh, 2000).

Table 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 Facilities*
Rocky Reach Dam and Visitor Center	38	No	20 picnic tables, 2 shelters formal gardens, visitor center, museum, playground equipment 2 horseshoe pits 3 restrooms 217 parking spaces	No	No	0.45 mi.	Yes	Yes
Lincoln Rock State Park	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
Orondo River Park	5	14 RV/tent sites Grassy area: 10-15 tents	14 picnic tables, 1 shelter 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 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 Facilities*
Entiat Park	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
Daroga State Park	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
Chelan Falls and Powerhouse Parks	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

Table 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 Facilities*
Beebe Bridge Park	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 3 tie up docks 16 boat trailer parking spaces	475 linear feet	0.6 mile	No	Yes

* Additional ADA facilities information is available through Chelan PUD Parks Department and Washington State Parks.

Table 2: Estimated Average Daily Use by Activity at Public Recreation Sites

Activity	Peak-Season '99/00 May 30 – Sept 9 (Avg. # People/Day)	Fall-Season'99 Sept 10 – Oct 31 (Avg. # People/Day)	Spring-Season '00 April 1 – May 26 (Avg. # People/Day)
Camping	863	371	186
Boating	298	34	14
Visiting Dam/Visitor Center	245	231	180
Shore Fishing	2	0	3
Visiting Beach/Sunbathing	117	0	23
Swimming/Wading	99	0	10
Nature Study Photo	3	0	14
Gathering/Collecting	0	0	0
Hang gliding	8	0	8
Walking	336	227	117
Hiking	0	0	0
Backpacking	0	0	0
Skating	5	0	14
Jogging	50	0	0
Picnicking	598	183	261
Off-road vehicle riding	0	11	0
Bicycling on-road	8	5	29
Bicycling off-road	98	40	0
Sightseeing	185	30	13
Using playgrounds	210	13	50
Group Activity	213	0	84
Other Activity	159	356	129
Total:	3497	1501	1135

SECTION 3: STUDIES AND RECREATION DEMAND, FACILITY NEEDS AND RESOURCE CAPACITY

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. Demand for recreation facilities on the Rocky Reach Hydroelectric Project Reservoir (Reservoir) is assessed by projecting recreation visitation based on existing conditions and future growth rates. Recreation planning documents and surveys conducted on the Reservoir also provide information regarding recreation-related activity demands and trends.

3.1 Existing Recreation Use at Public Recreation Sites

As discussed in the *1999/2000 Recreation Use Assessment Study Report*, estimated visitor use for Project recreation sites was calculated using several types of data. The following represents visitor use data based on 1999 and 2000 data collection and monitoring efforts. Refer to the above report or the *Recreation Needs Forecast and Analysis* for further information.

Visitor Use at Recreation Sites

Table 3 shows the estimated visitor use at Reservoir recreation sites based on 1999/2000 monitoring efforts. Estimated visitor use at each recreation sites is broken out into camping, boating and non-boating activities.

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 on the Reservoir during the peak-season. An estimated average of 1,500 people per day visited developed recreation sites on the Project during the fall-season, and an estimated average of 1,135 people per day visited developed public recreation sites on the Reservoir during the spring-season.

Visitor Use by Activity

Table 4 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 on the Project.

As shown in Table 4, during the peak-season (July and August had the highest use), 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 activities then visiting the dam/visitor center. On fall weekdays, other activities had the highest use followed by camping, whereas on weekends camping had the highest use followed by other activities.

During spring-season monitoring, picnicking had the highest average visitor use followed by camping, then visiting the dam/visitor center. On spring weekdays other activities 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.

3.2 Existing Watercraft Activity and Dispersed Use

Watercraft activity and shoreline activity or dispersed use is described in Section 5.2.1 of the *1999/2000 Recreation Use Assessment Study Report*.

Watercraft Activity

Table 5, summarizes the average number of watercraft observed during boat-run surveys on the Reservoir. This information was gathered from Memorial Day, 1999 through Labor Day, 2000. 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.

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 on the Reservoir. Personal watercraft (jet skis) 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 jet skis.

Dispersed Shoreline Use

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

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 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 the Bureau of Land Management (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 the Washington State Department of Fish and Wildlife (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.

3.3 Estimated Growth

National and state studies indicate that as populations grow, demand for recreation opportunities will also grow. Estimated growth in recreation in the vicinity of the Project, based on this premise, can be determined from population forecasts and growth rates for the location of visitors to Reservoir recreation sites. 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 were 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 7, Table 8 and Table 9. The annual population growth rates for each area, weighted average based on the percentage of people and the growth rate for each area are also shown. Currently significant growth is occurring along the Reservoir.

The following sections provide demand projections for recreation sites and activity based on population growth. In actuality, a number of other factors can influence recreation demand such as demographics and age of populations, economics, technology, etc. For instance, over the last ten years the Hispanic population around the Project has more than doubled with an increase from 1990 to 1999 of almost 118 percent and 107 percent for Chelan and Douglas counties, respectively. In comparison, Washington State's Hispanic population has increased by 66 percent over the same period of time. These increases in the vicinity of the Project can affect different use patterns. For example, according to a study done by USDA Forest Service research staff member Dr. Deborah Chavez, Hispanics recreate with their immediate and extended families, which require additional group facilities. In addition, Spanish-speaking staff and Spanish signs allow Hispanic visitors to feel more welcome and may contribute to increasing use of facilities. Aging baby boomers can result in needs for different facilities, such as Americans with Disabilities Act facilities. Trends toward larger motor homes and boats can have an impact on facility needs. Increases in fuel prices can also impact different types of recreation activity demands. Results of these other factors are not always easy to predict especially for many years out into the future.

3.4 Growth Projections for Recreation Sites and Activity in Project Area

During the twenty-year period from 2000 to 2020, the following types of growth have been projected for recreation sites and activities in the Reservoir:

- Total average number of people per day during the peak-season is estimated to grow by almost 1,325 additional visits (see Table 10 for a breakdown by site and Table 11 for a breakdown by activity);
- Total average number of people per day during the fall-season is estimated to grow by almost 545 additional visits (see Table 12 for a breakdown by site and Table 13 for a breakdown by activity);
- Total average number of people per day during the spring-season is estimated to grow by almost 420 additional visits (see Table 14 for a breakdown by site and Table 15 for a breakdown by activity);
- Estimated physical capacities of recreation sites, based on the number of campsites and parking spaces, are also shown on Table 10, Table 12 and Table 14 for comparison with estimated current and future use.
- The average number of peak-season watercraft is estimated to grow by an average of 15 additional watercraft on weekdays and 35 additional watercraft on weekends (See Table 16);
- The average number of fall-season watercraft is estimated to grow by an average of almost two additional watercraft on weekends (See Table 17);
- The average number of spring-season watercraft is estimated to grow by an average of less than 1 additional watercraft on weekdays and almost 4.5 additional watercraft on weekends (See Table 18);
- The average number of peak season dispersed activity along Reservoir shorelines is estimated to grow by an average of 12 additional people on weekdays and just over 23 additional people on weekends (See Table 19);
- The average number of spring-season dispersed activity along Reservoir shorelines is estimated to grow by an average of less than one person (See Table 20).

Growth projections were calculated using annual weighted averages of the population growth rates for the various locations from which visitors come during each season. (See Tables 7, 8, and 9). The projections were also based on the premise that as populations grow, demands for recreation opportunities grow correspondingly, assuming demand can be met, but that emphasis may change by activity. For example, according to Interagency Committee for Outdoor Recreation (IAC), there is a current decrease in camping, fishing and hunting and an increase in walking activities.

Existing planning documents and studies have identified potential recreation development opportunities that can accommodate additional facilities to satisfy the projected increases in demand. Comments were also received during development of the *Recreation Needs Forecast and Analysis* related to potential recreation development opportunities in the Project Area. Potential recreation development and expansion opportunities identified in the Project Area include the following: campground expansion opportunities, Entiat Park revitalization, trail expansions and/or additions and educational and interpretive sign development.

Table 3: Estimated Average Daily Use Rocky Reach Recreation Sites¹

SITE	Peak-Season (1999) May 30 – Sept 9 Average # People/Day			Fall (1999) Sept 10 – Oct 31 Average # People/Day			Spring (2000) April 1 – May 26 Average # People/Day		
	Avg. Peak	Week-day	Week-end ²	Avg. Fall	Week-day	Week-end ²	Avg. Spring	Week-day	Week-end ²
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 ³ :	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
TOTAL	3497	2957	4767	1501	1285	1998	1135	978	1539
<p>1 Refer to <i>Recreation Use Assessment Study Report</i> (Chelan PUD, 2001c)</p> <p>2 Weekend refers to Friday and Saturday nights for camping/overnight and Saturday and Sunday for day-use.</p> <p>3 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 4: Rocky Reach Project Recreation Sites - Estimated Average Daily Use By Activity

Activity	Peak-Season (1999) May 30 – Sept 9 Average # People/Day			Fall (1999) Sept 10 – Oct 31 Average # People/Day			Spring (2000) April 1 – May 26 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
Total:	3497	2957	4767	1501	1285	1998	1135	978	1539

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

Table 5: Average # Watercraft Observed

Type of Watercraft	Peak-Season (2000) May 30 – Sept 9 Average # Watercraft Observed per Day		Fall (1999) Sept 10 – Oct 31 # Watercraft Observed per Day		Spring (2000) April 1 – May 26 # 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 Study Report* (Chelan PUD, 2001c)

Table 6: Average Dispersed Shoreline Activity Observed

Activity	Peak-Season (2000) May 30 – Sept 9 Average # People Observed per Day		Fall (1999) Sept 10 – Oct 31 # People Observed per Day		Spring (2000) April 1 – May 26 # People Observed per Day	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
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
Total:	34	64.5	0	0	1	0

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

Table 7: Population Weighting Factors for Estimating Recreation-Use Projections (Peak-Season)

Area	% of People from each area (column a)	Annual Growth Rate of Population ¹ (column b)*	Weighted Annual Average (a) x (b)
Chelan/Douglas Counties	21%	1.62	0.34%
Seattle Metro Area ²	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%
Weighted Average			1.54%

¹ Based on 1999-2020 projections provided by Washington OFM
² Includes King, Snohomish, Kitsap, Pierce, and Thurston counties
* Annual population growth rates for each area are based on a weighted average: percentage of people vs the growth rate for each area show.

Table 8: Population Weighting Factors for Estimating Recreation-Use Projections (Fall-Season)

Area	% of People from each area (column a)	Annual Growth Rate of Population ¹ (column b)*	Weighted Annual Average (a) x (b)
Chelan/Douglas Counties	26%	1.69	0.44%
Seattle Metro Area ²	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%
Weighted Average			1.48%

¹ Based on 1999-2020 projections provided by Washington OFM
² Includes King, Snohomish, Kitsap, Pierce, and Thurston counties
* Annual population growth rates for each area are based on a weighted average: percentage of people vs the growth rate for each area show.

Table 9: Population Weighting Factors for Estimating Recreation-Use Projections (Spring-Season)

Area	% of People from each area (column a)	Annual Growth Rate of Population¹ (column b)*	Weighted Annual Average (a) x (b)
Chelan/Douglas Counties	30%	1.73	0.52%
Seattle Metro Area ²	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%
Weighted Average			1.58%
¹ Based on 1999-2020 projections provided by Washington OFM ² Includes King, Snohomish, Kitsap, Pierce, and Thurston counties * Annual population growth rates for each area are based on a weighted average: percentage of people vs the growth rate for each area show.			

Table 10: Projected Peak-Season Visitation at Rocky Reach Project Recreation Sites¹

RECREATION SITES	Est. ² 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 ³ :	250	56	42	88	57	43	89	66	50	104	77	58	121
2001 Tent ³ :	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
TOTAL	8,581	3497	2957	4767	3550	3003	4840	4137	3499	5636	4820	4076	6571

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

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

Table 11: Projected Peak-Season Visitation by Activity at Rocky Reach Project Recreation Sites

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	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
Total of All Activities	3497	2957	4767	3549	3001	4841	4136	3496	5639	4820	4076	6572

Based on 1999 Monitoring. Refer to *Recreation Use Assessment Study Report* (Chelan PUD, 2001c)

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

Table 12: Projected Fall-Season Visitation at Rocky Reach Project Recreation Sites¹

RECREATION SITES	Est. ² 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 ³ :	405	40	25	80	41	25	81	47	29	94	54	34	109
Camping/Overnight 2001 ³ :	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
TOTAL	8,736	1501	1285	1998	1524	1304	2027	1765	1510	2348	2044	1749	2720

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

Table 13: Projected Fall-Season Visitation by Activity at Rocky Reach Project Recreation Sites

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
Total of All Activities	1501	1285	1998	1522	1304	2028	1764	1510	2347	2043	1748	2721

Based on 1999 Monitoring. Refer to *Recreation Use Assessment Study Report* (Chelan PUD, 2001c)

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

Table 14: Projected Spring-Season Visitation at Rocky Reach Project Recreation Sites

RECREATION SITES	Est. ² 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 ³ :	405	2	0	5	2	0	6	3	0	7
Camping/Overnight 2001 ³ :	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
TOTAL	8,736	1135	978	1539	1326	1145	1798	1552	1339	2106
<p>1 Based on 2000 Monitoring. Refer to <i>Recreation Use Assessment Study Report</i> (Chelan PUD, 2001c)</p> <p>2 Estimated capacity is measure of physical capacity based on number of campsites & parking spaces.</p> <p>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.</p> <p>Legend: AD = All-Days; WD = Weekdays; WE = Weekends</p>										

Table 15: Projected Spring-Season Visitation by Activity Rocky Reach Project Recreation Sites

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
Total of All Activities	1135	978	1539	1327	1143	1801	1552	1338	2105
Based on 2000 Monitoring. Refer to <i>Recreation Use Assessment Study Report</i> (Chelan PUD, 2001c)									
Legend: AD = All-Days; WD = Weekdays; WE = Weekends									

Table 16: Projected Peak-Season Watercraft Activity

ACTIVITY	Average 2000 # Watercraft/Day		Average 2010 # Watercraft/Day		Average 2020 # Watercraft/Day	
	WD	WE	WD	WE	WD	WE
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
Total of All Activities	42.5	101.5	49.2	118.6	57.4	136.7
Based on 2000 boat run observations. Refer to <i>Recreation Use Assessment Study Report</i> Legend: WD = Weekdays; WE = Weekends						

Table 17: Projected Fall-Season Watercraft Activity

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
Total of All Activities	0	5	0	5	0	6	0	6.8
Based on 1999 boat run observations. Refer to <i>Recreation Use Assessment Study Report</i> (Chelan PUD, 2001c) Legend: WD = Weekdays; WE = Weekends								

Table 18: Projected Spring-Season Watercraft Activity

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
Total of All Activities	2	12	2.3	14.2	2.7	16.4

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

Table 19: Projected Peak-Season Dispersed Shoreline Activity

ACTIVITY	Average 2000 # People/Day		Average 2010 # People/Day		Average 2020 # People/Day	
	WD	WE	WD	WE	WD	WE
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
Total of All Activities	34	64.5	40	74.6	46	87.7

Dispersed shoreline activity includes activities along undeveloped shorelines.
 Based on 2000 boat run observations. Refer to *Recreation Use Assessment Study Report* (Chelan PUD, 2001c)
Legend: WD = Weekdays; WE = Weekends

Table 20: Projected Spring-Season Dispersed Shoreline Activity

ACTIVITY	Average 2000 # People/Day		Average 2010 # People/Day		Average 2020 # People/Day	
	WD	WE	WD	WE	WD	WE
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
Total of All Activities	1	0	1.2	0	1.4	0

Dispersed shoreline activity includes activities along undeveloped shorelines.
 Based on 2000 boat run observations. Refer to *Recreation Use Assessment Study Report* (Chelan PUD, 2001c)
Legend: WD = Weekdays; WE = Weekends

SECTION 4: PROTECTION, MITIGATION AND ENHANCEMENT MEASURES

~~There are seven parks along the Reservoir. Chelan PUD fully owns five of these parks and operates three of these parks. Of the seven parks within the Project Boundary. Of the other four parks, Two (Lincoln Rock and Daroga State Parks) parks are owned by Chelan PUD and operated by the Washington State Parks and Recreation Commission (Washington State Parks), one (Orondo Park) is owned in part by the Chelan PUD and Douglas County Port and is operated and maintained by the Port. Entiat Park is owned in part by Chelan PUD and the City of Entiat and is maintained by the City of Entiat. [rewrite]~~

Based on the efforts of the Social Sciences Working Group (SSWG), this section provides for operation and maintenance of existing recreation facilities on the Reservoir to ensure public access and recreational use of Project lands and waters, as well as additional facilities and access to Project lands. The following describes the proposed Protection, Mitigation and Enhancement measures (PMEs) for recreation and provides costs and a schedule for the implementation of such actions.

The SSWG identified project impacts and recreation enhancement measures based on the studies referred to in section 1.3 of this Chapter. Proposed PMEs were identified based on five primary considerations:

1. Ongoing Project-related impacts.
2. Consistency with relicensing and other relevant recreation study results.
3. Effectiveness of proposed measure.
4. Cost (including cost-sharing opportunities).
5. The presence or absence of federal reservation lands giving rise to mandatory conditioning authority under section 4(e) of the Federal Power Act.

4.1 Ownership, Operation and Maintenance of Existing Parks

Seven parks currently exist within the Project Boundary. Chelan PUD built these parks, or portions of these parks, as part of Exhibit R of the original license. Three parks are fully owned and operated by Chelan PUD (Rocky Reach Visitor Center and Park, Chelan Falls/Powerhouse Park, and Beebe Bridge Park). Two parks, Lincoln Rock State Park and Daroga State Park, were built and are owned by Chelan PUD but are operated and maintained by Washington State Parks through an agreement with the State of Washington. One park, Orondo Park, was built and is owned in part by Chelan PUD. Douglas County Port, which owns most of Orondo Park, operates and maintains it. Entiat Park was built by Chelan PUD, which owns most of the Park. However, the city of Entiat also owns a portion of the Park (which it intends to exchange with the PUD as described in section 4.5.5 of this Chapter). The city of Entiat operates and maintains the Park in partnership with Chelan PUD.

For the term of the New License and any subsequent annual licenses, Chelan PUD shall continue to ensure the operation and maintenance of Rocky Reach Park and Visitor Center, Beebe Bridge Park, Lincoln Rock State Park, Daroga State Park, Entiat Park, and Chelan Falls/Powerhouse

Park. Chelan PUD shall continue to ensure the operation and maintenance of the portion of Orondo Park that it owns.

4.2 Renovation and Enhancement of Lincoln Rock State Park and Daroga State Park

Within one year of the effective date of the New License, Chelan PUD shall begin implementation of the renovation and enhancement of Lincoln Rock State Park and Daroga State Park that shall include feasibility, finalization of design, development of a schedule, and determination of costs based on conceptual plans outlined in Appendices B and C. Chelan PUD shall provide for major renovation of, and minor improvements to, existing facilities and enhancements in either or both of these parks, which could include, but are not limited to, group camping (an area of the park set aside for groups to camp together in tents, RVs) and convenience camping (small cabins with windows, a door, sleeping bunks, and electricity, but no water or sewer).

Renovation and enhancements to the parks will be undertaken in phases, with a timeline for completion of each phase. Some renovation and enhancement components shall occur based on the level of use of existing facilities. The first phase of renovation and enhancement projects shall be accomplished within five years of the effective date of the New License.

Chelan PUD shall obtain approval from the Washington State Parks and/or other operator(s) of Lincoln Rock State Park and Daroga State Park in the development of the renovation and enhancement plan and prior to any revisions to the plan. Should the management contract with Washington State Parks to operate and maintain Lincoln and/or Daroga State Parks be terminated, Chelan PUD shall make other enhancements to these parks and/or other PUD parks on the Rocky Reach Reservoir based on a renovation and enhancement plan that would be developed by Chelan PUD with recommendations from the Rocky Reach Recreation Forum. Chelan PUD shall also consider recommendations or findings contained in the most recent Washington State SCORP document, and the 1999/2000 *Recreation Use Assessment Study Report* and *Recreation Needs Forecast and Analysis Report*.

Chelan PUD shall complete the projects outlined in Appendices B and C or spend \$6 million, whichever comes first.

4.3 Trail Link from Lincoln Rock State Park to a Fish Bypass Viewing Station

Washington State Parks has worked with Chelan PUD on the development of a five mile recreational/educational/interpretive trail that will extend from Odabashian Bridge (three miles south of the Reservoir) to Lincoln Rock State Park.

Within 180 days of the effective date of the New License or upon notification from State Parks that it has obtained all necessary permits, whichever comes later, Chelan PUD shall make available to Washington State Parks \$500,000 to construct a paved one mile trail on land owned by Chelan PUD, from Lincoln Rock State Park to a fish by-pass viewing station located approximately 300 feet downstream of Rocky Reach Dam. Trail construction includes interpretive signs, benches, and other trail amenities. If Washington State Parks completes trail construction for less than \$500,000, Chelan PUD, in consultation with the RRRF, shall make the

remaining money available for the renovation and/or construction of other interpretive trails within the Project Boundary.

4.4 Design and Construction of an Upgraded Irrigation System throughout Orondo Park

Within 180 days of the effective date of the New License, Chelan PUD will begin design and construction of an upgraded irrigation system in Orondo Park for an amount not to exceed \$25,000. Chelan PUD shall not be responsible for the operation and maintenance of the irrigation system. Upon completion, the upgraded irrigation system shall be owned, operated, and maintained by the Port of Douglas County.

4.5 Revitalization of Entiat Park

Chelan PUD met with the City of Entiat along with other stakeholder representatives within the Rocky Reach Relicensing Social Science Working Group (SSWG) from August of 1999 to October 2003. In the spring of 2002, conversations began with the City of Entiat regarding PME's relating directly to the City of Entiat and its surrounding area. These meetings were held with PUD staff and the City of Entiat steering committee, which included city officials, chamber and school district representatives, and community members. In October 2002, the first of four community meetings was held. The purpose of those meetings was to gather input from the community about their master plan for the City of Entiat, recommendations for park enhancements and for PUD staff to better understand the impacts of the Project on the City of Entiat. Working with the community, Chelan PUD developed proposals for a Draft Entiat Park Revitalization Plan.

Within one year of the effective date of the New License, Chelan PUD shall begin implementation of the Draft Entiat Park Revitalization Plan for \$9.2 million. In preparation for implementation, Chelan PUD will gather community input regarding the Draft Entiat Park Revitalization Plan (see Appendix E), make appropriate revisions, and develop an implementation schedule for the overall restoration of Entiat Park (see Appendix D).

Chelan PUD's responsibilities under the Draft Entiat Park Revitalization Plan will include the following measures, to be initiated within one year of the effective date of the New License. If one or more of the activities in subsections 4.5.1 through 4.5.4 of this section is completed using less than the full amount of funding designated for such activity, the remaining money shall be made available for another activity designated in subsections 4.5.1 through 4.5.4 of this section.

4.5.1 Entiat Park Upgrades

Chelan PUD shall design and implement the Entiat Park upgrades identified in the Draft Entiat Park Revitalization Plan at a cost of \$6 million.

4.5.2 Wastewater Treatment Plant Upgrades

Chelan PUD shall make available to the City of Entiat \$1.3 million for upgrades to the Entiat wastewater treatment plant to serve the needs of the Park.

4.5.3 Off-site Ball Field Development

Chelan PUD shall make available to Entiat School District \$700,000 for the development of ball fields on publicly-owned lands. This measure is proposed as offsite mitigation because ball fields cannot be put on Chelan PUD owned lands in Entiat Park, due to size limitations.

4.5.4 Entiatqua Trail Link

Chelan PUD shall design and construct a trail linking the Entiat River Outdoor Learning Center (Entiatqua) at the confluence of the Entiat and Columbia Rivers to Entiat Park at a cost of \$1.2 million.

4.5.5 Entiat Park Trade/Lease Agreement

Chelan PUD shall trade 8.53 acres of shoreline land north of Entiat Park, currently owned by Chelan PUD, for 8.53 acres of land within Entiat Park, currently owned by the City of Entiat. The remaining 9.32 acres of shoreline land owned by Chelan PUD shall be leased to the City of Entiat, with an option to purchase such land in 2012.

4.5.6 Entiat Park Operation and Maintenance Agreement

Chelan PUD shall enter into an agreement for the term of the New License and any subsequent annual licenses with the City of Entiat for operation and maintenance of Entiat Park

4.5.7 Annual Community Meeting

During the term of the New License and any subsequent annual licenses, Chelan PUD shall convene a community meeting annually, in coordination with the City of Entiat and the Entiat School District. The purpose of such meeting is to provide ongoing opportunities for community members to ask questions and receive updates on the implementation of the RRMP implementation and on the Chelan PUD partnership activities outlined in section 4.5 of this Chapter.

4.6 Chelan PUD Recreation Enhancement Fund

A Recreation Enhancement Fund (REF) was developed for the purpose of providing public access and recreational enhancements associated with the Project. The fund would be used for recreation facilities, wildlife access and recreational and/or environmental education programs in communities adjacent to the Columbia River and its tributaries between Rock Island and Wells dams. REF development included public outreach efforts to gather ideas and comments and to assure community support. The REF will be funded, governed, managed, and evaluated by the Chelan PUD as described more fully in Appendix G.

Within one year of the effective date of the New License, Chelan PUD shall establish the REF and deposit \$1 million to the fund. By January 31st in the first year after the effective date of the New License, and by January 31st of each year thereafter through 2011, Chelan PUD shall deposit between \$150,000 and \$350,000 to the fund. By January 31st of 2012, and by January 31st of each year thereafter of the New License and any subsequent annual licenses, Chelan PUD shall deposit between \$200,000 and \$350,000 to the fund.

The annual amounts deposited would be variable based on water flow at Grand Coulee Dam for the previous year and will be calculated in accordance with section 1.3 of Appendix G to this Chapter. Distributions from the fund will be made available in year one, and every three years thereafter, in amounts determined in accordance with section 1.4 of Appendix G to this Chapter.

The REF will be governed by an Advisory Committee appointed by the Commissioners of Chelan PUD Board of Commissioners. The funding and distribution levels and the application criteria for the REF, all described in Appendix G, will be evaluated every three years throughout the term of the New License, by the Chelan PUD Board of Commissioners.

4.7 Recreation Use Study

Beginning in year 20 of the New License, and finishing in year 23, Chelan PUD shall conduct a study, in consultation with the RRRF, and prepare a report assessing recreational use and needs on the lands around, and in the waters of, the Project Reservoir, at a cost not to exceed \$100,000. The scope of work will be similar to the scope contained in the *1999/2000 Recreation Use Assessment*.

The purpose of the recreation use study is to update information about the level of existing recreational use in the Project Reservoir in more detail than is possible to predict 20 years in advance, including the number of visits, recreational activity types, high use locations, and temporal trends and impacts on wildlife. Results from the study will aid agencies in coordinating development concepts, providing public recreation, and utilizing the Reservoir's recreational resources.

As part of the recreation use study, data will be collected in years 21 and 22 of the New License on recreation use in the Project Reservoir, and a *Recreation Use Assessment Study Report* will be completed in year 23 of the New License. The study area will include all public recreational resources within the Project Boundary. The recreation use study methodology may include, but is not limited to:

- Review of existing recreation resources assessment work
- Summary of current management plans and policies of agencies
- Inventory of existing public and private recreation resources
- Analysis of recreational activities and demand for facilities
- Analysis of recreational resource capacity for recreation development
- Recreation resource mapping
- Analysis of wildlife impacts resulting from recreational use of the reservoir. This analysis shall be done in coordination with the Rocky Reach Wildlife Forum established under section x of the Settlement Agreement.

4.8 Recreation Resources Monitoring and Evaluation Program

Every six years throughout the life of the New License and any subsequent annual licenses, Chelan PUD, in consultation with the RRRF established in section x of the Settlement Agreement, shall review and evaluate information with respect to existing and potential recreational use within the Project Boundary. A report shall be made to FERC consistent with FERC Form 80 requirements.

Table 21. Recreation Resources Management Plan for the Rocky Reach Hydroelectric Project

Project	Description	Estimated PUD Costs	Implementation Schedule
(1) Chelan PUD is responsible for management and operation of its seven existing facilities within the Rocky Reach reservoir including capital improvements and enhancements.	Ongoing O&M and capital improvements and enhancements for Rocky Reach Hydroelectric Project Visitor Center and Park, Beebe Bridge Park, and Chelan Falls/ Powerhouse Park. The remaining facilities (Orondo Park, Lincoln Rock and Daroga State Parks and Entiat Park) are managed under contract with state, port and city management agreements.	\$1.4 million per year	Ongoing operations and maintenance for existing facilities within the RR Reservoir would occur throughout the life of the license.
(2) Lincoln Rock State Park and Daroga State Park Renovation and Enhancement Plan	Renovation and construction of facilities at Lincoln Rock State Park and Daroga State Park that includes feasibility, finalization of design, development of a schedule and determination of costs based on concept plans outlined in Appendices B and C.	\$6 million	Implementation to begin within 1 year of the effective date of the new license.
(3) Completion of a paved one mile trail from Lincoln Rock State Park to a fish by-pass viewing station.	This trail link is being done in partnership with Washington State Parks and is on Chelan PUD lands. It will be a paved one mile trail from Lincoln Rick State Park to a fish by-pass viewing station located approximately 300 feet downstream of Rocky Reach Dam.	\$500,000	Within 180 days of the effective date of the new license, and when Washington State Parks has completed their planning and permitting process and all appeals are resolved, money would be made available to Washington State Parks for development of the 1 mile of trail on Chelan PUD lands.
(4) Irrigation system at Orondo Park	Chelan PUD would design and implement an irrigation system throughout Orondo Park.	\$25,000	Within 180 days of the effective date of the new license, Chelan PUD would design and implement an irrigation system at Orondo Park for an amount not to exceed \$25,000.

Table 21. Recreation Resources Management Plan for the Rocky Reach Hydroelectric Project

Project	Description	Estimated PUD Costs	Implementation Schedule
<p>(5) Revitalization of Entiat Park</p>	<ul style="list-style-type: none"> Through community input, a draft revitalization master plan has been developed, including Park enhancements and capital improvements 	<p>\$6 million</p>	<p>Upon the effective date of the new license, implementation of the revitalization of Entiat Park would occur in phases to be determined by Chelan PUD in cooperation with the Entiat community.</p>
	<ul style="list-style-type: none"> Wastewater treatment plant upgrade. 	<p>\$1.3 million</p>	<p>Upon the effective date of the new license, money would be made available to the City of Entiat for expansion and up-grades to the existing wastewater treatment plant.</p>
	<ul style="list-style-type: none"> Ball field development 	<p>\$700,000</p>	<p>Upon the effective date of the new license, money would be made available to the Entiat School District for the development of ball fields.</p>
	<ul style="list-style-type: none"> Trade – lease/purchase of 17.85 Entiat shoreline acres currently owned by Chelan PUD 	<p>\$0</p>	<p>Upon the effective date of the new license, a trade of 8.53 acres of park land currently owned by the City of Entiat would be traded for 8.53 acres of the southern portion of 17.85 Entiat shoreline acres currently owned by Chelan PUD. The remainder of the land (9.32 acres) would be leased to the City of Entiat with the option to purchase said land in 2011.</p>
	<ul style="list-style-type: none"> Partnership agreement between Chelan PUD and the City of Entiat for O & M on Entiat Park 	<p>\$257,000 per year</p>	<p>Upon the effective date of the new license, Chelan PUD would enter into a partnership agreement with the City of Entiat for O & M on Entiat Park.</p>

Table 21. Recreation Resources Management Plan for the Rocky Reach Hydroelectric Project

Project	Description	Estimated PUD Costs	Implementation Schedule
	<ul style="list-style-type: none"> Entiatqua trail - interpretive/nature trail at confluence of the Entiat and Columbia rivers 	\$1.2 million	Upon the effective date of the new license, Entiatqua Trail would be designed and constructed at the same time as the revitalization of Entiat Park.
(6) Recreation Enhancement Fund (REF)	The purpose of the REF is to make funds available for community projects that provide public access and recreational and educational enhancements on lands adjacent to the Rocky Reach Hydroelectric Project and its tributaries.	<p>\$1 million – year 1.</p> <p>Up to and including 2011 \$150,000 to \$350,000 (average \$178,933) per year</p> <p>Beginning in 2012 \$200,000 to \$350,000 (average \$217,080) per year</p> <p>Throughout term of license unless adjusted upward by PUD Commissioners (amount is based on “above” or “below” average water release from Grand Coulee Dam)</p>	Upon the effective date of the new license, an amount would be placed in the REF based on run-off from Grand Coulee Dam beginning in year 1 with \$1 million dollars. The amount placed in the fund every year would be evaluated by the Chelan PUD Commissioners every 3 years for fund amount and appropriateness of criteria.
(7) Recreation Use Study	Chelan PUD would establish a Rocky Reach Recreation Forum to review and evaluate recreation practices, needs, trends and dispersed recreation within the Rocky Reach Hydroelectric Project area for the term of the new license. This study could then be used by resource agencies and organizations in developing continued concepts for the coordinated development and utilization of the lake’s recreational resources.	\$100,000	Beginning in the 20 th year of the effective date of the new license, and finishing in the 23 rd year, Chelan PUD would conduct this study.

Table 21. Recreation Resources Management Plan for the Rocky Reach Hydroelectric Project

Project	Description	Estimated PUD Costs	Implementation Schedule
(8) Ongoing monitoring and evaluation	Chelan PUD would establish a Rocky Reach Recreation Forum to review and evaluate recreation practices, needs, trends and dispersed recreation within the Rocky Reach Hydroelectric Project area for the term of the new license.	It is estimated that nine Form 80 recreation reports will be developed during the life of the license at an approximate cost of \$4,000 each.	Following the effective date of the new license, the Rocky Reach Recreation Forum would meet within six months of Chelan PUD's submittal to FERC of the Licensed Hydropower Development Recreation Report (Form 80).

SECTION 5: LITERATURE CITED

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- Chelan PUD, 2001(b). Recreation Resources Inventory Summary Report – final, Rocky Reach Hydroelectric Project, FERC Project No. 2145, Chelan PUD, Wenatchee, Washington. September 21, 2001.
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- Interagency Committee for Outdoor Recreation, 2002. An Assessment of Outdoor Recreation in Washington State, public review draft, Interagency Committee for Outdoor Recreation, Olympia, Washington. March, 2002.