## 3.3.6 Recreation Resources

The discussion of recreation resources is divided into four sections. The affected environment is discussed in Section 3.3.6.1, environmental effects of the Project are discussed in Section 3.3.6.2, proposed measures are discussed in Section 3.3.6.3, and unavoidable adverse effects are addressed in Section 3.3.6.4.

To supplement existing, relevant, and reasonably available information from YCWA's PAD, which was not sufficient to determine the potential effects of the Project on recreation resources, YCWA conducted two studies (Study 8.1, *Recreational Use and Visitor Survey*; and Study 8.2, *Recreational Flow*). Study 8.1 is complete. The status of Study 8.2 is described below.

- Recreation Flow (Study 8.2) The primary goals of the FERC-approved study were to determine if Project operations can: 1) provide acceptable whitewater boating opportunities consistent with demand on river reaches potentially affected by the Project; 2) determine anglers' preferences (e.g., flow, location and type of fishing) on Project-affected study reaches; and 3) be consistent with the needs of the area, the primary purposes or ability of the Project, and other resource management plans. On October 29, 2012, YCWA posted to the relicensing Website an Interim Technical Memorandum that included all study results with the exception of estimating the whitewater boatable and optimum flow ranges from Highway 49 on the Middle Yuba River to Englebright Reservoir on the Yuba River. YCWA and the Relicensing Participants agreed to continue the study into spring 2014 in hopes of adequate water conditions to complete the study for this reach, which did not occur in 2011 or 2012. YCWA expects to issue the final technical memorandum by July 2014. Information available from Study 8.2 as of the date of the DLA has been included in the DLA.

### 3.3.6.1 Affected Environment

This section describes existing recreational resources and is divided into the following four areas: 1) recreational setting; 2) recreational resources within the FERC Project Boundary; 3) recreational use; and 4) recreational flow opportunities on the Project-affected river reaches.

#### 3.3.6.1.1 Recreational Setting

The Project's recreation facilities and opportunities are primarily found in the North and Middle Yuba river watersheds. Overall, the Project provides developed and undeveloped recreation opportunities at New Bullards Bar Reservoir and at the Our House and Log Cabin diversion dam impoundments. The Project's developed recreation facilities occur at New Bullards Bar Reservoir, which includes overnight camping, picnicking, trail and boat launching facilities. Recreation activities at New Bullards Bar Reservoir are numerous and varied and include, but are not limited to, fishing, boating, houseboating, swimming, camping, hiking and bicycling. Motorized boating including houseboating is one of the more popular activities at New Bullards Bar Reservoir. The two Project diversion dam impoundments provide undeveloped recreation

opportunities, including primarily day use activities such as fishing, wildlife viewing, gold panning and hiking. Undeveloped camping is allowed, but rarely observed at the impoundments.

3.3.6.1.2 Recreational Resources Within the FERC Project Boundary

**New Bullards Bar Recreation Area**

New Bullards Bar Reservoir provides a variety of water-related recreational opportunities including water skiing, wakeboarding, houseboating, power boating, jet skiing, wildlife viewing, non-motorized boating, warm and cold water fishing, hiking and lake side camping (accessed by boat only). Some boat use and launching occurs year round; however, the typical boating season extends from about early May through mid-October. Because 90 percent of the New Bullards Bar shoreline is federal land, most of the shoreline is theoretically accessible for recreation. However, the sides of the reservoir are generally steep and public access for boating and recreation is limited to three boat launches.

New Bullards Bar Reservoir contains populations of rainbow trout, kokanee salmon, brown trout, spotted bass, smallmouth bass, largemouth bass, crappie, bluegill and channel catfish for anglers (CDFG 2002a). The Cal Fish and Wildlife stocks catchable-size rainbow trout in the reservoir (CDFG 2009c). The reservoir also offers anglers shoreline and boat-based fishing opportunities with varied settings including the deeper, larger pools near the dam to the sinuous arms at the upstream ends of the reservoir.

Land-based recreation opportunities provided in the vicinity of New Bullards Bar Reservoir include wildlife viewing, hiking, mountain biking, horseback riding, picnicking and camping.

The Project has 16 developed recreation facilities, which include: 1) Hornswoggle Group Campground; 2) Schoolhouse Campground; 3) Dark Day Campground; 4) Cottage Creek Campground;[1] 5) Garden Point Boat-in Campground; 6) Madrone Cove Boat-in Campground; 7) Frenchy Point Boat-in Campground; 8) Dark Day Picnic Area; 9) Sunset Vista Point; 10) Dam Overlook; 11) Moran Road Day Use Area; 12) Cottage Creek Boat Launch;[2] 13) Dark Day Boat Launch, including the Overflow Parking Area; 14) Schoolhouse Trail; 15) Bullards Bar Trail; and 16) floating comfort stations.[3] All of the recreation facilities are located on NFS land, with the exception of the Dam Overlook, Cottage Creek Boat Launch and small portions of the Bullards Bar Trail, which are located on land owned by YCWA. All of the developed recreation facilities are located within the existing FERC Project Boundary, except for a few short segments of the Bullards Bar Trail to the east of the Dark Day Boat Launch. The Project also includes two

[1] Cottage Creek Campground was burned in 2011 and has not been rebuilt. YCWA is in discussions with the Forest Service regarding rebuilding the burned campground.

[2] Emerald Cove Marina provides visitor services at Cottage Creek Boat Launch, including houseboat and boat rentals, boat slips and moorings, fuel and a general store. The marina is operated under a lease from YCWA by a private company.

[3] The Project recreation facilities included one campground that is no longer part of the Project. Burnt Bridge Campground was closed initially by the Forest Service in 1979 due to low use levels. FERC, in an August 19, 1993 Order, which approved YCWA's Revised Recreation Plan, directed YCWA to remove all improvements and restore the Burnt Bridge Campground to the condition it was in prior to development of the facility. YCWA consulted with the Forest Service and all that remains of Burnt Bridge Campground today is the circulation road and vehicle spurs; all other facilities were removed.

undeveloped recreation sites at Our House and Log Cabin diversion dams located on NFS land within the existing FERC Project Boundary.

Project recreation facilities on NFS land are within the TNF's Bullards Management Area.[4] The TNF and PNF Recreation Opportunity Spectrum (ROS) settings for the management area are Rural (i.e., substantially modified with structures or other cultural modifications) for the developed recreation facilities and Roaded-Natural (i.e., an area 0.5 mi or less from roads, where resource modifications range from evident to strongly dominant) in all other areas (USFS-TNF 1990); except Madrone Cove Boat-in Campground, which is Roaded-Modified (USFS-PNF 1988). YCWA also leases some of its land adjacent to the Cottage Creek Boat Launch within the FERC Project Boundary to Emerald Cove Marina, Inc. for marina services.

A summary of these facilities and sites including their associated amenities is provided in Table 3.3.6-1; the location of each of these facilities is provided in Figure 1.1-2. A detailed description of each facility/site is below.

[4] The Madrone Cove Boat-in Campground and Moran Road Day Use Area facilities lie within the PNF boundary. Management of facilities on the PNF was turned over to the TNF through an agreement between forests, but management direction is still provided by PNF in its Land and Resource Management Plan.

**Table 3.3.6-1. Developed recreation facilities and undeveloped recreation sites at New Bullards Bar Reservoir.**

| Recreation Facility | | Fee | Manager | Land Owner-ship | Campsites | | | | | | Picnic Sites | Boat Ramp | | Parking Spaces | | | Restrooms | | | Trail-head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Type | Total | Single | Double | Triple | Group | | No. | Lanes | Total | Single | Double | Total | Vault | Flush | |
| **NEW BULLARDS BAR RESERVOIR** | | | | | | | | | | | | | | | | | | | | |
| Schoolhouse Campground | | Yes | USFS | NFS | tent/ RV | 57[1] | 44 | 13 | 0 | 0 | 0 | 0 | 0 | 20[2] | 20[2] | 0 | 5 | 1 | 4 | Yes |
| Hornswoggle Group Campground | | Yes | USFS | NFS | tent/ RV | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 2 | No |
| Dark Day Campground | | Yes | USFS | NFS | tent | 10 | 6 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | Yes |
| Cottage Creek Campground[3] | | Yes | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | No |
| Garden Point Boat-In Campground | | Yes | USFS | NFS | tent | 16 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | No |
| Madrone Cove Boat-In Campground | | Yes | USFS | NFS | tent | 10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | No |
| Frenchy Point Boat-In Campground[4] | | Yes | USFS | NFS | tent | 7 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | No |
| Dark Day Boat Launch | Main | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2-3 | 103 | 39 | 64 | 1 | 1 | 0 | Yes |
| | Overflow | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 73 | 18 | 55 | 1 | 1 | 0 | No |
| Cottage Creek Boat Launch | | No | YCWA | YCWA | -- | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 209 | 130 | 79 | 2 | 2 | 0 | No |
| Dark Day Picnic Area | | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 14 | 14 | 0 | 1 | 1 | 0 | No |
| Sunset Vista | | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 60[2] | 60[2] | 0 | 1 | 1 | 0 | Yes |
| Dam Overlook | | No | USFS | YCWA | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24[2] | 24[2] | 0 | 0 | 0 | 0 | No |
| Moran Road Day Use Area | | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 8[2] | 8[2] | 0 | 1 | 1 | 0 | No |
| Bullards Bar Trail | | No | USFS | NFS/ YCWA | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A[5] | N/A[5] | N/A[5] | 0 | 0 | 0 | No |
| Schoolhouse Trail | | No | USFS | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A[5] | N/A[5] | N/A[5] | 0 | 0 | 0 | No |
| Floating Comfort Stations | | No | YCWA | N/A | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 7 | 0 | No |
| **PROJECT IMPOUNDMENTS** | | | | | | | | | | | | | | | | | | | | |
| Our House Diversion Dam | | No | -- | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25[2] | 25[2] | 0 | 0 | 0 | 0 | No |
| Log Cabin Diversion Dam | | No | -- | NFS | -- | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N/A[6] | N/A[6] | N/A[6] | 0 | 0 | 0 | No |
| **Project Total** | | -- | -- | -- | -- | **106** | **78** | **21** | **1** | **6** | **14** | **3** | **5-6** | **536** | **338** | **198** | **30** | **24** | **6** | -- |

[1] Includes a host site.

[2] Parking area is not striped so the total number of spaces is estimated.

[3] Cottage Creek Campground was used for overflow camping; however, the facility burned in a 2011 fire and has been closed since. All facilities were destroyed in the fire, except the vault restroom.

[4] Frenchy Point Boat-in Campground is no longer managed as a developed campground, but rather for dispersed shoreline camping. The restroom facility has been removed and only the campsite amenities remain, including the picnic tables, fire rings and Klondike stoves.

[5] Trailhead parking is available where the trail intersects other existing parking areas, including at the Schoolhouse Campground overflow parking area (20 spaces), Sunset Vista Point (20 spaces), Dark Day Picnic Area (16 spaces) and Dark Day Boat Launch (39 single spaces).

[6] Parking at Log Cabin Diversion Dam impoundment is informal along the shoulder of Highway 49, which does not have a defined area to estimate the parking capacity.

Operation and Maintenance Responsibilities

Under the existing FERC license, YCWA constructed and has responsibility to operate and maintain the Project recreation facilities. In a 1968 agreement, YCWA and the Forest Service agreed that the Forest Service had full responsibility for operating and maintaining the Project recreation facilities (USFS-TNF 1968).[5] However, in the early 1990s, the Forest Service returned full responsibility for operating and maintaining all the Project recreation facilities to YCWA. Subsequently in 1991, the Forest Service and YCWA entered into an agreement/special use permit (SUP) in which the Forest Service (TNF) would operate and maintain all the Project recreation facilities on NFS land, which the Forest Service has done using its staff (i.e., the Forest Service does not use a concessionaire), but YCWA would collect user fees and use those fees to pay the Forest Service's O&M costs related to recreation around New Bullards Bar Reservoir (USFS-TNF 1991). Thus, in one way or another, the Forest Service owns and has operated and maintained the Project recreation facilities, with the few exceptions noted below, throughout the term of the existing license; though YCWA remains primarily responsible for the facilities under the FERC license.

The recreation facilities that the Forest Service does not operate and maintain are the Cottage Creek Boat Launch, associated marina (i.e., Emerald Cove Marina), and the water treatment plant that supplies water for the recreation facilities - all of which are located on YCWA land. YCWA operates and maintains the Cottage Creek Boat Launch, dam overlook and water treatment plant, and has entered into a lease with Emerald Cove Marina, LLC for operation and maintenance of the marina.

All of the recreation facilities are accessed for maintenance by vehicle, except for Madrone Cove Boat-in Campground, which is accessed by boat only. Of note, Garden Point Boat-in Campground is accessed by both vehicles and boat. Vehicle access is used for major maintenance (e.g., pumping the vault restrooms) and boat access is used for minor maintenance.

Law enforcement and public safety at the New Bullards Bar Reservoir and recreation facilities is shared by the TNF and the Yuba County Sheriff's Department. Campground regulations, occupancy limits, vehicle limits, and noise ordinances are strictly enforced and campgrounds are patrolled by the Forest Service. The Yuba County Sheriff has the responsibility to enforce state and county laws, whereas the Forest Service has the responsibility to enforce federal laws, within the operating area (USFS-TNF 2009). The Yuba County Sheriff boat patrol maintains safety and enforces the State and County regulations at Cottage Creek Boat Launch facility and within the New Bullards Bar Reservoir recreation area. Yuba County ordinances contain provisions specific to New Bullards Bar Reservoir (Title VIII, Public Peace and Safety, Chapter 8.50 – Bullards Bar Recreation Area). These ordinances detail the rules and regulations for all types of use on public land including vehicle traffic, boating, shoreline use, swimming, houseboating and fire prevention. In addition, speed limit restrictions are posted on the reservoir for public safety near the boat launching facilities, mooring areas, the narrow upper North Yuba River arm of the reservoir, and for fisheries protection in certain coves. (Yuba County 2008b)

[5] In a grant deed dated October 12, 1971, YCWA deeded to the Forest Service the all Project recreation facilities and the land on which they occur, excluding the Cottage Creek Boat Launch, Dam Overlook and water treatment plant.

Income and Expenses

YCWA's lease with Emerald Cove Marina, Inc. provides that the marina collects all campground rental fees. Since 2008, the overnight rental fee for a campground site is $22 and for the group campground is $80, with a two night minimum stay on weekends and a three night minimum stay on holiday weekends (i.e., Memorial Day, Independence Day and Labor Day). Six dollars of each fee is set aside by YCWA and the Forest Service for recreation capital improvement projects (CIP), which are collaboratively agreed to by YCWA and the Forest Service. An extra $7.50, which is retained by the concessionaire, is charged for each phone reservation and is not considered income by YCWA for the purpose of this discussion. YCWA also receives an annual fee from the Emerald Cove Marina, Inc. lease. In addition, shoreline camping permitees must also pay a rental fee (i.e., $4) to Emerald Cove Marina for a portable chemical toilet unless their boat has adequate sanitation facilities. No other fees are currently charged for users of Project recreation facilities, though users may rent watercraft at the Emerald Cove Marina.[6] From 2008 through 2012, the Project recreation facilities gross income ranged from $279,822 to $314,747 (Table 3.3.6-2).

**Table 3.3.6-2. Income and expenses for operations of Project recreation facilities from 2008 through 2012.**

| Cost and Expense Items | Calendar Year | | | | |
|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 |
| **GROSS INCOME** | | | | | |
| Campground Site and Group Campground Rental Fees | $130,659.98 | $140,458.48 | $145,223.99 | $136,703.98 | $134,375.98 |
| Capital Improvement Project (CIP) Fees | $47,978.00 | $51,528.00 | $53,326.00 | $50,462.00 | $49,234.00 |
| Permit Fee Paid by Emerald Cove Marina, Inc. for Use of YCWA Land at Cottage Creek Boat Launch | $101,184.16 | $105,498.99 | $116,197.59 | $124,464.01 | $123,648.85 |
| **Gross Income** | **$279,822.14** | **$297,485.47** | **$314,747.58** | **$311,629.99** | **$307,258.83** |
| **GROSS EXPENSES** | | | | | |
| Annual Payment to Forest Service as Concessionaire for Recreation Facilities on NFS Land | $261,850 | $282,297 | $272,355 | $284,201 | $253,852 |
| Annual Payment to Emerald Cove Marina, Inc. as Concessionaire for Recreation Facilities on YCWA Land, and for Administration of Reservation System | $58,796.99 | $63,203.32 | $65,350.80 | $61,516.79 | $60,469.19 |
| Estimated Cost for YCWA Staff Time Dedicated Solely to Project Recreation Facilities | $355,424 | $268,908 | $315,919 | $338,304 | $370,020 |
| *Subtotal - Routine O&M Expenses* | *$676,070.99* | *$614,408.32* | *$653,624.80* | *$684,021.79* | *$684,341.19* |
| Cost for Capital Improvements | $67,500 | $28,500 | $51,528 | $52,000 | $50,000 |
| *Subtotal – Capital Improvements* | *$67,500* | *$28,500* | *$51,528* | *$52,000* | *$50,000* |
| **Gross Expenses** | **$743,570.99** | **$642,908.32** | **$705,152.80** | **$736,021.79** | **$734,341.19** |
| **NET** | | | | | |
| **Difference Between Gross Income and Gross Expenses** | **-$463,749** | **-$345,423** | **-$390,405** | **-$424,392** | **-$427,082** |

Expenses related to Project recreation facilities fall into two categories: routine O&M of the facilities and capital improvements. YCWA has entered into concessionaire-type agreements with the Forest Service for O&M of Project recreation facilities on NFS land and issued a lease to Emerald Cove Marina, Inc. for O&M of Project recreation facilities on YCWA land, and to manage the reservation system and collect all fees for campground rentals. Regardless of these agreements, at times YCWA staff must perform concessionaire-type services to support day-to-day O&M of the recreation facilities. These YCWA activities include operations of the water treatment plant, annual pre- and post-season clean up of recreation areas, pumping of waste at

[6] YCWA is exploring an entrance and use fee and increasing camping fees to offset recreation costs. These new fees could be implemented in 2014.

floating comfort stations and boat-in campgrounds, garbage disposal, payment to the County Sheriff for law enforcement patrols, non-routine maintenance, signage and buoys, and payment of utilities. Table 3.3.6-2 shows that YCWA's total expenses for routine O&M of the recreation facilities from 2008 through 2012 have ranged between $614,408 and $684,341.

Capital improvements (i.e., work to extend the expected life of existing facilities, replacement of existing facilities when they reach the end of their useful life, or addition of new facilities - as compared to maintenance of existing facilities) to the Project recreation facilities are paid from the capital improvement fee on campground reservations and are performed by YCWA or the Forest Service. From 2008 through 2012, these capital improvement projects have been negotiated each year between YCWA and the Forest Service, and have included upgrades to the water treatment plant, purchase of a boat for Forest Service, construction and installation of bear boxes, and placement of vehicular barriers. Capital improvement costs have ranged between $28,500 and $67,500 (Table 3.3.6-2).

At times, the Forest Service, at its sole discretion, has undertaken capital improvements to Project recreation facilities. Between 2003 and 2011, the Forest Service completed five capital improvement projects for a total of $1,768,100 of which $966,000 was funded by grants.[7]

Note that YCWA and the Forest Service have identified the following potential capital improvements for consideration over the next few years: remediation of slides at the Cottage Creek and Dark Day boat launches; reconstruction of the Cottage Creek Campground, and replacement of recreation facilities that reach the end of their expected life.

As shown in Table 3.3.6-2, from 2008 through 2012 the Project recreation facilities have operated at an annual loss of between $345,423 and $463,749, which does not include the funds expended by the Forest Service at its sole discretion.

Campgrounds

*Schoolhouse Campground.* Schoolhouse Campground is located between New Bullards Bar Reservoir and Marysville Road across from the Hornswoggle Group Campground. The campground is approximately 0.5 mile (mi) from the reservoir shoreline on NFS land. The campground has 57 campsites, which includes 43 single sites, 13 double sites and 1 host site. The single sites amenities include a picnic table, cooking grill/fire ring, food locker, and vehicle parking spur with a capacity of 6 people and 1 vehicle for $22 per night. The double sites amenities include 2 picnic tables, a cooking grill/fire ring, 2 food lockers and vehicle parking spur with a capacity of 12 people and 2 vehicles for $44 per night. The campground has 5 restrooms (4 flush and 1 vault), a potable water system and an overflow parking area for 20 vehicles. The campground does not have any recreation vehicle (RV) hookups or a dump station. The campground has 1 facility identification sign at the entrance; 5 information boards

[7] The Forest Service capital improvement projects include; 1) a 2003 Department of Boating and Waterways (DBAW) grant to construct the Dark Day Boat Ramp Overflow Parking Area ($547,000); 2) a 2003 capital improvement project (CIP) grant to pave the circulation roads at Schoolhouse, Hornswoggle Group and Dark Day complex ($776,000); 3) a 2005 DBAW grant to repair the Dark Day boat ramp ($94,600); 4) a 2005 DBAW grant to replace the Dark Day boat ramp courtesy dock ($56,000); and 5) a 2011 DBAW grant to repair the landslide/erosion adjacent to the Dark Day Boat Ramp Overflow Parking Area ($293,500).

(one 3-panel board at the entrance station and four 1-panel information boards at each restroom); 12 directional signs along the circulation roads; 29 information/regulation signs throughout the facility; and a site marker sign at each campsite.

The campground also has a trailhead for the 1.0-mi Schoolhouse Trail (Project trail), which connects to the 14.0-mi Bullards Bar Trail (Project trail); and includes two trail signs, where the trail intersects the campground. In addition, the 8 Ball Trail (non-Project trail) passes through the campground and leads to Dark Day Campground.

In 2012, the campground was in good overall condition. Most of the campground facilities were in good or excellent condition, including the campsite amenities (tables, fire rings, food lockers, vehicle barriers, etc.), water hydrants, circulation roads and camping spurs. In contrast, the six restrooms were in fair-to-good condition with well maintained exteriors but deteriorating interiors. The campground does not meet current accessible standards for NFS lands - Forest Service Outdoor Recreation Accessible Guidelines (FSORAG) or Architectural Barriers Act Accessible Standards (ABAAS) (YCWA 2013).

*Dark Day Campground.* Dark Day Campground is located approximately 4 mi from the New Bullards Bar Dam via Marysville Road and Dark Day Road on the southeast shoreline of the Willow Creek arm of the reservoir. The facility is approximately 0.2 mi from the reservoir shoreline. The campground complex has 10 campsites for tent camping only, with 6 single sites, 3 double sites and 1 triple site. The single sites amenities include a picnic table, cooking grill/fire ring, food locker, and vehicle parking spur with a capacity of six people and one vehicle for $22 per night. The double sites amenities include 2 picnic tables, a cooking grill/fire ring, 2 food lockers and vehicle parking spur with a capacity of 12 people and 2 vehicles for $44 per night. The triple site amenities include 3 picnic tables, a cooking grill/fire ring, 3 food lockers and vehicle parking spur with a capacity of 18 people and 3 vehicles for $66 per night. The campground has three vault restroom buildings and a potable water system. The campground has 2 information boards (a 3-panel and 1-panel board), 9 information/regulation signs throughout the facility; and 3 campsite marker signs (one for each cluster of campsites).

In 2012, the campground was in good overall condition. Most of the campground facilities were in good or excellent condition, including the campsite amenities, circulation roads and camping spurs. In contrast, the two restrooms and water hydrants were in fair condition. The campground does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Hornswoggle Group Campground.* Hornswoggle Group Campground is located on Marysville Road, 2.5 mi northeast of the New Bullards Bar Dam, and 3.3 mi southwest of the Highway 49 junction. The facility is approximately 0.6 mi from the southeast shoreline of the reservoir on NFS land. The facility consists of 6 group campsites with 5 campsites that accommodate up to 25 people-at-one-time (PAOT) ($80 per night), and 1 group campsite that accommodates up to 50 PAOT ($140 per night). The group site amenities include tables, food lockers and a group fire ring/grill. The campground has 4 restrooms (2 flush and 2 vault), a potable water system, and parking areas at each campsite. The campground has 1 facility identification sign at the

 

entrance; 6 1-panel information boards; 3 directional signs along the circulation road; 7 information/regulation signs throughout the facility and 6 campsite marker signs.

In 2012, the campground was in good overall condition. Most of the campground facilities were in good condition, including the campsite amenities, circulation roads, camping spurs and parking areas. In contrast, the four restrooms and most of the water hydrants were in fair condition. The campground does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Garden Point Boat-In Campground.* The Garden Point Boat-in Campground is accessed by boat only and is located on a peninsula on the north side of the reservoir at the junction between the North Yuba River and Willow Creek arms of the reservoir on NFS land. The campground is approximately 3.0 mi by boat from the Cottage Creek Boat Launch, and 1.5 mi from the Dark Day Boat Launch. The campground has 16 campsites, which includes 12 single sites and 4 double sites. The single sites amenities include a picnic table, a fire ring, and Klondike stove for a maximum of six people for $22 per night. The double site amenities include 2 picnic tables, a fire ring, and Klondike stove for a maximum of 12 people for $44 per night. The campground has four restrooms (all vault) and does not have a potable water system. The campground has 1 facility identification sign; 1 2-panel information board; 1 information/regulation sign and 16 campsite marker signs.

In 2012, the campground was in good overall condition. Most of the campground facilities were in good condition, namely the campsite amenities. In contrast, the restrooms and the Klondike stoves were in fair condition. The campground does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Madrone Cove Boat-In Campground.* The Madrone Cove Campground is accessed by boat only and is located along the west shore of the North Yuba River arm of the reservoir on NFS-owned land. By boat, the campground is approximately 7.5 mi from the Cottage Creek Boat Launch and 6.0 mi from the Dark Day Boat Launch. The campground has 10 single campsites (maximum of 6 people per site for $22 per night). Each site's amenities include a picnic table, fire ring and Klondike stove. The campground has 2 restrooms (both vault) and does not have a potable water system. The campground has 1 facility identification sign; 1 2-panel information board; 2 information/regulation signs and 10 campsite marker signs.

In 2012, the campground was in fair overall condition. Most of the campground facilities were in fair condition, namely the campsite amenities. However, all the restrooms, retaining walls (at each site) and Klondike stoves were in poor condition as well as some of the tables. The campground does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Frenchy Point Boat-In Campground.* Frenchy Point Boat-in Campground was once a developed campground facility, but is now used as an undeveloped shoreline camping area due to very low

use in the past.[8] The site is accessed by boat only and is located along the west facing shore of the North Yuba River arm of the reservoir on NFS land. By boat, the campground is approximately 6.0 mi from the Cottage Creek Boat Launch and 4.5 mi from the Dark Day Boat Launch. The remnant facilities include 7 campsites (6 single and 1 double). The single site amenities each include a picnic table, fire ring and Klondike stove; and the double site amenities each include a picnic table, fire ring and 2 Klondike stoves. The site has one site identification sign; two 1-panel information boards; and one information/regulation sign. The site does not have a restroom facility[9] or potable water system.

In 2012, the remnant facilities and amenities were in fair-to-poor overall condition. The site does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

Day Use Facilities

*Dark Day Picnic Area.* The Dark Day Picnic Area is located adjacent to Dark Day Campground on NFS land. The picnic area consists of 13 picnic sites, each with a picnic table and cooking grill/fire ring. The day use area also has 1 restroom (vault), a potable water system, and a paved and striped parking area for 14 vehicles. A trailhead for the Bullards Bar Trail is located near the parking area. The facility has 1 facility identification sign; 2 1-panel information boards; 14 information/regulation signs; 2 directional signs on the road and 1 trailhead sign.

In 2012, the facility was in good overall condition, but the individual facilities' condition varied widely. The parking area was in excellent condition; however, the site amenities (tables and Klondike stoves) and the restroom were in fair condition. The facility does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Sunset Vista Point.* This scenic overlook is located near the southeast corner of the reservoir approximately 1.0 mi east of New Bullards Bar Dam via Marysville Road and Vista Point Road. The facility consists of 1 restroom (vault), 1 picnic table, and a gravel parking area for approximately 60 vehicles. The facility also serves as a trailhead for the Bullards Bar Trail (Project trail). The facility has one facility identification sign; a single 1-panel information board; four information/regulation signs; and an interpretive panel. In addition, the Bullards Bar Trailhead also has three signs including a trailhead sign and two informational signs.

In 2012, the facility was in good overall condition, but the individual facilities' condition varied widely. The parking area was in good condition; however, the site amenities (table and interpretive displays) and the restroom were in fair condition. The facility does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

*Dam Overlook.* The Dam Overlook is located at the southeast corner of New Bullards Bar Dam on Marysville Road on YCWA-owned land. The facility provides a safe place to park a vehicle

[8] This facility was converted to a shoreline camping area due to low use. The location of the facility is not ideal for visitor use as the shoreline access is very steep, particularly below the normal maximum water surface elevation (NMWSE). As the reservoir elevation recedes early in the peak recreation season, the access issue results in a very short period of use. Historically, the use of this facility only occurred within 15 vertical ft of the NMWSE or roughly one month typically in the June-July period (YCWA 1993).

[9] A pit restroom was installed during the original construction of the facility, but was removed due to low campground use and high maintenance of the restroom. Currently, a floating comfort station is moored in the cove next to the campground.

 

with an unobstructed view of the dam and reservoir and consists of a gravel parking area for approximately 24 vehicles and an interpretive plaque related to the construction of New Bullards Bar Dam and the Project. The facility does not have any signs other than the interpretive plaque.

In 2012, the facility was in excellent overall condition, with the limited facilities (parking and interpretive display) in good to excellent condition. The facility does not meet current accessible standards for private land (2010 ADA Accessibility Standards) (YCWA 2013).

*Moran Road Day Use Area.* The Moran Road Day Use Area is located on the west shoreline of New Bullards Bar Reservoir at Moran Cove on NFS land. The day use area is accessible by vehicle 6.4 mi from the Town of Challenge via Oregon Hill Road and Moran Road. The rustic developed facility consists of a gravel parking area for eight vehicles, one restroom (vault) and an informal car top boat ramp (gravel surface). The facility has a single 1-panel information board and four information/regulation signs.

In 2012, the facility was in good overall condition with most of the facilities (parking area, trash receptacles and boat ramp) in good condition. In contrast, the restroom was in excellent condition and the signs and access road were in poor condition. The facility does not meet current accessible standards for NFS land (FSORAG or ABAAS) (YCWA 2013).

Boat Launch Facilities

*Cottage Creek Boat Launch.* Cottage Creek Boat Launch is located on YCWA-owned land along the southwest corner of the reservoir off County Road 169 approximately 0.1 mi from its intersection with Marysville Road. The launch ramp facility consists of a 900-ft long 2-lane concrete launch ramp, 2 restrooms (vault), and a paved and striped parking area for 209 vehicles (130 single spaces and 79 double spaces). The facility has two facility identification signs and 33 information/regulation signs.

In 2012, the Cottage Creek Boat Launch was in excellent overall condition as most of the facilities and amenities were recently constructed or installed, including the parking area, restrooms and circulation roads. Notably, the concrete boat ramp is in good overall condition with the majority of the ramp is in good condition; however, the lower portion was recently constructed (extension) and is in excellent condition. The parking area and restrooms all met accessible guidelines (2010 ADA Accessibility Standards). Notably, due to the steep terrain/slope where the boat ramp is located, the boat ramp access route cannot meet the accessible standards; and was accepted as a condition of departure from the standards as part of the California Department of Boating and Waterways design of the facility in 2005. This scenario is typical of boat ramps at reservoirs located in steep canyons such as New Bullards Bar Reservoir (YCWA 2013).

*Dark Day Boat Launch.* The Dark Day Boat Launch facility is located on Dark Day Road. The facility consists of a main facility (original construction) and an overflow parking area (constructed in 2003). The main facility has a 2-lane concrete boat ramp (3-lane concrete boat ramp at the top of the ramp) with a floating boat dock, a 4-unit restroom (vault) and a paved and striped parking area for 103 vehicles (39 single spaces and 64 double spaces). Exterior, solar-powered lights are provided at the restroom and at the top of the boat ramp. The overflow

parking area facility (named Dark Day Boat Launch Overflow Parking Area) has a paved and striped parking area for 73 vehicles (18 single spaces and 55 double spaces), and a 2-unit restroom (vault). Overall, the facility has 2 facility identification signs; one 2-panel information board; 45 information/regulation signs; and 5 directional signs on the access and circulation roads off Marysville Road.

In 2012, the Dark Day Boat Launch facility was in good overall condition, but the facilities' condition varied significantly between the main or original constructed facility and the newer overflow parking area. The main facility amenities were generally in fair condition, including the concrete boat ramp, parking area and restroom. In contrast, the overflow parking area was in excellent condition, including the parking area and the restroom. The main facility does not meet current accessible guidelines (FSORAG or ABAAS) due to the steep slope of the entire parking area and boat ramp. The overflow parking area and restroom meet the accessible guidelines (ABAAS) (YCWA 2013).

Recreational Trails

*Bullards Bar Trail.* The Bullards Bar Trail is a 14-mi non-motorized, multi-use trail offering an easy, relatively level, and scenic route along the shoreline of the reservoir from the Sunset Vista Point near the dam up to Old Camptonville Road near the Willow Creek arm of the reservoir. The non-motorized, multi-use trail is located within the existing FERC Project Boundary, except for the eastern end of the trail (approximately 1.5 mi) which extends beyond the FERC Project Boundary along Willow Creek, ending at Old Camptonville Road. The trailheads, including parking, are located at the Sunset Vista Point day use facility, Dark Day Picnic Area and Dark Day Boat Launch. The trail is located on NFS and YCWA-owned land and is managed by the Forest Service.

In 2012, YCWA identified 13 locations on the Bullards Bar Trail where erosion or other use impacts existed. These 13 sites included nine sites with erosion and four sites with downed trees.

*Schoolhouse Trail.* The Schoolhouse Trail is a 0.7-mile non-motorized, multi-use trail that descends approximately 250 ft steeply from Schoolhouse Campground to the Bullards Bar Trail. The trailhead including parking is located at the Schoolhouse Campground with parking nearby in the campground overflow parking area. The entire trail is located on NFS land within the existing FERC Project Boundary land and is managed by the Forest Service.

In 2012, YCWA did not identify any locations on the Schoolhouse Trail where erosion or other use impacts existed.

Undeveloped Shoreline Camping

Due to potential fire hazard at New Bullards Bar Reservoir, YCWA allows undeveloped shoreline camping at undesignated locations by permit only through YCWA's lessee operating the marina. Only 44 permits are available on any one day for undeveloped shoreline camping; and this opportunity is only available when the reservoir water elevation is at or below 1,941 ft, or 15 ft below the normal maximum water surface elevation (NMWSE) of 1,956 ft, due to potential fire hazard. Private portable chemical toilets are required as part of the permit and can be rented from the marina. A former boat-in campground (Frenchy Point Boat-in Campground)

 

is now used as an undesignated shoreline camping area and is no longer utilized as a developed facility; although most camping amenities still exist (tables and Klondike stoves).

In 2012, YCWA identified 14 recurrent dispersed recreation use locations within the existing FERC Project Boundary, but outside of the Project developed recreation facilities. Three identified recurrent dispersed recreation sites were located above the NMWSE and the remaining 11 sites were located below the NMWSE. All the sites were accessible primarily from the reservoir by boat. Of the 14 recurrent dispersed recreation sites, nine sites were categorized as "low" impact; four sites as "moderate" impact; and one site as "high" impact.

Floating Restrooms

New Bullards Bar Reservoir has seven floating comfort stations (FCS) dispersed throughout the reservoir. Each FCS consists of two stalls on a floating dock with cleats for boats to approach and tie off to and informational signs. Overall in 2012, the FCS were in excellent condition as all of the facilities were new or recently constructed and installed; and the FCS do not meet accessible standards (ABAAS) (YCWA 2013).

Recreational Water Supply System

*Water Treatment Facility.* The water treatment facility[10] is located on the north side of New Bullards Bar Dam at the west end of the Cottage Creek Boat Launch facility on YCWA land. The water treatment facility consists of the following primary elements: 1) a water treatment building, containing filters, valves, gages, electronics, office, pumps and equipment; 2) two 10,000 gallon storage tanks; 3) concrete dechlorination basin; and 4) extensive, separate piping for raw water and treated water. The facility has a storage capacity of 20,000 gallons and a filter rate of 30 gallons per minute or 43,200 gallons per day.

*Distribution Segment 1: Water Treatment Facility to Cottage Creek Boat Launch.* The treated water leaves the water treatment facility and is piped underground directly to the Cottage Creek Boat Launch facility along the northern boundary of the facility parking area. Roughly halfway along the parking area, there is a "T" junction in the piping, where the piping emerges above ground and water may either be pumped up the hill to a storage tank near the marina storage/maintenance yard north of the boat launch parking area (off County Road 169) or continue down to the marina. This segment is entirely on YCWA land.

*Distribution Segment 2: Water Treatment Facility to Sunset Vista Point/Water Storage Tanks.* Treated water serving the recreation facilities on the south side of New Bullards Bar Reservoir along Marysville Road leaves the water treatment facility and is piped across New Bullards Bar Dam (upstream face near crest) and then underground across the entrance road to the upstream side of the dam, where a 2-inch pipe carries it aboveground, across the upstream side, just below the crest of the dam to the south side of the dam. Here the pipe goes underground near the Dam Overlook (no water facilities) along the north side of Marysville Road until it reaches the south side of the Forest Service administration site (non-project) near Sunset Vista Point. It travels

[10] The source for the recreational facility water system is raw water from New Bullards Bar Reservoir at the low level outlet of New Bullards Bar Dam. YCWA pumps and pipes the raw water up the downstream side of New Bullards Bar Dam (north side) and under County Road 169 at the entrance to the Cottage Creek Boat Launch facility, where the source water enters the water treatment facility.

through the Forest Service's administrative site,[11] mostly between the administrative site road and the reservoir, until the 2-inch pipe connects to the top of both water storage tanks at the north side of the Forest Service administrative site. This segment is on YCWA and NFS land.

The primary storage of treated water occurs near the Forest Service's administrative site (non-project on NFS land), where two storage tanks are located - a 28,000 gallon concrete tank and a newer 10,000 gallon polypropylene tank.

*Distribution Segment 3: Sunset Vista Point/Water Storage Tanks to Schoolhouse and Hornswoggle Group Campgrounds.* The treated water leaves the storage tanks at the Forest Service administrative site via the underground delivery system (8-inch pipe) to the Project recreation facilities along Marysville Road (Hornswoggle Group Campground, Schoolhouse Campground, and the Dark Day complex). The 8-inch mainline pipe then turns and follows Marysville Road north, and delivers the water to the Project recreation facilities along Marysville Road.

The connection to Hornswoggle Group Campground occurs at a "T" junction in the main distribution line several hundred feet before the Schoolhouse Campground access road. The treated water is diverted off the main distribution line underneath Marysville Road to the south to Hornswoggle Group Campground, where water is piped underground to the campground water facilities (e.g., flush restrooms, water hydrants and fire hydrant).

The connection to Schoolhouse Campground occurs at a "T" junction in the main distribution line several hundred feet past the Schoolhouse Campground access road, near the middle of the facility complex. The treated water is connected underground to the campground water facilities (e.g., flush restrooms and water hydrants). This segment is on YCWA and NFS land.

*Distribution Segment 4: Schoolhouse and Hornswoggle Group Campgrounds to Dark Day Complex.* The connection to the Dark Day recreation complex occurs at a "T" junction in the main distribution line just before the Dark Day access road. The main distribution line then follows the west side of Dark Day Road, where it connects to the Dark Day Overflow Boat Ramp Parking Area, Dark Day Campground, Dark Day Picnic Area and Dark Day Boat Launch. The main distribution line runs along the western edge of the road that accesses Dark Day Campground and Picnic Area with several "T" junctions to run treated water to the campsites and picnic area along the road; as well as east to the water hydrant at Dark Day Boat Launch facility. Figure 3.1-3 shows the approximate locations of the underground septic and leach field systems.

*2012 Condition Summary.* The primary below-ground infrastructure of the water system is more than 40 years old. Based on incidental information from both YCWA staff, which operates the water treatment facility and occasionally maintains aspects of the water system, and Forest

[11] The Forest Service administrative site is a non-Project facility used by the Forest Service for a variety of Forest Service needs, and is not open to the public. It includes a Forest Service operational headquarters, barracks and residences for Forest Service fire response. FERC, in an August 19, 1993 Order that approved YCWA's Revised Recreation Plan, directed YCWA to remove the administrative site from the Project facilities, and redraw the FERC Project boundary to exclude the administrative site.

Service staff, which regularly maintains the above-ground and some segments of the below-ground facilities, YCWA understands that the infrastructure is showing its age. Further, the above-ground facilities (i.e., primarily water hydrants) at recreation facilities are generally in fair condition and categorically do not meet accessible guidelines.

Marina Services (YCWA Lease)

The marina is provided as a service to Project visitors through a YCWA lease to a private concessionaire. Currently, the marina is called Emerald Cove Marina. The facility is located on New Bullards Bar Reservoir at the end of Cottage Creek Boat Ramp; and consists of a marina, a floating general store and a floating restroom building. The Emerald Cove Marina provides overnight boat slips and mooring buoys, gasoline pumps, and a floating dump station for houseboat sanitation systems. In addition, the marina provides marine-related repair and maintenance services for nearly any watercraft from complete engine overhauls to cosmetic repairs, including 24-hour emergency watercraft calls/service. The marina has a variety of boat rentals including luxury houseboats, powerboats, pontoon boats, and personal watercraft/wave runners. The general store provides groceries and general supplies to the public. The marina operates a reservation system for overnight camping permits at New Bullards Bar Reservoir facilities, including shoreline camping permits and portable chemical toilet rentals.

**Project Diversion Dam Impoundments**

The Project's Our House and Log Cabin Diversion Dam impoundments do not include developed recreation facilities, but offer undeveloped recreation opportunities along the Middle Yuba River and Oregon Creek, respectively. A description of the undeveloped recreation opportunities at each impoundment is provided below.

Our House Diversion Dam

The Our House Diversion Dam impoundment provides undeveloped day use recreation opportunities. The site is located on NFS land along the Middle Yuba River (river mile or RM 12.6) and does not have any developed recreation facilities. Vehicle access to the diversion dam occurs via Highway 49 to Ridge Road and then 1.8 mi along the paved Our House Dam Road. Informal parking for approximately 25 vehicles is available at the end of the Our House Dam Road, where visitors have foot access to the shoreline. In 2012, the impoundment area was in good condition; use impact was low; and accessibility was not intended at this undeveloped area (YCWA 2013).

Log Cabin Diversion Dam

The Log Cabin Diversion Dam impoundment provides undeveloped day use recreation opportunities. The site is located on NFS land along Oregon Creek (RM 4.3) and does not have any developed recreation facilities. YCWA, with the permission of the Forest Service, has installed and keeps locked a vehicular gate on NFS land at the start of Log Cabin Road at Highway 49. Vehicle access to the diversion dam is restricted. Visitors may park their vehicles along the shoulder of Highway 49 and hike into the diversion dam. In 2012, the impoundment area was in good condition; use impact was low; and accessibility was not intended at this undeveloped area (YCWA 2013).

3.3.6.1.3 Recreational Use

**Recreation Visitation**

Current Recreational Use Estimates

In 2012, the total Project recreation use was 116,630 Recreation Days (RDs)[12] with the majority of that use occurring in the peak season[13] (82% or 95,870 RDs) compared to the non-peak season[14] (18% or 20,760 RDs) (Table 3.3.6-3). Overnight use (52% or 60,220 RDs) accounted for slightly more of the total use than day use (48% or 56,410 RDs). However, during the non-peak season, day use accounted for 69 percent (14,380 RDs) of the total use as compared to overnight use (31% or 6,380 RDs). During the peak season, overnight use accounted for 56 percent (53,840 RDs) of the total use as compared to day use (44% or 42,030 RDs). When comparing use by day type overall, total use was highest on the weekends (53,820 RDs) as compared to weekdays (46,950 RDs) and holidays (15,860 RDs).

**Table 3.3.6-3. 2012 Project recreation visitation in Recreation Days by type of facility, type of use and season.**

| Type of Use Facility or Area | Day Type | Use Estimates in Recreation Days (RDs) by Type of Use and Day Type | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Peak Season (Memorial–Labor Day) | | | Non-Peak Season (Apr 15-Memorial Day, Labor Day-Oct 15) | | | Annual (Jan 1 – Dec 31) | | |
| | | Overnight Use | Day Use | Total Use | Overnight Use | Day Use | Total Use | Overnight Use | Day Use | Total Use |
| Developed Campgrounds | **Overall** | **39,440** | **N/A[1]** | **39,440** | **5,870** | **N/A** | **5,870** | **45,310** | **N/A** | **45,310** |
| | Weekday | 17,100 | N/A | 17,100 | 1,590 | N/A | 1,590 | 18,690 | N/A | 18,690 |
| | Weekend | 16,310 | N/A | 16,310 | 4,280 | N/A | 4,280 | 20,590 | N/A | 20,590 |
| | Holiday | 6,030 | N/A | 6,030 | N/A | N/A | N/A | 6,030 | N/A | 6,030 |
| Undeveloped Permitted Shoreline Camping | **Overall** | **2,180** | **N/A** | **2,180** | **180** | **N/A** | **180** | **2,360** | **N/A** | **2,360** |
| | Weekday | 790 | N/A | 790 | 80 | N/A | 80 | 870 | N/A | 870 |
| | Weekend | 940 | N/A | 940 | 100 | N/A | 100 | 1,040 | N/A | 1,040 |
| | Holiday | 450 | N/A | 450 | N/A | N/A | N/A | 450 | N/A | 450 |
| New Bullards Bar Reservoir Houseboaters | **Overall** | **12,160** | **N/A** | **12,160** | **310** | **N/A** | **310** | **12,470** | **N/A** | **12,470** |
| | Weekday | 4,860 | N/A | 4,860 | 140 | N/A | 140 | 5,000 | N/A | 5,000 |
| | Weekend | 6,070 | N/A | 6,070 | 170 | N/A | 170 | 6,240 | N/A | 6,240 |
| | Holiday | 1,230 | N/A | 1,230 | N/A | N/A | N/A | 1,230 | N/A | 1,230 |
| Developed Day Use Facilities | **Overall** | **N/A** | **41,300** | **41,300** | **N/A** | **14,140** | **14,140** | **N/A** | **55,440** | **55,440** |
| | Weekday | N/A | 15,220 | 15,220 | N/A | 6,650 | 6,650 | N/A | 21,870 | 21,870 |
| | Weekend | N/A | 17,990 | 17,990 | N/A | 7,490 | 7,490 | N/A | 25,480 | 25,480 |
| | Holiday | N/A | 8,090 | 8,090 | N/A | N/A | N/A | N/A | 8,090 | 8,090 |
| Undeveloped Diversion Dam Impoundments | **Overall** | **60** | **730** | **790** | **20** | **240** | **260** | **80** | **970** | **1,050** |
| | Weekday | 20 | 320 | 340 | 10 | 170 | 180 | 30 | 490 | 520 |
| | Weekend | 30 | 360 | 390 | 10 | 70 | 80 | 40 | 430 | 470 |
| | Holiday | 10 | 50 | 60 | N/A | N/A | N/A | 10 | 50 | 60 |
| **Total** | **Overall** | **53,840** | **42,030** | **95,870** | **6,380** | **14,380** | **20,760** | **60,220** | **56,410** | **116,630** |
| | *Weekday* | *22,770* | *15,540* | *38,310* | *1,820* | *6,820* | *8,640* | *24,590* | *22,360* | *46,950* |
| | *Weekend* | *23,350* | *18,350* | *41,700* | *4,560* | *7,560* | *12,120* | *27,910* | *25,910* | *53,820* |
| | *Holiday* | *7,720* | *8,140* | *15,860* | *N/A[1]* | *N/A[1]* | *N/A[1]* | *7,720* | *8,140* | *15,860* |

[1] N/A = not applicable.

[12] A Recreation Day is each visit by a person to a development for recreation purposes during any portion of a 24-hour period.
[13] The peak recreation season is from and including the Memorial Day Holiday weekend to the Labor Day Holiday weekend.
[14] The non-peak recreation season is from after the Labor Day Holiday weekend to immediately before the Memorial Day Holiday weekend.

When comparing overall use by facility type, the day use facilities (i.e., boat launches, day use areas and trailheads) accounted for the highest percentage of use (48% or 55,440 RDs) followed by the developed camping use (38% or 45,310 RDs) and houseboating use (11% or 12,470 RDs). Undeveloped uses accounted for the remaining three percent of total Project use, which included permitted shoreline camping use (2% or 2,360 RDs) and diversion dam impoundment use (1% or 1,050 RDs).

**Future Recreation Use Estimate through 2050**

YCWA used the 2012 recreation use figures for the Project as the baseline and applied county population growth rates for the top 80 percent of the visitors surveyed (equates to 10 counties) to each use estimate by day type. YCWA obtained the California county population projections from the State of California Department of Finance[15] and the lone Nevada County population projections from the State of Nevada, Department of Taxation[16] (Nevada County Population Projections 2012 to 2031, Based on the Last Estimate Year of 2011).

Next, YCWA multiplied the weighted percentage for each county by the growth rate for each decade and the 2012 use estimate. The weighted use estimate for each county was summed to get a projected use estimate for the Project by type of season (overall or annual, peak and non-peak) and day type (weekday, weekend and holidays).

Overall, recreation use is projected to increase by 50.9 percent by 2050. By 2050, the recreation use estimate is projected to increase to 175,920 RDs annually; to 144,640 RDs for the peak season; and to 31,330 RDs for the non-peak season (Table 3.3.6-4.)

**Table 3.3.6-4. Annual recreation use estimate projections through 2050 based on county population growth rates.**

| Season | Day Type | 2012 Use Estimate | Projected Use Estimates | | | | Increase | |
|---|---|---|---|---|---|---|---|---|
| | | | 2020 | 2030 | 2040 | 2050 | RDs | Percent |
| Annual | **Overall** | **116,630** | **128,610** | **143,480** | **159,280** | **175,920** | **59,320** | 50.9 |
| | Weekday | 46,950 | 51,770 | 57,760 | 64,120 | 70,820 | 23,880 | |
| | Weekend | 53,820 | 59,330 | 66,190 | 73,480 | 81,150 | 27,360 | |
| | Holiday | 15,860 | 17,510 | 19,530 | 21,680 | 23,950 | 8,080 | |
| Peak Season | **Overall** | **95,870** | **105,750** | **117,970** | **130,960** | **144,640** | **48,770** | 50.9 |
| | Weekday | 38,310 | 42,260 | 47,140 | 52,330 | 57,800 | 19,490 | |
| | Weekend | 41,700 | 45,990 | 51,310 | 56,960 | 62,910 | 21,210 | |
| | Holiday | 15,860 | 17,500 | 19,520 | 21,670 | 23,930 | 8,070 | |
| Non-Peak Season | **Overall** | **20,760** | **22,900** | **25,560** | **28,370** | **31,330** | **10,570** | 50.9 |
| | Weekday | 8,640 | 9,530 | 10,640 | 11,810 | 13,040 | 4,400 | |
| | Weekend | 12,120 | 13,370 | 14,920 | 16,560 | 18,290 | 6,170 | |
| | Holiday | N/A[1] | N/A[1] | N/A[1] | N/A[1] | N/A[1] | N/A[1] | N/A[1] |

[1] N/A = not applicable.

[15] http://www.dof.ca.gov/research/demographic/reports/projections/p-3

[16] State of Nevada, Department of Taxation. Nevada County Population Projections 2012 to 2031, Based on the Last Estimate Year of 2011.

## Developed Facility Occupancies

The overall occupancy at the five Project developed campgrounds is projected to be between 59.7 percent (Madrone Cove Boat-in Campground) and 99.5 percent (Dark Day Campground) by 2060 (Table 3.3.6-5). When examining weekend occupancies at these campgrounds, all are projected to be between 98.7 percent (Madrone Cove Boat-in Campground) and 149.7 percent (Dark Day Campground) occupancy by 2060. Dark Day Campground is the first campground projected to reach full capacity on weekends by 2020 followed by Schoolhouse, Hornswoggle Group and Garden Point Boat-in campgrounds by 2030. Madrone Cove Boat-in Campground is not projected to reach full capacity on weekends through 2060.

**Table 3.3.6-5. Projected peak season occupancy, by day type, for the Project campgrounds through 2060.**

| Campground | Day Type | Average Peak Season Occupancy (%) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2012 | 2020 Projection[1] | 2030 Projection[1] | 2040 Projection[1] | 2050 Projection[1] | 2060 Projection[1] |
| Schoolhouse Campground | **Overall** | **49.6** | **56.8** | **63.3** | **74.1** | **74.5** | **80.0** |
| | Weekday | 30.9 | 35.4 | 39.4 | 46.2 | 46.4 | 49.9 |
| | Weekend | 85.3 | 97.6 | 108.8 | 127.4 | 128.1 | 137.6 |
| | Holiday | 89.5 | 102.4 | 114.2 | 133.7 | 134.4 | 144.3 |
| Dark Day Campground | **Overall** | **61.7** | **70.6** | **78.7** | **92.2** | **92.6** | **99.5** |
| | Weekday | 46.1 | 52.8 | 58.8 | 68.9 | 69.3 | 74.4 |
| | Weekend | 92.8 | 106.3 | 118.4 | 138.6 | 139.4 | 149.7 |
| | Holiday | 91.1 | 104.3 | 116.3 | 136.1 | 136.8 | 147.0 |
| Hornswoggle Group Campground | **Overall** | **50.3** | **57.6** | **64.2** | **75.2** | **75.6** | **81.2** |
| | Weekday | 33.1 | 37.9 | 42.2 | 49.4 | 49.7 | 53.4 |
| | Weekend | 86.7 | 99.2 | 110.6 | 129.5 | 130.2 | 139.8 |
| | Holiday | 77.8 | 89.0 | 99.2 | 116.2 | 116.8 | 125.4 |
| Garden Point Boat-in Campground | **Overall** | **53.4** | **61.2** | **68.2** | **79.8** | **80.2** | **86.2** |
| | Weekday | 36.5 | 41.8 | 46.6 | 54.5 | 54.8 | 58.9 |
| | Weekend | 85.5 | 97.9 | 109.1 | 127.8 | 128.5 | 138.0 |
| | Holiday | 90.3 | 103.4 | 115.2 | 134.9 | 135.6 | 145.7 |
| Madrone Cove Boat-in Campground | **Overall** | **37.0** | **42.4** | **47.2** | **55.3** | **55.6** | **59.7** |
| | Weekday | 22.4 | 25.6 | 28.6 | 33.4 | 33.6 | 36.1 |
| | Weekend | 61.2 | 70.1 | 78.1 | 91.4 | 91.9 | 98.7 |
| | Holiday | 78.9 | 90.3 | 100.7 | 117.9 | 118.5 | 127.2 |

[1] Developed Site Use index: 1.145 by 2020; 1.276 by 2030; 1.494 by 2040; 1.502 by 2050; and 1.613 by 2060 (Bowker et al. 2012).

A summary by campground is provided below.

*Schoolhouse Campground.* The overall occupancy was 49.6 percent in 2012 and is projected to reach 80.0 percent by 2060 (Table 3.3.6-5). On weekends, occupancy was 85.3 percent in 2012 and is projected to reach 137.6 percent by 2060. The campground is projected to reach full capacity on weekends by 2030.

*Dark Day Campground.* The overall occupancy was 61.7 percent in 2012 and is projected to reach 99.5 percent by 2060 (Table 3.3.6-5). On weekends, occupancy was 92.8 percent in 2012 and is projected to reach 149.7 percent by 2060. The campground is projected to reach full capacity on weekends by 2020.

*Hornswoggle Group Campground.* The overall occupancy was 50.3 percent in 2012 and is projected to reach 81.2 percent by 2060 (Table 3.3.6-5). On weekends, occupancy was 86.7

percent in 2012 and is projected to reach 139.8 percent by 2060. The campground is projected to reach full capacity on weekends by 2030.

*Garden Point Boat-in Campground.* The overall occupancy was 53.4 percent in 2012 and is projected to reach 86.2 percent by 2060 (Table 3.3.6-5). On weekends, occupancy was 85.5 percent in 2012 and is projected to reach 138.0 percent by 2060. The campground is projected to reach full capacity on weekends by 2030.

*Madrone Cove Boat-in Campground.* The overall occupancy was 37.0 percent in 2012 and is projected to reach 59.7 percent by 2060 (Table 3.3.6-5). On weekends, occupancy was 61.2 percent in 2012 and is projected to reach 98.7 percent by 2060. The campground is not projected to reach full capacity on weekends through 2060.

## Developed Picnic Areas[17]

In 2012, the overall picnic area occupancy rates for two picnic facilities were very low (Table 3.3.6-6).

**Table 3.3.6-6. Projected peak season picnic area occupancy through 2060 by day type at Project picnic facilities.**

| Picnic Facility | Day Type | Average Peak Season Occupancy (%) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2012 | 2020 Projection[1] | 2030 Projection[1] | 2040 Projection[1] | 2050 Projection[1] | 2060 Projection[1] |
| Dark Day Picnic Area (14 units) | **Overall** | **4.9** | **5.6** | **6.3** | **7.3** | **7.4** | **7.9** |
| | Weekday | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Weekend | 11.9 | 13.6 | 15.2 | 17.8 | 17.9 | 19.2 |
| | Holiday | 2.4 | 2.7 | 3.0 | 3.6 | 3.6 | 3.8 |
| Sunset Vista[2] (1 unit) | **Overall** | **2.8** | **3.2** | **3.5** | **4.2** | **4.2** | **4.5** |
| | Weekday | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Weekend | 5.6 | 6.4 | 7.1 | 8.3 | 8.3 | 9.0 |
| | Holiday | N/A[2] | N/A | N/A | N/A | N/A | N/A |

[1] Developed Site Use index: 1.145 by 2020; 1.276 by 2030; 1.494 by 2040; 1.502 by 2050; and 1.613 by 2060 (Bowker et al. 2012).
[2] YCWA used the non-peak season for these projections (no holidays) since the peak season had no observed picnic unit occupancy in 2012.

A summary by picnic area is provided below.

*Dark Day Picnic Area.* The overall occupancy was 4.9 percent in 2012 and is only projected to reach 7.9 percent by 2060 (Table 3.3.6-6). On weekends, occupancy was 11.9 percent in 2012 and is projected to reach only 19.2 percent by 2060. The picnic facility is not projected to reach full capacity overall or on weekends by 2060.

*Sunset Vista Point.* YCWA utilized the non-peak season occupancy since use/occupancy at the single picnic site was higher than during the peak season when YCWA did not observe any visitors using the picnic site at Sunset Vista Point. The occupancy was 2.8 percent in 2012 and is only projected to reach 4.5 percent by 2060 (Table 3.3.6-6). On weekends, occupancy was 5.6 percent in 2012 and is projected to reach only 9.0 percent by 2060. The picnic facility is not projected to reach full capacity overall or on weekends by 2060.

[17] Picnic areas include sites with tables and specific picnic facilities.

## Parking Areas

Developed Boat Launch Facilities

Table 3.3.6-6 provides occupancy rates by parking areas associated with boat launches.

**Table 3.3.6-7. Current and projected peak season average occupancy levels for parking areas at Project boat launch facilities.**

| Parking Facility | Day Type | Average Peak Season Occupancy (%) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2012 | 2020 Projection[1] | 2030 Projection[1] | 2040 Projection[1] | 2050 Projection[1] | 2060 Projection[1] |
| Dark Day Boat Launch (103 VAOT)[2] | **Overall** | **52.0** | **60.6** | **67.6** | **75.2** | **83.9** | **94.3** |
| | Weekday | 22.7 | 26.5 | 29.5 | 32.9 | 36.7 | 41.3 |
| | Weekend | 74.4 | 86.7 | 96.7 | 107.6 | 120.1 | 135.0 |
| | Holiday | 75.4 | 87.8 | 98.0 | 109.0 | 121.7 | 136.8 |
| Dark Day Overflow Boat Ramp Parking Area (73 VAOT)[2] | **Overall** | **15.0** | **17.5** | **19.5** | **21.7** | **24.2** | **27.2** |
| | Weekday | 2.7 | 3.2 | 3.6 | 4.0 | 4.4 | 5.0 |
| | Weekend | 30.1 | 35.1 | 39.1 | 43.6 | 48.6 | 54.7 |
| | Holiday | 13.2 | 15.4 | 17.2 | 19.1 | 21.4 | 24.0 |
| Cottage Creek Boat Launch (209 VAOT)[2] | **Overall** | **47.2** | **55.0** | **61.3** | **68.3** | **76.2** | **85.7** |
| | Weekday | 21.8 | 25.4 | 28.3 | 31.5 | 35.2 | 39.6 |
| | Weekend | 61.9 | 72.1 | 80.4 | 89.5 | 99.9 | 112.3 |
| | Holiday | 77.2 | 89.9 | 100.3 | 111.6 | 124.6 | 140.0 |

[1] Motorized Water Use index: 1.165 by 2020; 1.299 by 2030; 1.446 by 2040; 1.614 by 2050; and 1.814 by 2060 (Bowker et al. 2012).
[2] VAOT = vehicles-at-one-time

A summary by boat launch parking area is provided below.

*Dark Day Boat Launch.* The overall parking area occupancy was 52.0 percent in 2012 and is projected to reach 94.3 percent by 2060 (Table 3.3.6-7). On weekends, occupancy was 74.4 percent in 2012 and is projected to reach 135.0 percent by 2060. The facility is projected to reach full capacity on weekends by 2040.

*Dark Day Boat Launch Overflow Parking Area.* The overall parking area occupancy was 15.0 percent in 2012 and is projected to reach 27.2 percent by 2060 (Table 3.3.6-7). On weekends, occupancy was 30.1 percent in 2012 and is projected to reach only 54.7 percent by 2060. The facility is not projected to reach full capacity overall or on weekends.

*Cottage Creek Boat Launch.* The overall parking area occupancy was 47.2 percent in 2012 and is projected to reach 85.7 percent by 2060 (Table 3.3.6-7). On weekends, occupancy was 61.9 percent in 2012 and is projected to reach 112.3 percent by 2060. The facility is projected to reach full capacity on weekends by 2050.

Of note, the Forest Service has indicated that their experience as the concessionaire of Dark Day Boat Launch and Overflow Parking Area is that occupancy at the parking areas is much higher than that documented during YCWA's study. YCWA requested data or a study to document this; however, as of the date this Application for New Licensee is filed, the Forest Service has not provided YCWA any data to support the higher occupancy.

Developed Day Use Facilities

Table 3.3.6-8 provides occupancy rates by parking areas associated with day use areas.

 

**Table 3.3.6-8. Current and projected peak season average occupancy levels for parking areas at Project day use facilities.**

| Parking Facility | Day Type | Average Peak Season Occupancy (%) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2012 | 2020 Projection | 2030 Projection | 2040 Projection | 2050 Projection | 2060 Projection |
| Dark Day Picnic Area[1] (14 VAOT) | **Overall** | **29.5** | **33.7** | **37.2** | **41.1** | **44.3** | **48.3** |
| | Weekday | 4.1 | 4.7 | 5.2 | 5.7 | 6.1 | 6.7 |
| | Weekend | 58.3 | 66.7 | 73.7 | 81.3 | 87.6 | 95.7 |
| | Holiday | 31.0 | 35.4 | 39.1 | 43.2 | 46.5 | 50.8 |
| Sunset Vista Point[2] (20 VAOT) | **Overall** | **9.7** | **11.2** | **12.6** | **14.0** | **15.3** | **16.7** |
| | Weekday | 1.4 | 1.7 | 1.9 | 2.1 | 2.3 | 2.5 |
| | Weekend | 15.8 | 18.4 | 20.7 | 22.9 | 25.0 | 27.3 |
| | Holiday | 16.7 | 19.3 | 21.8 | 24.1 | 26.4 | 28.7 |
| Dam Overlook[3] (24 VAOT) | **Overall** | **4.9** | **5.7** | **6.3** | **7.0** | **7.4** | **8.0** |
| | Weekday | 3.0 | 3.4 | 3.8 | 4.2 | 4.4 | 4.8 |
| | Weekend | 6.9 | 7.9 | 8.8 | 9.9 | 10.4 | 11.2 |
| | Holiday | 5.6 | 6.3 | 7.0 | 7.9 | 8.3 | 8.9 |
| Moran Road Day Use Area[4] (8 VAOT) | **Overall** | **10.2** | **11.5** | **12.7** | **13.8** | **14.9** | **16.1** |
| | Weekday | 3.6 | 4.1 | 4.5 | 4.9 | 5.2 | 5.6 |
| | Weekend | 18.8 | 21.3 | 23.5 | 25.5 | 27.5 | 29.6 |
| | Holiday | 8.3 | 9.5 | 10.4 | 11.3 | 12.2 | 13.2 |

[1] Projections were based on an average of growth rates for Fishing and Motorized Water Use indices, which averages out to a growth index of: 1.144 by 2020; 1.263 by 2030; 1.395 by 2040; 1.502 by 2050; and 1.640 by 2060 (Bowker et al. 2012).

[2] Projections were based on the Day Hiking index: 1.159 by 2020; 1.305 by 2030; 1.444 by 2040; 1.581 by 2050; and 1.724 by 2060 (Bowker et al. 2012).

[3] Projections were based on an average of growth rates for Developed Site Use, Fishing and Day Hiking indices, which averages out to a growth index of: 1.144 by 2020; 1.263 by 2030; 1.395 by 2040; 1.502 by 2050; and 1.640 by 2060 (Bowker et al. 2012).

[4] Projections were based on an average of growth rates for Fishing, Swimming and Day Hiking, which averages out to a growth index of: 1.137 by 2020; 1.253 by 2030; 1.361 by 2040; 1.467 by 2050; and 1.581 by 2060 (Bowker et al. 2012).

A summary by day use area parking area is provided below.

*Dark Day Picnic Area.* The overall parking area occupancy was 29.5 percent in 2012 and is projected to reach 48.3 percent by 2060 (Table 3.3.6-8). On weekends, occupancy was 58.3 percent in 2012 and is projected to reach 95.7 percent by 2060. The facility is not projected to reach full capacity overall or on weekends through 2060.

*Sunset Vista Point.* The overall parking area occupancy was 9.7 percent in 2012 and is projected to reach 16.7 percent by 2060 (Table 3.3.6-8). On weekends, occupancy was 15.8 percent in 2012 and is projected to reach only 27.3 percent by 2060. The facility is not projected to reach full capacity overall or on weekends through 2060.

*Dam Overlook.* The overall parking area occupancy was 4.9 percent in 2012 and is projected to reach 8.0 percent by 2060 (Table 3.3.6-8). On weekends, occupancy was 6.9 percent in 2012 and is projected to reach only 11.2 percent by 2060. The facility is not projected to reach full capacity overall or on weekends through 2060.

*Moran Road Day Use Area.* The overall parking area occupancy was 10.2 percent in 2012 and is projected to reach 16.1 percent by 2060 (Table 3.3.6-8). On weekends, occupancy was 18.8 percent in 2012 and is projected to reach only 29.6 percent by 2060. The facility is not projected to reach full capacity overall or on weekends through 2060.

Campground Overflow Parking Areas

Table 3.3.6-9 provides occupancy rates by campground overflow parking areas.

**Table 3.3.6-9. Current and projected peak season average occupancy levels for parking areas at Project campground overflow parking areas.**

| Parking Facility | Day Type | Average Peak Season Occupancy (%) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2012 | 2020 Projection[1] | 2030 Projection[1] | 2040 Projection[1] | 2050 Projection[1] | 2060 Projection[1] |
| Schoolhouse Campground Overflow Parking Area (20 VAOT) | **Overall** | **11.6** | **13.3** | **14.9** | **17.0** | **17.8** | **19.3** |
| | Weekday | 2.1 | 2.5 | 2.8 | 3.1 | 3.3 | 3.6 |
| | Weekend | 14.2 | 16.3 | 18.3 | 20.8 | 21.8 | 23.6 |
| | Holiday | 28.3 | 32.6 | 36.6 | 41.6 | 43.7 | 47.3 |

[1] Parking area projections are based on an average of growth rates for Day Hiking and Developed Site Use, which averages out to a growth index: 1.152 by 2020; 1.291 by 2030; 1.469 by 2040; 1.542 by 2050; and 1.669 by 2060 (Bowker et al. 2012).

*Schoolhouse Campground Overflow Parking Area.* The overall parking area occupancy was 11.6 percent in 2012 and is projected to reach 19.3 percent by 2060 (Table 3.3.6-9). On weekends, occupancy was 14.2 percent in 2012 and is projected to reach only 23.6 percent by 2060. The facility is not projected to reach full capacity overall or on weekends through 2060.

## Reservoir Boating Capacity

In the 1993 Revised Exhibit R, YCWA and the Forest Service established a maximum water surface carrying capacity of 420 boats-at-one-time (BAOT) (YCWA 1993). A boat is any motorized watercraft, which at New Bullards Bar Reservoir generally consists of houseboats, power boats (ski boats, wakeboard boats, fishing boats, etc.) and personal watercraft (or jet skis). The design carrying capacity of 420 BAOT accounted for a range of water recreation opportunity spectrum (WROS[18]) settings including (Reclamation 2004):

- Urban Natural - estimated capacity of 144 BAOT
- Rural Natural - estimated capacity of 180 BAOT
- Semi Primitive - estimated capacity of 96 BAOT

Historically, the Forest Service has been monitoring the peak number of BAOT on the reservoir by surveying the number of BAOT during holiday and non-holiday weekends. A summary of these observations from 2002 through 2012 are provided in Table 3.3.6-10 below. From 2002 through 2012, the design capacity was exceeded in seven of the eleven years. However, of note, the exceedance days were all holiday days, except for 2010 which was a non-holiday weekend day. Given the typical high volume of recreation use at most recreation areas in California on summer holidays and the common exceedance of other facility capacities on holiday weekends

[18] The Water Recreation Opportunity Spectrum (WROS) is a tool to understand the type and location of six types of water related recreation opportunities, otherwise known as WROS classes. The six WROS classes range across a spectrum of urban, suburban, rural developed, rural natural, semi primitive and primitive classes. Each WROS class is defined by a particular "package" of activities, setting attributes, experiences and benefits. Refer to the *Water Recreation Opportunity Spectrum Users' Guidebook* for additional information at: http://www.usbr.gov/pmts/planning/wros/wros_report.pdf.

 

(namely campgrounds and boat launch parking areas), it is reasonable to expect the design capacity exceedance trend to continue on holiday days.

**Table 3.3.6-10. Peak number of boats-at-one-time, vehicles-at-one-time and camping units occupied in a day (2002-2012).**

| Year | Boats-At-One-Time (BAOT) | | | Number of Days that Exceeded the Capacity (420 BOAT) | | |
|---|---|---|---|---|---|---|
| | Total | Houseboats[1] | Other[1] | Total | Holiday | Non-Holiday |
| 2002 | 453 | no data | no data | 2 | 2 | 0 |
| 2003 | 425 | no data | no data | 2 | 2 | 0 |
| 2004 | 474 | no data | no data | 1 | 1 | 0 |
| 2005 | 410 | no data | no data | 0 | 0 | 0 |
| 2006 | 424 | no data | no data | 1 | 1 | 0 |
| 2007 | 452 | no data | no data | 1 | 1 | 0 |
| 2008 | 403 | no data | no data | 0 | 0 | 0 |
| 2009 | 404 | no data | no data | 0 | 0 | 0 |
| 2010 | 421 | no data | no data | 1 | 0 | 1 |
| 2011 | 397 | 58 | 350 | 0 | 0 | 0 |
| 2012 | 453 | 45 | 408 | 1 | 1 | 0 |
| *Average* | *429* | *52* | *379* | *0.8* | *0.7* | *0.1* |

[1] Only the total BAOT counts were available from the Forest Service for 2002 through 2010. A breakdown of the types of boats and the counts by day were only available from the Forest Service for 2011 and 2012.

Table 3.3.6-11 shows a more detailed summary of the BAOT counts for 2011 and 2012 by day type. For the two-year period, only one exceedance day occurred in 2012 (453 BOAT or 108% of capacity). As discussed above, the maximum holiday BAOT were near exceeding (95% in 2011) or exceeded (108% in 2012) the design capacity. However, the non-holiday peak BAOT was only 79 percent (333 BAOT) and 81 percent (341 BAOT) of the design capacity, which shows that some additional reservoir boating capacity at least in the near-term is available on non-holiday weekend days.

**Table 3.3.6-11. Average, minimum and maximum BAOT and percent of boating capacity by day type for 2011 and 2012.**

| Day Type | Statistic | 2011 BAOT Data (16 survey days) | | 2012 BAOT Data (17 survey days) | |
|---|---|---|---|---|---|
| | | Number | Percent of Design Capacity | Number | Percent of Design Capacity |
| All Days | Average | 259 | 62% | 291 | 69% |
| | Minimum | 63 | 15% | 164 | 39% |
| | Maximum | 397 | 95% | 453 | 108% |
| | Exceedance Days | 0 | -- | 1 | -- |
| Holiday Days | Average | 296 | 71% | 321 | 76% |
| | Minimum | 152 | 36% | 164 | 39% |
| | Maximum | 397 | 95% | 453 | 108% |
| | Exceedance Days | 0 | -- | 1 | -- |
| Non-Holiday Weekend Days | Average | 242 | 58% | 279 | 66% |
| | Minimum | 63 | 15% | 222 | 53% |
| | Maximum | 333 | 79% | 341 | 81% |
| | Exceedance Days | 0 | -- | 0 | -- |

**Functional Use Periods of Project's Developed Boat Ramps**

The minimum functional Water Surface Elevation (WSE)[19] is 1,853.0 ft for Cottage Creek boat ramp and 1,758.0 ft for Dark Day boat ramp. Also, the Dark Day boat ramp is open year-round, whereas the Cottage Creek boat ramp is only open when the ramp is at a functional WSE. The functional use periods of the boat launch ramps by WY type are:

- Cottage Creek Boat Ramp
  - Wet WYs. Year-round
  - Above Normal WYs. Late January through September
  - Below Normal WYs. Late February through early October
  - Dry WYs. Year-round, except two periods in mid-September and mid-November through mid-December
  - Critical Dry WYs. Year-round, except for a period from early September through the end of September
- Dark Day Boat Ramp
  - All WYs. Year-round

Figure 3.3.6-2 shows the functional periods by WY type.

[19] A boat ramp was considered functional from the constructed top of the boat ramp down to 3 ft above the lower end of the constructed ramp, per the California Department of Boating and Waterways design guidelines (CDBAW 1991).

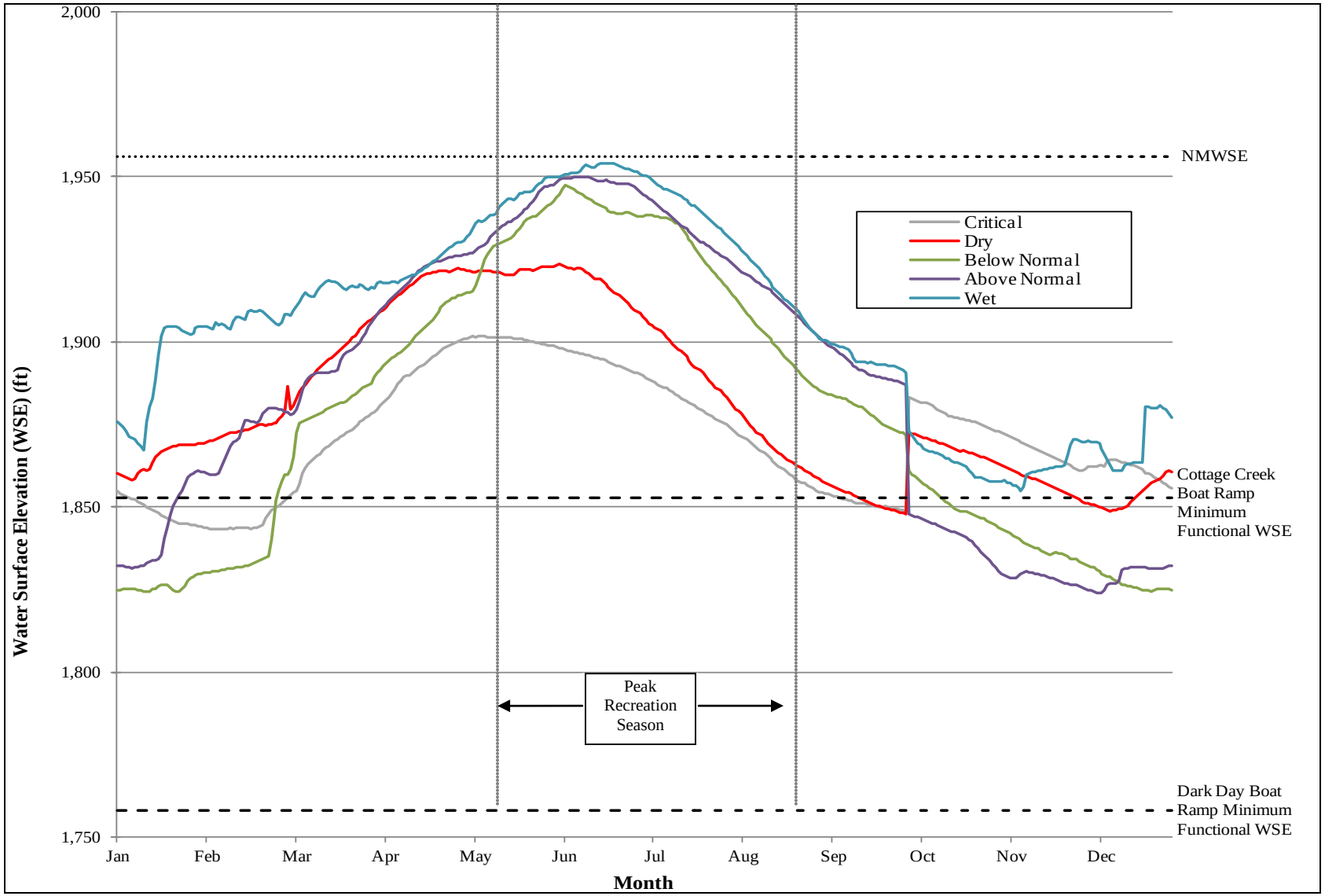


**Figure 3.3.6-2. Functional use periods for the Cottage Creek and Dark Day boat ramps by median WSE and WY type based on Water Balance/Operations Model run results for WYs 1970 through WY 2010.**

When comparing the functional use periods to the peak recreation season, the boat ramps were always functional during the peak recreation season with the possible exception of Critical Dry WYs when Cottage Creek boat ramp may not be functional, depending upon the when Labor Day falls in early September.

The Dark Day Boat Launch ramp has had a functionality issue at an approximate elevation of 1,856 ft due to slope instability in the upslope side of the ramp, where at times, the slope erodes depositing sediment on the boat ramp – typically during the non-peak season. Refer to Figure 3.3.6-3 for a photograph of the slope instability. The build up of the sediment impacts the functionality of the boat ramp in several ways. First, the presence of sediment may make the boat ramp impassable by vehicles backing down boat trailers. Second, the sediment can impede or damage the function of the boat dock rail and roller system. Intermittently, this scenario combined with the turns in the boat dock rail and roller system makes the ramp unusable once the WSE reaches an elevation of 1,856 ft. As a result, the Forest Service (YCWA's concessionaire for the non-marina facilities) must remove the boat dock. YCWA understands that the hill slope has been failing for some time and YCWA has attempted to stabilize the slope in the past, but the impact continues to arise periodically and slope instability continues to contribute sediment into the boat launch area.

**Figure 3.3.6-3. Photograph of the slope instability site upslope from the Dark Day boat ramp at low water levels (typically during the non-peak season).[20]**

[20] Photograph taken by YCWA on 8/23/13.

### 3.3.6.1.4 Visitor Use Characteristics and Preferences

**Resident Focus Groups**

To characterize the use, patterns and issues related to residents' recreation use of the Project, YCWA held three focus group meetings, including two meetings with Camptonville residents and one meeting with Oregon House/Dobbins residents. The majority of residents reported they participated primarily in day use activities (e.g., hiking/walking and fishing were the most popular primary recreation activities) at the Project with only occasional camping, primarily at boat-in campgrounds or dispersed shoreline camping areas. Most of the residents' recreation activities occurred at the Project recreation facilities along the Marysville Road at trailheads and Dark Day Picnic Area and Boat Launch for water-based activities. Shoreline access was a concern for residents who indicated that only a few public access locations exist and the primary location was via the Dark Day Picnic Area facility. Residents' use of the shoreline typically occurred on weekdays as parking and shoreline use was too crowded on weekend days. Overall, residents indicated the shoreline access quality was slightly unacceptable due to the lack of access locations and limited parking. Residents also indicated several constraints that have limited, constrained or prohibited their recreational use of the Project over the years. The primary constraints limiting residents use were the lack of parking for day use activities and lack of facilities that provide direct access to the reservoir shoreline, particularly during the summer and on weekend days. Regarding recreational opportunities that were missing or lacking, residents' primary concerns were the lack of parking for day use activities, lack of day use facilities on the shoreline, and a lack of shoreline access off the Project recreational trails.

**Forest Service Pendola Fire Public Meetings**

Of note, the 1999 Pendola Fire burned over 334 ac within the FERC Project Boundary on both the north and east side of New Bullards Bar Reservoir. PG&E agreed to pay $14.75 million to settle claims of damages resulting from this fire, which included more than $10 million for compensation to the United States for damages to its natural resources from the fire, including the PNF and TNF to help remedy the resource devastation from the fire (Lundstrom 2009). As part of this effort, the PNF has engaged the communities affected by the Pendola Fire, including Camptonville, Dobbins, and Oregon House, to determine how to spend allotted funding for recreation needs in the area affected by the fire. Based on public outreach, four main activities were singled out as needing improvement: 1) boating access; 2) hiking trails; 3) swimming; and 4) picnicking. The PNF will use these recommendations as it moves forward in deciding how to spend the allotted funds from the fire damage, some of which occurred within the FERC Project Boundary (USFS 2012). However, it is not clear exactly what the settlement funds may be used for regarding recreation facilities (i.e., replacing exiting, burned facilities or new facilities not impacted by the fire).

**Recreational Surveys at New Bullards Bar Reservoir**

YCWA received 830 completed visitor and houseboat surveys. The results are summarized below.

Visitors at New Bullards Bar Reservoir

The results of the visitor surveys demonstrated that the majority of use (i.e., 62%) was overnight use within the Project overall. The population of visitors was not ethnically diverse, with most identifying as white and English speaking. From an overall Project response level, the majority of visitors were from Nevada, Yuba, Sacramento and Placer counties. Overnight visitors were more diverse in their county of origin than day-use visitors, which appear to be more localized. Based on responses, a very small number visited diversion dams (i.e., 20 visitors overall). Overnight visitors spend an average of 3 days at the reservoir, with a majority visiting one to four times per year. Day use visitors tend to visit more often, with the majority indicating over five times per year. Family or family and friends described the majority of groups by composition for both day-use and overnight visitors overall. The majority of overnight visitors (i.e., 80%) indicated they utilized Project campgrounds for their overnight facility. Others were houseboating, staying on dispersed shoreline areas, or using hotel/motel and other accommodation. The most frequently reported group size was nine people for overnight visitors and four people for day-use visitors. The greatest source of information in learning about recreation at New Bullards Bar Reservoir was word of mouth.

In 2012, New Bullards Bar Reservoir visitors participated in a range of activities, which included camping, swimming, flat-water motorized boating, fishing, picnicking, wildlife viewing, hiking and walking, and watersports (e.g., waterskiing, personal watercraft use and wakeboarding). In comparison, the last Project visitor survey in 1991 demonstrated a slightly different pattern of activity than the 2012 relicensing study, when waterskiing and boat fishing were the predominant activities at New Bullards Bar Reservoir. In 2012, visitors to the reservoir visit other reservoirs in the region, while several reservoir and lakes; the most common were Englebright Reservoir, Shasta Lake, Lake Oroville, Lake Collins, Lake Tahoe, Rollins Reservoir and Folsom Reservoir.

Within the New Bullards Bar Reservoir area, visitors were asked to identify areas they visited during their stay. While many areas of the reservoir were utilized, overall a majority of visitors (i.e., 60%) identified Zone 4 - the reservoir section between Dark Day Boat Launch and Garden Point - as a primary area visited. Bullards Bar Trail was the trail identified as one frequented by respondents most often, followed by Schoolhouse Trail. The reservoir level for the majority of overnight and day-use visitors was not a problem or they simply did not have an opinion. Based on the overall responses, a minority of overnight visitors identified their ability to use the beach area and access to the shoreline as more of a problem than day-use visitors. However, the number of respondents identifying their ability to use the beach area as a slight to large problem overall was less than 30 percent; and less than 17 percent responding with concern about their ability to access the shoreline. For day-use respondents, those identifying a problem at all were less than 15 percent of respondents. These responses varied by location.

Visitors to the reservoir also had the opportunity to rate the level of acceptability for various facilities at the reservoir. Overall, the majority of facilities were rated as “acceptable” or respondents had “no opinion” or “did not use” the facility. Areas where visitors commented most frequently on the unacceptable nature of facilities included restroom maintenance, which for some specific campground facilities, ratings varied between unacceptable and acceptable overall. While the majority also rated trash receptacles as acceptable overall, this was another

 

item that received more unacceptable ratings when compared to other items within facilities overall.

Similarly, visitors to the reservoir were asked to rate recreational access features. Once again, a majority of visitors identified access features as acceptable or identified that they "had no opinion" or "did not use" the feature. Responses varied slightly depending on facility, but findings were generally consistent throughout the Project. Areas noted at a slightly higher frequency than other features as "unacceptable" were foot trails to the shoreline and foot trails around the shoreline; however these responses were still in the minority. Most respondents also found information resources "acceptable" overall or did not have an opinion or "did not use" theses items.

Visitors were also asked about conflict and safety issues at New Bullards Bar Reservoir. The vast majority of overnight visitors (87%) and day-use visitors (78%) did not experience conflicts. In comparison, the 1991 survey results showed 76 percent of visitors did not experience conflicts. In 2012, these responses were also analyzed by facility. With respect to campgrounds, the highest percentage of respondents experiencing conflict was at Garden Point Boat-in Campground, with 25 percent of respondents identifying some type of conflict. For day-use areas, 33 percent of respondents at trailheads identified some type of conflict, though response was relatively low overall (i.e., 18 respondents). Of the minority of overnight visitors who did experience conflict, a range of reasons were identified such as proximity for personal water craft (PWC)/jet skiers, and rowdiness/loudness for camper oriented conflicts. For day-use visitors, jet skiers and ski boaters were identified as sources of conflict, however this was noted by a very low number of respondents overall. Notably, the Forest Service did not employ campground hosts at any Project recreation facility until 2013, when the Forest Service had one full-time host at the Schoolhouse Campground.

Respondents' level of perceived crowding was also measured, and overall for both overnight (i.e., 75% or higher) and day-use visitors (i.e., 85% or higher), the vast majority did not feel crowded. By comparison, in 1991, nearly 50 percent of boaters indicated moderate to extreme crowding on all day types. In 2012, if respondents did feel crowded, they changed the day they visited or moved to a new location. Parallel to respondents' perceived level of crowding, a majority of respondents (89% for overnight; 92% for day-use) felt they were recreating in their preferred location. Visitors generally did not feel at risk when visiting (i.e., nearly 89% of overnight; 94% of day-use respondents). Visitors also generally did not feel as though there was anything preventing them or members of their group from participating in desired recreation activities (i.e., 94% of overnight visitors; 96% of day-use visitors).

With respect to visitors' interest in potential new facility improvements, for overnight visitors, restrooms were identified by at least half of all respondents within the campgrounds. For day-use visitors, a majority did not identify new improvements, however respondents were split in their opinions when it came to boat launch facilities among "not preferred at all," to "some preference," to "no opinion" on the feature.

YCWA surveyed specific groups of visitors on various aspects of their visit to New Bullards Bar Reservoir. For those that were boating at the reservoir, a majority of boating use was

runabout/pontoon/ski boat/motorboat use (i.e., 85% for overnight; 78% of day-users). The majority of boaters surveyed did not rent a slip at Emerald Cove Marina (i.e., 84% of overnight use; 97% of day-users) and used Dark Day boat launch (i.e., 56% of both overnight and day-users). When waiting to launch a boat, the average wait time was 4 minutes or less, and 1 minute or less for take-out times. Similar to overall recreationists' perceptions of crowding, a majority of boating recreationists did not feel crowded.

Additional information was also sought for those camping at the reservoir. Most respondents utilized single sites up to six people; however YCWA received responses from all types of site users including boat-in, double sites, group sites, shoreline, and triple sites. Eighty percent of all campers stated they were able to get their preferred size and type of site. A minority of respondents identified that they would have preferred a double site or boat-in campground site.

Houseboat Owner and Renters

With respect to houseboat owners and renters, YCWA received 47 surveys from owners, which was 73 percent of all owners, and 60 surveys from renters, for a 43 percent return rate of all renters in 2012.

The owners and renters were generally of white ethnicity and spoke English. Houseboat owners were on average older (i.e., 57 years on average) than houseboat renters (i.e., 48 years on average). Owners primarily came from Washoe County in Nevada, and Nevada and Placer counties in California, with a range of other counties also represented. Renters were primarily from Sacramento, Placer and Contra Costa counties in California, also with a range of other counties of origin represented. A majority of houseboat owners visit more than 10 times a year, and stay an average of four days per visit. Houseboat renters also stay an average of four days, but generally visit one to four times per year, averaging just over one time per year overall. Houseboat owners and renters generally visit with family and friends, with owners having overall smaller group sizes (i.e., average of four) than renters, with an average of 14 people per trip.

Recreational activities for renters and owners were similar, with participation listed as swimming, waterskiing/wakeboarding, flatwater motorized boating, wildlife viewing and fishing. Owners also visit Lake Don Pedro and Lake Shasta, while renters identified Lake Shasta, New Melones Reservoir, and Lake Oroville for houseboating activities in the region. As with other recreational groups, houseboat visitors primarily learned of the reservoir through word of mouth.

The majority of houseboat owners and renters did not feel the reservoir level was a problem for their activities and access. Some renters had no opinion on the issue at all. The majority of houseboat owners and renters were also pleased with facility conditions at the reservoir. The majority of houseboat owners and renters reported that the access conditions and information resources were acceptable or had no opinion about them. The vast majority of houseboat owners and renters did not experience conflicts.

With respect to crowding, the majority of houseboat owners and renters did not experience crowding on the water surface. Approximately 37 percent of owners and 21 percent of renters felt some crowding on the reservoir surface. With respect to shoreline areas, 65 percent of

 

owners and 85 percent of renters did not perceive crowding in these areas. The vast majority of owners and renters indicated they were moored at their preferred location overall. In addition, the majority of owners and renters felt safe at the reservoir. Generally, neither owners nor renters identified barriers which limited their recreation participation. A small percentage of renters (i.e., 8.3%) identified some barriers to where they participated. Overall, the reasons were relative to too many boats on weekends.

The majority of houseboaters did not indicate recreation activities they would have liked to engage in but were unable to do so. The majority of both owners and renters felt that houseboating at New Bullards Bar Reservoir was a relatively unique experience due to trails for off-water experiences, an uncrowded opportunity, friendly staff, beauty of the lake and surrounding environment, and lack of commercialization overall.

Houseboat owners had mixed feelings on new facility improvements. For boating facilities, they were generally split into thirds, with a third having preferences for facility improvements, no preferences or no opinions. The majority had no opinion about improvements for camping, picnic areas, trailhead facilities and information resources. Houseboat renters were similar to owners in their responses to boating improvements and generally had no opinion for the other improvements overall.

Visitors at Project Diversion Dam Impoundments

YCWA surveyed recreational visitors at Project diversion dam impoundments. Visitors to these impoundments were asked a range of questions about their use and the facilities. Only one respondent stayed overnight (at Our House Diversion Dam). Most of the day-use recreationists visit often, with friends and family; with an average group size of three people. Most groups were there to swim, pan for gold, watch wildlife, or hike. Respondents felt these areas were unique, and they liked the easy access and quiet nature of the locations.

Visitors to these locations generally had no opinion on reservoir water level or facilities. They felt the access and information resources overall were acceptable or did not have an opinion on access features. The majority also did not experience crowding or conflict, nor feel at risk at these locations. All but one visitor determined there were no barriers to their experience overall. The exception was off-highway-vehicle (OHV) users present while the respondent was picnicking.

With respect to new facility improvements, this user group either did not prefer any improvements or generally did not feel they had an opinion on most items, or they were not applicable.

Angling at New Bullards Bar Reservoir

Angling at the Project was a significant portion of recreation use, particularly at New Bullards Bar Reservoir. In 2012, nearly 40 percent of visitors surveyed participated in angling, which equates to nearly 46,000 RDs or visits for angling at the Project. Further, angling was the most popular primary activity of day use visitors and the fourth most popular activity of overnight visitors.

Unmet Demand and Regional Uniqueness

YCWA assessed if the Project had unmet demand or activities/opportunities that visitors wanted to participate in, but were not available at the Project. Overall, based on the information gathered in the visitor use surveys, potential specific activities with high unmet demand within the Project Area do not exist (YCWA 2013).

YCWA did identify one recreational opportunity (i.e., day use parking near the shoreline) that exists at the Project but is lacking in supply at New Bullards Bar Reservoir. While the existing Project day use facilities had low to moderate parking area utilization, the Project does provide limited facilities with direct access to the shoreline. The relicensing studies as well as some other non-relicensing studies in the Project Area had identified this unmet demand. Currently, four existing Project recreation facilities provide direct access to New Bullards Bar Reservoir – Dark Day and Cottage Creek boat launches, Moran Road Day Use Area and Dark Day Picnic Area. Of these four facilities, only the Dark Day Picnic Area provides access primarily for shoreline activities such as swimming and other non-motorized water play activities, but both shoreline access and potentially parking are limiting factors at this popular facility. Further, both group and family camping facilities are provided throughout the Project, but existing and future demand for these opportunities is evident in the higher occupancies of these types of facilities at the Project.

New Bullards Bar Reservoir provides a wide range of recreational opportunities throughout diverse geographic settings and locations. There are numerous opportunities for developed camping, picnicking, shoreline and boat fishing, water skiing, jet skiing/PWC, flat-water paddling, beach activities, swimming in lakes and streams, hiking and wildlife viewing. However, the resident focus groups identified a lack of access to shoreline opportunities and facilities; as well as a limited supply of day use parking, particularly near New Bullards Bar Reservoir shoreline. This lack of access to the shoreline, particularly for swimming, was also identified in a 2012 needs assessment by the PNF related to the Pendola Fire recovery.

YCWA assessed the regional uniqueness of the Project based on all of the visitor and houseboat survey responses. The overall rating for the Project was “somewhat unique;” however, the visitor and houseboat surveys provided more detail on specific aspects of the Project that may have been unique or significant. The majority of visitors reported New Bullards Bar Reservoir as a ‘unique’ recreation opportunity. The primary reasons were the campgrounds, widespread fishing opportunities on the reservoir, houseboating opportunities both for owners and renters to experience the reservoir, the overall scenic beauty/quality of the reservoir, and the trail opportunities. (YCWA 2013)

3.3.6.1.5 Recreational River Boating

**New Bullards Bar Dam to Englebright Reservoir**

YCWA completed a whitewater boating study on this river segment in 2008 (YCWA 2008). The results of this study are summarized below. The challenging 9.8-mi run descends from an elevation of 1,450 ft to 525 ft (gradient of 97 feet per mile) with a whitewater difficulty of Class

 

V[21] to Class VI.[22] Due to differences in whitewater character (gradient), the run can be divided into three different segments. These include: 1) New Bullards Bar Dam to Middle Yuba River confluence (2.3 mi with gradient of 135 feet/mi); 2) Yuba River from the Middle Yuba River confluence to Colgate Powerhouse (5.8 mi with gradient of 101 feet/mi); and 3) Colgate Powerhouse to Rices Crossing (1.7 mi with gradient of 12 feet/mi). The boatable range is 500 cfs to 1,000 cfs. This is typically a spring-flow run, with a majority of flows occurring between April and May during Above Normal and Wet WYs with an estimated 3 boatable days per year under the With-Project hydrology.

The run is best suited for hard-shell kayaks and may be possible for elite rafters, but is not suitable for commercial rafting due to the severe consequences and technical portaging and maneuvering around boulders, rapids, etc. The reach consists of numerous Class IV[23] and V rapids and roughly a dozen Class V to VI rapids with three major portages with one very difficult portage below the confluence with the Middle Yuba River. The preferred put-in location is below New Bullards Bar Dam with the preferred takeout location at New Colgate Powerhouse resulting in an 8.1-mi run. The road is gated by YCWA to prohibit public vehicular access for several reasons, including 1) the steep and narrow character of the access road that was not designed for public use; 2) the road experiences traffic by heavy maintenance vehicles; and 3) concerns regarding potential terrorist damage to this major dam. Boaters said vehicle access to the river at the put-in would be the ideal, but hiking down the access road was manageable and greatly preferred over hiking/scrambling down the canyon walls to the river. Boaters indicated that the run is similar to some other Northern California whitewater runs such as the South Yuba River from Highway 49 to Bridgeport and Purdons to Highway 49; Cherry Creek; South Fork Merced and the Clavey River. A streamflow gage with real-time flow information does not exist on the North Yuba River below New Bullards Bar Dam. Overall, the run currently receives low use for several reasons, including the lack of real-time flow information online; the long

[21] American Whitewater (AW) considers an expert boater capable of running Class V and lower class rapids. AW characterizes Class V rapids as: *"Extremely long, obstructed, or very violent rapids which expose a paddler to added risk. Drops may contain** large, unavoidable waves and holes or steep, congested chutes with complex, demanding routes. Rapids may continue for long distances between pools, demanding a high level of fitness. What eddies exist may be small, turbulent, or difficult to reach. At the high end of the scale, several of these factors may be combined. Scouting is recommended but may be difficult. Swims are dangerous, and rescue is often difficult even for experts. A very reliable Eskimo roll, proper equipment, extensive experience, and practiced rescue skills are essential. Because of the large range of difficulty that exists beyond Class IV, Class 5 is an open-ended, multiple-level scale designated by class 5.0, 5.1, 5.2, etc… each of these levels is an order of magnitude more difficult than the last. Example: increasing difficulty from Class 5.0 to Class 5.1 is a similar order of magnitude as increasing from Class IV to Class 5.0*" (from AW's *Safety Code for American Whitewater* accessed on AW's Webpage on October 20, 2012.)

[22] AW considers Class VI rapids to be "*extreme and exploratory rapids*," and characterizes the rapids as: *"These runs have almost never been attempted and often exemplify the extremes of difficulty, unpredictability and danger. The consequences of errors are very severe and rescue may be impossible. For teams of experts only, at favorable water levels, after close personal inspection and taking all precautions. After a Class VI rapids has been run many times, its rating may be changed to an appropriate Class 5.x rating."* (from AW's *Safety Code for American Whitewater* accessed on AW's Webpage on October 20, 2012.)

[23] AW considers Class IV rapids to be suitable for advanced boaters, and characterizes the rapids as: *"Intense, powerful but predictable rapids requiring precise boat handling in turbulent water. Depending on the character of the river, it may feature large, unavoidable waves and holes or constricted passages demanding fast maneuvers under pressure. A fast, reliable eddy turn may be needed to initiate maneuvers, scout rapids, or rest. Rapids may require "must" moves above dangerous hazards. Scouting may be necessary the first time down. Risk of injury to swimmers is moderate to high, and water conditions may make self-rescue difficult. Group assistance for rescue is often essential but requires practiced skills. A strong eskimo roll is highly recommended. Rapids that are at the lower or upper end of this difficulty range are designated "Class IV-" or "Class IV+" respectively."* (from AW's *Safety Code for American Whitewater* accessed on AW's Webpage on October 20, 2012.)

walk/hike to the river (no vehicle access near the river); the Class V/V+ difficulty of the run, which limits the use to elite boaters (a small portion of the boating population); and the difficulty of rescue in a very narrow canyon with a lack of cellular reception, access roads and landing sites.

**Our House Diversion Dam to the Highway 49 Bridge**

This 8.0-mi long run descends from an elevation of 2,049 ft to 1,500 ft (gradient of 65 feet per mile), varies from Class III[24] to Class VI depending on flows, and has challenging whitewater. The estimated run time is 2 to 4.5 hours. Boaters identified this reach as slightly better than the North Fork of the American River and the Chamberlain Falls runs and, therefore, appears to have considerable potential demand. The reach was reported to be popular with the local boating community, but the focus group participants could not provide an accurate estimate of boating use.

The primary constraint noted by boaters was identifying accurate flows on the reach, as it must be estimated from one gage at Our House Diversion Dam, which does not account for contributing flows from other tributaries. This is typically a spring-flow run, with a majority of flows occurring between January and April during Wet WYs with an estimated 8 and 12 boatable days per season under the With-Project hydrology. Boaters reported they normally make the run in April and May.

Access considerations reported by the boater focus group included:

- Put-In: Vehicle access beyond the gate at Our House Diversion Dam; when the gate is closed, it is several hundred yards to the river.
  - The road is paved, but steep and narrow in sections. Parking is available at the end of the road in a large dirt and gravel parking area.
- Take-out: The take-out road is a paved access road at Oregon Creek. Restrooms are often closed by the Forest Service until May. Parking is available at Oregon Creek Day Use area.
- Shuttle: Approximately 10 mi or 20-25 minutes via Pike City Road and Highway 49.
- Overall Quality of Access: Acceptable, however could be more user-friendly, including opening the restroom earlier in the season to serve boaters.

[24] AW considers Class III rapids to be suitable for intermediate boaters, and characterizes the rapids as: *"Rapids with moderate, irregular waves which may be difficult to avoid and which can swamp an open canoe. Complex maneuvers in fast current and good boat control in tight passages or around ledges are often required; large waves or strainers may be present but are easily avoided. Strong eddies and powerful current effects can be found, particularly on large-volume rivers. scouting is advisable for inexperienced parties. Injuries while swimming are rare; self-rescue is usually easy but group assistance may be required to avoid long swims. Rapids that are at the lower or upper end of this difficulty range are designated "Class III-" or "Class III+" respectively."* (from AW's *Safety Code for American Whitewater* accessed on AW's Webpage on November 8, 2013.)

 

**Highway 49 Bridge to Englebright Reservoir**

As described above, this element of the Study 8.2, *Recreational Flow,* is incomplete. However, some information is available and is provided below.

YCWA conducted a whitewater boating study in 2008 on the North Yuba River downstream of New Bullards Bar Dam and along the Middle Yuba River from the confluence with the North Yuba River to Englebright Reservoir. As such, this study overlapped with this Project study reach for lower 7.5 mi of the total 12-mile study reach. While much of the flow-related constraints for the 2008 study reach were related to the narrower North Yuba River segment, there was some information relevant to the preferred takeout on the Middle Yuba River. In 2008, the study boaters indicated that New Colgate Powerhouse (i.e., not Rices Crossing) was the preferred takeout location on river right just downstream of the powerhouse for two reasons. First, the vehicle access to the north side of the river at New Colgate Powerhouse occurs via Marysville Road and Lake Francis Ext. Road (Yuba County Road 1051), which are paved and overall it significantly shortens the vehicle shuttle (9.5 mi/25 minutes) as compared to Rice's Crossing on the south side of the river and further downstream (24.2 mi/50 minutes). Second, the New Colgate Powerhouse takeout option shortens the boating run by 1.7 mi and avoids the primarily flat-water conditions between New Colgate Powerhouse and Rice's Crossing (YCWA 2008). In addition, the 2008 study identified one major portage below the confluence with the North Yuba River.

**Whitewater Boating Upstream of New Bullards Bar Reservoir**

North Yuba River Recreation Take-Out

The North Yuba River whitewater boating reach (Class IV) above New Bullards Bar Reservoir from Indian Valley to New Bullards Bar Reservoir is not a Project-affected river reach. However, the take-out for this reach occurs at the upstream end of New Bullards Bar Reservoir.

Based on the data gathered at the focus group on July 18, 2012, the North Yuba River is boated typically during the months of April through July. There are currently three commercial outfitters who operate trips on this reach, and the number of trips per year depends greatly on flow levels (YCWA 2012b). For example, during a low water year, each outfitter may book five trips per year, whereas during a high water year, each may book up to 35 trips per year (YCWA 2012b). The primary type of whitewater boating on this reach is rafting with flows estimated to support various raft sizes at 1,000 cfs or higher for 14-foot rafts and 700 to 1,000 cfs for 12 foot rafts. Kayaking is rare relative to rafting due to the long paddle out and the cost of getting a boat tow-out, particularly when kayakers are typically in smaller group sizes compared to private and commercial rafters.

At present, the take-out location is either a tow-out to Dark Day Boat Ramp or Cottage Creek. Cottage Creek is not as desirable, as it adds 2 mi to the reach. Both tow-out options are on New Bullards Reservoir. The tow-out takes 2 hours, and while participants noted it was easy, it does take longer. If the take-out situation was improved (i.e., tow-out or other strategy that reduced the effort and time), there is potential for a reasonable fee (i.e., $5 per boater), but it is not clear that this would necessarily increase the frequency of boating.

With respect to identifying potential options to improve the existing take-out situation, the primary option might be to provide a reliable and lower cost/cost-effective scheduled tow-out option. This scenario would likely result in an increased demand including kayakers, and not just rafters. However, this may still be a reach for a limited boating population since a long, slow tow-out is not a particularly desirable way to end a boating run. For commercial use, the flows are the driving force behind demand.

A secondary option to improve the take-out was to evaluate potential road access near the inflow of the North Yuba River to New Bullards Bar Reservoir to eliminate the need for a tow-out and extended time for boaters in a flat-water experience. However, the options may be very limited for a public road access due largely to: a) widespread private land ownership, and b) steep, rugged terrain along the river canyon and at the upstream end of New Bullards Bar Reservoir. Overall, the option for public road access has significant constraints and limitations.

**Angling on the Project-Affected River Reaches**

Overall, public fishing access locations downstream of Project facilities are limited to major highways or road intersections, such as the Highway 49 Bridge that provides access to both the Middle Yuba River and lower end of Oregon Creek. Once downstream of the Highway 49 Bridge, public access is very limited due to private land ownership. Focus group participants indicated the next popular angling location was at Rice's Crossing and New Colgate Powerhouse on the Yuba River downstream of the confluence of the North Yuba and Middle Yuba rivers. The Yuba River below Englebright Dam has significantly more public angling locations and is where the vast majority of the river angling opportunities exists below Project facilities. Table 3.3.6-12 summarizes the angling usage on the Project-affected river reaches. While angling is popular on the Project-affected river reaches, particularly on the Yuba River below Englebright Dam, it is important to note that Project reservoir angling is also very popular. In 2012, nearly 40 percent of visitors surveyed participated in angling at New Bullards Bar Reservoir, which equates to 46,000 RDs or visits per year for angling.

**Table 3.3.6-12. Summary of angling locations, seasonality, constraints and success on the Project-affected river reaches.**

| Reach | Locations | Seasonality | Target Fish Species | Flow Range | Flow Information | Overall Access Rating | Constraint |
|---|---|---|---|---|---|---|---|
| North Yuba River downstream of New Bullards Bar Dam | NA | NA | NA | NA | NA | NA | NA |
| Middle Yuba River from Our House Diversion Dam to Highway 49 | Oregon Creek Day Use Area | April-May | Trout | April-May flows | California Data Exchange Center (CDEC) | Slightly Acceptable | Fishable flows only during late April-May then flows drop off and water temps get too warm. |
| Middle Yuba River from Highway 49 to North Yuba River Confluence | Mushroom Rock area (private access only) | April-May | Trout | April-May flows | CDEC | Slightly Acceptable | NA |
| Yuba River from Middle/North Yuba River Confluence to Englebright Reservoir | Rice's Crossing<br>Colgate Powerhouse | April-May | Trout | April-May flows | CDEC | Marginal | Good fishing, but high flow fluctuations make fishing this reach very difficult and dangerous, particularly for wading. Shore fishing is more successful because less impact from flows.<br>River right/north side is all private so there is virtually no access. |
| Oregon Creek | Oregon Creek Day Use Area<br>Highway 49 roadside | NA | Trout | April-May flows | CDEC | Slightly Acceptable | Low flows limit fishing use/success.<br>Very brushy/overgrown with vegetation. |
| Yuba River downstream of Englebright Dam | Parks Bar<br>Sycamore Park<br>Hammon Grove Park<br>Hammon-Smartsville Road<br>Western Aggregates | Year-round, but peak September-December | Trout, Steelhead | Boat: 500-4,000<br>Wade: 500-1500 optimal)<br>Shore: 500-4,000 | CDEC (real-time), but there is a need for public flow projection dissemination for safety and angling. | Totally Acceptable | A lot of private lands along reach (river right); boat fishing is easier than shore fishing due to limited access locations.<br>When wading, as long as you stay within high water mark you are permitted, but higher flows often constrain where you can fish without trespassing. |

### 3.3.6.2 Environmental Effects

This section includes a description of the anticipated effects of YCWA's proposed Project, which includes YCWA's proposed PM&E conditions. The section is divided into the following areas: 1) adequacy of recreation facilities; 2) adequacy of trails; 3) recreational river boating opportunities; and 4) effects due to recreation facilities construction.

#### 3.3.6.2.1 Adequacy of Recreation Facilities

YCWA's relicensing studies determined that some of the existing Project recreational facilities are adequate to meet recreational demand associated with the Project now and in the reasonably foreseeable future. However, some of the facilities (e.g., family and group campgrounds) at New Bullards Bar Reservoir are approaching capacity on weekend days (i.e., between 85 and 93 percent in 2011); and, as a result, the Project will provide expanded or new facilities to meet the demand over the term of the new license. In addition, facilities that provide direct access, including parking (single spaces) to the New Bullards Bar Reservoir shoreline are lacking but in high demand. Notably, the site terrain and topography adjacent to the reservoir are extremely significant limiting factors in YCWA's ability to provide certain types of developed facilities at or near the reservoir shoreline due to the nature of the steep river canyons in which New Bullards Bar Reservoir is situated.

Further, some of the recreation facilities are in need of replacement or rehabilitation to maintain the proper functioning condition of the facility and to provide for FSORAG and ADA accessibility. Some of the facilities will require near-term replacement or rehabilitation during the term of the new license to maintain the facilities in proper functioning condition.

In addition, YCWA's relicensing studies and discussions with the Forest Service (current concessionaire of the recreation facilities) also identified some enhancements that would provide high value to the recreation facilities, opportunities and overall experience of visitors over the new license term. These enhancements include replacing most vault restrooms with flush restrooms and providing electricity at key sites within campgrounds (i.e., restrooms, host sites and RV campsites) and boat launches (i.e., restrooms and top of the ramps, where feasible).

To address these issues, YCWA's proposed Project includes a Recreation Facilities Plan. The primary goal of the plan is to manage public recreation use of the Project's recreation facilities over the term of the new license, and minimize recreation use impacts to natural, historic, and cultural resources within the Project Area. The plan includes the following objectives to assist in achieving this goal:

- To provide recreation facilities that meet the needs of Project recreation users and that are consistent with federal, state and local legal requirements and guidelines and the primary purpose of the Project.
- To monitor recreation use over the term of the license to help ensure Project recreation users achieve quality recreation experiences and that recreation use impacts are minimized.

- To describe YCWA's responsibilities regarding recreation facilities and monitoring under the new license.
- To describe the monitoring plan over the term of the new license to help ensure Project recreation users achieve high quality recreation experiences and that recreation use impacts are minimized and remain within acceptable limits.

The plan includes the following primary sections:

- Section 1 – Introduction.
- Section 2 – Existing Recreation Resources. This section describes existing Project recreation resources, facilities, landownership and 2012 visitation.
- Section 3 – Recreation Facility Enhancement Measures. This section describes the Project's proposed recreation rehabilitation of existing recreation facilities and capital improvement measures, including development of new recreation facilities.
- Section 4 – Recreation Monitoring Program. This section describes the recreation-monitoring program that defines how Project recreation facilities, use, needs, and potential associated impacts will be monitored and addressed over the license term.
- Section 5 – Plan Revision. This section describes how plan revisions will occur over the term of the new license.

YCWA conducted resource surveys at all the existing and proposed Project recreation facilities within the FERC Project Boundary and found only minor, temporary concerns relative to terrestrial resources (refer to Exhibit E, Section 3.3.4), cultural resources (Exhibit E, Section 3.3.7), and water quality (Exhibit E, Section 3.3.2). In addition, when constructing Project recreation facilities, YCWA will obtain all necessary permits and approval for survey work, facility design and on-site resource evaluations, including the Forest Service on NFS land.

Provided below is an assessment of the effects related to recreation resources and how YCWA proposes to address them over the new license term.

**New Bullards Bar Reservoir**

Developed Facilities

*Campgrounds.* The overall condition of the recreation area facilities is good. Most of the campgrounds are in good condition with the exception of Madrone Cove and Frenchy Point, which are in fair condition. Overall, none of the campgrounds met the accessibility guidelines in the FSORAG or Architectural Barriers Act of 1968 accessibility standards (ABAAS). During the new license term, as the campground facilities require replacement-in-kind, YCWA will upgrade the camping facilities to provide accessible opportunities commensurate with accessibility standards at that time. Further, YCWA's Recreation Facilities Plan includes near-term rehabilitation projects at the campgrounds that include replacing the water system's underground distribution lines and the many original-construction restroom buildings. In addition, the Plan includes several enhancements, such as, developing RV campsites with water

and electric hookups and providing electricity to the restroom facilities, entrance stations and host sites.

Use impact[25] at the developed campgrounds was generally moderate to high, but most of these impacts are expected at developed campground settings, where high use is focused at specific sites/areas.

In 2012, the occupancy at the five Project developed campgrounds ranged from 37.0 percent overall and 61.2 percent on weekends at Madrone Cove Boat-in Campground to a high of 61.7 percent overall and 92.8 percent on weekends at Dark Day Campground. The overall occupancy at the five Project developed campgrounds is projected to be between 59.7 percent (Madrone Cove Boat-in Campground) and 99.5 percent (Dark Day Campground) by 2060. When examining weekend occupancies at these campgrounds, all are projected to be between 98.7 percent (Madrone Cove Boat-in Campground) and 149.7 percent (Dark Day Campground) occupancy by 2060. Dark Day Campground is the first campground projected to reach full capacity on weekends by 2020 followed by Schoolhouse, Hornswoggle Group and Garden Point Boat-in campgrounds by 2030. Madrone Cove Boat-in Campground is not projected to reach full capacity on weekends through 2060. Given that some of the campgrounds are nearing capacity on weekend days, YCWA's Recreation Facilities Plan proposes expansions to address the need for additional camping capacity in the near-term. These expansions include one group campsite at Hornswoggle Group Campground, two campsites at Dark Day Campground, and five-to-seven campsites at Garden Point Boat-in Campground; as well as providing additional developed RV and/or small group camping at a re-developed Cottage Creek Campground (facilities were destroyed in a 2011 fire).

YCWA has proposed the above expansions in an incremental method to avoid creating a situation where YCWA over-develops the camping or other boating-related facilities and creates a potential reservoir boating capacity issue (see YCWA's discussion of this issue below in *Land-Based Development and Reservoir Boating Capacity Relationship).* Further, the recreation monitoring program in YCWA's Recreation Facilities Plan has a facility occupancy trigger (i.e., 95% on weekends from Memorial Day to Labor Day holiday weekends), but also includes a consideration for the suitability and feasibility of provided expanded or new recreation developments, which includes assessing the potential impact to the reservoir boating capacity of 420 BAOT. Currently, the only facilities that are approaching this trigger percentage are the vehicle-accessed camping facilities which range from 85 to 93 percent occupancy. However, it is important to note that only one of the two boat-in campgrounds (Garden Point Boat-in Campground at 86%) is approaching the trigger threshold; whereas Madrone Cove Boat-in Campground is at only 61 percent. Refer to Tables 3.3.6-5 through 3.3.6-9 for the current (2012) and future occupancy projections by day type for all recreation facilities.

In addition to these expansions, YCWA has also proposed to decommission Frenchy Point Boat-in Campground due to low use. The location of the facility is not ideal for visitor use as the shoreline access is very steep, particularly below the NMWSE. As the reservoir elevation

[25] Typical use impacts include the presence of user-created fire rings, litter, tree cutting, inadequate vegetation clearances around fire rings, trampled vegetation, erosion, human waste, and toilet paper.

 

recedes during the peak recreation season, this steep access below the NMWSE results in a very short period of use. Historically, the use of this facility typically only occurred within 15 vertical feet of the NMWSE or roughly one month typically in the June-July period (YCWA 1993). Considering the low use and poor site terrain for use, YCWA's Proposed Condition RR1 (Recreation Facilities Plan) includes a measure to decommission the facility.

Further, in YCWA's Proposed Condition LU1 (Transportation System Management Plan), YCWA addresses the replacement of the recreation facility roads, including improving turning radii within campground circulation roads at the time of major rehabilitation to enhance access for larger RVs and vehicles with campers.

*Picnic Areas and Day Use Facilities.* Overall, the picnic and day use facilities at New Bullards Bar had mostly very low utilization in 2012. The two picnic facilities' occupancy rates were low (less than 5% of seasonal capacity) and the facilities should be more than adequate to handle an increase in use over the new license. The developed day use facilities, Dam Overlook and Moran Road Day Use Area, had low occupancy rates also (less than less than 11%) and are projected to reach a maximum of 30 percent by 2060. Hence, current picnic facilities are expected to still be adequate and to meet the increased demand/occupancy levels by 2060 overall.

In addition, the four day use facility parking areas had low overall utilization. Dark Day Picnic Area parking occupancy rates were the highest at 58 percent in 2012, with projections to reach 96 percent by 2060. The other parking areas were less than 20 percent on weekends in 2012, and projected to reach nearly 30 percent by 2060. Day use parking facilities overall are not projected to reach full capacity overall or on weekends through 2060.

While the existing Project day use facilities had low to moderate parking area utilization, the Project does provide limited facilities with direct access to the shoreline. The relicensing studies as well as some other non-relicensing studies in the Project Area had identified this unmet demand. Currently, four existing Project recreation facilities provide direct access to New Bullards Bar Reservoir – Dark Day and Cottage Creek boat launches, Moran Road Day Use Area and Dark Day Picnic Area. Of these four facilities, only the Dark Day Picnic Area provides access primarily for shoreline activities such as swimming and other non-motorized water play activities, but both shoreline access and parking are limiting factors at this popular facility. As a result of these shortcomings and the suitable terrain for expansion, YCWA's Recreation Facilities Plan includes measures to expand the parking area by 10 to 20 single spaces, replace the aging picnic facilities, improve the shoreline access by developing defined trails to functional shoreline use areas, and minimizing conflict with motorized boaters by proposing a non-motorized zone where shoreline use is most popular. Also, while distant from the reservoir shoreline, YCWA's proposed Project includes measures to both improve the day use and picnic facilities (Recreation Facilities Plan), but also to enhance the viewshed from the existing and proposed Sunset Vista Point picnic facilities (Visual Management Plan).

Aside from the suitable and practical opportunity to expand and improve day use facility shoreline access, much of the Project's ability to provide these types of shoreline access facilities is significantly limited by the terrain and topography where the Project reservoir is located – the

cost to do so would be very high due primarily to designing and constructing highly-engineered roads and parking areas in very steep terrain including maintaining them. The steep shoreline around the reservoir constrains YCWA's ability to provide these types of facilities and the four existing facilities that provide shoreline access are located on the most suitable lands for such developments.

None of the day use areas meet the accessibility guidelines in FSORAG, ABAAS or the 2010 ADA Standards for Accessible Design. Overall, the condition of the day-use facilities at the picnic areas were in good condition, but will eventually require rehabilitation during the term of the license to ensure the facilities provide quality and accessible recreation opportunities throughout the license term. YCWA proposes in the Recreation Facilities Plan to rehabilitate these facilities as they near the end of their useful life.

*Boat Launch Facilities.* The two developed boat launch facilities at New Bullards Bar Reservoir - one each at the Cottage Creek and Dark Day - are in excellent to good overall condition, respectively. However, the concrete ramps at both facilities are in need of near-term rehabilitation. The minimal functional WSEs are 1,853.0 ft for Cottage Creek boat ramp and 1,758.0 ft for Dark Day boat ramp. The Dark Day boat ramp is open year-round, whereas the Cottage Creek boat ramp is only open when the ramp is functional.

When comparing the functional use periods to the peak recreation season (Memorial Day to Labor Day holiday weekends), the boat ramps were always functional during the peak recreation season with the possible exception of dry WYs when Cottage Creek boat ramp may not be functional, depending upon when Labor Day falls in early September.

The Dark Day Boat Launch ramp has had a functionality issue due to slope instability in the upslope side of the ramp, where at times, the slope erodes depositing sediment on the boat ramp – typically during the non-peak season (Figure 3.3.6-3). The build up of the sediment impacts the functionality of the boat ramp in several ways. First, the presence of sediment may make the boat ramp impassable to vehicles backing down boat trailers. Second, the sediment can impede or damage the function of the boat dock rail and roller system. This scenario combined with the turns in the boat dock rail and roller system makes the ramp intermittently unusable. As a result, the Forest Service (YCWA's concessionaire for the non-marina facilities) must remove the boat dock. As a result, YCWA's Recreation Facilities Plan includes measures to address not only the erosion impacts, but also measures to replace/improve the function of the boat dock system.

Overall, the condition of the boat launch facilities were good (Dark Day Boat Launch) to excellent (Cottage Creek Boat Launch). However, the original construction portion of the Dark Day Boat Launch that includes a concrete boat ramp and 4-unit restroom, are showing significant signs of use and disrepair. As such, YCWA's Recreation Facilities Plan identifies these facilities for near-term rehabilitation coinciding with the above erosion impact mitigation measures. Overall, these facilities will eventually require wholesale rehabilitation during the new license term to ensure they provide a quality recreation opportunity.

Regarding the occupancies relative to capacity, the Dark Day Boat Launch parking areas are projected to reach full capacity by 2040, and potentially exceed capacity by 2060 on weekend

 

days. However, the Dark Day Boat Launch Overflow Parking Area has ample capacity to accommodate the additional parking needs (less than 30% occupancy on weekends in 2012 and 55% by 2060). The Cottage Creek Boat Launch parking area is projected to reach full capacity by 2050 on weekends. In addition, the parking area at Cottage Creek boat launch facility is projected to reach 112 percent on weekend days by 2060. However, YCWA's proposed monitoring program in the Recreation Facilities Plan will monitor and assess if the occupancy level becomes a capacity concern near the end of the license; and if so, then YCWA, in consultation with the Forest Service, will evaluate potential management options and/or development of new capacity as site terrain allows.

New Bullards Bar provides a tremendous amount of available water surface area for boating with a maximum surface areas of 4,760 acres at NMWSE and observed boating patterns spread the boating use across a length of nearly 16 river miles. The Forest Service has been monitoring the peak number of BAOT on the reservoir, as well as the peak number of vehicles and camping units occupied at one time, which YCWA has summarized from 2002 through 2012 (see Table 3.3.6-11). Over the 11-year period from 2002 to 2012, the peak number of boats averaged 429 BAOT. Thus, the current use levels provide for a range of boating opportunities from Urban Natural to Semi Primitive, based on the WROS settings estimated capacity. Hence, the reservoir provides vast areas of opportunities for motorized watercraft in the open-water areas, but also provides ample space (low density) for non-motorized watercraft in the low-speed zones located adjacent to the recreation areas and along numerous arms and coves of the reservoir.

Further, YCWA's Proposed Condition GS6 (New Bullards Bar Reservoir Floating Material Management Plan) will keep the reservoir relatively free of floating material for safe boating.

*Land-Based Development and Reservoir Boating Capacity Relationship.* Given the existing reservoir boating capacity of 420 BAOT (as established by the 1993 Revised Exhibit R) and the exceedance of this capacity in seven of the past 11 years, YCWA believes expansion of developed camping and boat launch parking facilities at New Bullards Bar Reservoir needs to be undertaken cautiously to ensure that any new or expanded land-based development does not overwhelm the reservoir capacity or create reservoir boating conflicts and crowding. As such, YCWA's proposed new and expanded facilities in its Recreation Facilities Plan are designed to be incremental and conservative initially and then depend on implementation of the new license term monitoring program to regularly assess land-based occupancy and capacity in concert with the reservoir-based capacity.

**Invasive Mussel Prevention**

To prevent the Project reservoirs from infestation of invasive mussels, YCWA shall follow all federal and state laws and regulations. According to USGS website, invasive aquatic species, such as zebra mussel, quagga mussel and New Zealand mud snail, are not known to occur in the vicinity of the Project. Further, YCWA specifically addresses invasive mussel and other aquatic invasive species in YCWA's Proposed Condition AR5 (Aquatic Invasive Species Management Plan) that provides YCWA's program for preventing aquatic invasive from entering the reservoir (e.g., signage, public education, monitoring, etc.).

**Recreational Signage**

To improve the overall Project signage related to recreation, YCWA proposes, as part of the Recreation Facilities Plan, to replace all existing entrance, directional, information/bulletin and trailhead signs, as needed. As YCWA replaces Project signs, YCWA shall develop and install consistent signage throughout the Project that identifies the location of Project recreation facilities as well as information, regulations, and maps at the Project recreation areas and facilities. In addition, YCWA proposes to enhance the trail signage by installing directional signage at all Project recreational trail junctions and road or parking area crossings; and interpretive signage by installing additional interpretive displays at Sunset Vista Point.

3.3.6.2.2 Adequacy of Trails

Based on the results of YCWA's recreation use and visitor survey study, there is demand for non-motorized recreational trails on the Project. However, the Project provides more than 15 miles of non-motorized trails along the shoreline on the south side of the reservoir, where the majority of the developed recreation facilities are located. These trails appear to be meeting the demand, as the relicensing trailhead parking data showed that the trailhead facilities accounted for less than one percent (i.e., 360 RDs) of the total Project recreation use; and the parking area occupancy at the trailhead facilities was very low (less than 4% overall and less than 7% on weekends). Neither use period is projected to exceed 11 percent by 2060.

In addition to the low use data, the relicensing assessment of the trail use impacts were not related to heavy use, but rather to natural, environmental or site conditions (i.e., trail erosion due to steep terrain and downed trees). In fact, tread impacts were primarily recognizable in the vicinity of the developed recreation facilities that the trails passed by or through, including Schoolhouse Campground, Sunset Vista Point and the Dark Day Picnic Area and Boat Launch. In particular, the final 5 to 6 miles of the Bullards Bar Trail that terminates near Willow Creek showed few signs of trail use with much of the trail tread covered with leaves, downed vegetation and small tree branches.

While the existing Project recreational trails are meeting the existing demand for non-motorized trail opportunities, YCWA's Recreation Facilities Plan includes measures to ensure these trail opportunities continue during the next license period by maintaining them regularly through annual and five-year maintenance activities (per Forest Service standards) and by enhancing the opportunities with improved and consistent trail signage at both the trailheads (information and maps) and the trail junctions and intersections with other Project recreation facilities (directional signage).

3.3.6.2.3 Recreational River Boating

Study 8.2, Recreational Flow, is in progress, but based on the interim results, whitewater boating swimming, and angling are popular and available downstream of the Project's dams. Whitewater boating generally occurs during spring and early summer months, when river flow levels can vary greatly as a result rainfall and snowmelt. The other recreation opportunities generally occur during summer months, when rivers flows are lower and more stable with the exception of the

 

Yuba River below Englebright Reservoir, where recreation use, particularly angling occurs year-round.

All of the reaches have multiple access points, including for whitewater boating put-in and takeout needs. The public does not have vehicular access due to a gate at the top of Bullards Bar Dam Road at Marysville Road. YCWA does not propose to provide vehicular access to the public along this road due to safety concerns and the critical role this major dam plays in controlling flows in the Yuba River system.

Notably, one of the whitewater boating reaches on the Middle Yuba River includes a takeout near the Highway 49 Bridge at Oregon Creek Day Use Area, a non-Project facility operated by the Forest Service. While this non-Project facility does provide a takeout for whitewater boaters, this use is constrained to a narrow period of time in late winter and early spring. In comparison, the primary use of this facility is for general day use activities in the hot summer months when visitors participate in swimming and other water-play activities.

Relicensing study results also identified that existing flow-related recreation opportunities downstream of Project dam's may currently be under utilized because real time flow information for some reaches is not available for the public to schedule their visits during periods when flows are within an acceptable range for their recreation activity (e.g., whitewater boating and angling). Therefore, YCWA has included in Appendix E3 a condition (WR4 - Streamflow and Reservoir Level Monitoring Plan) that includes providing real-time recreation flow information that would allow boaters, anglers and other recreationists to schedule their trips to the river when opportunistic flows are within acceptable ranges for their recreation activity.

#### 3.3.6.2.4 Recreational River Uses Below Englebright Reservoir

The primary river recreation use in the Yuba River downstream of Englebright Dam is angling. This reach provides world-class angling opportunities throughout much of the year. Public access along this reach is severely limited due to widespread private ownership of lands. However, public access does occur at several key locations where anglers may access the river for a variety of fishing opportunities (e.g., boat, floating and shoreline). Boat fishing is the easiest fishing method due to the lack of public access to much of the reach; and the relicensing study results indicated that the access rating for this reach was totally acceptable and that the angling opportunity was high quality.

#### 3.3.6.2.5 Fish Stocking

YCWA's proposed Project includes a measure whereby YCWA would stock fish in New Bullards Bar Reservoir. This would assure that the reservoir remains an attractive fishing opportunity through the term of the new license.

#### 3.3.6.2.6 Annual Meetings with the Forest Service

Since much of YCWA's existing and proposed Project recreational facilities are located on NFS land, YCWA's Recreation Facilities Plan includes a section on annual coordination meetings to

discuss issues regarding Project recreation facilities, use and management, public safety, and recreation related resource protection.

#### 3.3.6.2.7 Effects Due to Recreation Facilities Construction

Construction of recreation facilities has the potential to affect the availability of recreation facilities and opportunities to the public. YCWA will minimize impacts to the public availability of recreation facilities during construction by: 1) undertaking construction activities during periods outside of the facilities peak recreation season, where possible (e.g., swim beaches and campgrounds); and 2) undertaking construction activities in a portion of the facilities and keep the remainder of the facility open to the public (e.g., campgrounds and picnic areas). By using these two approaches, the public would continue to have access to all of the types of recreation facilities and opportunities normally available at each recreation area except at a more limited basis. For instance, at campgrounds, YCWA will undertake construction on a single loop or several loops depending upon the total available number of loops in order to continue to provide camping facilities for the public while recreation construction or rehabilitation activities occur. At boat launches, YCWA will aim to construct/reconstruct the boat launches during the non-peak recreation season in order to minimize the effects to the public's ability to utilize the boat launches. During all recreation construction work, YCWA will take necessary measures to minimize potential impacts on nearby recreation users' experience such as the noise and proximity of construction equipment and staff. In addition, YCWA will make recreationists aware of planned construction work by posting notices of upcoming planned work on kiosks and at entrance gates.

### 3.3.6.3 Proposed Conditions

#### 3.3.6.3.1 YCWA's Proposed Conditions

As described above, YCWA's proposed Project includes five measures related to recreation resources:

- Proposed Condition GEN2 – Consult with the Forest Service Regarding New Ground Disturbing Activities on NFS Land
- Proposed Condition GEN3 – Consult with the Forest Service Regarding New Facilities on NFS Land
- Proposed Condition GS1 – Implement Erosion and Sediment Control Plan
- Proposed Condition GS6 – New Bullards Bar Reservoir Floating Material Management Plan
- Proposed Condition AR5 – Aquatic Invasive Species Management Plan
- Proposed Condition AR6 –New Bullards Bar Reservoir Fish Stocking Plan
- Proposed Condition RR1 – Implement Recreation Facilities Plan
- Proposed Condition RR2 – Provide Recreation Flow Information

- Proposed Condition LU1 – Transportation System Management Plan
- Proposed Condition VR1 – Visual Resources Management Plan

Each of these measures is provided in full in Appendix E2. Implementation plans are included in Appendix E3.

3.3.6.3.2 Proposals and Studies Recommended by Agencies or Other Relicensing Participants

[Relicensing Participants – This is a placeholder in the Draft License Application. This section will be completed in the Final License Application. YCWA]

### 3.3.6.4 Unavoidable Adverse Impacts

YCWA's proposed Project would not create any major, unavoidable adverse effects. The Project provides extensive recreational facilities including developed campgrounds, day-use areas, boat launches, and facility access and circulation roads at New Bullards Bar Reservoir and undeveloped recreation sites at each Project diversion dam impoundment. All of the facilities provide a beneficial effect and minimize any adverse effects by providing the public with opportunities to recreate along the shoreline and on the Project reservoirs in varying natural settings and recreation settings from highly developed experiences to more remote, primitive experiences, and by focusing these activities to appropriate and manageable areas around the reservoir.

Rehabilitation of the existing recreation facilities or construction of new facilities has short-term, minor adverse impacts (e.g., noise, ground disturbance including vegetation and erosion and water quality); however, YCWA has proposed appropriate resource protection measures and plans to minimize the short-term impacts from construction activities. In addition, the rehabilitation/construction work on recreation facilities would also have a minor short-term effect on recreation by closing some facilities during construction. YCWA will minimize this effect by undertaking construction activities during non-peak periods and periods when the facilities are closed, where possible; and undertaking construction activities in phases by working on portions of the facilities and keeping the remainder of the facility open to the public.

Since the Recreational Flow Study (Study 8.2) is not complete, YCWA is not able to fully evaluate if YCWA's proposed Project would create any unavoidable adverse effects.

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