

## Chapter 3: Affected Environment and Environmental Effects

### 3.0 Introduction:

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the basis for comparison of the three alternatives presented in Chapter 2. Each resource potentially affected by the three alternatives, including the No-Action Alternative, is described by its existing condition and uses.

Environmental consequences are the effects of implementation on the physical, biological, social and economic environment. Following each resource description is a discussion of the potential effects (environmental consequences) to each resource associated with the implementation of each of the three alternatives. All significant or potentially significant effects, including direct, indirect, and cumulative effects, are disclosed.

***Direct, Indirect, and Cumulative Effects:*** Direct environmental effects are those occurring at the same time and place as the initial cause or action. Indirect effects are those that occur later in time or are spatially removed from the activity, but would be significant in the foreseeable future. Cumulative effects result from incremental effects of actions, when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. The scope by which effects are measured is not necessarily limited to the project area. The geographical area within which effects of activity are analyzed is identified within the applicable resource section.

A summary of projects and activities considered in the cumulative effects analysis for this project is located in Section 3.10.



### 3.1 Recreation & Special Uses:

#### A. Issue to be Addressed – Recreation & Special Uses

**Issue #6: Unmanaged Recreation Use:** Recreation use at Fremont Lake lacks a coordinated management approach, which adversely affects resource conditions and detracts from the overall quality of the visitor experience at Fremont Lake. Recreation use within the analysis area should be managed as a whole, with adequate public information and enforcement designed to maximize resource protection and provide a high quality visitor experience.

**Issue #7: Facility Condition:** Developed facilities within the analysis area are in poor condition, lack a common theme, do not meet Health and Safety and Americans with Disabilities Act (ADA) requirements, and are difficult to maintain in their present condition. Facilities within the analysis area should be designed to serve the appropriate scale of visitor use, meet Health and Safety and ADA requirements, present a common theme and connection, and be economically maintainable.

#### B. Existing Conditions – Recreation & Special Uses

##### General Information

Fremont Lake is located within the “Greater Yellowstone Ecosystem”, which includes the entire Caribou-Targhee, Bridger-Teton, Shoshone, Gallatin, Custer, and Beaverhead National Forests, as well as the Grand Teton and Yellowstone National Parks. The Fremont Lake area provides outstanding opportunities for sightseeing, camping, day hiking, bicycling, boating, summer and winter fishing, hunting, and cross-country skiing. The south and southeastern portions of the lake are highly developed, while the remaining portions of the lake are primarily undeveloped. Developed public recreation sites and recreation special use areas are identified in the Analysis Area Map in Chapter 1.

Visitors to the Pinedale area are attracted by the Wind River Mountain Range of the Continental Divide, which contains the Bridger Wilderness, and by the large lakes located outside Wilderness on the west slope of the Range, including Fremont Lake, which is the largest lake within the Bridger-Teton National Forest. The tourism industry, including motels, outdoor stores, resorts, and outfitting opportunities play a major role in the economic structure and historic use patterns on the entire Forest, including within the Fremont Lake area.

Prior to the natural gas boom, Pinedale’s workforce was mainly employed in the livestock and tourism industries. Within the past several years, the petroleum industry and its secondary support services have dominated Sublette County as the major industry. The Pinedale area population has increased dramatically since 2000, and the gas boom is expected to last for years if natural gas prices remain stable and competitive. This condition has changed visitor use patterns within the Pinedale area, and has created new challenges for the Forest Service, particularly within the Fremont Lake area. Lack of affordable housing, lack of motel vacancies, and increased transient service vendor needs are now major issues on the National Forest within the Pinedale area, much like the Jackson area. Workers and their families unable to find or afford permanent or temporary housing within Sublette County often resort to living on the

Forest. Although it is illegal to live on National Forest System Lands, it is difficult and costly to enforce this regulation.

### **Developed Recreation Sites within the Analysis Area:**

The Forest Service operates five developed sites within the Fremont Lake analysis area as follows:

1. Fremont Lake Campground (54 campsites)
2. Lower Fremont Lake Boat Site
3. Upper Fremont Lake Boat Site
4. CCC Ponds Interpretive Site (co-managed with the BLM)
5. Sandy Beach Swim & Picnic Area
6. Sylvan Bay Day Use Site

Recreation-related facilities located on National Forest lands owned by private entities and administered by the Forest Service under Special Use Permit within the Fremont Lake analysis area are:

1. Lakeside Lodge Resort & Marina
2. Fremont Lake Recreation Residence Tract (12 Recreation Residences)
3. Fremont Lake Yacht Club
4. Sylvan Bay Recreation Residence Tract (45 Recreation Residences)
5. Sylvan Bay Homeowner's Association Boat Site (Beaver Bay)
6. Chambers Bay Historical Cabin

### **A. Fremont Lake Campground:**

#### General Information

Fremont lake Campground is operated under full service from mid May through mid September each year. Of the 54 campsites located in this site, 15 are on the national reservation system, with the remainder available on a first-come, first-served basis. This campground averages approximately 3500 visitors per year, approximately 6700 visitor days, and approximately 27,325 Recreation Visitor Days (RVDs) per year. Fee collections at this site average \$23,000 per year. This campground, along with all others developed campgrounds on the Pinedale Ranger District, is operated under the Recreation Enhancement Act (REA), which allows the home Forest to retain 95% of the campground fees collected. Fees collected at this site are utilized primarily to increase summer recreation staff presence, which improves facility maintenance, upkeep, and replacement, visitor contact and assistance, and enforcement of Forest Service regulations at this site and other developed sites located within the Fremont Lake area.

#### Campsite Conditions & Roads

Constructed in the 1950's, this campground was originally designed for tent camping and small camp trailers. The current paved trailer pads are not long enough, wide enough, or properly positioned to allow for easy backing or pull-through parking for today's much larger Recreation Vehicles (RV's). The asphalt is deteriorating and eroding from the edges of the parking spurs which is hazardous to the safety of the visitor. The paved road within the campground is narrow and is deteriorating as well.

### Toilets, Tables, & Fire Rings

The picnic tables and constructed fire rings at this site have deteriorated to the point of needing replacement. One vault toilet in this campground was constructed in 1974. The remaining vault toilets were constructed in the 1950's. None of these toilets meet Americans with Disabilities Act (ADA) standards. These facilities are also located in poor geographic areas which make maintenance and pumping difficult, and are not adequately positioned throughout the campground to efficiently serve campers.

### Beach Access

Four of the most popular campsites in this campground are Sites 30-33, which are located adjacent to two beaches on the eastern shore of Fremont Lake. These sites are almost continually occupied during the summer months, causing conflict with other campers wishing to access and utilize the two beaches.

### Group Use

Current campsites within this campground are designed to accommodate a maximum of 8 people per site, with parking space allowing for a maximum of one vehicle with trailer per campsite. Many campsite parking pads only have space for single vehicle parking, with no room for trailers. Although this campground is commonly utilized by large organized groups and family groups, there are no designated group sites currently located within this campground, or within any developed sites at Fremont Lake. This leads to large groups selecting a group of single-unit campsites within Fremont Campground to accommodate their larger group size. This causes conflicts with other campers located near or between sites occupied by these groups, as well as parking problems within adjacent campsites and along the narrow access roads.

**Table 3.1.1:** 2007 Fremont Lake Campground Reservation Data on Multiple Campsites Reserved Concurrently for Group Use.

Date	Family	Number of Sties	Number in party	Date	Family	Number of Sties	Number in party
6-Sep	a	2	12	26-Jul	a	2	8
2-Sep	a	2	6	22-Jul	a	5	36
2-Sep	b	3	18	21-Jul	a	3	18
1-Sep	a	3	13	21-Jul	b	2	9
1-Sep	b	2	5	17-Jul	a	2	8
27-Aug	a	2	6	12-Jul	a	3	16
27-Aug	b	2	12	11-Jul	a	2	4
24-Aug	a	2	12	11-Jul	b	2	16
24-Aug	b	3	24	8-Jul	a	2	11
24-Aug	c	4	24	7-Jul	a	2	11
16-Aug	a	2	6	7-Jul	b	2	12
16-Aug	b	3	13	6-Jul	a	2	12
12-Aug	a	3	12	3-Jul	a	2	11
11-Aug	a	3	18	2-Jul	a	2	4
9-Aug	a	4	20	1-Jul	a	2	8
9-Aug	b	2	4	30-Jun	a	2	12
7-Aug	a	2	4	27-Jun	a	4	18
30-Jul	a	2	8	24-Jun	a	2	12
30-Jul	b	2	8	21-Jun	a	2	12
30-Jul	c	2	8	26-May	a	2	12

**Table 3.1.1** provides excerpts of data collected from reservation reports during the 2007 summer season. This data shows instances where one large group has reserved multiple campsites within

Fremont Campground. Groups reserving more than one campsite at one time averaged reserving 2 campsites with an average of twelve people per group. At multiple times during the season, there have been over 35 people from one group camping at this campground. Offering 35-unit group sites away from single-unit campsites would meet the needs of this clientele and would minimize or eliminate conflicts between large groups and single-family campers in adjacent sites. In addition, parking congestion associated with larger groups would be eliminated in campground parking pads and along campground access roads. Redesigning, enlarging, and connecting a series of four, two-party campsites would allow these families to remain close while not having to travel by vehicle or foot to or through other campsites. Redesigning reservation sites to allow for reservation of adjacent sites will also improve this situation.

In addition, larger groups (up to 70 individuals) commonly request permission to camp in the Fremont Lake Campground or somewhere within the Fremont Lake Area. Because there are no developed sites within the Fremont Lake area for these larger groups, dispersed camping at the north and northwestern shores of Fremont Lake are commonly utilized by these larger groups. These sites are not equipped with toilets or other facilities necessary to prevent resource degradation from large group use. Confining large groups to developed sites designed to accommodate this use helps minimize resource and social impacts associated with larger groups.

Development of two 35-unit sites is preferable to one 70-person group site, primarily because both sites could be occupied by separate groups concurrently, or by one large group of 70 persons. This group campsite system works well in the Green River Lakes Campground, located on the north end of the Pinedale Ranger District. The Green River Lakes Group Sites are reservable, are utilized often during the summer, and have been successful in moving group use away from single-unit campsites within the Green River Lakes Campground, which improves the visitor experience for group users as well as the single-unit campers. In addition, these group sites focus large groups in hardened campsites with the appropriate facilities to support the group size, which is not the case in dispersed camp settings.

Vegetative Management: Fremont Campground has a wide variety of vegetation, which is divided into three categories. The entrance at the south end of the campground is dominated by aspen, heavy willow and other brush species, with interspersed white fir and Engelmann Spruce in wetter areas. Tree and brush species are diverse within the southern portion of the campground, including several Ponderosa Pine introduced to this site in the early 1930's by the Civilian Conservation Corps (CCC). Douglas fir dominates the overstory in the middle and northern portions of this campground, with many trees exceeding three feet in diameter. The western portion of the campground near the shoreline is dominated by Engelmann Spruce, lodgepole pine, and willow near the boat site, and open sagebrush and lodgepole pine along the northwestern shoreline.

Douglas fir bark beetle infestations within this campground have been documented since the 1970s, and several salvage removal sales have been implemented within this campground to remove infested trees in order to prevent large scale infestation. In 2004, the Pinedale Ranger District implemented the largest sale to date in this campground, with 125 infested trees removed prior to the mid May bug flight. From 2003 to 2006, Douglas Fir Bark Beetle infestation was high directly adjacent to this campground. Although this beetle is still active adjacent to the campground, the number of infested trees adjacent to the campground has declined over the past two years.

Mountain Pine Beetles, which affect pine trees, are prevalent on the Pinedale District, and have infested the majority of lodgepole pines along the shoreline of Fremont Lake, including the shoreline on the western side of the Fremont Campground. Verbenone, a synthetic pheromone, has been utilized in the campground and Sandy Beach Picnic Area, primarily along the shoreline in the vicinity of the boat sites, beach, and picnic areas. Loss of lodgepole along the shoreline or within the southern portion of the campground is not of great concern except where infested trees present a hazard to developed campsites, picnic sites, boat facilities, and parking sites.

**B. Sandy Beach Swim & Picnic Area:**

The Sandy Beach Picnic Area was originally constructed as a campground in the 1930s by the Civilian Conservation Corps (CCC) and converted to a day-use picnic site in the 1950s, when the Fremont Lake Campground was constructed. The existing picnic tables and fire grills are in need of replacement, and the existing toilet in the Picnic Area is no longer serviceable and has been officially decommissioned. The existing group fee picnic site is on the National Reservation System and is located at the north end of the Picnic Area. This group site is currently located between single-unit picnic sites and is not adequately separated from these single-unit sites. The existing picnic tables, and grills do not meet ADA standards for accessibility.

The Sandy Beach Swim Area toilet and parking area were constructed in the 1980's. The parking area and toilet serving this site are poorly located and dominate the landscape, disrupting visual quality at this site. The toilet at the Swim Area does not fit with the landscape and does not match any other toilet design within the Fremont Lake area.

The area between Sandy Beach and Lakeside Lodge is an attractive site for dispersed camping, although this activity is not legal in this day-use site. Permanent "No Camping" signs are needed at this site to prevent this activity. This area also serves as a launch and temporary storage site for members of the public using catamarans on Fremont Lake, particularly during the annual Sailing Regatta. Unimproved motorized access to this site for catamaran launching should continue to be allowed until further NEPA analysis can be conducted at this site to determine if this is the best site for this activity, and/or if improvements can be made to this site for catamaran launching. Dispersed camping and/or boat storage at this site should continue to be prohibited.

**C. Fremont Lake Boat Sites:**

The Upper and Lower Fremont Lake Boat Sites are managed by the Forest Service and Wyoming Game & Fish Commission. These two sites were reconstructed in 1992, and the docks were replaced with grant funds in 2007 and 2008. The Upper Fremont Lake Boat Site also has a fishing pier, which received minor reconstruction/stabilization in 2006 but requires replacement with a better design that fits the landscape and better addresses fluctuating water levels.

The boat ramps, docks, and parking facilities at these two sites need design modification and reconstruction to enhance public health and safety, protect water quality, and help address functionality, (including traffic flow and parking configuration) at these sites. The Upper Boat Site vault toilet was constructed in 1970's and the Lower Boat Site vault toilet was built in the 1980's. Both vault toilets are fully functional but need minor modifications to fully meet ADA

standards. The Lower Boat Site toilet also poses visual concerns, which would be reduced with adequate vegetative screening or relocation of the toilet.

In addition to the Upper and Lower Fremont Lake Boat Sites managed directly by the Forest Service, there are several existing boat facilities managed under Special Use Permit and administered by the Forest Service on Fremont Lake as follows:

- **Fremont Lake Recreation Residence Tract - Boat Docks:** The majority of the 12 Fremont Lake Recreation Residences, located on the southern shore of Fremont Lake, have their own dock systems and two have conditionally approved boat houses. None of these Recreation Residences has an existing or approved boat ramp facility. There is no common theme for the current boat docks and several of the docks are in need of replacement. To improve visual quality along the southern lakeshore, authorization to conduct major dock repairs or replace docks within this Recreation Residence Tract has been halted until further NEPA analysis is conducted for these dock systems. Dock maintenance requirements are included in Operating Plans for these sites.
- **Fremont Lake Yacht Club – Boating Facilities:** This club is located within the Fremont Lake Recreation Residence Tract and is operated under a Boat Site Special Use Permit. Authorized facilities at this site include a parking area, a single-lane concrete boat ramp, a floating dock, and an 8-unit boat storage facility. This facility is for members of the club only, and has been under permit for this activity since 1954. The boat storage unit and most of the other facilities are in good condition. To improve visual quality along the southern shoreline, the club plans to repaint or replace the boat storage facility doors, and proposes to reconstruct and extend the existing breakwater and remove the boat dock at this site. The breakwater extension has not been formally requested by the club or approved by the Forest Service to date.
- **Lakeside Lodge Resort & Marina:** Lakeside Lodge currently has 31 boat slips authorized, with an additional 39 boat slips to be added after required mitigations identified in the 2006 approved Master Development Plan (MDP) are completed. Lakeside is also authorized a boat fueling site and a single-lane boat ramp. According to the Lodge, this boat ramp is primarily utilized by the Lodge for emergency boat removal operations. The Lodge and its customers primarily utilize the Lower Fremont Lake Boat Site ramp to launch and remove boats at Fremont Lake. The current ramp is required to either be surfaced or removed to minimize the potential for soil erosion into Fremont Lake, in accordance with the 2006 MDP.
- **Chambers Bay Historic Cabin – Boat Dock:** The Chambers Bay Historic Cabin is authorized under special use permit to maintain a boat dock on the western shore of Fremont Lake in Chambers Bay.
- **Beaver Bay Marina:** The Sylvan Bay Summer Homeowners' Association is authorized to operate the Beaver Bay marina, located on the eastern shore of Fremont Lake, north of the Sylvan Bay Recreation Residence Tract. Authorized facilities include a gravel road, a boat ramp, two floating docks with boat slips, a toilet and a small unsurfaced vehicle parking area. These facilities are in good condition and are well maintained by the Homeowners' Association. Access to this site is by Forest Road #742. The access road

to Beaver Bay is maintained by the Association for its entire length. This road is gated at its junction with Road #742 to prevent vandalism and theft at the Beaver Bay marina. Forest Road #742, which also provides vehicle access to the Sylvan Bay Day-Use Site, is a steep, narrow, poorly surfaced road. The boat ramp at this marina will be required to be removed or paved to minimize potential erosion into Fremont Lake at this site.

The Beaver Bay marina has been considered for conversion to a public boating facility in past Fremont Lake recreation planning efforts, as well as during the initial studies conducted by the IDT for this Environmental Assessment. The IDT concluded that this site would not significantly improve boating access to Fremont Lake for the general public due to its distance from Pinedale, its steep, narrow access, and that fact that it has been successfully operated under Special Use Permit by the Sylvan Bay Homeowner's Association since 1959. The IDT concluded that improvement of the Upper and Lower Fremont Boat Sites would better serve the general public, and that the Beaver Bay marina has been successful in reducing the use of the Upper and Lower Fremont Boat Sites by Sylvan Bay Homeowners.

#### **D. General Fremont Lake Area:**

This area consists of the remaining analysis area, including the Stewart Flat/Pine Creek dispersed area, the CCC Ponds Interpretive Site, the Sylvan Bay Day-Use Site, miscellaneous access roads, and the Sylvan Bay and Fremont Lake South Recreation Residence Tracts, Fremont Lake Dam, and the remaining Fremont Lake shoreline.

- **Stewart Flat/Pine Creek Dispersed Area:** This area is located at the southern end of Fremont Lake between the Lower Fremont Lake Boat Site and the Forest Service/Bureau of Land Management (BLM) boundary and includes Pine Creek. The Stewart Flat/Pine Creek area was primarily utilized as a day-use site for local residents until recent years. This area is now primarily used as a temporary living site by individuals and families who have no permanent residence in Sublette County and are unable to find affordable temporary housing or lodging in the Pinedale area. Living on National Forest System Lands is an illegal activity which is causing sanitation issues, water quality impairment to Pine Creek, visual concerns, and enforcement issues in this area. In addition, the Stewart Flat area contains historic artifacts, including remnants of a historic Civilian Conservation Corps (CCC) camp constructed and utilized in the 1930's. This area is also a bottleneck for the mule deer migration corridor, which has high potential to be impacted by overnight camping during the spring and fall migration periods.

There are several designated open dirt roads within this area that are dramatically increasing in width by motor vehicle use during wet periods, causing resource issues throughout this area. This area also contains a series of groomed cross-country ski trails, which are signed and groomed by the Sublette County Recreation Board.

- **CCC Ponds Interpretive Site:** This interpretive site/wetland enhancement project was completed in 1995 and contains a series of scenic fishing ponds and interpretive trails. A portion of the trails are ADA compliant, including fishing access at the largest pond. This site is managed by a committee made up of representatives of the USFS, BLM, Sublette County School District, and WGFD. The CCC Ponds Site is managed as a day-use-only site.

- **Sylvan Bay Day-Use Site:** This site, located north of the Fremont Lake Campground, currently serves as a day-use beach site for boaters on Fremont Lake and campers from the Fremont Lake Campground. This site is also occasionally accessed by motorized vehicle through the Sylvan Bay Recreation Residence Tract located directly east of this site. Campfire prohibition and day-use designation are considered important to enforce at this site to prevent disturbance to the adjacent Sylvan Bay Recreation Residence Tract and to minimize management attention at this remote site. There is a vault toilet in serviceable condition at this site which does not meet ADA standards.
- **Chambers Bay Historic Cabin:** Originally known as the Ridick Lodge, this site is located on the western shore of Fremont Lake in Chambers Bay. George Ridick began constructing this lodge in 1918 and utilized this site as a summer from 1920 to 1931. The lodge was purchased by Dr. Oliver Chambers of Rock Springs in 1938. The Chambers Bay facilities are maintained under a Historic Cabin special use permit issued to the Chambers Historical Preservation Trust. This site is enrolled in the National Register of Historic Places. The historical significance of the Redick Lodge is “based upon its association with the early-day recreation industry in Wyoming” (Clayton B. Fraser, Principal and Wallace L. Chambers, Lodge owner, date unknown). Access to this site is by boat, or by a hiker/horseback trail from Spring Creek Park Trailhead. No motorized wheeled access is authorized to this site, although illegal ATV tracks and ATVs themselves have been noted within the past several years at this site.
- **Fremont Lake Boat-in Day & Overnight Use:** The majority of boaters utilizing Fremont Lake are day-users. Dispersed camping by boating access primarily occurs on the northwestern and northern shores of Fremont Lake. With the exception of the Fremont Lake Campground, Sylvan Bay and Beaver Bay, most of the eastern side of the lake is too steep and rocky to attract boat-in dispersed campers. The majority of boat-in campers utilize Box Bay and Chambers Bay on the northwestern side of the lake or the north end of the lake. At one time, a developed campground was located on the northern shore, with picnic tables, a rudimentary dock system, and a pit toilet. Some remnants of these facilities still remain at this site and are scheduled to be removed and rehabilitated as funds allow.

There are no toilet facilities meeting Forest Service standards and no existing setback regulations prohibiting camping near the shoreline at any of the dispersed camping sites utilized by boat-in campers on the lake. Water quality protection from human waste is a concern within 200 feet of Fremont Lake, except where adequate sanitation facilities are provided. Construction of vault toilets at several dispersed sites has been considered in the past. However, because there is no vehicle access to these sites, pumping and maintenance of these toilets would require boat-in access. Transportation of human waste by boat across Fremont Lake would likely pose additional concern for retention of water quality on Fremont Lake. In addition, toilets at this site would not be economical to pump or maintain. Vault toilets are currently provided at the Lower and Upper Boat Sites and Sylvan Bay Day-Use Site, and Lakeside Lodge provides flush toilets for its clients.

- **General Road Conditions within the Fremont Lake Analysis Area:** Forest Road #749, (from Skyline Drive #740 to the Lower Fremont Lake Boat Site), is in poor condition, with numerous cold patches. Forest Road #741, (which provides access to the Fremont Lake Campground and Sylvan Bay Recreation Residence Tract), is in fair condition but is likely to deteriorate to poor condition as additional pot holes develop. Both of these paved roads are in need of resurfacing.
- **Lakeside Lodge Resort & Marina:** Lakeside Lodge is authorized to provide year-round services at the south end of Fremont Lake, including restaurant services, recreation cabin rentals, marina services, and eventually a 25-unit lodge. As per direction in the 2006 Decision Notice for the Lakeside Lodge Master Development Plan EA, the 20-unit campground located adjacent to the lakeshore was scheduled to be removed in 2008. The physical removal and rehabilitation of the campground has been extended to 2009. However, use of the campground will not be allowed at this campground beyond the 2008 summer season. Installation of three monitoring wells, completion of new septic systems, and an approved Landscape Management Plan and Storm Water Pollution Prevention Plan are required prior to construction of new facilities at this resort. Copies of the 2006 MDP EA and Decision Notice are available at the Pinedale District Office and on the BTNF website.
- **Fremont Lake & Sylvan Bay Recreation Residence Tracts:** The Fremont Lake and Sylvan Bay Recreation Residences are owned by private individuals and operated on the National Forest under special use permit administered by the Forest Service. The 12-unit Fremont Lake Recreation Residence Tract is located on the southern shore of Fremont Lake. The 45-unit Sylvan Bay Recreation Residence Tract is located on the eastern side of Fremont Lake, well away from the shoreline. In preparation for issuing new permits, which expire at the end of 2008, field reviews of all of these sites have been conducted over the past three years, with minor corrective actions having been completed or scheduled to be completed within the new Special Use Permits and Operating Plans for these sites. No significant correction items or conditions were found that would negate issuance of new 20-year permits for the 57 Recreation Residences in 2009. Information relating to the permit issuance process and Interdisciplinary Team Specialists' documentation for these two tracts is available at the Bridger-Teton National Forest Supervisor's Office in Jackson, Wyoming.

#### **Non-Recreation Facilities Located Within the Analysis Area**

Non-recreation facilities located on National Forest System Lands owned by private entities or other agencies and administered by the Forest Service under Special Use Permit or Easement within the Fremont Lake analysis area are:

1. Fremont Lake Dam
2. Highland Irrigation Ditch
3. Fremont Irrigation Ditch
4. Town of Pinedale Water: Intake, Waterlines, and Chlorination Treatment Facility
5. USGS Water Gauging Facility

- **Fremont Lake Dam, Highland Ditch and Fremont Ditch:** The Fremont Lake Dam was reconstructed in 1998, when it was moved approximately ¼ mile downstream from the previous dam in Pine Creek. The dam is owned and operated by the Highland Ditch Irrigation Company under Special Use Permit administered by the Forest Service. The dam is a popular fishing site and serves as the only constructed crossing over Pine Creek at the south end of Fremont Lake. Minor impacts from recreational use below the dam on Pine Creek are limited to a few user-created paths leading down to the creek within 100 feet of the dam.

The Highland Ditch is operated under an easement and the Fremont Ditch is operated under Special Use Permit administered by the Forest Service. Both ditches begin at the Fremont Dam, with the Highland Ditch located on the east side of Pine Creek and the Fremont Ditch located on the west side of the creek. Impacts to the Highland Ditch from Forest visitors are minor at the dam, primarily associated with erosion along the western bank of the ditch due to visitors attempting to reach the bottom of the ditch. Impacts to the Fremont Ditch, which is far smaller than the Highland Ditch, have not been noted.

The Highland Ditch defines the southern boundary of the Stewart Flat dispersed area and serves as the northern and eastern boundaries of the CCC Ponds Interpretive Site. The ditch itself, which likely contains the clearest water of any ditch of its size in the State, has the appearance of a stream rather than an irrigation ditch and is considered an integral part of the CCC Ponds interpretive trail system. The greatest impact to this ditch from Forest visitors is located adjacent to a popular dispersed camping site directly adjacent to the ditch in the Stewart Flat area across from the CCC Ponds. This campsite is secluded from the remainder of the Stewart Flat area by topography and is occupied by camp trailers almost continually from June through October. Like much of the Stewart Flat area, many of the occupants using this dispersed site are transient workers, often with families, who are unable to obtain affordable temporary housing or lodging in the Pinedale area. Campers at this site are attracted by the Highland Ditch, resulting in human-created paths across the ditch that is breaking down the ditch banks adjacent to this site. In addition, campers at this site routinely wash clothes, swim and tube in the ditch, and place rock retaining walls and stepping stones inside the ditch to cross the ditch during low water.

- **Pine Creek Water Gauging Station:** The US Geological Survey operates and maintains a water gauging station at the north end of Fremont Lake in the Pine Creek inlet under special use permit. No impacts to this site from recreation use, or visa-versa, have been reported for this site.
- **Town of Pinedale Water Line and Water Treatment Site:** A water intake, water pipeline, and water treatment facility are located on the south shore of Fremont Lake. These facilities are owned and operated by the Town of Pinedale under Special Use Permit administered by the Forest Service. A new water intake, pipeline, and chlorination building were constructed by the Town of Pinedale at the south end of Fremont Lake in 1998. The water treatment building is located on the south side of the Lower Fremont Lake Boat Site parking area. The facilities within this site are enclosed within a lattice fence, and additional vegetative screening would improve visual effects of this site on the developed boat site. A new Ultra Violet (UV) treatment building to be

added to this site has been proposed by the Town, and the Town is considering replacing the older backup water line with a new line by 2010 to address increasing public need for drinking water in Pinedale. To date, there has been little or no impact to the water treatment facility at the Lower Fremont Boat Site, other than minor vandalism. The municipal drinking water system is discussed in more detail in Section 3.7 of this assessment.

### Winter Use

Ice fishing, cross country skiing, and snowmobiling on Fremont Lake are popular recreational activities during the long winter months. Fremont Lake is 12 miles long, which makes snowmobiling on the lake inviting for many ice fishermen. Forest Road #749 is plowed during the winter months by the Town of Pinedale up to and including the Lower Boat Site parking area. Winter access is needed by the Town to operate the water treatment facility and this plowing benefits the general public, including Lakeside Lodge clients, by providing plowed access to the lake. Visitors trailer snowmobiles to the Lower Fremont Boat Site, where they park and offload their snowmobiles to access the lake. Cross country skiers often park at this site to ski the groomed ski trail system located within this area. Forest Road #741 is not plowed or groomed and is utilized by snowmobilers and cross-country skiers to access the lake from the Upper Fremont Boat Site during the winter. The top end of this road is located within crucial moose winter range but there are currently no motorized vehicle restrictions within this winter range.

### Events

There are three annual events authorized by special use permit on Fremont Lake annually. The Fremont Lake Ice Fishing Derby is the largest event authorized on the lake, with approximately 300 participants and spectators. This event is authorized in early March (timed before March 15 to avoid mule deer migration impacts). Parking is an issue during this event, which is addressed under an annual operating plan. The Father's Day Fishing event occurs in June, and the Pinedale Half Marathon occurs in mid September. The two ice fishing events are authorized annually under the Lakeside Lodge permit, and the Half Marathon is authorized annually through a separate special use permit. No impacts have been documented for any of these annual events.

## **C. Desired Condition – Recreation & Special Uses**

DFC direction is located within the 1990 Bridger-Teton National Forest Land & Resource Management Plan, Chapter 4. The primary DFCs associated with Section 3.4 are DFC 2A, 2B, 9A, and 9B. A full description of these DFCs is located in Appendix C of this document. All developed facilities proposed for replacement or reconstruction within this analysis are located within DFC 9A and DFC 9B. Trail development proposals and dispersed camping restrictions are proposed within the remaining DFCs.

## **D. Management Framework – Recreation & Special Uses**

Management direction for recreation and special uses is located within the BTNF Forest Plan, Chapter 4, and in Appendix C of this document. In addition to Forest Plan direction, the following Forest Service direction pertains to recreation and special uses management.

National Direction:

US Forest Service - Washington Office – Recreation Agenda - 2008 Program Priorities: Regions should focus on addressing the most critical health and safety concerns at agency owned buildings and recreation sites, especially in those areas that are heavily used by the public and Forest Service employees. Program emphasis should be placed in the following key areas for FY 2008:

- Implementing actions to reduce deferred maintenance on high priority fee sites identified through Recreation Facility Analysis (RFA) and improve visitor services within their project areas.
- Repairing and improving those facilities, including buildings, water and wastewater systems, dams, and recreation sites, that receive public use and are critical to supporting agency operations.

Forest Service Manual (FSM) 2300 - Recreation, Wilderness, and Related Resource Mgt:

This manual provides national direction related to management of developed and dispersed sites and Wilderness, including planning and operating developed sites and facilities.

Forest Service Handbook (FSH) 2709.11 - Special Uses

This Handbook contains detailed information related to special-use management activities, including authorization preparation, and administration of special use permits.

Forest Service Handbook (FSH) 7700: Transportation Systems

This handbook identifies the following primary objective for management of National Forest System Roads as follows:

- Operate and maintain NFS roads in a manner that meets road management objectives (RMOs) and that provides for:
  1. Safe and efficient travel;
  2. Access for the administration, utilization, and protection of NFS lands; and
  3. Protection of the environment, adjacent resources, and public investment.

Regional Direction:

The Intermountain Region 4's Recreation Strategy Goal is to provide "quality recreation opportunities sustainably, responsibly, efficiently, and in a proactive manner." Key Regional objectives include:

- Identify and foster shared recreation goals with communities, agencies, organizations and individuals and coordinate delivery of recreation opportunities with other agencies and partners.
- Ensure that expenditures result in sustainable, high-quality recreation facilities that support the Regional and Forest niches. Planning is utilized as a tool in making good decisions that compliment and protect desired niches, while considering goals of local communities when developing Forest programs.
- Nodes and corridors of quality developed recreation facilities are provided at key destinations to accommodate concentrations of use while also serving as gateways to surrounding undeveloped settings.
- Facilities are consistent with ROS setting and utilize Built Environment Image Guide (BEIG) concepts.

### Forest Direction:

#### Bridger-Teton National Forest (BTNF) – Recreation Site Facility Master Plan (2004-2010):

This Action Plan was developed to implement effective recreation developed site management in the context of a complete forest-wide recreation program. The plan is used as a guide for all recreation developed site investments, including the capital improvement program, minor construction, partnerships, and annual operations and maintenance. This plan is the result of the national Recreation Site Facility Master Plan (RS-FMP) process. Implementation of this plan is considered essential to allowing the Forest to provide sustainable quality recreation opportunities, responsively, efficiently, and in a proactive manner.

The overall strategy for the Forest's recreation program is to maintain a balanced program and be as efficient as possible with developed recreation so the Forest can also accomplish its targets in dispersed recreation and special uses administration.

The BTNF Recreation Site Facility Master Plan identifies the priority ranking of 134 developed sites on the Forest based on the following four factors:

1. Significance to the Forest's recreation program niche
2. Potential for financial sustainability
3. Contribution to community stability
4. Environmental soundness.

For the Fremont Lake area, the following developed sites rank among the top of the Forest's 134 developed sites using the above factors:

- CCC Ponds: #1 ranked developed site on the Bridger-Teton National Forest of 134 total sites
- Upper Fremont Lake Boat Site: #22
- Lower Fremont Lake Boat Site: #24
- Sandy Beach Swim Area: #31
- Sandy Beach Picnic Site: #38
- Fremont Lake Campground: #52

## **E. Effects – Recreation & Special Uses**

### **Alternative 1 – No Action**

Under the No-Action alternative, a comprehensive recreation management plan designed specifically for the Fremont Lake area would not be developed or implemented. The project area would continue to be managed piece-meal as it is today, with no common theme or connection between developed and dispersed sites within the analysis area. A brief description of effects that would result with this alternative are described as follows:

#### **A. Fremont Lake Campground**

With the No-Action Alternative, the Fremont Lake Campground will survive in a status-quo state with significant health and safety issues that will continue to degrade without mitigation. Most of the 54 camping units within this campground do not meet the needs of modern campers with larger RV's and trailers, and the majority of the campsite parking pads are not correctly oriented to the main access road, making it difficult for the average camper to back trailers and RV's

safely onto the existing parking pads. In addition, many of the parking pads are too narrow with abrupt edges on the pavement which are unsafe.

### RV/Trailer Pads & Roads

Roads within the campground will not be widened to improve safety for pedestrians and bicyclists, and access to the Upper Fremont Boat Site will continue through the lower loop of this campground, increasing traffic within the camping area. The roads and campsite parking pads will not be redesigned and resurfaced, which will cause pot holes and deterioration of the edges of the existing pavement to continue. The loop turn-around site at the northern terminus of the campground will not be reconstructed, which is currently of insufficient design to allow for proper turning radius for larger RV's and trailers.

### Camping Facilities

The camping facilities within this campground, which are over 50 years old, will continue to degrade and will become more difficult to maintain and keep operational with each year that they are not replaced. For example, the picnic tables within this campground have concrete bases which are deteriorating at an accelerated rate, which requires replacement rather than repair. The current toilets, which do not meet ADA or Forest Service Standards, will not be replaced and will remain difficult to maintain. The toilets also will not be moved to more strategic locations to better serve campers within this campground.

The picnic tables, parking pads, and constructed fire rings do not meet ADA standards, which is important considering that a large number of senior citizens and campers with disabilities utilize this campground each year. No trails will be constructed within the campground to provide adequate access to toilets, lakeshore beaches, and the boating facility and the four campsites (#30-33) will not be converted to day-use parking to allow access to the two main beaches within the campground, which will lead to continued conflict between campers near these sites.

### Group Sites

No 70-person (or 35-person) group sites would be created within the campground with this alternative. Large groups will therefore continue to camp either within dispersed campsites on the north and northwestern ends of Fremont Lake, which will continue to impact areas that are not equipped with toilets, or within various connected and unconnected campsites within the Fremont Campground, which will continue to impact single-unit campers in neighboring campsites. Demand for group sites has risen over the past five years. Without development of group site opportunities, visitor conflict will continue to increase within the campground, including excess vehicles parked in other campers' parking pads and illegal parking along the main access roads, which creates unsafe road widths for RV's and trailers and blocks roads completely in some instances.

## **B. Sandy Beach Swim and Picnic Area**

With Alternative 1 (No-Action), the aesthetic nature of this developed site will continue to be compromised because the two vault toilets within the Swim and Picnic areas will not be replaced. Upon entrance to the beach and parking area, the view of the lake is dominated by a large, outdated vault toilet in the foreground. Although functional, this toilet does not meet Forest Service or ADA standards and does not match any other style restroom within the Fremont Lake recreation complex. The vault toilet within the Picnic Area has been condemned because it does not meet Forest Service standards. Although it will eventually be removed, it

will not be replaced with this alternative. Large and small groups utilizing the Picnic Area will therefore continue to utilize the Swim Area toilet, which does not adequately serve the number of persons at one time at the Swim & Picnic Area.

The Sandy Beach Picnic Area remains with 12 single picnic units and one reservable large group fee site located between single-units in the northern end of the picnic area. There is no distinction between the reservable group use fee site and the remaining single-unit, non-fee sites in this picnic area. Little privacy is therefore afforded to groups with reservations, which leads to poor visitor satisfaction for both large groups and smaller family groups attempting to utilize the single-unit sites adjacent to the large group site. In addition, the group site, which is located within 30 feet of the Fremont Lake shoreline, is not relocated further from the shoreline with this alternative.

The picnic tables, benches, and pedestal grills will not be replaced and will continue to deteriorate with this alternative. Most of the CCC-era stoves within the picnic area have already deteriorated to the point of not being usable, and they will continue to deteriorate without intervention and preservation. Surfaced trails will continue to be user-created to the bathrooms, grills, tables, and lake, which will continue to compact soils and affect ground vegetation within the swim and picnic areas. In addition, no ADA compliant access will be provided within the swim and picnic areas with this alternative.

### **C. Fremont Lake Boat Sites**

#### Lower Fremont Lake Boat Site:

With Alternative 1 (No-Action), no new construction or resurfacing of the existing boat site, (including ramps, parking areas, breakwater, or fishing piers) would occur. Without construction of a breakwater to protect this boat site from high waves caused by prevailing high winds, this site will continue to inadequately serve the boating public using this site. A boat dock was initially provided for the main boat ramp, but has since been removed and will not be replaced unless an adequate tie-down system for the dock can be implemented that will withstand high wave action at this site. A shorter ramp and dock system have been left in place at this site and will continue to serve visitors with smaller boats. This ramp is too short to serve large boats. ADA access to the existing dock system is not provided at this site. No additional fishing access would be provided at this site without construction of the breakwater.

The parking area serving this boat site will remain usable but will not be resurfaced and will continue to be inefficiently utilized, particularly during the two fishing derby events (winter and summer) which take place at this site annually. The vault toilet serving this site is currently ADA compliant and there is an ADA compliant parking pad and path established for this toilet. However, the existing toilet dominates the landscape, much like the Sandy Beach toilet, and disrupts the visual character of this developed site. This toilet also does not match other toilets within the Fremont Lake area.

#### Upper Fremont Lake Boat Site

With the No-Action Alternative, no new construction or resurfacing of the existing boat site (including ramp, parking areas, breakwater, fishing pier, or access) would occur. The main access to this boat site would continue to be a one-way through the lower Fremont Lake

Campground loop. Excessive speeds and careless driving through the campground to access this boat site will continue with this alternative.

The size and design of the current parking area for this popular boat site will continue to serve approximately 8 vehicles with trailers, if correctly parked, which is insufficient for the current amount of use this facility receives. For much of the summer season, vehicles and cars will continue to be crammed into this parking lot to the point, which becomes a law enforcement issue when visitors are not able to move their vehicles. Without enlargement and redesign of the current parking area, addition of overnight restrictions for vehicles and trailers, and/or addition of an overflow parking nearby, parking conditions will not improve at this boat site.

The boat ramp at this site is too shallow and short, especially when the lake level is down, which tends to occur during peak use at this facility. Vehicles must therefore drive further into the water to launch their boats. In addition the ragged condition of the launch pad and ramp will not be improved with this alternative, which makes pulling boats out of the water at this site challenging and unsafe.

The fishing pier and access to the existing dock will not be reconstructed with this alternative, which does not meet ADA requirements or improve the visual appeal of this site. The current vault toilet is ADA compliant.

#### Recreation Residence Tract, Yacht Club, & Chambers Bay

The existing docks serving the Fremont Lake Recreation Residence owners, the Fremont Yacht Club, and the Chambers Bay Historic Cabin have no common design theme and are highly visible from Fremont Lake. With this alternative, no common design theme or construction materials are developed or implemented for these sites, which detracts from the visitor's recreation experience on the lake.

### **D. General Fremont Lake Area**

#### Dispersed Camping

With the No-Action Alternative, no dispersed camping and campfire restrictions are implemented. Due to its close proximity and easy access to Pinedale, the Stewart Flat/Pine Creek area will continue to be utilized as a dispersed trailer park by transient workers who are unable to obtain affordable housing or motel accommodations in the Pinedale area. Dispersed camping will also continue within 200 feet of Fremont Lake in dispersed campsites on the northern and northwestern shores of Fremont Lake, where no sanitation facilities are provided.

#### Roads

Forest Roads 749 and 741 will not be resurfaced, which will lead to increased pot hole development and patching needs. At some point in the near future, the entire 749 road will be patched. All existing two-track roads within the Stewart Flat/Pine Creek area currently open in the 2007 Motor Vehicle Use Map will remain open to motorized use, which will continue to lead to widening and trenching of these roads, causing resource concerns and diminishing the scenic attraction in this area for Forest visitors.

### Trails

No new trails will be constructed with this alternative, and snowmobiles, tracked, and wheeled vehicles will be discouraged but not prohibited on groomed cross-country ski trails in the Fremont Lake and Skyline Drive areas.

### Sylvan Bay Day Use Site

Under the No-Action alternative, this site will continue to be managed with roaded access, as well as boater access and hiker access from Fremont Campground. The existing vault toilet, which does not meet ADA standards, would not be replaced with this alternative.

### **Alternative 2 – Proposed Action**

Under Alternative 2, a comprehensive recreation management plan is designed and implemented specifically for the Fremont Lake area. The project area would be managed as a whole, emphasizing a common theme and similar facilities, which would improve the efficiency of recreation management operations and improve resource and social conditions within the Fremont Lake analysis area.

This alternative would improve health & safety conditions, ensure Forest Service developments fit with the landscape; and provide quality facilities for the recreating public. A brief description of effects that would result with this alternative are described as follows:

#### **A. Fremont Lake Campground**

##### RV/Trailer Sites

Implementation of Alternative 2 would significantly improve the quality of the recreation experience throughout this developed site. Redesigning, enlarging, and resurfacing campsites will address safety concerns and better serve modern RV's and trailers currently being used at this campground. There are no RV or trailer size limits within this campground or most other campgrounds within the National Forest System. CDL licensing is not required for driving these large vehicles and there are many inexperienced drivers that are not truly qualified to handle these vehicles, especially on tight turns within the campground and when backing onto narrow campsite parking pads. Redesigning campsites to allow pull-through access, when practical, will provide a safer experience for the inexperienced RV driver and a safer experience for everyone around them.

##### Roads

Widening and resurfacing the roadways within the campground allows for safer pedestrian and bicycle travel through the campground. Currently, there is little room for pedestrians to walk in safe manner off or on the road ways. Widening and realigning will increase visibility for drivers with large RVs and trailers and will provide safer conditions for campers.

##### Vault Toilets

Replacement and relocation of vault toilets throughout the campground will better meet camper needs and will increase the efficiency of maintenance of these facilities by providing better access to the toilets for routine cleaning and pumping service. Installation of cement toilets and removal of the old wooden toilets allows for pressure washing which greatly increases the cleanliness and sanitation of the facility. Replacement and relocation of the toilets and implementation of a trail system throughout the campground to access toilets, the Upper Boat Site, and Fremont Lake will mitigate impacts of user created trails and provide ADA access where none is currently provided.

### Group Sites

Development of two 35-person group sites or one 70-person group site within the campground would be implemented with Alternative 2. As discussed in Section 3.4 B, Existing Condition, this campground is commonly utilized by large organized groups and smaller family groups, and there are no designated group sites currently located within this campground, or within any developed sites at Fremont Lake. Development of one or more group sites within this campground will reduce conflicts between group and single-unit campers, will reduce parking concerns within campsites adjacent to larger groups, and will reduce parking issues along the main access roads within the campground. In addition, development of group sites within the campground will reduce or eliminate dispersed camping on the north and northwestern shores of Fremont Lake. These sites will be provided with the necessary facilities designed to accommodate this use and minimize resource and social impacts associated with these sites.

As noted in Section 3.4 B., Existing Condition, development of two 35-unit sites is preferable to one 70-person group site, primarily because both sites could be occupied by separate groups concurrently. If needed, the two 35-unit campsites can be utilized by one large group of 70 persons. This group campsite system works well in the Green River Lakes Campground, located on the north end of the Pinedale District. These sites are reservable, are utilized often during the summer, and are successful in moving group use away from single-unit campsites, which improves the visitor experience for group users as well as the single-unit campers. In addition, these group sites focus large groups in hardened campsites with the appropriate facilities to support the group size, which is not the case in dispersed camp settings.

### Picnic Tables & Grills

New concrete picnic tables will eliminate the extensive maintenance that is needed for existing, deteriorating picnic tables. With the addition of new ADA compliant picnic tables and fire rings, this campground will meet ADA compliance, improving customer service for aging visitors and those with disabilities.

### Campsite Reconstruction

Replacing campsites 30-33 near the shoreline with day-use parking sites will improve registered campers' access to the two beaches serving campground visitors. The majority of campers will be able to access beach space that can be utilized for temporary boat mooring and day use activities. Without converting these sites, other campers are not able to access these beaches without disrupting campers at these sites, who commonly become possessive of the beaches and understandably unhappy when other campers walk through or near their campsites. The addition of day use parking in this area will require close monitoring to prevent non-registered campers from using these sites. The removal of these campsites from the reservation system may decrease the overall income from fees collected for these sites and may discourage campers who seek to camp at these coveted campsites for their scenic quality and proximity to the lake.

### Fee Collection Sites

The current fee collection sites for this campground do not meet Forest Service standards and do not allow for safe pull out from the main road. The pull out at the main fee station is too shallow and short for large RVs or vehicles towing trailers. Widening, resurfacing, and improving the fee sites and signage will greatly improve the visual appearance and functionality of the fee sites at this site.

## **B. Sandy Beach Swim and Picnic Area**

### Parking Areas

The Swim Area parking site currently dominates the visual landscape. With Alternative 2, this parking area will be removed and rehabilitated, which will dramatically enhance the visual quality of the beach, and make more practical use of the lower Picnic Area parking site. The upper parking area serving the existing group picnic site in the northern end of the Picnic Area will be enlarged, and this will help separate group picnicking from the single-unit picnic sites.

### Vault Toilets

The current toilet located at the Swim Area will be removed and relocated, which will enhance the quality of the Swim Area by moving this dominant structure further from the shore. This structure can also be maintained more efficiently by removing it from the beach. The Picnic Area vault toilet will also be removed and replaced. The existing toilet is not functional and has been condemned. Replacement of this toilet will serve the group and single-unit picnic sites.

### Picnic Tables, Grills, and CCC-era Stoves

The picnic tables and grills will be replaced at this site, eliminating costly repair and upkeep currently necessary for these outdated facilities. The CCC-era stoves will be reconstructed pending SHPO clearance, which will preserve and bring these historic facilities to functional condition.

### Group Picnic Site

The reservable group picnic site at the north end of the campground will be moved away from the shoreline and closer to the upper parking area. This will help separate this fee site from the non-fee single-unit sites to the south of the group site.

## **C. Fremont Lake Boat Sites**

### Lower Fremont Boat Site

The current boat launch facility located at the lower boat site is functional. Alternative 2 will result in resurfacing of the launch and parking area, which will eliminate the need for constant patching of pavement, will greatly improve the function of this site, and will provide for a quality recreation experience at this site. A parking scheme would eliminate sporadic visitor parking and maximize the parking capacity at this site. This area is also used in the winter for snowmobile parking. Optimizing the parking capacity will help meet the needs of the winter user as well.

Day and overnight parking will continue to be allowed and no fee will be charged at this site. There is more parking room at this site for boaters to leave their vehicles and trailers while camping on the lake than at the Upper Boat Site.

Visual screening of the vault toilet and recreation residences at this site will improve the visual quality and visitor experience at this site. However, care should be taken to ensure that the vault toilet at this site is not too well screened, because use of the toilet by boaters is desirable. Keeping the vault toilet in site, while improving its appearance, may deter visitors from using the lake shore when they can see a toilet is in site.

The prevailing winds on Fremont Lake hammer the south shore where the Lower Boat Site dock and ramp are located. With the construction of break water, both the dock and launch site will be protected from these heavy wave action caused by these strong winds, which will improve maintainability and long-term life of the dock systems and provide a better experience at this site for the boating public. This break water will also serve as a fishing pier, the second on this lake to provide an accessible experience for the fishermen, and will assist in leading boaters away from the Town of Pinedale's water intake, approximately 900 feet north of the Lower Boat Site.

#### Upper Fremont Boat Site

With Alternative 2, the current access to the Upper Fremont Boat Site will be reconstructed to provide two-way direct access to this site, eliminating the need for boaters to travel through the lower loop of the Fremont Campground. This will eliminate concerns regarding excessive speeds and endangerment to the campers within the campground as a result of boaters driving through the campground. This will also eliminate the hazardous practice by many local boaters to bypass the campground and drive the wrong-way down the one-way road to access the boat site more quickly.

Redesigning, resurfacing, and slightly enlarging the existing parking area serving this site will greatly improve parking conditions and ingress/egress within this overcrowded parking area. Prohibiting overnight parking and implementing a fee for day-use parking at this site will further help reduce parking congestion at this site. Providing a breakwater at the Lower Boat Site may also serve to reduce parking pressure at the Upper Boat Site.

Only minor improvements would be needed to bring the current dock, pier, and toilets to full ADA compliance, including implementation of accessible trails to these facilities.

Fremont Lake Recreation Residence Boat Docks: Existing boat docks serving the Fremont Lake Recreation Residence would be required to be removed or consolidated with this alternative.

### **D. General Fremont Lake Area (including Stewart Flat and Sylvan Bay Day Use Site)**

#### Dispersed Camping

Dispersed camping and campfires restrictions within 200 feet from the Fremont Lake Shoreline will improve visitor experiences on the lake and water quality within the lake. Dispersed camping opportunities on the lake may be impacted with implementation of the 200 foot restriction, which may eliminate some of the most desirable dispersed camping sites immediately adjacent to the shoreline. This may also eliminate dispersed camping on the two islands located in the northern portion of the lake. In addition to the 200 foot set back restrictions, dogs would be prohibited within 200 feet of the south shore of Fremont Lake. Both of these restrictions will be difficult to enforce without assistance from partners such as the Town of Pinedale, Wyoming Game & Fish, and Sublette County Sheriff's Office.

Prohibiting overnight camping in the Stewart Flat/Pine Creek area will eliminate the use of this area as a dispersed trailer park for workers in the area who are unable to find or afford temporary housing or vacant motels. Visual and resource conditions and non-motorized day use recreation experiences will improve within this highly visible area with implementation of the dispersed

camping restrictions in this area. In addition, closure of these campsites will allow for rehabilitation of vegetation in heavily impacted campsites located immediately adjacent to Pine Creek. Sanitation issues in this area will also be improved, particularly within the riparian vegetation on Pine Creek, which currently serves as the only true vegetative screening for dispersed camping in this area. Closing some of the two-track roads in this area will also improve visual and resource conditions and non-motorized recreation experiences within this area.

### Roads

With this alternative, motorized vehicles (snowmobiles, tracked, and wheeled vehicles) are prohibited on cross-country ski trails and a bicycle/hiking/cross-country ski trail would be developed to connect the CCC Ponds/Fremont Lake area to Skyline Drive. This may positively or negatively affect Sylvan Bay Recreation Residence owners. Resurfacing the road system throughout this recreation complex and utilizing a fill site within the assessment area will improve the safety and functionality of these roads and facilities.

### Trails

A series of interpretive trails will improve non-motorized recreational opportunities within the Stewart Flat/Pine Creek area, which will add to and compliment the existing CCC Ponds Interpretive Trail System. These trails will be easily accessible from Pinedale and will remain free of snow for longer periods of time than the majority of the Pinedale District's developed trails, which are located within the Bridger Wilderness. Maintenance of these trails will require partnership with local groups, much like the CCC Ponds interpretive trail system, groomed cross-country ski trail system, and Pinedale Bike Path maintenance programs.

### Sylvan Bay

The vault toilet is replaced at the Sylvan Bay Day Use Site, and roaded access is closed to this site, while hiking and boating access continue. There does not appear to be suitable reason to discontinue roaded access to this site at this time, even though the existing roaded access is steep, narrow, and slick during wet periods.

### Canoe/kayak Access

With Alternative 2, a canoe/kayak access site would be developed on Pine Creek between the dam and the Lower Fremont Boat Site parking area. There does not appear to be a demand or need for this type of access at this site or elsewhere on Fremont Lake. There are many undeveloped sites that currently accommodate this use without resource impact on Fremont Lake and there is no demonstrated public need for a developed access for this use on Fremont Lake.

### **Alternative 3-Modified Proposed Action**

With this alternative, a comprehensive recreation management plan is designed and implemented for the Fremont Lake area, much like Alternative 2.

- ❖ Where actions are the same for Alternative 2 and Alternative 3, refer to the Alternative 2 Effects section for effects analysis.
- ❖ The following information primarily discusses effects from actions in Alternative 3 that differ from Alternative 2.

## **A. Fremont Lake Campground:**

### Group Use

As discussed in Section 3.4 B. Existing Condition, and in the Effects discussion in Alternatives 1 for this topic, there is a demonstrated need for development of two 35-person group sites within the Fremont Lake Campground, preferably located in the southern end of the campground, away from existing single-unit sites. Campers within this campground are already selecting and combining their own group campsites consistently during the summer, which impacts campers immediately adjacent to these sites. In addition, larger groups (up to 70 individuals) commonly request developed group sites within the Fremont Lake area but disperse camp on the northern and northwestern shores because there are no developed group sites within the Fremont Lake area. Development of two 35-unit sites is preferable to one 70-person group site, primarily because both sites could be occupied by separate groups concurrently. This group campsite system works well in the Green River Lakes Campground, located on the north end of the Pinedale District.

Without development of group sites within the Fremont Campground, physical and social impacts from large group use will continue within the campground and dispersed sites on the northern and northwestern shores of Fremont Lake. Re-designing some of the campsites to provide multiple family sites is a positive step, but does not meet the needs of large groups or reduce the impacts associated with large groups located near single-unit campsites.

All other effects from Alternative 3 actions within the Fremont Lake Campground are the same as those identified in Alternative 2.

## **B. Sandy Beach Swim and Picnic Area**

- Same Actions as Alternative 2

No change in effects from Alternative 2.

## **C. Fremont Lake Boat Sites**

- Lower Fremont Boat Site: The short and long boat ramps are reconstructed to provide three usable lanes with two floating docks. The short dock is lengthened and the long ramp is widened and lengthened. Both ramps and launch access is resurfaced. The parking area is enlarged to accommodate an additional 10 vehicles with trailers (55' length/site). Vehicle, boat, and trailer storage is prohibited.
- Upper Fremont Boat Site: No fee would be charged at this time. An overflow parking area to accommodate 10 vehicles with trailers (55' length/site) is constructed within or near the north end of the Fremont Campground. Additional parking within the campground for registered campers is provided within the campground for approximately 10 vehicles with trailers. Some longer parking pads are provided at various campsites within campground to further accommodate campers with boat trailers. The existing ramp is reconstructed to accommodate a maximum 20' boat, including dredging and filling ramp to increase pitch. The existing fishing pier is reconstructed to improve ADA access, functionality, and visual appearance.

- Existing boat docks serving the Fremont Lake Recreation Residence Tract, Fremont Yacht Club, and Chambers Bay Historic Cabin are allowed to remain if consistent with design standards that fit with the landscape and meet visual and resource protection needs. The Beaver Bay marina serving the Sylvan Bay Summer Homeowner's Association is allowed to remain if it meets the same criteria. Uniform dock materials and design are developed in cooperation and coordination with Lakeside Lodge, Fremont Lake Recreation Residence owners, Fremont Yacht Club, and Chambers Bay cabin owners.

#### Lower Fremont Boat Site

Actions identified in Alternative 3 will provide further benefit to the Lower Fremont Boat Site by reconstructing the existing two boat ramps to provide 3 usable ramps with two functioning docks. The parking area is also enlarged to provide parking for an additional 10 vehicles with trailers. A regulation prohibiting vehicle, boat, and trailer storage at this site is also implemented, with the intent to prohibit visitors leaving their equipment at this parking site while not actually recreating on the Forest.

#### Upper Fremont Boat Site

With Alternative 3, the following main effects would differ from those in Alternative 2:

An overflow parking area designed to accommodate an additional 10 vehicles with trailers would be constructed within or near the southern end of the campground. Overnight parking while recreating on the lake would be authorized at this overflow site, and no fee would be charged at the overflow or main parking site. Additional parking would be provided within the campground for registered campers with boat trailers, and campsite pads would be designed to accommodate vehicles with boat trailer where terrain allows. This action has more potential to alleviate existing parking congestion at this site, but will cost more to implement and maintain, and may cause conflicts with registered campers in the campground. If constructed inside the campground, the overflow parking site may preclude construction of two 35-unit group sites within the southern end of the campground.

Ramp and launch facilities would be improved with this alternative, with the ramp system designed to accommodate a maximum 20' boat. The current ramp would be dredged and filled to increase pitch and the fishing pier would be reconstructed to improve ADA access, functionality, and visual appearance. Clearly these actions would improve the quality of the recreation experience at this site. However, these actions may prove counterproductive if they serve to increase boater use of this site, thereby causing further parking congestion and the need for additional parking in excess of the 10-vehicle overflow parking area.

A fee site would not be charged at this site, which will please visitors, but will not provide income for maintenance and upkeep of these facilities.

With Alternative 3, boating facilities associated with private entities under special use permit would continue to be allowed, as long as design standards that fit with the landscape and meet visual and resource protection needs are met. This action is more positive for private owners and operators of boating facilities on the lake.

All other effects from Alternative 3 actions within the Fremont Lake Boat Sites are the same as those identified in Alternative 2.

#### **D. General Fremont Lake Area (including Stewart Flat and Sylvan Bay Day Use Site)**

Alternative 3 provides more detailed actions for improvement of recreation conditions outside of developed recreation sites within the Fremont Lake area.

##### Partnerships

With this alternative, partnerships will be developed to help implement the 200 foot dispersed camping setback regulation.

##### Overnight Occupancy (Dispersed Camping)

With Alternative 3, “overnight occupancy” replaces the term “dispersed camping” to better enable Forest Service law enforcement personnel to enforce overnight use regardless of whether the purpose of the occupancy is for “dispersed camping” or “dispersed living” on the National Forest.

In Alternative 1, the No-Action Alternative, overnight occupancy and campfires are currently prohibited in 253 acres within the assessment area (within DFC 9A - Developed Sites and DFC 9B - Special Use Areas). In Alternative 2, a total of 1,057 acres are closed to overnight occupancy and campfire use within the assessment area, (including the 200 foot setback from Fremont Lake and DFC 9A & 9B areas). In Alternative 3, a total of 2,679 acres are closed to overnight occupancy and campfire use (including the 200 setback from Fremont Lake and DFC 9A and 9B areas). Maps of the total acres of dispersed camping acreages or “overnight occupancy” by alternative are provided in Chapter 2 of this document. This additional acreage is considered necessary by law enforcement personnel to eliminate the probability of shifting “dispersed living” from Stewart Flat/Pine Creek to the southeastern side of Fremont Lake. Implementation of this action is likely to shift some “dispersed living” further up Skyline Drive, but the effects of this illegal activity along Skyline Drive will not impact the water quality or scenic integrity of Fremont Lake or Pine Creek.

##### Roads

All road closures identified for the Stewart Flat/Pine Creek area in Alternative 2 also apply to Alternative 3 with the following two exceptions:

- (1) Road #742, which provides roaded access to Sylvan Bay, is closed in Alternative 2 but remains open in Alternative 3. There is no compelling reason to close this road, unless there is a push to improve the existing access road, which would likely prove more costly than beneficial. It would not be beneficial to attract more use to this site because of the existing road is excessively steep and narrow and has no surface material and because this lightly used site is not economical to maintain other than periodically.
- (2) Road #759 is officially closed due to access issues and mule deer migration corridor impacts.

##### Trails

Further restrictions relating to over-snow motorized vehicles on groomed cross-country ski trails are implemented with this Alternative. However, the proposed trail to connect the Fremont

Lake/CCC Ponds area to Skyline Drive is not implemented. There are positive and negative effects associated with this proposal. With this alternative, there is no cross-country ski trail connection between these two groomed ski trail systems, but there is also no trail developed through the existing Sylvan Bay Recreation Residence Tract, which is likely to cause concern for summer homeowners in this tract. If this Alternative is selected, other options to connect the Fremont Lake area to Skyline Drive for cross-country skiing, bicycling, and hiking may be developed in the future in partnership with the Sublette County Recreation Board and Pinedale Ski Foundation.

Alternative 3 best meets the intent of improving recreation conditions and facilities within the analysis area. As stated in Chapter 1, the purpose of this project is not to increase visitor use or developed facilities within this area. **The primary purpose of this alternative is to improve facilities and resource conditions for the current level of use.**

Cumulative Effects: This project is specifically intended to improve resource and facility conditions as a result of current cumulative effects within the assessment area. There are no known cumulative effects which would further affect resource or social conditions related to recreation management within the analysis area. The Lakeside Lodge Master Development Plan, approved in 2006, authorizes a series of improvements at Lakeside Lodge. No effects from this action are expected to adversely affect physical or social conditions, or cumulatively affect these conditions in combination with the proposed actions in the Fremont Lake Recreation Enhancement assessment.

All other effects from Alternative 3 actions within the General Fremont Lake area are the same as those identified in Alternative 2.

## **F. Mitigation Measures – Recreation & Special Uses**

The following mitigation measures are recommended for Recreation & Special Uses:

1. Alternatives 2-3: To avoid introduction of noxious or invasive weed species, aggressive prevention, monitoring, and weed treatment programs will be implemented for a minimum of five years following construction activities within the project area. Weed control activities will meet Forest Service and County regulations.
2. Alternatives 2-3: In areas where roads are closed or construction activities render an area vulnerable to illegal off-road vehicle use, closed roads and impacted areas will be reclaimed, barriers will be placed as needed, and road or area closure signs will be posted until full rehabilitation of the site is achieved.
3. Alternatives 2-3: An Agreement between the Town of Pinedale, Sublette County Sheriff's Office, and US Forest Service will be developed to enforce the dispersed camping and campfire restriction within 200 feet of Fremont Lake.
4. Alternatives 1-3: To prevent physical and social impacts inside the Bridger Wilderness, Group Use Permits (required for group size of 80 people or more outside Wilderness) will not be issued for the north end of Fremont Lake, which lies adjacent to the Bridger Wilderness.

5. Alternatives 2-3: The north end of Fremont Lake will be closed to dispersed camping if physical or social impacts inside the Bridger Wilderness exceed Forest Plan Standards as a result of use within this dispersed site adjacent to the wilderness boundary.
6. Alternatives 2-3: All similar structures and facilities will be of a common theme and design, and will be constructed with similar materials when possible to improve maintenance efficiency.
7. Alternatives 2-3: Cooperative Agreements will be established and implemented between the Forest Service and Wyoming Game and Fish Commission regarding construction and maintenance opportunities and responsibilities at boat sites located on Fremont Lake.

### **G. Monitoring Recommendations – Recreation & Special Uses**

The following monitoring items are recommended for Recreation & Special Uses:

1. Alternatives 1-3: Continue to monitor physical and social conditions within the Bridger Wilderness from dispersed recreation use adjacent to the wilderness boundary at the north end of Fremont Lake.
2. Alternative 1: Continue to monitor and treat noxious or invasive weeds within the Fremont Lake area in coordination with Sublette County Weed and Pest.
3. Alternatives 2-3: To avoid introduction or spread of noxious or invasive weed species, aggressive prevention, monitoring, and weed treatment programs will be implemented for a minimum of five years following construction activities within the project area. Weed control activities will meet Forest Service and County regulations.
4. Alternatives 1-3: Off-Road Vehicle Use: In areas where roads are closed or construction activities render an area vulnerable to illegal off-road vehicle use, closed roads and impacted areas will be reclaimed, barriers will be placed as needed, and road or area closure signs will be posted until full rehabilitation of the site is achieved.
5. Alternatives 1-3: Recreation facilities within the Fremont Lake area will continue to be inspected annually, with corrections made as soon as possible to prevent facilities from reaching deferred maintenance status.

### **3.2 Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

#### **A. Issues to be Addressed – Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

**Issue #6: Unmanaged Recreation Use:** Recreation use at Fremont Lake lacks a coordinated management approach, which adversely affects resource conditions and detracts from the overall quality of the visitor experience at Fremont Lake. Recreation use within the analysis area should be managed as a whole, with adequate public information and enforcement designed to maximize resource protection and provide a high quality visitor experience.

#### **B. Existing Conditions - Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

##### **Wild & Scenic Rivers – Existing Conditions**

The nearest river considered eligible for, and managed as Wild & Scenic under the Bridger-Teton National Forest Land & Resource Management Plan is the Green River, located approximately 15 miles northwest of Fremont Lake. There are no actions proposed within or affecting rivers eligible for Wild & Scenic River designation in the assessment area.

##### **Research Natural Areas (NRAs) – Existing Conditions**

There are no Research Natural Areas located within or near the assessment area. The nearest NRA to this assessment area is Osborne Mountain, located in the Green River Lakes area approximately 21 miles north of the nearest boundary of the assessment area.

##### **National Recreation Areas (NRAs) – Existing Conditions**

There are no National Recreation Areas existing or proposed within or near the assessment area.

##### **Inventoried Roadless Areas (IRAs) - Existing Conditions**

The western, northern, and northeastern portions of the analysis area are located within the West Slope Winds IRA #3904. Roadless Areas on the Bridger-Teton National Forest (BTNF) were evaluated for potential inclusion in Wilderness during the Roadless Area Review and Evaluation I and II process in 1979, and further evaluated, with roadless boundaries altered to reflect all Roadless acreage on the Forest in 1983. There were 19 roadless areas included in the BTNF inventory during the 1979 Roadless Area Review and Evaluation (Rare II). The purpose of these studies was to identify areas with primitive character, located outside of designated Wilderness, for possible future addition to the National Wilderness Preservation System. The 1984 Wyoming Wilderness Act subsequently designated the Gros Ventre Wilderness and added portions of the West Slope Winds IRA to the 1964 Bridger Wilderness. Other portions of this IRA remain undesignated as Wilderness on the Pinedale Ranger District.

##### **Wilderness – Existing Condition**

The Bridger Wilderness is located approximately ¼ mile north of the northern shoreline of Fremont Lake. This Wilderness was designated and managed as a Primitive Area in the 1930's, and was officially designated by Congress as Wilderness with the passage of the 1964 Wilderness Act. As discussed under the IRA section above, additional acreage was added to the Bridger Wilderness in 1984 with the passage of the Wyoming Wilderness Act. Most of the

Fremont Lake Watershed occurs within the Bridger Wilderness, extending north to the Continental Divide on the crest of the Wind River Mountain Range. A map of the Fremont Lake Watershed is provided in Appendix B.

Motorized vehicles are prohibited within all nationally designated Wilderness, and have been excluded from the Bridger Wilderness since the 1930's. Visitor use within the Fremont Lake Watershed portion of this Wilderness is very high in July and August, but is primarily contained along the trail corridor from Elkhart Park Trailhead to the Continental Divide along the Pole Creek, Seneca Lake, and Island Lake trails. Gannett Peak, the highest point in Wyoming, Island Lake, and Titcomb Basin are the main visitor attractions within this area of the Bridger Wilderness. Use of the remainder of the Fremont Lake watershed portion of this Wilderness is generally light during the summer. From November through May, most of the Wilderness is inaccessible due to heavy snow. Winter use (snowshoeing and cross-country-skiing) is extremely light within the entire Wilderness, primarily because there are roads or groomed snowmobile trails providing motorized winter access to the Wilderness boundary. Visitor use statistics for the Bridger Wilderness are available at the Pinedale District office.

Regulations requiring campsites to be located a minimum of 200 feet from lakes and 100 feet from streams have been in effect within the Bridger Wilderness for over 20 years. There are no domestic livestock allotments within the Fremont Lake Watershed portion of this Wilderness, and recreational use north of Fremont Lake in the immediate Pine Creek drainage is very light due to steep, uneven, rocky terrain. A group-size limit of 15 persons per group is in effect within the Bridger Wilderness. In addition, Organized Groups (Boy Scouts, Youth and Church groups, etc.) must obtain a free Visitor Use Permit for day and overnight travel inside the Bridger Wilderness.

The north shore of Fremont Lake is utilized as a boat-in access to the Bridger Wilderness and as a dispersed campsite for small groups (15 persons or less per group) and large groups (up to 79 persons per group). At one time, this site was identified as a developed campground, with picnic tables and a pit toilet. Rudimentary, dysfunctional facilities still remain at this site. The use of this site as an access point for small groups (15 persons or less) visiting the Wilderness does not adversely affect physical or social conditions within the Wilderness. However, use of this site by large groups (in excess of 15 persons per group) results in social and physical impacts inside the Bridger Wilderness. Public demand for group sites (generally 35 to 70 persons per group) on Fremont Lake has increased over the past five years and there are no current developed group sites within the entire Fremont Lake area. Outside Wilderness, national regulations require groups of 80 persons or more to obtain a Group Use Permit. Groups under 80 persons in size are not required to obtain a permit outside of Wilderness.

### **C. Desired Condition – Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

DFC direction is located within the 1990 Bridger-Teton National Forest Land & Resource Management Plan, Chapter 4, DFC 6 – Wilderness, Wilderness Study Areas, and Wild & Scenic Rivers (pages 185-196) and in Appendix C of this document. No projects in this assessment are planned within Wilderness.

## **D. Management Framework – Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

Forest Service Manual 2300: Recreation, Wilderness, and Related Resource Management

BTNF Forest Plan Standards, Wilderness Act, Wild & Scenic Rivers Act, 2300 Manual, (see Appendix C).

## **E. Effects – Wild & Scenic Rivers, Research Natural Areas, & National Recreation Areas, Inventoried Roadless Areas & Wilderness**

### **Wild & Scenic Rivers - Effects**

There are no rivers eligible for Wild & Scenic Designation within or adjacent to this assessment area and there are no direct, indirect, or cumulative effects to Wild & Scenic Rivers from proposed or existing conditions within or adjacent to the assessment area.

### **Research Natural Areas – Effects**

There are no Research Natural Areas within or adjacent to this assessment area and there are no direct, indirect, or cumulative effects to Natural Resource Areas from proposed or existing conditions within or adjacent to the assessment area.

### **Inventoried Roadless Areas - Effects**

#### Alternative 1 (No-Action):

The effect to be addressed for Inventoried Roadless Areas in this assessment is whether any of the alternatives have the potential to significantly impact Wilderness attributes or Roadless Character of existing IRAs within the analysis area. The only action proposed within the West Slope Winds IRA in this assessment is the implementation of a 200-foot dispersed camping setback regulation for Fremont Lake, which is proposed in Alternatives 2 & 3. The dispersed camping and campfire setback regulation would improve resource conditions within the IRA by helping protect water quality and visuals along the lake, which would improve Wilderness attribute conditions, but would not significantly influence this portion of the West Slope Winds IRA's eligibility status for eventual inclusion into the Wilderness Preservation System.

There are no known direct, indirect, or cumulative effects to Inventoried Roadless Areas resulting from proposed or existing conditions within or adjacent to the assessment area, therefore there is no further discussion of Inventoried Roadless Areas within this section.

### **Wilderness - Effects**

#### Alternative 1: No Action:

With this alternative, there are no existing campsites designed or developed for large groups (up to 70 persons per group) in the Fremont Lake area. There is demonstrated public demand for large group camping in the Fremont Lake area. These large groups are camping on the north end of Fremont Lake.

Without a formal group site being developed somewhere in the Fremont Lake area, groups under the size limit of 80 persons per group will continue to utilize the north end of Fremont Lake for

dispersed camping. This will continue to focus physical and social impacts within the Bridger Wilderness adjacent to the dispersed campsite directly outside of this Wilderness on the north end of the lake. Groups in excess of 80 persons are required to obtain a Group Permit, which would not be issued at the north end of the lake due to its proximity to the Bridger Wilderness Boundary. Dispersed camping at this site by small groups (15 people or less) is not a concern for the Bridger Wilderness at this time.

Alternative 2: Initial Proposed Action:

With this alternative, a 70-person group site or two 35-unit group sites will be developed at Fremont Lake Campground. This will reduce or eliminate dispersed camping by large groups (more than 15 people per group) on the north shore of Fremont Lake, which has caused physical and social impacts within the Bridger Wilderness.

Alternative 3: Modified Action:

With this alternative, no group sites are constructed within the Fremont Lake Campground. Effects to the Bridger Wilderness would be the same as Alternative 1. Groups up to 79 people in size would continue to utilize the dispersed camp at the north end of the lake, which would continue to focus physical and social impacts inside the Bridger Wilderness adjacent to this site.

## **F. Mitigation Measures – Wilderness**

Recommended for all 3 Alternatives:

1. To prevent physical and social impacts inside the Bridger Wilderness, Group Site Permits (required for 80 persons or more) are not issued for the north end of Fremont Lake, which lies adjacent to the Bridger Wilderness boundary.
2. Close the north end of Fremont Lake to dispersed camping if physical and/or social impacts inside the Bridger Wilderness exceed Forest Plan Standards adjacent to, or as a result of this dispersed site.

## **G. Monitoring Recommendations – Wilderness**

Alternatives 1-3: Continue to monitor physical and social conditions within the Bridger Wilderness adjacent to the north end of Fremont Lake.

### 3.3 Visual Quality

#### A. Issue to be Addressed – Visual Quality

**Issue #3: Visual Quality:** The aesthetic value of Fremont Lake, from the shoreline as well as on the lake, is important to protect. Facilities within the analysis area should be designed to be rustic but high quality and blend with the natural landscape to minimize visual impacts.

#### B. Existing Conditions– Visual Quality

The Fremont Lake is one of the Forest’s most popular destinations for viewing outstanding scenery. This drainage has all of the elements of a class “A” landscape. It has a variety of vegetation, land forms of steep drainages and high elevation mountain peaks and the Lake water in the foreground. The riparian areas to the far north are in wilderness and have beaver ponds, willow, narrow leaf cottonwood, aspen and high grass meadows. This is excellent habitat for big game such as moose. The steep slopes on each side of the lake have a variety of vegetation types like heavily timbered north and west aspects and great sage openings on the east and south aspects. Generally the landscape is in a “naturally appearing” condition.

The Fremont lake road system has developed campgrounds, boating facilities, day use picnic areas and dispersed camp sites.

#### Lake Views

As you recreate in the water, you see evidence of development on the south and east side of the lake.

- The large 53 unit campground and upper boat launch mostly meets Retention. The boat ramp can not be seen from the lake and the camp sites can not be seen. The existing fishing pier is the only facility that is out of character with the lake environment.
- The day use picnic and swimming area does not meet Retention. The parking lot and restroom are in plain view from the lake.
- The south end of Fremont Lake does not meet Retention or Partial Retention. Lake Side Lodge and Marina are out of character with the rest of the lake.
- The Recreation Residences are also too dominant. However the homes have a backdrop of trees. Each of the homes has a pier or boat docks that are not the same size and materials.
- The Lower Boat launch is dominant from the lake. The boat ramp concrete shows as white and the restroom is silhouetted from the lake

#### Views into the Lake

The recreation experience as you drive or walk around the east and south sides of Fremont Lake has roads, parking lots, dispersed camping sites, residential homes, old restrooms out in the open and day use picnic. This appears to be a highly developed recreation area with facilities that are old and run down.

- The asphalt roads have pot holes and the edges have no shoulders and have a drop-off.
- Camp sites are old and not to standard with over grown vegetation. Poor function and old tables and grills.
- Restrooms are old, not in the right place for servicing and hard to maintain.
- Upper boat ramp parking lot has no function. The boat ramp is too shallow, The fishing pier is old and too high from the water and exposes all of the structure.
- The day use picnic and swimming area has the parking lot and restroom exposed for all views.
- The dispersed camping area has roads and trails throughout and vegetation is impacted next to the water.
- The lower boat ramp area has the restroom out in the open and the boat ramp has white concrete.

#### Vegetation

The casual observer may not be aware of the effects from years of fire suppression or the lack of fire as a natural process on this landscape. Evidence of this cumulative effect can be seen in decadent aspen stands that need fire to regenerate, the lack of age class diversity in mixed conifer and disease out breaks in conifer stands. In general, the landscape should look vibrant and have much more variety in color, vegetation patterns and different age classes than it now has. Management is needed to mimic the role of fire as a disturbance agent on this landscape. However, fuel reduction and stand thinning projects are needed first to reduce fuel build-ups. Large scale, stand replacement fire has been the effect to landscapes left alone.

### **C. Desired Condition– Visual Quality**

The Bridger-Teton Land and Resource Management Plan (BTNF-LRMP) provides direction for Desired Conditions for Visual Quality Objectives (VQO).

### **D. Management Framework– Visual Quality**

Management direction from the Bridger-Teton National Forest Land and Resource Management Plan for VQO is to emphasize river and scenic recreation experiences.

Visual Quality Objectives (VQO) for this area are Retention or Partial Retention (R). Partial Retention (P.R.) is generally applied to recreation developments that are **visually evident but subordinate** to the natural landscape.

### **E. Effects– Visual Quality**

Alternative 1 - Same negative effects continue as explained above in existing condition.

Alternative 2 – All recommended actions would meet visual quality objectives.

Alternative 3 – All recommended actions would meet visual quality objectives except Action C-9. Constructing an overflow parking area within or near the entrance of the Fremont Lake Campground would not meet the VQO of Partial Retention. The parking area would not be subordinate and would be in the foreground, which would impact the natural image of the campground.

### **F. Mitigation Measures– Visual Quality**

#### Possible Mitigation for Alternatives 2 and 3

1. To protect visual quality on Fremont Lake, authorized boat docks associated with the Fremont Lake Recreation Residences will be the same design and materials, and will be properly maintained or removed.

### **G. Monitoring Recommendations– Visual Quality**

No specific monitoring recommendations.

### 3.4 Cultural Resources

#### A Issue to be Addressed – Cultural Resources

**Issue #2. Cultural Resources:** Historic and prehistoric sites are documented within the Fremont Lake area. Projects located within this analysis area should be designed to avoid historic properties and to protect sites from indirect effects that may result from concentrated public use and erosion of land surfaces.

#### B Existing Conditions – Cultural Resources

Cultural resource surveys have been conducted along the south and east shore of Fremont Lake resulting in the recording of a number of prehistoric and historic sites.

Many of the prehistoric sites contain buried cultural material that has the potential to provide significant scientific data concerning past settlement, subsistence, and chronological patterns. Investigations at some of these sites reveal concentrated prehistoric use of this area for much of the last 7,000 years, and many of these sites have been determined eligible for the National Register of Historic Places.

The historic sites recorded in the area include the remains of the Civilian Conservation Corp (CCC) Camp F-13. This CCC camp is located in the southern portion of Stewart Flat and was occupied between 1933 and 1942. Also present on Stewart Flat is the concrete foundation that was part of the old Fremont Ranger Station that was built in 1911. The remains of the CCC camp and the old ranger station have been determined not eligible for the National register.

Other historic sites in the analysis area include the outhouse and fire places at the Sandy Beach Picnic area that were part of the 1930s era campground along with additional features that were constructed in 1958, and the campground infrastructure associated with the Upper Fremont Lake Campground. Both the Sandy Beach Picnic area and the upper Fremont Lake Campground have been determined not eligible for the National Register.

#### C Desired Condition – Cultural Resources

The Bridger-Teton Land and Resource Management Plan (BTNF-LRMP) goals and objectives for cultural resources provide direction for desired conditions (USDA Forest Service 1990. pg 121). Cultural resource values are preserved and protected so that their scientific, historic, and social values are retained.

#### D Management Framework – Cultural Resources

Direction from the Bridger-Teton National Forest Land and Resource Management Plan is to implement a full range of measures to find, study, interpret, and protect cultural resources in forest management decisions and activities. Section 106 of the National Historic Preservation Act, with implementing regulations 36 CFR 800, provide direction on the identification and evaluation of cultural resources, and for reporting the results of the identification and evaluation process to the Wyoming State Historic Preservation Office.

## **E Effects – Cultural Resources**

### **Alternative 1- No Action**

There would be no direct effects to cultural resources under this alternative because there would be no new surface disturbance. The routine operation and maintenance of existing facilities would not disturb or alter any prehistoric or historic site.

Indirect effects would continue as a result of dispersed recreation activity on sensitive sites, and the erosion and unauthorized artifact collecting from sites that may have exposed cultural materials. These indirect effects would occur mostly in the Sandy Beach Swim and Picnic area as well as along Stewart Flat.

### **Alternative 2 - Initial Proposed Action**

#### Fremont Lake Campground:

There would be no direct or indirect effects to cultural resources under this alternative because no National Register eligible prehistoric or historic sites are located within the campground.

#### Upper Fremont Lake Boat Site:

There would be no direct or indirect effects to cultural resources under this alternative because no National Register eligible prehistoric or historic sites are located at the boat launch.

#### Sandy Beach Swim & Picnic Area:

There would be no direct effects to cultural resources under this alternative. Constructing a new vault toilet near the lower Picnic Area parking lot will occur in a location where there is no known historic or prehistoric remains. Replacing picnic tables and pedestal fire grills will occur within the already existing disturbed footprint within the picnic area and will not affect historic or prehistoric remains.

There would be no indirect effects to cultural resources under this alternative. The proposed actions will result in beneficial effects to cultural resources. Decommissioning and filling the existing Swim Area parking lot and vault toilet will help cover significant prehistoric cultural deposits and will direct pedestrian traffic away from sensitive site areas.

#### Lower Fremont Lake Boat Site:

There would be no direct or indirect effects to cultural resources under this alternative. All proposed improvements will occur to previously disturbed areas reducing the potential for disturbance to historic or prehistoric sites. The proposed improvement will help direct vehicle and pedestrian traffic away from sensitive site areas.

#### Stewart Flat Dispersed Area:

There would be no direct or indirect effects to cultural resources under this alternative. Closing and rehabilitating all motorized roads, and prohibiting overnight camping would be a benefit to cultural resources because it would reduce rutting and erosion, which could impact sensitive prehistoric site locations, and would direct vehicle and pedestrian traffic away from sensitive site areas.

Sylvan Bay Day-Use Site:

There would be no direct or indirect effects to cultural resources under this alternative because no National Register eligible prehistoric or historic sites are located in this area.

**Alternative 3 - Modified Action**

Same as Alternative 2.

**F Mitigation Measures – Cultural Resources**

No mitigation measures are required for any of the alternatives because no cultural resources will be affected.

**G Monitoring Recommendations – Cultural Resources**

Historic and prehistoric sites in the Fremont Lake Analysis area would continued to be monitored on a yearly basis under Alternative 1. Any significant historic or prehistoric materials that are exposed or uncovered will be documented and collected. Under Alternatives 2&3, construction activities related to installation of the new vault toilet and picnic tables at the Sandy Beach Picnic Area and the expansion of the parking lot at the Upper Fremont Boat Launch will be monitored. If previously undetected cultural resources are uncovered, construction activities will be stopped and those resources will be evaluated for the National Register. If those resources are found to be eligible for the National Register, then the Bridger-Teton National Forest will consult with the State Historic Preservation to determine appropriate mitigation measures. These measures may include avoidance or data recovery in order to recover significant scientific information concerning those resources.



## 3.5 Fisheries

### A Issue Statement or Issue to be Addressed - Fisheries

**Issue #1: Water Quality:** Fremont Lake serves as the unfiltered drinking water source for the Town of Pinedale. In addition, Fremont Lake is a popular site for boating, fishing, and swimming. Projects located within the Fremont Lake watershed should be designed to protect the water quality of Fremont Lake, particularly in the vicinity of the Town of Pinedale water intake.

### B Existing Conditions - Fisheries

Fremont Lake is in the Upper Green River drainage of the Colorado River system and are within the historic range of Colorado River cutthroat trout (CRC). CRC are limited in the Project Area streams by competition with non-native salmonids and habitat loss from water diversions. The streams around Fremont Lake contain primarily brook, brown, lake, and rainbow trout. The Green River Basin also supports five endangered fish species, none of which are potentially impacted by the proposed project.

#### B.1 Management Indicator Species

Management Indicator Species (MIS) are those species whose population changes are believed to reflect the effects of land management activities. Four types of MIS are identified in the *1990 Bridger Teton National Forest Land and Resource Management Plan*; harvested species, ecological indicator species, Forest Service sensitive species, and federally listed threatened and endangered species. Twenty-three MIS occur on the BTNF; seven mammals, four birds, three fish, two amphibians, and seven plant species. Only the fish species are discussed in this report.

The Project Area considered for this analysis includes the area around Fremont Lake. Environmental effects for some fish species are also described within the Analysis Area, which extends up to 1 mile from the lake. Only those fish species present or suspected in the Analysis Area will be carried further in the analysis (**Table 3.5.1**). The fish species that are not present or do not have habitat in the Analysis Area would not be impacted by this project and are not further discussed.

For population and habitat status for MIS across the Forest, refer to the BTNF MIS Report (USDA Forest Service 2007) located in the project record.

**Table 3.5.1 Fisheries MIS on the Bridger-Teton National Forest (USDA Forest Service 1991 & 2005c)**

Common Name	Scientific Name	MIS type	Species Presence
<b>Fish</b>			
Rainbow trout	<i>Oncorhynchus mykiss</i>	Harvest	Known
Colorado River cutthroat	<i>Oncorhynchus clarki pleuriticus</i>	Sensitive/Ecologica 1	Not Suspected
Colorado pikeminnow	<i>Ptychocheilus lucius</i>	T&E	Not Known
Humpback chub	<i>Gila cypha</i>	T&E	Not Known
Bonytail	<i>Gila elegans</i>	T&E	Not Known
Razorback sucker	<i>Xyrauchen texanus</i>	T&E	Not Known
Kendall Warm Springs dace	<i>Rhinichthys osculus thermalis</i>	T&E	Not Known

**B.1.1 Harvest MIS****Rainbow Trout**

The rainbow trout is native to the coastal streams of western North America from Alaska to Baja, California. Since before the turn of the 21<sup>st</sup> century, this species has been introduced as a game fish into cool and cold water habitats around the world and Wyoming (Baxter and Stone 1995). They generally occupy fast moving stream habitats but are highly diversified in habitat tolerance and thrive throughout the state. This species does occur in Fremont Lake and Pine Creek. Population trend data indicates rainbow trout are steady to declining (due to lack of stocking from WGFD and competition with brook and brown trout) throughout the BTNF. Rainbows could occur in almost every stream within the project area (USDA Forest Service 2007).

**B.1.2 Ecological MIS**

**Colorado River cutthroat trout:** Discussed under Sensitive MIS.

**B.1.3 Threatened and Endangered MIS**

This section identifies the existing condition of threatened and endangered species within the Analysis Area. A detailed Biological Assessment for federally listed threatened and endangered species is located in the project record. T&E species that are found on the BTNF and are known or suspected to occur within the area of influence of the Analysis Area are shown in Table 1.

**Kendall Warm Springs Dace**

The Kendall Warm Springs dace is found only on the Bridger-Teton National Forest and is restricted to the Kendall Warm Springs, located in the upper Green River Basin approximately

28 straight-line miles away from the project area. The Kendall Warm Springs are thermal springs located at an elevation of 7,840 ft. and consist of numerous seeps and springs scattered along the north face of a small limestone ridge (Gryska 1996). The main channel is surrounded by aquatic vegetation that is often heavy in the pools (USFWS 1989)

Kendall Warm Springs dace are the only fish known to occur in the available habitat (Binns 1978). Adult dace may occur in the main current, but most remain in the pools or eddies where plant growth or other debris breaks the current (Binns 1978). Distribution of fry suggests that spawning is widespread and occurs several times a year (Binns 1978).

The Fremont Lake project area is located 3 miles north of Pinedale. With approximately 28 miles straight-line distance between Kendall Warm Springs and the Fremont Lake project area, it is unlikely there would be any direct, indirect or cumulative effects from the proposed action. Therefore, “**no effect**” to Kendall Warm Springs dace is anticipated and the dace will not be considered further.

### **Colorado Endangered Fishes – Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker**

#### Colorado Pikeminnow

The Colorado pikeminnow is restricted to the Colorado River system, where distribution and abundance are far below historical levels due to the effects of dams and to a lesser degree exotic fishes; populations are now relatively stable. Adults use various habitats, including deep turbid strongly flowing water, eddies, runs, flooded bottoms, or backwaters (especially during high flow). Lowlands inundated during spring high flow appears to be important habitats.

Larvae drift downstream after hatching, and then move to shoreline areas and backwaters. Juveniles tend to occur downstream from area occupied by adults, though larger juveniles are not uncommon in shoreline habitats similar to those occupied by adults (Tyus 1991, NatureServe Explorer 2005).

Early records indicate that the Colorado squawfish was once abundant throughout the Colorado River System (Seethaler 1978). The present range of the Colorado squawfish includes approximately 345 miles of the main stem of the Green River; from the mouth of the Yampa River downstream to the confluence of the Green and Colorado Rivers. In addition, Colorado squawfish are found 140 miles up the Yampa River and 156 miles up the White River, the two major tributaries of the Green River. In the main stem of the Colorado River, the fish is currently found from Lake Powell upstream about 201 miles to palisades, Colorado; and in the lower 33 miles of the Gunnison River, a tributary to the main stem of the Colorado River. (USFWS 1989)

Colorado squawfish evolved in, and apparently require, stream habitat conditions typified by seasonal fluctuations in flow and turbidity, coupled with warmer temperatures in the summer. Additionally, it appears that squawfish require an extensive range to satisfy all of their life history requirements (Tyus 1985, 1989).

The decline of the Colorado squawfish population correlates closely with the construction of dams and reservoirs, and the removal of water from the Colorado River System (Behnke and Benson 1983, USFWS 1989)

### Humpback Chub

The Humpback chub is restricted to the Colorado River system. Humpback chub numbers were probably always limited, with distribution confined to steep canyon areas of the Colorado River System (Miller et al. 1982). The available data indicate that the chub seldom leave these canyon habitats, and were never as widely distributed as the Colorado squawfish (USFWS 1982). Humpback chub generally do not make migrational movements in the Upper Colorado River Basin and tend to reside year-round within a limited stretch of river. (USFWS 1989)

A few humpback chub have been collected in the Green River basin in recent years, but no breeding populations have been found. Presently, the only major populations of humpback chub in the Upper Colorado River Basin are located in Black Rocks and Westwater Canyons on the main stem of the Colorado River (USFWS 1989).

### Bonytail Chub

The bonytail chub is restricted to the Colorado River system, where only a few scattered remnant populations remain. Found in main stream of mid-sized to large rivers. Usually found in or near deep swift water, in flowing pools and backwaters, over mud or rocks. Most frequently associated with eddies just outside the main current; high tolerance for turbidity (Matthews and Moseley 1990). Also found in reservoirs. Available data suggest that habitats required for conservation include river channels and flooded, ponded, or inundated, riverine habitats, especially those where competition from non-native fishes is absent or reduced (USFWS 1993).

Decline is due at least in part to habitat destruction (diversion and impoundment of river) and competition and predation from exotic fish species. Surviving wild population in Lake Mohave appears to consist of older individuals, with little or no recruitment. (NatureServe Explorer 2005).

### Razorback Sucker

The Razorback sucker is confined to the Colorado River system, where a large decline in distribution and abundance has occurred as a result of alteration and destruction of habitat by dams and interactions with non-native fishes (NatureServe Explorer 2005).

Habitats include slow areas, backwaters and eddies of medium to large rivers; impoundments (3 of the 4 remaining populations of greater than 100 individuals are in reservoirs). This species is often associated with sand, mud, and rock substrate in areas with sparse aquatic vegetation, where temperatures are moderate to warm (Sigler and Miller 1963). This species has been collected in flooded gravel pits along Colorado River, Colorado, and from irrigation canals along lower Colorado River (Marsh and Minckley 1989).

There is low (or absent) recruitment despite spawning and hatched larvae. No recruitment to reservoir populations was detected between 1963 and 1990 in the lower Colorado River basin, despite collection with appropriate equipment (Minckley et al. 1991). Other problems include habitat change (e.g., high winter flows, reduced high spring flows, altered river temperatures (Clarkson and Childs 2000), and reduced flooding; resulting primarily from dam construction), competition and especially predation on larvae and juveniles by introduced fishes (USFWS 1990), competition and predation by exotic crayfish (Lenon et al. 2002), paucity of spawning adults, and hybridization with other suckers (Tyus and Karp 1990, Minckley et al. 1991).

Any water depletion from the Colorado River Basin is considered to jeopardize the continued existence or adversely modify the critical habitat of the four Colorado River Endangered fish species, Colorado pikeminnow, humpback chub, bonytail chub, and razorback sucker. No additional unallocated water is required to complete this project. Therefore, “no effect” to the Colorado Endangered Fishes is anticipated and they will not be considered further.

#### **B.1.4 Sensitive Species MIS**

This section identifies the existing condition for sensitive species within the Analysis Area. The Biological Evaluation for sensitive species is incorporated into this document. The fish species listed in Table 1 have been designated as Sensitive by the Intermountain Region of the Forest Service and may occur within the Analysis Area. Suitable habitat exists in the Analysis Area for these species.

#### **Colorado River Cutthroat Trout**

Colorado River cutthroat trout (CRC) have been petitioned for Threatened species status. Colorado River cutthroat trout are currently limited to a few small headwater streams of the Green River and upper Colorado River in Colorado, Utah and Wyoming. There are also populations in several high elevation lakes of the Rocky Mountains as a result of stocking efforts. Most of these lake populations are not self-sustaining due to the lack of adequate spawning streams (Spahr et al. 1991).

Colorado River cutthroat trout require cool, clear water and well-vegetated stream banks for cover and bank stability. In-stream cover in the form of deep pools and boulders and logs also is important. Colorado River cutthroat trout are adapted to relatively cold water and thrive at high elevations (Spahr et al. 1991). There are several CRC populations in the Upper Green River sub-basin but they are isolated in small stream segments on public lands.

Historically the Pine Creek drainage was occupied with Colorado River cutthroat trout. Suitable habitat exists, but currently there is no occupied habitat (CRCT Conservation Team 2006).

#### **C. Desired Condition – Fisheries**

DFC direction is located within the 1990 Bridger-Teton National Forest Land & Resource Management Plan, Chapter 4, DFC 2A, 2B, 9A, 9B, and 12 and in Appendix C of this document.

#### **D. Management Framework – Fisheries**

Management Framework is located within the standards and guidelines in the 1990 Bridger-Teton National Forest Land & Resource Management Plan, Chapter 4, DFC 2A, 2B, 9A, 9B, and 12, and is also located in Appendix C of this document.

## E. Effects - Fisheries

**Table 3.5.2. Effects Determinations for Implementing Alternative 2 or 3 for Intermountain Region Sensitive Fish Species Known or Suspected to Occur Within the Area of Influence of the Project Area.**

Species	Determination
Colorado River Cutthroat Trout	NI
Rainbow Trout	MIH

NI: No Impact

MIH: May impact individuals or habitat but not likely to trend towards Federal listing or cause a loss of viability.

### C.1 Effects on Harvested Management Indicator Species

Harvested MIS fish species are rainbow trout (**Table 3.5.1**).

#### **Alternative 1 - No Action**

There are direct effects to fisheries if this is the selected alternative. Dispersed camping and recreation in the Stewart Flat area are contributing significant amounts, above natural, of sediment to the lake and eventually to Pine Creek. Dispersed campers are camping and recreating directly on the banks leading to a decrease in sediment-catching riparian vegetation. The parking lot, access road, and boat ramp at the upper boat launch site are directly connected to the lake. All runoff goes directly into the lake under the current degraded design. The old ramp and access road to the new ramp, at the lower boat launch site, also contribute to the sedimentation of the lake and launch site thus shortening the life span of the developed site.

Indirect effects would continue primarily as a result of dispersed recreation activity and unmanaged parking near the lake at all available spots. These indirect effects would occur mostly in the Stewart Flat and Campground areas as well as at both boat launch sites due to lack of proper drainage built into the facilities.

#### **Alternative 2 - Initial Proposed Action**

##### Fremont Lake Campground

There would be direct positive effects to fisheries resources under this alternative because of the removal of several campsites in the central and northern end of the campground that are currently located near the shoreline, thus removing a sediment and burnt wood source from the lake. Day use will continue to occur at these sites potentially off-setting some of the positive effects of removing the campsites.

Indirect effects of installing a 70 person campsite may be felt by increased shore erosion if the site is constructed near the shoreline and the potential of additional burnt wood and incidental trash thrown into the lake. This large group site may have positive indirect effects if it is effective in diverting large groups from camping on the northern and northwestern shores of Fremont Lake. The 200 foot setback rule benefits water quality and therefore fisheries by

forcing dispersed campers further from the shoreline on the north and west sides of Fremont Lake.

#### Upper Fremont Lake Boat Site

A positive direct effect would be to disconnect the boat launch, access road, and parking lot from the lake with the installation of proper drainage.

This alternative only adds two parking spots to the eight spots currently available.

Research has shown that older (two-stroke) boat engines can cause impacts to water quality due to incomplete fuel combustion. Reuter et al. (1998) cited literature that found that two-stroke engines can pass from 4% to 50% of the gas/oil mix un-combusted through the engine and directly into the water column. This impact will be reduced as boat owners replace their older boat motors with newer versions.

#### Sandy Beach Swim & Picnic Area:

There would be no direct effects to fisheries resources under this alternative.

There would be indirect effects to fisheries under this alternative. Moving vault toilets and parking areas, then rehabbing the areas, only decreases any chances of sediment or sewage ever entering the lake. Moving the existing group site further from the shoreline will lead to increased riparian vegetation on the shoreline, decreasing sedimentation to the lake.

#### Lower Fremont Lake Boat Site

There may be direct effects to fisheries under this alternative. Development of a breakwater may lead to an increase in fishermen fishing off of the breakwater and an increase in boaters because of increased ease in launching and recovering boats due to the breakwater. A positive direct effect would be to disconnect the boat launch, access road, and parking lot from the lake with the installation of proper drainage.

A possible indirect effect of constructing a breakwater at this boat launch site is that this may increase motor boat use on Fremont Lake. Research has shown that older (two-stroke) boat engines can cause impacts to water quality due to incomplete fuel combustion. Reuter et al. (1998) cited literature that found that two-stroke engines can pass from 4% to 50% of the gas/oil mix un-combusted through the engine and directly into the water column. Increased boaters leads to increased pollution of the waterway but this impact will slowly be reduced (or go away completely) as boat owners replace their older boat motors with newer models.

#### Stewart Flat Dispersed Area

There would be positive indirect effects and no direct effects to fisheries resources under this alternative. Closing and rehabilitating motorized roads and prohibiting overnight camping and campfires would be a benefit to fisheries because it would reduce: erosion, trash, compaction of the riparian, and burnt wood from entering the lake and Pine Creek. The proposed improvement will help direct vehicle and pedestrian traffic away from sensitive areas in the narrow riparian belt, allowing nature to repair the riparian area, thereby catching sediment and reducing erosion along the shoreline leading to Pine Creek.

Sylvan Bay Day-Use Site

No direct effects are anticipated by this improvement due to the very small amount of fisheries habitat suitable that is affected by this Alternative.

There would also be positive indirect effects to fisheries under this alternative due to the replacement of the vault toilet, thus reducing the chance for future failure of the system with human contaminants entering Fremont Lake.

**Alternative 3 - Modified Action**Lower Fremont Lake Boat Site:

Same as Alternative 2.

Fremont Lake Campground:

Same as Alternative 2 but there would be even less indirect effects within the campground area without the addition of group campsites.

Upper Fremont Lake Boat Site:

Similar to Alternative 2. There would be an increased direct effect by allowing more usage of the boat launch area with the reconstruction of the boat launch site and development of an additional 10-unit overflow parking albeit a bit removed from the launch site. This alternative expands the parking at this site from the current eight sites to 10 in the current parking area and 10 more in the overflow parking area. A possible indirect effect of improving this boat launch site is that this may increase motor boat use at this boat site, and decrease use at the Lower Boat Site, which will not resolve the current parking issue at this site.

Sandy Beach Swim & Picnic Area:

Direct effects are the same as Alternative 2.

Stewart Flat Dispersed Area:

Same as Alternative 2.

Sylvan Bay Day-Use Site:

Same as Alternative 2.

***C.2 Effects on Ecological Management Indicator Species***

Ecological MIS fish species are Colorado River cutthroat trout, covered under Sensitive MIS (Table 1).

***C.3 Effects to Sensitive Management Indicator Species***

Sensitive MIS fish species are Colorado River cutthroat trout (Table 1).

For All Alternatives

There would be no direct or indirect effects to Sensitive species as they are not currently found in the drainage. See *Harvested Management Indicator Species* write-up for overall effects to the fisheries resource.

## **Cumulative Effects - Fisheries**

Please refer to the Cumulative Effects text in the Hydrology section of this report for discussion of effects to riparian vegetation and stream health.

Past, present, and reasonably foreseeable management actions that could affect fishery resources in the Analysis Area include: livestock grazing, vehicular use on roads, off-road vehicle use, recreation trails, boating, fishing, wildlife migration corridor, dispersed camping, a resort, a yacht club, potentially sixteen private home owners, fifty-seven summer homes, special recreation events, and general overall increase in use and visitation due to the population growth in the Pinedale area and United States in general - in addition to the activities proposed in this document. Any further development beyond that listed above is not likely to occur around Fremont Lake due to limited access and rough terrain.

Livestock grazing, vehicular use on roads, recreation trails, and the mule deer migration corridor have been occurring for 100 years or more and are minor contributors to cumulative effects. All people/recreation oriented activities are what have changed the most and will probably be what continues to change the most into the future. If we cannot manage our cumulative effects on the landscape by design of the facilities, other options will have to be explored in the future.

One consideration that is potentially important under all three alternatives is for downstream states on the Colorado River system to make a call for additional water. The states in the southern tier of the Colorado River system have been in a drought and have been experiencing a large influx of people. The northern states of the Colorado River system are not meeting water demands now for the southern states and it may become mandated for the State of Wyoming to send it's underutilized water to downstream users.

The Fremont Lake Dam is operated by the Highland Irrigation Company under Special Use Permit administered by the Forest Service. The Fremont Dam was reconstructed in 1992 after an Environmental Assessment was completed for this relocation project. The current Special Use Permit for the Fremont Lake Dam covers 33.4 acres and is described as the area between the 7416.19 foot level and 7421.19 foot level around the perimeter of Fremont Lake and the Pine Creek lagoon. A request for additional water from Fremont Lake below the 7416.19 foot low-water level would require a new NEPA analysis. Such an analysis would then need to address how additional lowering (or raising) of the surface water level in Fremont Lake would affect the facilities and resources located within the Fremont Lake assessment area.

Cumulative effects would be greater under Alternative 1 than any of the others because this alternative maintains the status quo. The action alternatives (2 & 3) repair, replace, or remove some of the facilities and conditions that are causing the greatest impact (i.e. Stewart Flat dispersed camping right on the lake/stream banks, parking lots and boat ramps directly connected to the lake system, etc.).

Although there have been minor short-term effects from past and present activities, cumulatively they are not contributing to significant environmental effects when added to the direct or indirect effects of Alternative 2 and 3 for the Fremont Lake Complex Environmental Assessment.

## **F. Mitigation Measures – Fisheries**

1. All sedimentation mitigation is built into the design of the various facilities (boat launches, parking lots, campsites, etc.). Cross drains, water bars, and storm water

diversions will be installed on roads, parking lots, and boat ramps to redirect runoff away from Fremont Lake and toward vegetated areas or settling basins.

2. All equipment being used in or near Fremont Lake and/or Pine Creek needs to be washed and inspected in town before arrival at the job site for aquatic nuisance species and petroleum leaks.
3. Heavy equipment will be fueled at least 100 feet from water bodies. Any equipment found to be leaking fluids will be repaired immediately, at least 100 feet away from water bodies.

#### **G. Monitoring Recommendations - Fisheries**

1. Continue and update as needed, the existing water quality monitoring on Fremont Lake in coordination with the Town of Pinedale, to determine if federal and privately owned improvements on National Forest lands at Fremont Lake have positive or negative impacts to the water quality of Fremont Lake.
2. Monitor the “improved” boat launch sites to determine if current design mitigates for road and parking lot runoff and sedimentation.
3. Continue to monitor, and possibly moderate, the special recreation events (i.e. sailing regatta and fishing derbies) that occur at or on Fremont Lake to ensure that attendance at these events does not significantly impact the water quality or fishery of Fremont Lake and Pine Creek.

## 3.6 Wildlife

### A. Issues to be Addressed - Wildlife

**Issue #4: Mule Deer Migration Corridor:** The area directly south of Fremont Lake serves as part of a critical mule deer migration corridor for the Sublette Mule Deer Herd. Projects, activities, and events within this analysis area should be designed to minimize impacts to mule deer during their spring and fall migration periods.

**Issue #5: Moose Crucial Winter Range:** A portion of the analysis area serves as crucial winter range for the Sublette Moose Herd. Projects, activities, and events within this analysis area should be designed to minimize impacts to winter range habitat and wintering moose.

**Issue Indicator:** Effects to the mule deer migration corridor and moose crucial winter range.

### B. Existing Conditions - Wildlife

#### MIS Existing Condition

This section identifies the existing condition for MIS. MIS are those species whose population changes are believed to reflect the effects of land management activities. Four types of MIS are identified in the BTNF Land and Resource Management Plan; harvested species, ecological indicator species, Forest Service sensitive species, and federally listed threatened and endangered species. Twenty-three MIS occur on the BTNF; seven mammals, four birds, three fish, two amphibians, and seven plant species. Only those wildlife species present or suspected in the project area (**Table 3.6.1**) will be carried further in the analysis. The wildlife species that are not present or do not have habitat in the project area would not be impacted by this project and are not carried further in this analysis. Fish MIS are discussed in Section 3.5. No Plant MIS are known or suspected to occur in the project area. For population and habitat status for MIS across the Forest, refer to the BTNF MIS Report (2007) located in the project record.

**Table 3.6.1 Wildlife MIS on the Bridger-Teton National Forest.**

Common Name	Scientific Name	MIS type	Species Presence
<b>Mammals</b>			
Grizzly Bear*	<i>Ursus arctos horribilus</i>	Sensitive	Suspected
Elk	<i>Cervus elaphus nelsoni</i>	Harvest	Known
Mule deer	<i>Odocoileus hemionus</i>	Harvest	Known
Moose	<i>Alces alces shirasi</i>	Harvest	Known
Bighorn sheep	<i>Ovis canadensis canadensis</i>	Harvest/Ecological	Not Suspected
Pronghorn antelope	<i>Antilocarpa americana</i>	Harvest	Not Suspected
Pine marten	<i>Martes Americana origins</i>	Ecological	Not Suspected
<b>Birds</b>			
Bald eagle*	<i>Haliaeetus leucocephalus</i>	Sensitive	Known
Peregrine falcon*	<i>Falco peregrinus anatum</i>	Sensitive	Suspected
Whooping crane	<i>Grus americana</i>	T&E	Not Suspected
Brewer's sparrow	<i>Spizella breweri</i>	Ecological	Suspected
<b>Amphibian</b>			
Boreal toad	<i>Bufo boreas</i>	Ecological	Suspected
Boreal chorus frog	<i>Pseudacris triseriata maculate</i>	Ecological	Suspected

\*The grizzly bear, bald eagle, and peregrine falcon have been removed from the T&E Species list since they were designated as MIS on the BTNF. They are now managed as Sensitive Species. Refer to the Sensitive Species Section 3.6.B for further information.

### **Mule Deer**

Mule deer are habitat generalists. They are often associated with early-successional vegetation and use rocky brushy areas, open meadows, open forests, and recent burns. In the winter when snow pack becomes deep, mule deer migrate to lower elevations. The project area contains year round habitat for mule deer. A critical migration corridor is located at the southern end of the project area near the outlet of Pine Creek (see Appendix D, Mule Deer Migration Corridor Map). Over 1,000 deer bi-annually migrate through this area. This same area also serves as crucial mule deer winter range, primarily in December and April. The project area is located within one mule deer herd unit (104- Sublette). The mule deer population trend for this herd has been relatively

stable, but is currently below management objectives. This herd had an estimated 2006 population of 26,474 deer with an objective of 32,000 deer.

### **Moose**

Moose use a variety of habitats from dense coniferous, deciduous, or mixed forests to shrublands, open meadows, grasslands, and riparian areas. Moose typically move to lower elevation willow dominated riparian areas in the winter. The project area is located within one moose herd unit (105- Sublette). The Sublette moose population has been trending slightly downward with an estimated 2006 population of 4,066 moose with an objective of 5,500 moose.

Crucial moose winter range is located in two areas in the project area (see Appendix E, Moose Crucial Winter Range Map). Crucial winter range is mapped along the west-central side of Fremont Lake and in the Sylvan Bay/Fremont Lake Campground area.

### **Elk**

Elk are habitat generalists. During the summer, they spend the majority of their time in alpine and subalpine habitats. During the winter, elk movements are restricted by forage availability and snow conditions. Elk migrate to lower elevations where snow depth is shallow, and typically inhabit coniferous forests interspersed with riparian areas as well as south-facing slopes with sagebrush and other shrubs and aspen forests. Elk in the herd units within the project area migrate to feed grounds in the winter. Some elk from the Soda Lake feedground utilize Fremont ridge on the west side of the project area during the winter months.

The project area is located within two elk herd units 107-Green River, and 108-Pinedale). The Green River and Pinedale elk herds have had stable population trends. The Green River herd had an estimated 2006 population of 2,567 elk with an objective of 2,500 elk. The Pinedale herd had an estimated 2006 population of 1,953 elk with an objective of 1,900 elk.

Elk will not be affected by any action alternative therefore; they will not be carried further in this analysis. The proposed action occurs in areas of high human use which are likely avoided by elk.

### **Brewer's Sparrow**

The Brewer's Sparrow is an ecological indicator for sagebrush habitat. The Brewer's sparrow is a sagebrush-obligate, being restricted to sagebrush habitats during the breeding season and perhaps year-round. They are likely a common summer resident where suitable sagebrush habitat is present in the project area. Big sagebrush habitat is found primarily in the Fremont Ridge and Stewart Flat areas in the project area.

The Rocky Mountain Bird Observatory (RMBO) recently completed breeding bird surveys from 2002 to 2006 on the BTNF. During these 5 years of surveys, the RMBO observed a total of 369 sparrows along 22 survey routes. These surveys included BLM land adjacent to the BTNF along the "Piney Front".

A total of five North American Breeding Bird Survey routes occur on the BTNF. Species occurrence data collected from 1968 to 2003 was analyzed at the route level to determine species trend per route. Four of the routes showed a positive trend during this period (+3.3, +18.1, +8.8, and +29.1 percent increase in the number on each route). One route showed a negative trend of -16.2 percent/year (BBS GIS data). Transect data was not collected for every route during every year of the survey period and these surveys were not specifically targeting sagebrush habitat. Depending on the route, the number of years that survey data was collected ranges from 8 to 21 years. Regionally in Wyoming, Brewer's sparrow population trends have been relatively stable

with a -0.9 percent decrease in the occurrence of Brewer's sparrows on survey routes from 1968-2005 (USGS 2007).

### **Boreal Toad and Boreal Chorus Frog**

The boreal toad and boreal chorus frog are ecological indicator species for wetland habitat. The boreal toad is a Wyoming species of special concern.

The boreal toad occupies montane forest habitats between 7,500 and 12,000 feet and requires breeding ponds, summer range, and winter refugia at various stages of its life history. It inhabits marshes, wet meadows, and the margins of streams, beaver ponds, and glacial ponds.

The boreal chorus frog is found throughout Wyoming and across the BTNF. This frog inhabits non-flowing bodies of water such as marshes, ponds, and small lakes in all life zones, from lower elevation to alpine areas above timberline. They are rarely found far from permanent water.

Potentially suitable habitat for the boreal toad/chorus frog exists in the upper end of Fremont Lake near the inlet of Pine Creek. No projects are proposed in this area. No shallow wetland habitat occurs along the southern shore of Fremont Lake where projects are proposed. As a result, boreal toad/chorus frogs will not be impacted so they will not be carried further in this analysis.

### **Threatened and Endangered Species Existing Condition**

This section identifies the existing condition of threatened and endangered (T&E) species within the project area. A detailed Biological Assessment for federally listed threatened and endangered species is located in the project record. T&E species that are found on the BTNF and are known or suspected to occur within the area of influence of the project area are shown in **Table 3.6.2**.

**Table 3.6.2 Threatened and Endangered Wildlife Species Known or Suspected to Occur Within the Area of Influence of the Project Area.**

<b>Species</b>	<b>Federal Status</b>	<b>Species Presence</b>
Canada Lynx ( <i>Lynx canadensis</i> )	Threatened	Suspected

### **Canada Lynx**

Canada lynx inhabit high elevation areas where deep snows give them competitive advantage over other predators. Mature or late-successional multi-storied spruce-fir forests provide optimal foraging habitat for lynx in the southern portion of their range. These forests can support snowshoe hares (*Lepus americanus*), the primary prey species for lynx, as well as red squirrels, an important alternate prey species. Lynx habitat is closely associated with the habitat requirements of the snowshoe hare.

The project area is located within two Lynx Analysis Units (Pine Creek and Pole Creek). Lynx habitat is very limited in the project area. Lynx habitat primarily occurs on the steep ridge along the northeastern side of Fremont Lake. No lynx habitat occurs in areas where projects are proposed within the project area.

## Sensitive Species Existing Condition

### Sensitive Fish and Wildlife Species

This section identifies the existing condition for sensitive species within the project area. The Biological Evaluation for sensitive species is incorporated into this document. The fish and wildlife species listed in **Table 3.6.3** have been designated as Sensitive by the Intermountain Region of the Forest Service and may occur within the project area. Suitable habitat exists in the project area for these species. No Sensitive plants are known or suspected to occur in the project area.

**Table 3.6.3 Intermountain Region Sensitive Fish and Wildlife Species Known or Suspected to Occur Within the Area of Influence of the Project Area.**

Species	Species Presence
Grizzly bear ( <i>Ursus arctos horribilis</i> )	Suspected
Gray Wolf ( <i>Canis lupus</i> )	Suspected
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Known
Peregrine Falcon ( <i>Falco peregrinus anatum</i> )	Suspected
Cutthroat trout ( <i>Oncorhynchus clarki</i> )	Known
Columbia spotted frog ( <i>Rana pretiosa</i> )	Suspected

### Grizzly Bear

Grizzly bears require cover for thermal, resting, and security cover. Optimum habitat consists of large areas with diverse vegetation communities, free from human disturbance. Grizzly bears are opportunistic feeders and will prey or scavenge on most available food, including ground squirrels, ungulates, carrion, and fish. In areas or times where high protein food sources are not available, grizzlies rely on the stems, leaves, roots, tubers, and bulbs of grasses and forbs, the berries of shrubs, and the cambium and pine nuts of conifers. Availability of specialized food sources such as whitebark pine stands, fish spawning streams, and ungulate winter ranges are seasonally important. Den sites are usually far away from human activity in mountainous terrain over 6,000 feet in elevation on steep slopes when deep snow accumulates.

The project area lies within the Greater Yellowstone Area (GYA). The GYA currently provides habitat for one of the five remaining populations of grizzly bears in the contiguous United States. Grizzly bears in this region were listed as Threatened under the ESA in 1975 and were de-listed in 2007.

Habitat for grizzly bears is present throughout the BTNF, with optimum habitat in the wilderness areas. Grizzly bears inhabit the Buffalo Ranger District and portions of the Jackson and Pinedale Ranger Districts. Grizzly bears are suspected to be present, but the project area is outside of the Primary Conservation Area (PCA). The portions of the project area where projects are proposed are highly roaded and high human use areas thus these areas do not provide secure habitat for grizzly bears. The project area is within the BTNF Food Storage Area (#04-00-104).

### **Gray Wolf**

Gray wolves are native to the BTNF and were extirpated by humans by the late 1920's. Wolves were reintroduced in Yellowstone in 1995-96. Populations became established within two years after reintroduction and have been increasing since the initial reintroduction. The total wolf population in Wyoming increased from 252 wolves in 2005 to 311 wolves in 2006. Wolf numbers outside of Yellowstone National Park increased from 134 wolves in 2005 to 175 wolves consisting of 23 packs in 2006 (USFWS et. al. 2006).

Abundant prey species consisting of elk, moose, and mule deer are found in the project area during various times of the year with elk being the primary prey species for wolves in the region. No known wolf packs or territories are known to occur within the project area.

### **Bald Eagle**

Bald eagles are closely associated with water, and their nest sites are commonly found less than 1 mile from a lakeshore or riverbank. Large trees are necessary to support eagle nests. Alternate nests are commonly found within, or in close proximity to, the stand containing the nest. Old-growth stands, with their structural diversity and open canopies provide important habitat for eagles because snags and open-canopied trees located near the nest site and foraging areas offer favorable perches. Bald eagles with access to open water or alternate food sources near their nesting territories may not migrate in winter; however, many eagles migrate southward to areas with available prey.

One eagle nest is located at Little Soda Lake which is adjacent to project area. This nest was last active in 2006. This pair likely forages at Fremont Lake. All proposed projects within the project area are in areas that already receive human use and are greater than 2 miles from this nest site.

### **Peregrine Falcon**

Peregrines nest high on cliff ledges often near water because of the abundance of avian prey associated with such sites. Foraging habitat includes wetlands, riparian gorges, mountain valleys and lakes, which support populations of small to medium sized birds, in particular shorebirds and waterfowl.

The closest eyrie is located near the northern end of Fremont Lake. This site has been active over the past decade. This pair likely forages in the project area when there is an abundance of waterfowl present.

### **Cutthroat trout**

(See Fisheries Report, Section 3.5)

### **Columbia spotted frog**

Columbia spotted frogs are found in areas where permanent, quiet water is present, such as marshy edges of ponds or lakes, algae-grown overflow pools of streams, or springs. Emergent and submergent vegetation and willows are considered important habitat features. Following the spring breeding season they may move considerable distances from water, often frequenting mixed conifer and subalpine forests, grasslands, and sagebrush if puddles, seeps, or other water is available.

Potentially suitable habitat for spotted frogs exists in the upper end of Fremont Lake near the inlet of Pine Creek. No projects are proposed in this area. No shallow wetland habitat occurs

along the southern shore of Fremont Lake where projects are proposed. As a result, spotted frogs will not be impacted so they will not be carried further in this analysis.

## **Plant Management Indicator Species**

### **Quaking Aspen**

Quaking aspen is an Ecological Indicator Species for aspen habitats on the BTNF. This tree species is found throughout Wyoming's major mountain ranges and makes up about 9 percent of the total forested land base on the BTNF. Aspen is generally considered a seral species in the rocky Mountain Region, rapidly pioneering disturbed areas, but eventually being replaced by more shade-tolerant conifers. Within the project area, aspen is found primarily along the east and westsides of Fremont Lake. About 1,180 acres of aspen exists in the project area.

### **Neotropical Migrant Birds**

Executive Order (EO) 13186, signed January 10, 2001, lists several responsibilities of federal agencies to protect migratory birds. This includes development of a Memorandum of Understanding (MOU) between the USDA Forest Service and USDI Fish and Wildlife Service to promote and strengthen conservation of migratory birds.

Neotropical migratory birds (NTMB) use a variety of habitats in the project area during the breeding season including riparian, aspen, conifer, and sagebrush habitats.

Priority species for Wyoming have been identified in the Wyoming Bird Conservation Plan (Nicholoff 2003). Many of these birds are known to use habitats within the project area. Population trends for priority species have been estimated from the North American Breeding Bird Survey results and are available on the USGS Patuxent Wildlife Research Center website. Level I and Level II priority species in this plan are considered for this analysis and are defined as follows:

**Level I:** Priority bird species clearly needing conservation action. Declining population trend and/or habitat loss may be significant. This includes species which Wyoming has a high percentage of, and responsibility for, the breeding population, monitoring, and the need for additional knowledge through research into basic natural history, distribution, etc.

**Level II:** The action and focus for these species is monitoring. Declining population trends and habitat loss are not known to be significant at this point. Level II includes species which Wyoming has a high percentage of, and responsibility for, the breeding population. It also included species whose stability may be unknown, and species that are peripheral for breeding in the habitat or state, or for which additional knowledge may be needed.

All proposed projects within the project area are in areas that have already been altered by human development (roads, buildings, etc) and in some cases are highly fragmented habitats. As a result, none of these areas provide optimal habitat for neotropical migrant birds. For potential impacts to sagebrush obligate species, refer to the Brewer's sparrow section.

## **C. Desired Condition- Wildlife**

The BTNF Land and Resource Management Plan (USFS 1990) provides guidance for management of wildlife habitat on the BTNF. The project area is located in DFC's 2A, 2B, 9A, 9B, and 12. In DFC's 2A, 2B and 12, habitat is managed to achieve the game and fish populations, harvest levels, success and recreation day objectives identified by the Wyoming

Game and Fish Department. In DFC's 9A and 9B, habitat management for fish and wildlife is not an objective. This is because these are administrative sites or recreational residences. Provisions are given for managing calving areas, winter range, and hiding and security cover for big game. Further information on DFCs is provided in Appendix C of this assessment.

#### **D. Management Framework – Wildlife**

Direction from the BTNF LRMP (1990) is to provide adequate habitat for dependent fish and wildlife populations. Sensitive Species Management Standards regarding fish and wildlife management is to keep Intermountain Region designated Sensitive Species from becoming threatened under the Endangered Species Act and to work cooperatively with the WGFD in the management of fish and wildlife resources. Further information on standards and guidelines within DFC 2A, 2B, 9A, 9B, and 12 is provided in Appendix C of this assessment.

#### **E. Effects – Wildlife**

##### **Effects on MIS Wildlife Species**

This section discloses potential impacts to harvested and ecological indicator MIS as described in Section 3.8.B that could occur under the Proposed Action and alternatives. Potential direct and indirect effects are described by species, by alternative, and cumulative effects are summarized by species category in Section 3.6.B. Effects to species by alternative may be combined where appropriate due to similar impacts or no impacts.

##### **Mule Deer**

###### **Alternative 1- Direct and Indirect Effects**

Under Alternative 1 none of the proposed projects to reduce impacts to mule deer and their migration corridor would be realized. The mule deer migration would continue to be highly impacted by dispersed campers and motorized vehicles. This alternative results in the highest negative impact to mule deer.

###### **Alternative 2 and 3 - Direct and Indirect Effects**

Under both alternatives motorized road access would be reduced in the Stewart Flat area. This will be highly beneficial to mule deer during critical times of the year (winter and migration).

Under both alternatives, a non-motorized interpretive trail is proposed within the mule deer migration corridor. This could have negative impacts on migrating deer, depending on the level of use during the migration period. Impacts would include increased stress and displacement of migrating deer.

Under both alternatives dispersed camping would be prohibited yearlong within the Stewart Flat area, but under Alternative 3 the closed area would be extended further to include the southeastern side of Fremont Lake. As a result, Alternative 3 would have the greatest benefit to mule deer, by reducing stress and displacement of migrating deer within a larger area.

All other proposed projects would have no impact on mule deer.

**Moose****Alternative 1 - Direct and Indirect Effects**

Under Alternative 1, the crucial moose winter range in the Fremont lake campground/Sylvan Bay area would continue to be accessible by snowmobiles. This will continue to cause added stress and displacement of wintering moose in the area.

**Alternative 2 - Direct and Indirect Effects**

This alternative would have the greatest negative impact to crucial moose winter range. The addition of a groomed cross country ski trail through crucial moose winter range would negatively impact moose by increasing stress and displacement of wintering moose. Under this alternative, snowmobile access would continue to be unrestricted within the moose winter range.

All other proposed projects would have no impact on moose.

**Alternative 3 - Direct and Indirect Effects**

This alternative would have the greatest beneficial impact to crucial moose winter range. A snowmobile route through the winter range to the Upper Fremont Boat Landing would be designated. No bicycle/cross-country ski trails would be constructed within the moose winter range.

**Impacts Common to Both Alternatives**

Under both alternatives a negligible amount of winter moose habitat would be impacted by the proposed improvements to the Fremont Lake campground and boat landing. Alternative 2 would have a greater impact to moose habitat with the creation of a 70-person (or two 35-unit) group site. The improvements will be designed to impact the least amount of habitat that is feasible.

All other proposed projects would have no impact on moose.

**Ecological Indicator Species****Brewer's Sparrow****Alternative 1- Direct and Indirect Impacts**

Under this alternative projects that reduce habitat fragmentation (i.e. road closures and rehabilitation) in sagebrush habitat would not be realized. Sagebrush habitat in the Stewart Flat area would remain highly fragmented by open roads and would continue to be marginal Brewer's sparrow habitat as a result.

**Alternatives 2 and 3 - Direct and Indirect Impacts**

Both alternatives would have the same positive effect on Brewer's sparrow habitat. Proposed road closures and rehabilitation in the Stewart Flat area will improve this area by reducing habitat fragmentation. All other proposed projects would have no impact on Brewer's sparrow.

**Effects to Threatened, Endangered, and Experimental Species**

This section discloses potential effects to the threatened, endangered, and experimental species described in Section 3.8.B. Potential direct and indirect effects are described by species, by alternative, and cumulative effects are summarized by species category in Section 3.6.B Effects to species by alternative may be combined where appropriate due to similar impacts or no impacts. Further analysis of effects to T&E, including effects determinations, conservation

strategies, and recovery guidelines and goals, is included in the Biological Assessment located in the project record.

**Lynx**

**Impacts Common to All Alternatives**

Lynx habitat is relatively limited in the project area and occurs in areas that are not easily accessible. All the proposed projects occur within LAU’s, but are outside of lynx habitat. As a result, no impacts to lynx or their habitat is anticipated.

**Effects to Sensitive Species**

This section discloses potential effects to the Sensitive Species described in Section 3.6.B. Potential direct and indirect effects are described by species, by alternative, and cumulative effects are summarized by species category in Section 3.6.B. Effects to species by alternative may be combined were appropriate due to similar impacts or no impacts.

Effects to Sensitive Species under Alternative 2 would be similar to those described in the Proposed Action (Alt. 3). Therefore, the majority of effects are combined.

Effects determinations for sensitive species for Alternatives 2 and 3 are summarized in **Table 3.6.4**. Alternative 1 would have “No Impact” to sensitive species because no disturbance to sensitive species or their habitat would occur.

**Table 3.6.4 Effects Determinations for Implementing Alternative 2 or 3 for Intermountain Region Sensitive Fish and Wildlife Species Known or Suspected to Occur Within the Area of Influence of the Project Area.**

Species	Determination*
Grizzly bear	NI
Gray Wolf	NI
Bald Eagle	NI
Peregrine Falcon	NI
Cutthroat trout	NI

\* NI: No Impact

MIH: May impact individuals or habitat but not likely to trend towards Federal listing or cause a loss of viability.

**Grizzly Bear**

**Alternatives 2 and 3 - Direct and Indirect Impacts**

The proposed projects are located in high human use and roaded areas so these areas do not provide secure habitat for grizzly bears. Also, bears are not known to use this area. The food storage order (#04-00-104) will continue to be implemented in this area. As a result, the proposed projects will have “No Impact” on grizzly bears.

## **Gray Wolf**

### **Impacts Common to All Alternatives**

Wolves are not known and are not expected to utilize the southern end of the project area where projects are proposed. The proposed projects occur in existing high human use areas that do not provide secure habitat for wolves. As a result, the proposed projects will have “no impact” on wolves.

## **Bald Eagle**

### **Alternatives 2 and 3 - Direct and Indirect Impacts**

The Little Soda bald eagle nest is topographically screened and is located over 2 miles from the nearest proposed project. This eagle pair has a large foraging area that includes Fremont Lake. All the proposed projects are within existing high human use areas and are not designed to increase recreational use. As a result, the proposed projects will have “no impact” on eagles.

## **Peregrine Falcon**

### **Alternatives 2 and 3 - Direct and Indirect Impact**

The peregrine falcon eyrie is located several miles from the nearest proposed project. Peregrines may forage occasionally along the southern end of Fremont Lake. All the proposed projects are within existing high human use areas and are not designed to increase recreational use. As a result, the proposed projects will have “no impact” on peregrine falcons.

## **Cutthroat Trout**

### **Alternatives 2 and 3 - Direct and Indirect Impacts**

See Section 3.6 - Fisheries

## **Effects to Aspen**

### **Alternative 1 - Direct and Indirect Effects**

Under Alternative 1 no impacts to aspen are anticipated because no aspen will be disturbed.

### **Alternatives 2 and 3 - Direct and Indirect Effects**

Under both alternatives a negligible amount of aspen could be disturbed with the proposed improvements to the Fremont Lake campground and boat landing. Alternative 2 could have a greater impact to aspen if the creation of a 70-person (or two 35-unit) group site occurs within aspen.

## **Cumulative Effects to Wildlife**

The proposed projects are located in existing high human use areas which provide seasonal habitat for a small number of wildlife species. Cumulative uses within and adjacent to the project area include recreation and private land development. The only wildlife species that could be cumulatively impacted by these combined activities and the proposed projects are mule deer.

## **Mule Deer**

### **Cumulative Effects and Alternative 1**

The cumulative effects combined with Alternative 1 would have the greatest impact on mule deer. Private land development encroaching on the mule deer migration corridor combined with uncontrolled recreation in the Stewart Flat area creates a continually increasing disturbance level to migrating mule deer. Disturbance includes increased stress levels and displacement of deer moving through the migration corridor.

**Mule Deer****Cumulative Effects and Alternatives 2 and 3**

Although private land development would continue to cumulatively impact the migration corridor, cumulative impacts will be reduced under Alternatives 2 and 3. Under both alternatives road closures and dispersed camping closures are proposed in the Stewart Flat area. This will reduce cumulative effects by reducing stress and displacement of mule deer within the migration corridor on Forest Service land. Alternative 3 would have the greatest benefit due to a larger area being closed to dispersed camping than Alternative 2.

**F. Mitigation Measures - Wildlife****Mitigation Measures**

All project contractors will be required to store their food according to Forest Plan Standards for food storage and sanitation (Order Number 04-00-14, December 2004) during project implementation to minimize adverse interaction between bears and humans.

1. Snowmobile access is restricted to designated routes within crucial moose winter range from Dec 1 to April 30.

**G. Monitoring Recommendations**

No monitoring recommendations.

### 3.7 Water Quality

#### A. Issue to be Addressed – Water Quality

**Issue #1:** Fremont Lake serves as the unfiltered drinking water source for the Town of Pinedale. In addition, Fremont Lake is a popular site for boating, fishing, and swimming. Projects located within the Fremont Lake watershed should be designed to protect the water quality of Fremont Lake, particularly in the vicinity of the Town of Pinedale water intake.

#### B. Existing Conditions – Water Quality

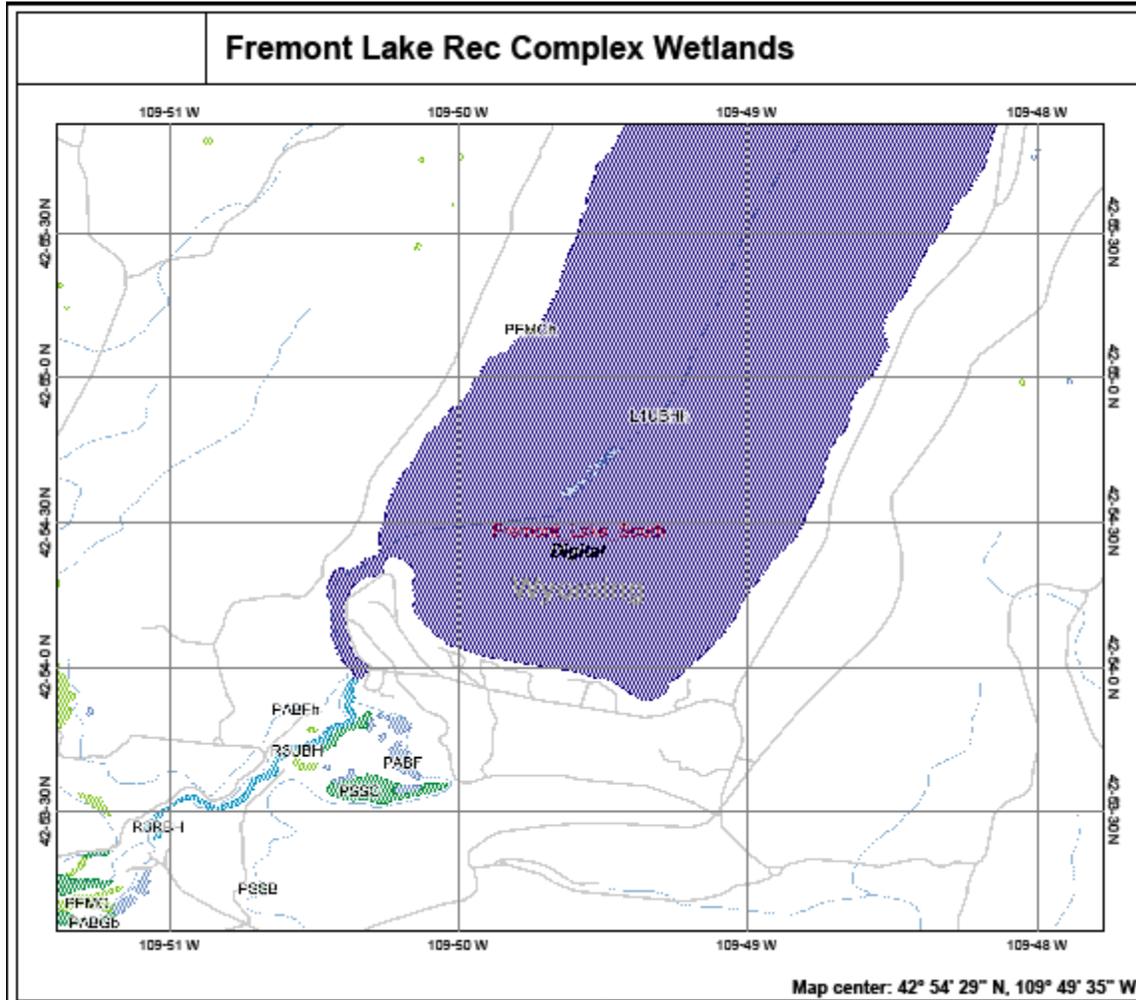
##### Physical Lake Data, Wetlands, Floodplains, Riparian Areas

**Physical Lake Data:** Fremont Lake is located in Sublette County, Wyoming, approximately 3 miles north of the Town of Pinedale. Local elevations range from 7160 feet in Pinedale to 13,750 feet at Fremont Peak, along the crest of the Wind River Range. The lake lies at an elevation of 7518 feet, is approximately 8 sq miles in surface area, and contains approximately 1.37 million acre-feet of water. Maximum lake depth is 608 feet, making it the seventh deepest natural lake in the coterminous United States (Rickert and Leopold, 1972). The watershed feeding the lake is approximately 76 square miles in size.

**Wetlands:** National Wetland Inventory maps (available at <http://wetlandsfws.er.usgs.gov/wtlnds/launch.html>) show wetlands in and near the project area. The NWI was created, and is managed, by the U.S. Fish and Wildlife Service, which is the principal federal agency responsible for providing information to the public on the extent and status of the nation's wetlands. The NWI is comprised of maps showing different types of wetlands, based on USGS 7.5-minute quadrangle maps. Source imagery for the NWI is from the 1980s for the portions of the Bridger-Teton National Forest that have been mapped (most, but not all, of the Forest has been mapped and digital data are available). See Figures 3.7.1 and 3.7.2 for maps of the wetlands in the project area.



Figure 3.7.2. Wetlands in the southern portion of the project area

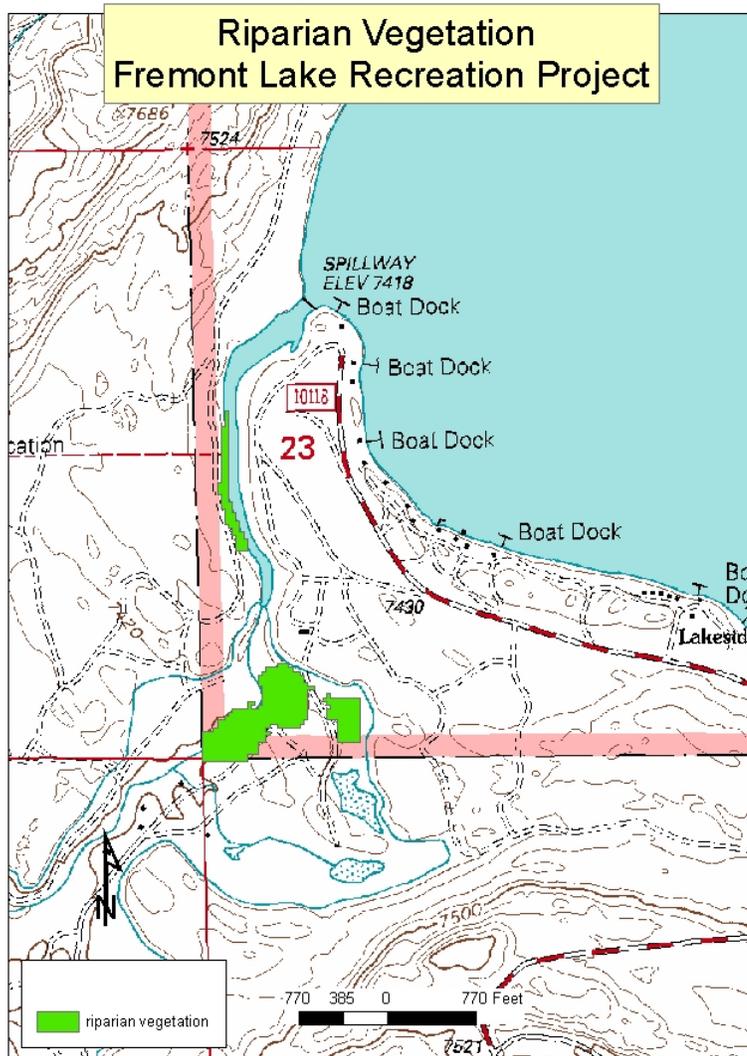


Most of the notable wetlands are south of Fremont Lake and are either associated with ponds or with Pine Creek.

**Floodplains:** Floodplains have not been delineated on National Forest System lands in the project area by FEMA, although they have been delineated on non-NFS lands. Areas along Pine Creek downstream from Fremont Lake that are within the 100-year floodplain are shown on FEMA Flood Insurance Rate Maps (FIRMs).

**Riparian Areas:** The source for this information is the Bridger-Teton National Forest 2007 vegetation map. Dominant land cover, canopy closure, and tree size classes are mapped to a scale of 1:100,000, based on field survey and remote sensing data. Riparian areas are mapped down to a minimum polygon size of two acres (upland vegetation is mapped down to five acres). Riparian map groups include areas dominated by cottonwoods, riparian herblands, and willows. The only riparian areas mapped in the analysis area are near the southern end of Fremont Lake; Figure 3 shows these areas.

Figure 3.7.3. Riparian vegetation near Fremont Lake.



### **Water System Information – Town of Pinedale**

Fremont Lake is the drinking water source for the Town of Pinedale. It is a surface water source, which normally requires a filtration system to meet the Safe Drinking Water, Surface Water Treatment Rule and the EPA standards for potable water systems. The quality of water conveyed from the lake has historically been completely satisfactory for potable purposes and the Town of Pinedale has successfully demonstrated that it is able to meet “filtration avoidance criteria” established by the EPA for this type of system, so water does not require filtration, but it is chlorinated.

The original intake pipe for the town is approximately 200 feet from shore and about 70 feet below the water surface. The intake pipe is 16 inches in diameter. Water was conveyed 2780

feet through HDPE pipe to a chlorination facility, and then was conveyed through over 10,000 feet of asbestos cement pipe to a junction with the town distribution system. This line is in place but is no longer used as the primary means to deliver water to Pinedale. It is back-flushed monthly with chlorinated water, and serves as a backup to the new, primary system in case of the latter's failure. The old line was replaced due to periodic problems (e.g., water taste, odor, and color) resulting from the presence of algae in the system, and due to turbidity during the spring and fall turn-over cycles. Placing the new intake deeper was intended to reduce the occurrence of these problems. The 1997 Lakeside Lodge EA (USFS, 1997) states that the old, abandoned Town of Pinedale transmission pipe (replaced with a new section in 1991) had corroded, leading to the release of asbestos fibers into the town water supply; concentrations were low.

The new water intake pipe for the town is submerged 120 feet below the lake surface and is about 900 feet from shore. The intake is screened (10 $\mu$  slotted screen) and signs are posted to keep boaters away from the intake. The new line is 36 inches in diameter, narrowing down to 24 inches, and is made of HDPE for the first portion (intake to shore), followed by ductile iron.

### **Land use**

Approximately 95% of the Fremont Lake watershed lies in the Bridger Wilderness, and recreational use of the Wilderness does occur. Wildlife occupy and use habitat all around the lake.

**Grazing:** Two Forest Service allotments—Pole Creek and Soda Lake—border Fremont Lake. Cattle on the Pole Creek allotment do not have access to Fremont Lake or Pine Creek. A few cattle may gain access to the lake when a gate is left open, but the use is brief. Cattle on the Soda Lake allotment have access to the west side of the lake, from approximately halfway up the west shore to Chambers Bay. There are 301 cow/calf pairs permitted to graze from July 1 through September 15. According to the District Rangeland Management Specialist, 176 of the animals don't use the east side of Fremont Ridge along the lake. The remaining 125 cows do use some of the available forage, but the riparian vegetation along the lake is reportedly in excellent condition. Cattle do not have access to Pine Creek because it is in a deep boulder gorge here.

**Housing/Lodges:** Cabin sites and other developments around the lake include South Shore homes, Sylvan Bay summer home area, and Lakeside Lodge.

**Recreational facilities:** Forest Service campgrounds and other recreational facilities include Fremont Lake Campground and Upper Fremont Boat Ramp, Sandy Beach Swim and Picnic Area, and Lower Fremont Boat Ramp. These facilities are described in greater detail in Section 3.4 of this document. Dispersed use also occurs in other areas, including Stewart Flat (near the Fremont Lake dam and outlet), Sylvan Bay Day-Use site, the north and northwest sides of the lake (where there are popular dispersed campsites that are used by small and large groups), and other areas around the lake.

Potential impacts to water resources are associated with the facilities within the project area.

- ◆ In the Fremont Lake Campground, some campsites and the northern “turnaround” are near the shoreline of the lake, which may reduce local shoreline stability and also allow for the delivery of sediment (and, potentially, petroleum) to the lake.

- ◆ At Sandy Beach, there are some areas of shoreline instability in the picnic area due to user-created trails that connect picnic table areas with the shore. Localized scour may increase in these areas.
- ◆ At the Lower Boat Ramp, the boat loading and launch area drains directly into Fremont Lake. Rilling in the area shows that surface runoff from the site commonly occurs, which has the potential to deliver sediment and petroleum products directly to the lake. This is also important at this site because of its relative proximity to the Town of Pinedale's water supply intake. Some runoff is also evident from the parking area, although there is a small buffer (approximately 30 feet) between this area and the lake.
- ◆ Drainage issues at the Upper Boat Ramp are similar to those described for the Lower Boat Ramp.
- ◆ The Stewart Flat area is used extensively for dispersed camping and recreation. Users park their trailers here and there is no control on their proximity to water resources. There are a high number of user-created roads in the vicinity that are sediment sources to riparian areas, wetlands, and Pine Creek. These roads also allow unregulated access to riparian areas and wetlands along Pine Creek, as well as other wetlands at the south end of the lake, allowing for degradation of these features by physical trampling and, potentially, delivery of pollutants to these sites (e.g., petroleum, fecal matter).

### **Water Quality Conditions**

Fremont Lake is a Class 1 ("Outstanding") water, as defined by Wyoming DEQ. Class 1 waters are "those surface waters in which no further water quality degradation by point source discharges other than from dams will be allowed. Nonpoint sources of pollution shall be controlled through implementation of appropriate best management practices. Pursuant to Section 7 of these regulations, the water quality and physical and biological integrity which existed on the water at the time of designation will be maintained and protected." (WDEQ, 2007)

No water bodies in the project area watershed are on the 2008 Wyoming 303(d) list of impaired water bodies. Pine Creek below the Pinedale wastewater treatment plant was formerly listed, but was removed "due to approval of the TMDLs for ammonia, fecal coliform, and TRC associated with routine renewal of the discharge permit, and recalculation/verification of the TMDL."

[Wyoming 2004 305(b) Report, p.33, available at [http://deq.state.wy.us/wqd/watershed/Downloads/305b/305b\\_2004.pdf](http://deq.state.wy.us/wqd/watershed/Downloads/305b/305b_2004.pdf)] Fremont Lake and Pine Creek, therefore, are meeting State water quality standards.

**Data Sources:** Historical water quality data for bacteria (coliform and streptococcus) and nutrients consist of miscellaneous data collected by the Forest Service and other parties. Sites were not chosen or re-sampled in a systematic way, so data do not always show trends at the various sites over time. Information was gathered from documents stored in Forest files, and dates from 1970 through 1998.

Data collected in a more systematic manner by the Town of Pinedale, U.S. Geological Survey (USGS), and historical data from the US Environmental Protection Agency (EPA) include bacteria and nutrient information, and also include information on organic compounds which indicate introduction of gasoline into water (e.g., from motorized recreational vehicles—motorboats and snowmobiles). Data on turbidity and dissolved solids are also included.

Currently, the Town of Pinedale samples four sites in Fremont Lake for various components on a regular basis, including a site near the water supply intake. The 2007 Report under the Fremont Lake Watershed Management Control Plan (Town of Pinedale, 2007) includes results from 1995 to 2007. Results from the 2008 Report are also complete and are on file at the Town of Pinedale and Pinedale Ranger District. The Bridger-Teton National Forest has sampled for organic compounds in the lake twice a year since 2006; sampling in 2008 was conducted once, in coordination with the Town of Pinedale.

**Results:** Sources of pollution to Fremont Lake may include recreational use on and around the lake (including pets), housing development along the south and east sides of the lake, and use of the lakeside area by domestic livestock and wildlife. Lake turnover and runoff characteristics may also affect water quality.

#### Bacteria:

Wyoming water quality standards before 2007 stated, in essence, that **fecal coliform** concentrations were not to exceed a geometric mean of 200 organisms per 100 ml sample during the entire year. No samples exceeded this value. Elevated numbers of fecal coliform colonies (that still met water quality standards) were found at the following sites, on the cited dates:

- Sylvan Bay Summer Homes: 1970 (from zero to greater than 80 colonies/100ml), 1972 (“abundant”), 1979 (from 29 to 55 colonies/100ml).
- Lakeside Lodge: 1979 (60 colonies/100ml), 1981 (55 colonies/100ml), 1984 (57 colonies/100ml).

Luna Leopold (report dated July 27, 1970) evaluated coliform contamination in the Sylvan Bay Summer Home area. Coliform bacteria were found in elevated levels in two watercourses: the one downstream from the beaver ponds and the one that carries the overflow from the storage tank near the spring water source for the homes. Houses nearest these streams were assumed to be contributing pathogens, so the suggestion was made to locate any additional homes as far from the watercourses as possible (and, preferably, to not allow additional cabin construction).

As cited in Town of Pinedale, 2007, one fecal coliform colony per 100 ml was found at Higgins Point in 2000. Total coliform results have also shown consistency for nondetect or levels of <3 except for countable levels from 7/8/2002 to 9/15/2003. Fecal and total coliform levels were much lower than the Source Water Quality conditions required for filtration avoidance. (Town of Pinedale, 2007)

New water quality rules and regulations adopted by Wyoming DEQ in 2007 changed the basis for evaluation from fecal coliform to a specific species of fecal coliform bacteria—*E. coli*.

Sampling for **Giardia** and **Cryptosporidium** was initiated in the 1990s by the Town of Pinedale. *Giardia* were found at Higgins Point in 2004 (3 per 100 L) and *Cryptosporidium* were found at the Lakeside Lodge sample site. The *Cryptosporidium* found at Lakeside Lodge in 1995 was believed due to the lodge’s septic tank pump being out of order. This septic system was subsequently replaced by Lakeside Lodge in 1996, with a new leach field constructed in 1998. Another oocyst was found at the Lakeside sample site in 2005. In a conversation on October 28, 2005, Ron Brown (Town of Pinedale Water System Manager) stated that he was not

concerned about the single cyst found in 2005: the filters and septic system at Lakeside Lodge were inspected, and all were found to be operating correctly. He could not say that the cyst came from Lodge facilities: there is *Cryptosporidium* in the lake naturally, and a single cyst is not of concern (but a large incidence would be). (Ron Brown, pers comm., October 28, 2005). Mindy Moore of the EPA, Region 8 confirmed that the source of the 2005 *Cryptosporidium* oocysts “have not been identified, but may be from animal carcasses found in ice at the lake.” (7/18/2005 EPA Sanitary Survey Report for Pinedale Municipal Water System).

#### Nutrients:

**Nitrogen:** Wyoming water quality standards are only given for "Human Health Value, Fish and Drinking Water". The standard for Nitrite (as N) = 1 mg/l; Nitrates (as N) = 10 mg/l; Nitrite + Nitrate (both as N) = 10 mg/l. All samples have been far below the limits described in the water quality standards.

There are no criteria for **phosphorus** content in water bodies. One suggested criterion for total phosphorus is a maximum of 0.025 mg/l (25 µg/l) for reservoirs (KRWI, 2000). USEPA does not provide criteria for total phosphorus loading, but its website does provide values of reference conditions for various Ecoregions (available at <http://www.epa.gov/waterscience/criteria/nutrient/ecoregions/lakes/index.html>). Fremont Lake is in Ecoregion II. The Ecoregion II (aggregated) reference value for total phosphorus is 8.8 µg/l (based on 25<sup>th</sup> percentiles). EPA stresses that criteria may need to reflect specific seasons due to seasonal variability in parameters. Although there are no criteria, only one water sample (taken in 1975) appeared to be exhibiting high phosphorus concentrations relative to the criteria described above.

According to Town of Pinedale (2007), “Water samples from the intake (site #4) have been analyzed for major ions, including nutrients **nitrogen and Phosphorus**; these have been nondetect over the years, reflecting the oligotrophic nature of the lake.”

**Chlorophyll “a”** values less than 2 µg/l are associated with oligotrophic conditions (i.e, having abundant dissolved oxygen and limited nutrients). Values greater than 8 µg/l are associated with eutrophic (nutrient-rich) conditions. The EPA website shows the aggregate reference value in Ecoregion II to be 1.9 µg/l (25<sup>th</sup> percentile). All Fremont Lake values were low in recent sampling, but there may have been a high value in 1978 of 1.916 mg/l (this could have been a typo in the report, however, where mg/l were shown instead of µg/l). If this was a typographical error, no high values have been found. Town of Pinedale (2007) states that “Fremont Lake chlorophyll ‘a’ concentrations have been measured at all 4 sites three times/year and are low (typically < 2 ug/L) and do not change significantly between sites.”

#### Sediment

Turbidity is an indicator of water clarity. Town of Pinedale (2007) states that turbidity measurements of “lake water at the four sites remains well below 1 NTU and has not increased over the years.”

Water samples from the water supply intake site are analyzed for total dissolved solids (TDS) by the Town of Pinedale. According to the Town’s annual report (Town of Pinedale, 2007), “TDS concentrations range from 4.3 – 24 mg/L (with one 1999 sample at 134 mg/L). These TDS fall under the EPA secondary drinking water standard of 500 mg/L.”

Organic compounds, including isomers in gasoline:

Information found in the Town of Pinedale report (2007) includes the following:

**Polycyclic Aromatic Hydrocarbons (PAHs, plus BTEX)** –motor boats are a potential source of contamination for Fremont Lake. Gasoline contains benzene, toluene, methylbenzene, and xylene isomers (BTEX); these are volatile organic compounds for which EPA has set MCLs [maximum contaminant levels] in drinking water. BTEX comprises over 60% of the mass that goes into solution when gasoline is introduced into water. Also, analyses of samples from lake bottom sediments in other parts of the U.S. have shown the presence of ten PAHs (semi volatile organic compounds or SVOCs), indicative of fossil fuel combustion. PAHs are lost quickly from the water column through volatilization (generally the lower molecular weight PAHs), and sedimentation (higher molecular weight PAHs). Therefore, the presence of PAHs in the water column can indicate recent PAH inputs. Currently VOC and SVOC sampling of the intake site ...is performed for compliance with drinking water MCLs; concentrations of gasoline BTEX compounds and benzo(a)pyrene (formed during incomplete fuel combustion) have been non-detect in the intake water.

Both the Town of Pinedale and the Forest Service sample for organic compounds. No Forest Service water samples have shown detectable levels of benzo(a)pyrene, but some sediment samples from Lakeside Lodge and Sandy Beach (2006) have shown detectable levels; there are no criteria for sediments, but all values fell well below recommended levels.

Detectable amounts of other constituents—specifically acenaphthylene, benzo(b)fluoranthene, benzo(k)fluoranthene, and fluorene-- were found in Sandy Beach water samples in May 2007, but natural sources may have been involved: Rhea, et al. (2005) state that:

The PAH composition in water and sediment can indicate the source(s) from which the PAHs were derived (Simpson et al. 1998; Yan et al. 2004). Larger concentrations of lower molecular weight PAHs (e.g., acenaphthene, and fluorine) most often occur in sample matrices contaminated with naturally occurring (petrogenic) PAHs. PAHs originating from combustion (pyrolytic) sources often contain elevated concentrations of higher molecular weight and higher membered-ring PAHs (e.g., phenanthrene, fluoranthene, pyrene) and fewer low molecular weight PAHs...

The Sandy Beach samples showed larger concentrations of the lower molecular weight PAHs and had non-detectable levels of the higher-weight PAHs cited above, indicating a naturally occurring source for the PAHs. Continued sampling will clarify this.

The measurable Sandy Beach constituents and state water quality criteria are shown in **Table 3.7.1**. Subsequent sampling in August 2007 found no detectable levels of any constituents in water or sediments, and sampling will continue.

**Table 3.7.1. Priority pollutant criteria (Wyoming DEQ) and water sample results, Sandy Beach, May 2007**

Contaminant	Human Health Value - Fish and Drinking Water - WY DEQ <sup>2</sup> (µg/l)	Human Health Value – Fish Only <sup>8</sup> WY DEQ (µg/l)	May 2007 Measured Value – Sandy Beach (µg/l)
acenaphthylene	no criteria	no criteria	0.20
Fluorene <sup>6</sup>	1100	5300	0.47
benzo(b)fluoranthene <sup>3</sup>	0.0038	0.018	0.13
benzo(k)fluoranthene <sup>3</sup>	0.0038	0.018	0.22

<sup>(2)</sup> Except where otherwise indicated, these values are based on EPA Section 304(a) criteria recommendations assuming consumption of 2 liters of water and 6.5 grams of aquatic organisms per day.

<sup>(3)</sup> Except for arsenic, the substance is classified as a carcinogen with the value based on an incremental risk of one additional instance of cancer in one million persons. Arsenic is classified as a carcinogen, however, the value is not based on an additional 1:1,000,000 cancer risk.

<sup>(6)</sup> Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for the criteria derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending.

<sup>(8)</sup> EPA Section 304(a) human health criteria recommendation assuming consumption of contaminated aquatic organisms at a rate of 6.5 grams per day.

**C. Desired Condition – Water Quality**

Bridger-Teton Land and Resource Management Plan

**Desired Future Condition (DFC) 4 – Special Emphasis Area for Municipal Water Supply**

Although the Forest Plan does not designate the Fremont Lake watershed as a municipal water supply, subsequent direction from the Forest Supervisor acknowledges that management of the watershed must support its use as a municipal water supply. (pp. 178-182)

**D. Management Framework – Water Quality**

Bridger-Teton Land and Resource Management Plan

- ◆ **Goal 1.3 – Water quantity and quality are retained or improved for local users.** (p.114)  
Objectives:

- 1.3(a) – Protect municipal, agricultural, and other potable water supplies and ensure that management activities do not cause a deterioration in water-flow timing, quality, or quantity.
- 1.3(b) – Meet or exceed current State water quality standards and National Forest Service water quality goals.
  
- ◆ **Recreation Riparian Area Standard** – No new recreation sites will be built in riparian areas unless a clear public need can be demonstrated and no other reasonable alternative exists. Unless designed to be submerged, recreation development will not occur in wetlands and in 100-year floodplains. (p.122)
- ◆ **Construction Staging-Area Guideline** – Construction staging and equipment service areas will be located outside of riparian areas. (p.133)
- ◆ **Sediment Control Standard** – Sediment control will take into account drainage density, slope position and configuration, and subsurface flow conditions. (p.136)
- ◆ **Water Quality Standard** – Forest Service or permitted activity or project will, at a minimum, adhere to state rules and regulations concerning surface and ground water quality. (p.136)
- ◆ **On-Site Erosion Guideline** – Project-caused on-site potential soil erosion should be reduced by 50 percent one year after disturbance, and 95 percent five years after disturbance. (p.137)
- ◆ **Road and Trail Drainage Standard** – Existing roads will be evaluated for sediment delivery to live streams, lakes, and riparian areas. Roads and trails will be designed and maintained so that drainage from the road or trail surface does not directly enter live streams, ponds, lakes, or impoundments. Water will be directed off the road or trail into vegetation buffer strips or controlled through other sediment-reduction practices. (p.139)
- ◆ **Road Restriction Guideline** – Road use restrictions may be applied in many situations, including: ... to meet recreation objectives... during spring breakup, and to limit effects on soil or water quality. Restrictions applied may include temporary closures, vehicle size restrictions, and weight limits. (p.140)
- ◆ **Streamside Roads Standard** – Wherever possible, roads will avoid riparian areas or drainageways. Where riparian areas or drainageways cannot be avoided, location and design of roads will apply sediment-reduction practices to prevent degradation of riparian or stream quality. Roads presently within riparian areas will be relocated outside riparian areas where possible. (p.140)
- ◆ **Road Maintenance in Riparian Areas Standard** – Maintenance, improvement, or repair of roads within riparian zones will avoid or mitigate water quality and fish habitat degradation. Debris from road maintenance, snow removed from roads, and earthwork soil materials—except designed-for riprap—will be diverted or removed to avoid deposition in ponds, lakes, stream channels, or the 100-year floodplain.

### Applicable Laws, Regulations, and Policies

#### Memorandum of Understanding (MOU) between the Bridger-Teton National Forest and the Town of Pinedale, Wyoming

This document “provide[s] a framework for cooperation between the Town and the Forest Service regarding the management and protection of that portion of the Town’s municipal watershed comprised of National Forest System lands within the Pinedale Ranger District, of the [BTNF] draining into the Town’s public water supply intake within Fremont Lake.” The MOU

was signed in July 2005, and will expire five years from the date of execution unless it is extended or amended. A copy of the 2005 MOU is located in Appendix G of this document.

***Forest Service Manual (FSM) sections 2532.02, 2532.03***

Sections 2532.02 and 2532.03 of the Manual describe the objectives and policies relevant to protection (and, where needed, improvement) of water quality on National Forest System Lands so that designated beneficial uses are protected. Guidelines for data collection activities (inventory and monitoring) are also described.

**Forest Service Manual (FSM) 2542-- Municipal Supply Watersheds (as amended effective 9/4/07)**

As defined in the Forest Service Manual (FSM 2542.05), a municipal supply watershed is “a watershed that serves a public water system as defined in the Safe Drinking Water Act of 1974, as amended (42 U.S.C. §§ 300f, et seq.); or as defined in state safe drinking water statutes or regulations”. Forest Service policy for such watersheds is to “identify watersheds providing the principal source of community water during land management planning. Develop prescriptions on a case-by-case basis to ensure desired multiple-use outputs while recognizing domestic water supply needs. Encourage municipalities to provide adequate and appropriate water treatment. Do not rely on management practices to provide pure drinking water. Use only proven techniques in management prescriptions for municipal supply watersheds...” (FSM 2542.03)

FSM 2542.21 states that the Forest Service will “inform the public of use restrictions imposed on municipal supply watersheds and reasons for restrictions. Include use restriction clauses in all permits, leases, or other documents authorizing use within the watershed. Designate restricted municipal supply watersheds on maps prepared for public use (sec. 2542.11).”

**Executive Orders Regarding Floodplains and Wetlands**

Executive Order 11988 requires that agencies avoid, to the extent possible, adverse impacts associated with occupancy and modification of floodplains. It applies to all floodplain locations, as a minimum to areas in the 100-year, or base, floodplain.

Executive Order 11990 states that agencies shall minimize destruction, loss, or degradation of wetlands and shall preserve and enhance their natural and beneficial values. Agencies are to avoid construction in wetlands unless it is determined that there is no practicable alternative and that all practicable measures are taken to minimize harm to wetlands.

**Safe Drinking Water Act and Town of Pinedale Watershed Management Control Plan (1993, updated 2004)**

The Town of Pinedale operates a community water system and is therefore subject to the Safe Drinking Water Act (42 USC, sections 300f to 300j-26) and the implementing regulations, 40 CFR Part 141. These regulations establish criteria under which filtration is required and under which public water systems with a surface water source must provide treatment of that source water that complies with treatment technique requirements.

40 CFR 141.71 in the implementing regulations establishes criteria for avoiding filtration. A public water system that uses a surface water source must meet all the conditions of 40 CFR 141.71(a) & (b), and is subject to 40 CFR 141.71(c). An Administrative Consent Order was

issued in June of 1992 from the EPA dealing with the Town's effort to meet criteria to avoid filtration and to ensure compliance with the disinfection requirements for a public water system.

One of the criteria for avoiding filtration requires a watershed management control program that consists of the following components:

- A base map or maps delineating the watershed land ownership, land use zoning, sewage disposal works, water intake, and activities on the lake.
- Inventory of animal populations
- Activities subject to permitting requirements
- Risk assessment
- Description of existing and future actions to safeguard the watershed, inclusive of landowner agreements
- Prohibition of recreational activity near the water supply intake
- Prohibition of sewer discharge in the watershed
- A monitoring program
- An annual report
- Long term plan of implementation

A **Watershed Management Control Plan** that meets the above criteria was developed by Johnson-Fermelia Company, Inc. for the Town of Pinedale (Johnson-Fermelia Co., Inc., 1993). The 1993 Plan was updated in 1995 and again in 2004.

*The Federal Water Pollution Control Act of 1972 (Public Law 92-500) as amended in 1977 (Public Law 95-217) and 1987 (Public Law 100-4). Also known as the federal Clean Water Act.*

This Act provides the structure for regulating pollutant discharges to waters of the United States. As stated in **Section 101** of the Act, the objective of the Act is "...to restore and maintain the chemical, physical, and biological integrity of the Nation's waters". Control of point and nonpoint sources of pollution are among the means to achieve the stated objective. The U.S. Environmental Protection Agency (EPA) is charged with administration of the Act, but there is provision for the delegation of many permitting, administrative, and enforcement functions to state governments. In Wyoming, the designated agency is the Wyoming Department of Environmental Quality (WDEQ).

Certain sections of the Act have special importance in management of nonpoint source pollution. **Sections 208 and 319** of the Act recognize the need for control strategies for nonpoint source pollution. Under **Section 305(b)** of the Clean Water Act, states are required to assess the condition of their waters and produce a biennial report summarizing the findings.

Waterbodies that have water quality determined to be either impaired (not fully meeting water quality standards) or threatened (likely to violate standards in the near future) are compiled by DEQ in a separate list under **Section 303(d)** of the Act. This list must be submitted to EPA every two years. Waterbodies on the 303(d) list (known as Water Quality Limited—or WQL—waters) are to be targeted, and scheduled, for development of water quality improvement strategies on a priority basis. These strategies are in the form of Total Maximum Daily Loads, or TMDLs, which technically consist of the quantity of pollutants that may be delivered to a waterbody without violating water quality standards. In practice they are plans to improve water

quality in a listed waterbody until water quality standards are met (i.e., until designated uses are fully supported).

**Section 404** of the Act outlines the permitting process for discharging dredged or fill material into waters of the United States, including wetlands. The U.S. Army Corps of Engineers administers the 404 program. Under **Section 401** of the Act, states and tribes may review and approve, set conditions on, or deny Federal permits (such as 404 permits) that may result in a discharge to State or Tribal waters, including wetlands. Applications for Section 404 permits are often joint 404/401 permits to ensure compliance at both the State and Federal levels.

#### **Wyoming Environmental Quality Act - (Title 35, Chapter 11, Wyoming Code)**

The stated policy and purpose of this Act is to:

...enable the state to prevent, reduce and eliminate pollution; to preserve, and enhance the air, water and reclaim the land of Wyoming; to plan the development, use, reclamation, preservation and enhancement of the air, land and water resources of the state; to preserve and exercise the primary responsibilities and rights of the state of Wyoming; to retain for the state the control over its air, land and water and to secure cooperation between agencies of the state, agencies of other states, interstate agencies, and the federal government in carrying out these objectives. (35-11-102)

Article 3 of the Act lists prohibited acts related to water quality and describes the duties and authorities of the Department of Environmental Quality (DEQ), Water Quality Division. Among the duties are the development and enforcement of state Water Quality Standards, which are described in detail in the Water Quality Rules and Regulations (Chapters 1 to 23).

#### **Scope of Analysis**

The portion of the project area including the National Forest System lands extending from the Pinedale water supply intake, south and east around the lake to the Sylvan Bay day use area, will be used to assess direct and indirect impacts. Cumulative effects are addressed for the Fremont Lake watershed.

#### **Cumulative Effects**

Past, present, and reasonably foreseeable actions on NFS lands include those associated with the land uses described above under the Existing Conditions section, as well as those associated with roads and trails. Additional activities that may impact water quality in Fremont Lake include those actions taking place in the watershed on non-NFS lands, including oil and gas field development and increased use in the watershed due to increasing population in the Pinedale area.

Facilities on NFS lands in the watershed are not expected to expand in the future, although use of them may increase due to increasing human populations in the area. As a result of this, cumulative impacts to water quality due to use of Forest facilities would be greatest under Alternative 1. Impacts would be reduced under Alternatives 2 and 3 due to proposed improvements, which would reduce the delivery of sediment and other pollutants to water bodies. Cumulative impacts to stream channel and lakeshore conditions would also improve under Alternatives 2 and 3 (compared to Alternative 1) due to increased restrictions on motorized and dispersed recreational access to Stewart Flat and other areas around Fremont Lake.

Cumulative impacts from other on-Forest uses are not expected to cause further degradation to Fremont Lake's water quality. Impacts from oil and gas field development are beyond the scope of this analysis.

## **E. Effects - Water Quality**

### **Alternative 1 – No Action**

Conditions and trends would continue as described under “Existing Conditions”, Land Use section, above. Shoreline instability, streambank impacts along Pine Creek, impacts to wetlands, and potential sediment delivery to water bodies would continue to occur from areas described as being impacted and unstable currently, and those sites that have improper drainage (areas associated with both boat ramps). Potential for petroleum delivery would also continue to exist at near-shore campsites and the northern “turnaround” in Fremont Lake Campground, the Lower Boat Ramp, the Upper Boat Ramp, and Stewart Flat. Uncontrolled dispersed camping by large groups of users would continue to occur on the north and northwest sides of the lake, near the lakeshore, with associated risks of elevated levels of sediment and fecal matter input.

With rare exceptions, cited above, almost all water quality indicators are well below state standards and recommended criteria. Some variances in organic substances, due to natural sources or activities associated with motor boating, are continuing to be investigated. While Fremont Lake's water quality may continue to support its beneficial uses, the water quality that existed at the time of its listing as a Class 1 water may be degraded with continuing, or increasing, use by recreationists under this alternative. This risk exists because best management practices are not in place in areas described above, and delivery of pollutants from these areas to water bodies would continue at accelerated levels under this alternative.

Goal 1.3(a), the Road and Trail Drainage Standard (if applicable to boat ramp areas), and the DFC 4 Management Emphasis to “protect or improve the quality of municipal water supplies” would not be met under this alternative.

### **Alternative 2 – Initial Proposed Action**

#### **Fremont Lake Campground**

Direct negative impacts associated with two near-shore campsites (#32 & #33) would not occur under this alternative as these areas would be rehabilitated and the campsites moved away from the lakeshore. These campsites would be replaced with day-use parking sites, which would have proper drainage directed away from the lake, resulting in a decrease in negative impacts to water quality. The “turnaround” at the north end of the campground near campsites #30 and #31 would be moved away from the lakeshore under this alternative, providing further positive benefits when compared with Alternative 1.

A developed trail system would concentrate use along newly-defined trails, instead of allowing for the dispersed user-created trails that now exist. Reducing the number of trails would reduce on-site erosion, and the amount of sediment potentially delivered to Fremont Lake. This would lead to a reduction in potential adverse water quality impacts compared with Alternative 1.

Under this alternative, a proposed group campsite (either one 70-unit site or two 35-unit sites) located near the southern entrance to the campground would serve large user groups instead of the dispersed campsites on the north and northwest ends of Fremont Lake that are currently used

as group sites. The proposed group site would be a minimum of 300 feet from the lake. The creation of a bare area with construction of the campsite would increase the risk of sediment production, but the risk of measurable sediment delivery to the lake from the site would be low due to the site's location relative to the lake, the existence of heavy vegetation between the proposed site and the lake, and installation of BMPs to ensure the site drains away from the lake. Designating a trail (and proper construction of it) from the campsite(s) to the lake would reduce impacts of uncontrolled trailing by campsite users. Given this alternative's prohibition on camping within 200 feet of the shoreline, overall impacts to water quality would likely be less than under Alternative 1 (especially with respect to human waste), and enforcement would likely be more successful under this alternative.

#### Upper Boat Launch Site

See Fisheries input, Section 3.7.E, for information on the effects of improving drainage at the upper boat launch site on water quality.

Increasing the size of the parking area by two parking sites would not measurably increase potential sediment production from the site. Potential delivery of this sediment, and petroleum products, to the lake would be reduced by improving drainage off the parking area and redirecting it away from the lake. Overall, adverse water quality impacts would be reduced when compared with Alternative 1.

#### Sandy Beach

Moving the existing group site further from the lakeshore will help reduce sediment delivery currently occurring at the existing group site, which has some facilities located within 30 feet of the lakeshore. Potential adverse impacts to water quality would decrease when compared with Alternative 1.

Closure and rehabilitation of the swimming area parking site would remove this near-shore source of pollutants, moving the impacts away from the lake. Moving the swim area vault toilet would move potential pollutants away from the lake, in the event of a vault failure. This would lead to a reduction in potential adverse water quality impacts compared with Alternative 1.

Surfacing trails would reduce on-site erosion, and the amount of sediment potentially delivered to Fremont Lake. This would lead to a reduction in potential adverse water quality impacts compared with Alternative 1.

#### Lower Boat Site

Resurfacing of the boat launch access, along with re-directing drainage from the site to reduce potential inputs of petroleum and sediment to the lake, would reduce the amount of direct negative impacts from this site compared with Alternative 1.

Impacts of resurfacing and properly draining the parking lot would be similar to the effects described above for the boat launch access. The size of the parking lot would not change, so net negative impacts to water quality would be less than under Alternative 1.

Construction of the breakwater would cause a short-term decrease in water quality due to disturbance of the lake bed and adjacent shore during construction. Long-term impacts to water

quality from the breakwater would not be measurable. Indirect impacts from construction of the breakwater are discussed in the Fisheries section of this document.

#### General Fremont Lake Area (including Stewart Flat and Sylvan Bay Day Use Area)

Restricting dispersed camping and campfires to areas greater than 200 feet from the Fremont Lake shoreline would reduce adverse water quality impacts. Prohibiting these uses from the Stewart Flat area would also reduce adverse water quality impacts when compared with Alternative 1.

Replacement of the vault toilet at Sylvan Bay would reduce the risk for failure and delivery of waste to the lake, reducing potential adverse water quality impacts when compared with Alternative 1.

Reduction of road densities in the southern end of the Fremont Lake area would reduce sediment production and delivery to water bodies. It would also reduce the incidence of direct mechanical damage to Pine Creek and wetlands near the south end of the lake. Adverse impacts to water resources would be reduced when compared with Alternative 1.

Resurfacing Forest Roads 741 and 747 would reduce sediment production from the roads. It would also reduce potential sediment delivery to water bodies, with a net potential benefit to water quality when compared with Alternative 1.

### **Alternative 3 – Modified Proposed Action**

#### Fremont Lake Campground

Impacts would generally be the same as those described under Alternative 2. Under this alternative, however, the proposed group campsite near the southern entrance to the campground would be replaced with an overflow parking area and no group campsite would be constructed. Dispersed camping around the north and northwest sides of the lake would continue, but would be prohibited within 200 feet of the lakeshore. Without the presence of a group campsite, groups of users would likely continue to camp in dispersed sites around the lake (although at a greater distance from the lake than under Alternative 1). Impacts from this activity would be less than under Alternative 1 and greater than under Alternative 2.

#### Upper Boat Launch Site

Impacts would generally be the same as those described under Alternative 2.

Reconstruction of the Upper Fremont boat ramp would cause a short-term decrease in water quality due to disturbance of the lake bed and adjacent shore during construction. Long-term direct impacts to water quality from the ramp itself would be negligible; indirect impacts are described in the Fisheries section of this document.

Construction of an additional 10-unit overflow parking area would increase sediment production compared with Alternative 2 due to ground disturbance, but if the sites are more than 300 feet from the lake shore, measurable increases in sediment delivery to the lake would not occur.

#### Sandy Beach

Impacts would be the same as Alternative 2.

### Lower Fremont Boat Site

Impacts at the boat launch site would be similar to Alternative 2. The parking area would be enlarged compared to Alternative 2, increasing the potential amount of sediment produced and delivered to Fremont Lake even with implementation of BMPs.

Reconstruction of the Lower Fremont boat ramp would cause a short-term decrease in water quality due to disturbance of the lake bed and adjacent shore during construction. Long-term direct impacts to water quality from the ramp itself would be negligible; indirect impacts are described in the Fisheries section of this document.

Impacts would be less than under Alternative 1 with improvement of drainage.

### General Fremont Lake Area (including Stewart Flat and Sylvan Bay Day Use Area)

Increased restrictions on dispersed camping and campfires would reduce the potential for sediment production and delivery below Alternative 2. Other impacts are the same as under Alternative 2.

## **F. Mitigation Measures – Water Quality**

Mitigation measures described in the Fisheries section also serve to protect water quality. Additional measures include:

1. Permits may be required for additional facilities beyond the boat ramps and breakwater, depending on the nature and scope of specific projects.
2. Sedimentation mitigation will also serve to direct runoff away from Pine Creek, wetlands, and riparian areas.
3. Road closures and site restoration (e.g., Stewart Flat and the parking area at Sandy Beach) will include soil decompaction, installation of drainage structures, and revegetation. Specific needs will be determined on a site-specific basis.
4. Storage of fuel or other hazardous substances (at least five gallons) will take place at least 100 feet from the outer edge of wetlands, riparian areas, and the Fremont Lake shoreline. Such materials will be stored properly on impermeable surfaces.

## **G. Monitoring Recommendations – Water Quality**

Measures described under the Fisheries section also serve to protect water quality. Implementation monitoring of projects will be conducted to ensure success and to comply with State and Federal water quality requirements.

### **3.8 Social & Economic Conditions**

The entire analysis area for the Fremont Lake Recreation Enhancement Project lies within Sublette County, Wyoming. The 06/18/08 Public Draft of the Sublette County Federal & State Lands Policy identifies the three primary economic influences as: agriculture, recreation, and the mineral extraction industry. Approximately 80% of Sublette County is located within Federal and State lands.

#### **A. Issues to be Addressed – Social & Economic Conditions**

The Sublette County Federal & State Lands Policy Public Draft (06/18/08) states the County's expectation that Federal agencies will consider the effects proposed actions have on (1) community stability; (2) maintenance of custom, culture and economic stability; (3) conservation and use of the environment and natural resources in the county; and (4) on existing multiple use.

#### **B. Existing Conditions - Social & Economic Conditions**

##### **Recreation**

Recreation-based activities constitute the main land-use within the analysis area, varying between the primitive Bridger Wilderness located north of Fremont Lake, and highly developed recreation sites primarily located on the south and southeastern ends of the lake. The Bridger Wilderness offers non-motorized recreation opportunities, including world-class day hiking, backpacking, horseback riding, fishing, hunting, mountain climbing, and cross-country ski touring.

Developed Sites on National Forest System Lands within the assessment area facilitate boating, sailing, canoeing, kayaking, camping, swimming, picnicking, resort lodging and restaurant services, and a developed interpretive trail system at the CCC Ponds Day Use Site. Wilderness & Recreation conditions are discussed in further detail in Sections 3.1 & 3.2 of this assessment.

In response to the natural gas boom within Sublette County and subsequent lack of available lodging and affordable housing, a fairly new condition has developed on the National Forest at Fremont Lake within the past five years, primarily within the Stewart Flat area. Once utilized primarily as a day-use site and occasionally for dispersed camping, this area has now become a temporary residence for transient workers and their families. Living on the National Forest is not legal, and there is a maximum 16-day stay limit for dispersed camping on the Forest. However, transients move from one site to another within the Fremont Lake area for the duration of their temporary employment in the County, often moving between dispersed sites and campgrounds within this area. Human waste sanitation issues, visual impacts from season-long camping, increased trash, abandoned vehicles and camping equipment, and increased impacts to unsurfaced roads within this area have impacted natural resources and dramatically reduced the scenic quality and attraction of this area.

##### **Non-Recreation Permitted Uses**

Non-recreation facilities and uses managed by the Forest Service and operated by private and public entities under permit or easement within the assessment area include the following: Fremont Lake Dam, Highland and Fremont Irrigation Ditches, a small portion of one grazing

allotment on the west side of Fremont Lake, a USGS water gauging station on Pine Creek at the inlet to Fremont Lake, and the Town of Pinedale's municipal drinking water intake, pipeline, and treatment facility.

Fremont Lake serves as the Town's municipal drinking water source. This topic is further discussed in Section 3.7 of this assessment. Dispersed camping in the Stewart Flat area is causing impacts to the ditch banks in the Highland Irrigation Ditch, and excessive trash and sanitation issues along Pine Creek.

#### **Forest Products & Energy Development:**

Forest harvest is not allowed within developed sites or within recreation sites under special use permit, other than for resource protection and hazard tree reduction. Outside of these developed sites, lack of motorized access, steep terrain and general lack of attractive commercial stands further limit commercial and private forest harvest within the Fremont Lake assessment area. There is no approved energy exploration or development within the assessment area at this time.

#### **C. Desired Condition – Social & Economic Conditions**

No specific DFC is identified for this element in the BTNF Forest Plan.

#### **D. Management Framework – Social & Economic Conditions**

BTNF Forest Plan Direction:

Goal 1.1 – Communities continue or gain greater prosperity.

#### **E. Effects – Social & Economic Conditions**

There are no substantial local, State, regional or national effects to social or economic conditions with any of the three alternatives associated with this assessment. As discussed in Chapter 1, the purpose of this project is not to encourage increased visitor use within this recreation complex but to improve existing facilities and increase the efficiency of recreation management operations within the Fremont Lake area to better serve the recreating public and protect natural resources in this area.

For Sublette County, there are no substantial short or long-term effects resulting from any of the three alternatives within this analysis to any of the four elements described in the 06/18/08 Public Draft of the Sublette County Federal & State Lands Policy. There are minor differences in effects for the three alternatives, which are described as follows:

- 1) Community Stability:** As described in the 6/18/08 Draft Sublette County Federal & State Lands Policy, recreation-based businesses account for one of the top three sources of income within Sublette County. Fremont Lake and the Bridger Wilderness contribute substantially to Sublette County's community stability by providing outstanding recreational opportunities, by providing the basis for recreation-based businesses, and by providing unique and spectacular scenic qualities which attract residents to move to this community. Recreation-based businesses in the community include lodging, outdoor equipment sales and rentals, and outfitter-guide and resort-oriented services. In addition, Fremont Lake serves as the municipal drinking water source for the Town of Pinedale.

Alternative 1 (No-Action): Although this alternative does not adversely affect the Community Stability of Sublette County, it does nothing to improve existing conditions for resources and facilities located on the National Forest within the Fremont Lake Watershed, therefore it does not further protect the long-term stability of Fremont Lake as a recreational draw for the community.

Alternatives 2 and 3: Both of these alternatives improve Community Stability by improving recreation facilities, resource conditions, and quality of the recreation experience within the Fremont Lake Watershed, including improved water quality protection measures for Fremont Lake.

- 2) Maintenance of Custom, Culture, & Economic Stability:** This element includes effects to livestock grazing, recreation or concession permits, harvesting of forest products, or oil & gas exploration and development.

All 3 Alternatives: There is no effect to harvesting of forest products or oil & gas exploration or development with any of the three alternatives in this assessment.

Alternative 1 (No-Action): This alternative maintains the status-quo for existing custom, culture, and economic stability of Sublette County. There is no change in existing recreation and non-recreation permits, concessions, or rights-of-way. With this alternative, dispersed camping/living in the Stewart Flat/Pine Creek area will continue to impact bank stability within the Highland Ditch. In addition, accumulation of trash, visual quality disruption, and sanitation issues along Pine Creek will likely increase over time with this alternative.

Alternative 2 & 3: These alternatives improve custom, culture, and economic stability of Sublette County, primarily through implementation of dispersed camping restrictions within the Stewart Flat/Pine Creek area and Fremont Lake shoreline. Numbers of employees associated with construction activities is not likely to exceed 20 personnel at any one time because facility construction/reconstruction for these two alternatives will be implemented in phases over the next several years, as funding becomes available. There are no substantial effects to community services or housing with these alternatives.

- 3) Conservation & Use of Environment and Natural Resources**

Alternative 1 (No-Action): This alternative does not directly or indirectly affect conservation and use of the environment and natural resources within Sublette County. However, this alternative does not implement measures to prevent water quality impairment related to recreation use and existing facilities within the Fremont Lake Watershed, and it does not improve natural resource conditions in the vicinity of Pine Creek.

Alternative 2 & 3: These alternatives provide further water quality protection measures for Fremont Lake and Pine Creek by improving facilities and implementing dispersed camping restrictions within the Fremont Lake Watershed. With Alternative 2, the addition of a 70-person group site (or two 35-unit group sites) in the Fremont Campground will reduce or eliminate dispersed camping by large groups on the north and

northwestern shores of Fremont Lake. Minor short-term dust may be created by construction equipment during reconstruction of facilities. These impacts can be mitigated with Best Management Practices, including requiring wetting of soil to diminish or eliminate dust.

- 4) **Existing Multiple Uses:** There are no effects to multiple uses from any of the three alternatives in this assessment.

**F. Mitigation Measures – Social & Economic Conditions**

No Mitigation Measures recommended.

**G. Monitoring Recommendations – Social & Economic Conditions**

No Monitoring recommendations.

### 3.9 Cumulative Effects - Summary

#### Past, Present and Reasonably Foreseeable Activities in the Vicinity of the Fremont Lake Recreation Enhancement Project Area

All of the following activities and projects have been considered in analyzing cumulative effects for this project:

**Cumulative Effects Table 3.9.1.** Recent, current, or planned projects or activities within the Fremont Lake Assessment Area within the next 5-10 years.

<b>Project</b>	<b>Year Completed or Expected to be Completed</b>	<b>Location</b>
Lake Ridge Subdivision Private Home Construction	In Progress	Southeast side of Fremont Lake, approximately ¼ mile from shoreline
Lakeside Lodge Master Development Plan Implementation	Approved in 2006 In Progress	Lakeside Lodge Resort & Marina
Half Moon Lake Resort Master Development Plan Implementation	Approved in 2004 Completed in 2005	Half Moon Lake Resort & Marina
Wind River Resort Master Development Plan Implementation	Approved in 1996 In Progress	White Pine Ski Resort
Bridger-Teton National Forest Recreation Residence Special Use Permit Re-issuance	Completed in 2008/2009	Sylvan Bay Rec. Res. Tract Fremont Lake Rec. Res. Tract
CCC Ponds Interpretive Site Pinedale Bike Path CCC Ponds/Stewart Flat Groomed Ski Trails (Ski trails groomed from December 15 to March 15)	Completed in 1996 Completed in 2007 Completed in 2007	CCC Ponds and Stewart Flat
Fremont II Wildland Fire Use (Prescribed Fire)	Approved in 2002 Implementation Ongoing	West side of Fremont Lake Watershed (approximately ½ mile from the Fremont Lake shoreline)
Lower & Upper Fremont Lake Boat Dock Replacement	Completed 2007-2008	Fremont Lake (south and east shores)

<p>Century Tel Fiber Optic Line Replacement</p>	<p>Completed in 2007</p>	<p>Skyline Drive, White Pine Resort, Half Moon Resort, Sylvan Bay Recreation Resident Tract, Lakeside Resort, Lake Ridge Subdivision, Fremont South Recreation Resident Tract</p>
<p>Forest Road #740 (Skyline/Fremont Lake Road) Reconstruction Project</p>	<p>Approved in 2007 Implementation 2009-2010</p>	<p>Forest Road #740 from Forest Boundary to Cross Country Ski Area parking site ¼ mile north of White Pine Ski Area</p>

**Cumulative Effects - Ongoing Activities:** The following ongoing activities occur within or adjacent to the Fremont Lake Recreation Enhancement Project and have been considered within each resource topic addressed in Chapter 3. These activities are also briefly described as follows:

**Recreation and Private Land Development:** There are 12 Recreation Residences in the Fremont Lake Tract, a Yacht Club, a Forest Service Swim/Picnic Area, a Forest Service boat launch site, Lakeside Lodge & Marina, and a Town of Pinedale water chlorination treatment facility located on National Forest lands on the south shore of Fremont Lake. The CCC Ponds Interpretive Site (and associated winter cross-country ski trails) and the Stuart Flat dispersed area are located within the project area south of Forest Road #749.

On the east side of the lake, approximately 5 miles up the lake, there are 46 Recreation Residences in the Sylvan Bay Tract, a 54-unit Forest Service campground, the Sylvan Bay Day Use Site, a Forest Service boat launch site at the campground, and a small boat marina serving the Sylvan Bay Recreation Residence Tract. Chambers Bay Historic Cabin, a private historic cabin located on National Forest on the northwest shore of Fremont Lake, is the only development on the west side of the lake. There are 6 homes located on private property within the Lake Ridge Subdivision, between Forest Road #740 and #741, and potential for approximately 10 additional private homes in this subdivision. Much of this development has been in existence for several decades with minor environmental effects. In 2006, a Master Development Plan was approved for Lakeside Lodge, allowing for construction of additional facilities. Implementation of this project is on-going.

Concerns regarding the recreation and private land development use within the project area are (1) water quality concerns for Fremont Lake, which serves as the municipal drinking water source for the Town of Pinedale, Lakeside Lodge, and most of the Fremont Lake Recreation Residences; (2) water quality concerns for Pine Creek from unmanaged recreation use in the Stuart Flat area; (3) visual concerns from structure development on the southern shore, (4) cultural (historic) resource protection concerns, and (5) mule deer migration corridor and crucial moose winter range concerns.

Many of the facilities identified are visible from either the lake or the roads along the south and east sides of the lake, and detract from a natural appearing setting. Unmanaged dispersed recreation use, particularly within the Stuart Flat area, is leading to water quality concerns for

Pine Creek. In addition, dispersed camping in the Stuart Flat area is adversely affecting the mule deer migration corridor and is visually obtrusive to visitors recreating at the south end of Fremont Lake.

The Lakeside Lodge Master Development Plan, approved in 2006, is in the process of being implemented. As disclosed in the 2006 Decision Notice for this project, no effects from implementation of the Lakeside Master Development Plan are expected to adversely affect physical or social conditions, or cumulatively affect these conditions in combination with the proposed actions in the Fremont Lake Recreation Enhancement assessment.

The entire Fremont Lake shoreline is located on National Forest Lands and the majority of Fremont Lake's headwaters are located within the Bridger Wilderness, where special protection measures are incorporated due to Wilderness designation. In addition, water quality protection mitigation and monitoring measures have been implemented by the Town of Pinedale and the Forest Service. Further development on the Fremont Lake shoreline, beyond what is currently identified in the above list, is not likely to occur within the reasonably foreseeable future at Fremont Lake due to limited access, rough terrain, and watershed protection emphasis.

**Increases in recreation use** – Recreation use of the Fremont Lake area has increased in the last 20 years, particularly within the past five years with an overall increase in population in Sublette County. This increase in use also increases the potential for undesirable environmental effects. However, the use of the lake remains relatively low compared to other lakes of its size and there is no evidence that this increase in use has had any measurable impacts to water quality, vegetation loss, cultural resources, erosion, wildlife populations or habitat.

**Cultural Resources** – There has undoubtedly been a loss of archeological resources in the Fremont Lake area in the past, primarily due to development along the south shore of the lake, including construction of the day-use parking site at Sandy Beach. Present or future development should not result in additional cumulative effects because current laws, such as the National Historic Preservation Act, require that significant archeological sites are either avoided or mitigated to reduce adverse effects. Projects proposed in Alternatives 2 and 3 for the Sandy Beach Area were designed specifically to address past development impacts and potential continued impacts from constructed features at this site.

An additional source of cumulative effects comes in the form of vandalism and artifact collecting by the general public. Although these effects may be easy to recognize, they are difficult to minimize or mitigate. With an increase in the population in the Pinedale area in recent years, and an anticipated increase in recreational activity on public lands, it is anticipated that archeological sites will continue to be disturbed by the recreating public. The best method for addressing this problem at the south end of Fremont Lake is to direct recreation activity to areas away from known archeological sites, and to continue to monitor these sites so that valuable information and artifacts can be legally collected prior to their disturbance by the general public. In addition, a cultural resource management plan for the south end of Fremont Lake will be developed in conjunction with Forest Plan Revision to address cumulative effects in this area.

**Domestic livestock grazing:** The only domestic livestock grazing in the project area vicinity is from two pastures in the Soda Lake grazing allotment. These pastures are located on the west side of Fremont Lake from the National Forest Boundary at the Elk Fence to approximately

Chambers Bay. These pastures are managed as deferred rotation pastures where livestock can graze the pastures every season but at different times of the season to maintain healthy vegetation. The authorization is for 125 head of cattle for approximately two months. The permittee has not grazed his full authorization on these pastures for the past five years due to grazing permittee and Forest service preference for non-use. However, it is possible that incidental cattle use (an estimated 10 pair per year), may reach the Fremont Lake shoreline near Box Bay. This incidental cattle use is not likely to occur near the Town of Pinedale's water intake at the southeastern end of the lake because the elk fence bars cattle from accessing this portion of the shoreline.

There may be insignificant amounts of sedimentation to Fremont Lake as a result of this grazing use and there is potential for fecal coliform and cryptosporidium entering the lake and reducing water quality from cattle grazing. Based on water quality monitoring conducted by the Town of Pinedale since 1996, there have been no known or suspected adverse effects to the water quality in Fremont Lake from current grazing within this allotment.

**Prescribed and Wildland fires** – There was a Wildland Fire on the east side of Fremont Lake in 1988 that burned approximately 1,300 acres and several prescribed fires on the west side of Fremont Lake approximately 500-600 acres conducted in 1999. There was also a Wildland Fire at the southeast end of the lake in 2007. All three of these fires likely contributed sedimentation and organic material into Fremont Lake for one to two years after the burns, until vegetation was re-established on the burned areas. None of these fires have had any long-term significant effects to the water quality in the lake, esthetics of the area, or Mule deer/Elk transitional range. The Fremont II Wildland Fire Use Project (Prescribed Fire Project) is located on the western portion of the Fremont Lake Watershed outside the Bridger Wilderness in the vicinity of Little Soda Lake. This project was approved in 2002 for wildlife habitat enhancement and the project area for this proposal is a minimum of ½ mile from the Fremont Lake shoreline, therefore this project is not expected to add to sedimentation impacts to Fremont Lake. The Forest Service has agreed to notify the EPA in the event of a wildfire located within the Fremont Lake watershed, and the EPA would be included in any planning for prescribed fire treatments within this watershed.

**Natural disturbances** – There is an active natural landslide on the east side of Fremont Lake above Sylvan Bay. This landslide continues to contribute minor amounts of sediment and organic matter into Fremont Lake periodically. Due to the lake's size and volume of water, there have been no significant changes to the water quality in the lake from this landslide activity to date. The Forest Service advises the EPA immediately upon detection of landslide activity with potential to affect Fremont Lake.

Mountain Pine Beetle infestation is present throughout the project area and Douglas Fir Bark Beetle infestation is present within the southeastern portion of the project area within and adjacent to the Fremont Lake Campground, Sylvan Bay Day-Use-Site, Sylvan Bay Recreation Residence Tract, and the Half Moon Lake area adjacent to the project area.

**Summary of Cumulative Effects:** Past, present, and reasonably foreseeable management actions and uses that could affect resources in the Analysis Area include: dispersed camping, vehicular use on legally open roads, illegal off-road vehicle use, recreation trails, boating, fishing, swimming, livestock grazing, wildlife migration corridor, special uses (resort, yacht

club, 57 recreation residences), potential for sixteen private homes, special recreation events, and general overall increase in use due to the population growth in the Pinedale area and United States in general - in addition to the activities proposed in this document. Any further development beyond that listed above is not likely to occur around Fremont Lake due to limited access and rough terrain.

There are no known existing or proposed actions within or near the analysis area that would further affect resource or social conditions within the analysis area. Although there have been minor short-term effects from some of the activities identified in table 3.9.1, cumulatively they have not contributed to significant environmental effects. However, minor effects have been identified, and future cumulative effects can be expected if further actions are not taken to minimize these effects. The Fremont Lake Recreation Enhancement Project is specifically intended to improve resource and facility conditions to reduce cumulative effects within the assessment area.

Livestock grazing, vehicular use on roads, recreation trails, and the mule deer migration have been occurring for 75 years or more and are minor contributors to cumulative effects. Recreation oriented activities have changed the most and are likely to continue to change the most in the future. Recreation-related cumulative effects are best managed by design of facilities. If the Sublette County population or use of this area from out of the county or state increases significantly, (which is not projected over the reasonably foreseeable future), this will place more recreation pressure on the Fremont Lake area, and other options will need to be explored and implemented in the future.

### 3.10 Summary of Effects by Alternative

**Table 3.10.1 Summary of Effects by Alternative**

	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.1</b>	<b>RECREATION &amp; PERMITTED SPECIAL USES</b>			
<b>3.1</b>	<b>Unmanaged Recreation Use</b>	No change from existing condition; unmanaged recreation use continues to impact resources.	<p>Implements an integrated recreation management plan to improve visitor experiences and natural resource conditions throughout the assessment area.</p> <p>Implements dispersed camping restrictions in <u>1,057</u> acres within assessment area.</p> <p>Consolidates motorized vehicle routes within Stewart Flat.</p> <p>Prohibits motorized vehicles on groomed cross-country ski trails.</p> <p>Includes development of 70-person (or two 35-unit) group campsite within Fremont Campground to concentrate large group use within a developed site rather than in dispersed sites on Fremont Lake.</p>	<p>Implements an integrated recreation management plan to improve visitor experiences and natural resource conditions throughout the assessment area.</p> <p>Increases dispersed camping restrictions to <u>2,679</u> acres within assessment area.</p> <p>Consolidates motorized vehicle routes within Stewart Flat.</p> <p>Prohibits motorized vehicles on groomed cross-country ski trails and requires motorized vehicles to remain on designated routes within crucial Moose Winter Range.</p> <p>Does <u>not</u> include development of 70-person group campsite within Fremont Campground, which does not reduce large group dispersed camping on north and northwestern shores of Fremont Lake.</p>

			Does <u>not</u> include development of overflow parking area for Upper Fremont Boat Site.	Includes development of overflow parking area to relieve parking pressure on Upper Fremont Boat Site in or near southern end of campground for 10 vehicles with trailers.
<b>3.1</b>	<b>Facility Conditions</b>	No change from existing condition.	Improves Facility Conditions through replacement, reconstruction, and removal of substandard facilities.  Facility design is based on functionality, maintainability, ability to meet Health & Safety and ADA standards, and fit to the landscape niche.	Same as Alternative 2 but adds additional improvements to Lower Boat Site.
<b>3.1</b>	<b>Permitted Special Uses</b>	No change from existing condition.	Docks associated with Recreation Residences on south shore of Fremont Lake are required to be removed and/or consolidated.  Possible effect to Sylvan Bay Recreation Residences from addition of cross-country ski trail connecting Fremont Lake Rd #741 to Skyline Drive Road #740.  No effect to Lakeside Lodge Resort & Marina.  Improves conditions for Highland Ditch	Docks associated with Recreation Residences on south shore of Fremont Lake are allowed to remain until a separate NEPA analysis is completed.  No effect to Sylvan Bay Recreation Residence; no cross-country ski trail is added from Fremont Lake Rd #741 to Skyline Drive Rd #740.  No effect to Lakeside Lodge Resort & Marina.  Improves conditions for Highland Ditch

			with closure of dispersed camping in Stewart Flat.  No effect to Fremont Lake Dam or Fremont Ditch.  No effect to Chambers Bay Historic Cabin.  No effect to existing grazing allotment on west side of lake.	with closure of dispersed camping in Stewart Flat.  No effect to Fremont Lake Dam or Fremont Ditch.  No effect to Chambers Bay Historic Cabin.  No effect to existing grazing allotment on west side of lake.
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
3.2	<b>WILDERNESS, WSAs, IRAs, WSRs, RNAs, NRAs</b>	No change from existing condition.  Minor physical and social impacts continue within Bridger Wilderness at north end of lake from continued use of large groups between Fremont Lake and the Wilderness boundary.	Minor improvement of physical & social conditions inside Bridger Wilderness at north end of lake with development of 70-person group site within Fremont Campground, which would reduce use of north end of lake by large groups.  No effect to West Slope Winds IRA.  No effect to WSAs, WSRs, RNAs, or NRAs.	Minor physical and social impacts continue within Bridger Wilderness at north end of lake from continued use of large groups. However, 200' setback requirement from Fremont Lake may reduce the desirability of this site for use by large groups.  No effect to West Slope Winds IRA.  No effect to WSAs, WSRs, RNAs, or NRAs.
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
3.3	<b>VISUAL QUALITY</b>	No change from existing condition; visual quality continues to be impaired.	Improves Visual Quality by implementing actions that improve scenic conditions within analysis area.	Same as Alternative 2 Construction of an overflow parking site within or near the north end of Fremont Lake Campground is likely to impact to visual quality and camper experiences within the campground.

	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.4</b>	<b>CULTURAL RESOURCES</b>	No change from existing condition.	<p>Improves protective measures for Cultural Resources by closing expanding motorized routes in Stewart Flat/Pine Creek area and removing parking site and vault toilet in Sandy Beach Swim Area.</p> <p>Implements action to reconstruct CCC-era stoves in Sandy Beach Picnic Area pending SHPO concurrence.</p> <p>Implements a recreation management plan which includes interpretation of cultural resources within the assessment area.</p>	Same as Alternative 2
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.5</b>	<b>FISHERIES</b>	No change from existing condition.	<p>Improves Fishing Pier at Upper Fremont Boat Site and adds new breakwater and fishing access at Lower Fremont Boat Site.</p> <p>Improves parking facilities at Lower &amp; Upper Boat Sites, but parking capacity is <u>not</u> increased for either site.</p> <p>Improves ramp and dock system at Upper Fremont Boat Site and adds adequate drainage for both boat sites.</p>	<p>Improves Fishing Pier at Upper Fremont Boat Site and adds new breakwater and Fishing access at Lower Boat Site.</p> <p>Improves parking facilities at Lower &amp; Upper Boat Sites, expands parking capacity at Lower Boat Site, and adds overflow parking area for Upper Boat Site.</p> <p>Improves ramps and dock systems at Upper and Lower Boat Sites and adds drainage to both boat sites.</p>

			Provides better protection for fisheries habitat in Pine Creek area by closing area to dispersed camping and closing and rehabilitating unsurfaced road along creek.	Provides better protection for fisheries habitat in Pine Creek area by closing area to dispersed camping and closing and rehabilitating unsurfaced road along creek.
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.6</b>	<b>WILDLIFE</b>			
<b>3.6</b>	<ul style="list-style-type: none"> <li><b>Mule Deer Migration Corridor</b></li> </ul>	No change from existing condition	<p>Improves conditions for Mule Deer Migration Corridor by implementing dispersed camping restrictions and closing some motorized routes within Stewart Flat.</p> <p>Constructing a surfaced hiking/bicycle trail along Pine Creek from dam to boat site parking area has higher potential to impact mule deer migration corridor than the non-paved trail in Alternative 3, but has less impact than leaving the motorized road open along the creek.</p>	<p>Slight increase in positive effect to Mule Deer Migration Corridor with increased acres of dispersed camping restrictions adjacent to the lake.</p> <p>Constructing an unsurfaced hiking/bicycle trail along Pine Creek has less potential impact on mule deer migration than a paved trail or motorized road along the creek.</p>
<b>3.6</b>	<b>Crucial Moose Winter Range</b>	No change from existing condition	<p>Improves Crucial Moose Winter Range by restricting snowmobiles to designated roads and trails within winter range and prohibiting motorized vehicle use on groomed cross-country ski trails.</p> <p>Negatively impacts Crucial Winter Range</p>	<p>Improves Crucial Moose Winter Range by restricting snowmobiles to designated roads and trails within winter range and prohibiting motorized vehicle use on groomed cross-country ski trails.</p> <p>No new cross-country ski trail is developed</p>

			by developing a groomed cross-country ski trail through critical winter range between Fremont Lake Rd #741 and Skyline Drive Rd #740.	through Crucial Moose Winter Range.
<b>3.6</b>	<b>• TES Species</b>	No Effect	No Effect	No Effect
<b>3.6</b>	<b>• MIS Species</b>	No change from existing condition	No effect to MIS Wildlife Species.  Slight effect, but no significant effect to aspen within Fremont Lake Campground if 70-person group site is constructed in aspen.	No effect to MIS Wildlife Species.  Slight effect, but no significant effect to aspen within Fremont Lake Campground if overflow parking site is constructed in aspen.
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.7</b>	<b>WATER RESOURCES</b>	No change from existing condition.  Does <u>not</u> improve protection of water quality for Fremont Lake or Pine Creek.  Dispersed camping and campfires continue to be prohibited within DFC 9A and 9B (253 acres)	Improves Water Quality protection for Fremont Lake by implementing actions to minimize pollutants from recreation sources from entering Fremont Lake and Pine Creek.  Implements dispersed camping restrictions for <u>1,057 acres</u> within the assessment area and prohibits dispersed camping within 200 feet of Fremont Lake.  Redesigns existing recreation facilities, including adding drainage in boat sites, moving group site within Picnic area further from shoreline, and replacing older	Same as Alternative 2 but no 70-person group campsite is developed in campground, which does not reduce or eliminate dispersed camping by large groups on north and northwestern shores of Fremont Lake.  Implements dispersed camping restrictions for <u>2,679 acres</u> within the assessment area and prohibits dispersed camping within 200 feet of Fremont Lake.  Redesigns existing recreation facilities, including adding drainage in boat sites, moving group site within Picnic area further from shoreline, and replacing older

			vault toilets within assessment area.  Develops 70-person group campsite in Fremont Campground to reduce or eliminate dispersed camping on north and northwestern shores of lake by large groups.	vault toilets within assessment area.  No 70-person group campsite is constructed in Fremont Campground. Large groups continue to disperse camp on north and northwestern shores of lake.
	<b>Issue Topic</b>	<b>Alternative 1</b>	<b>Alternative 2</b>	<b>Alternative 3</b>
<b>3.8</b>	<b>SOCIAL &amp; ECONOMIC EFFECTS TO SUBLETTE COUNTY</b>	No substantial short or long-term change to social & economic conditions.	No substantial short or long-term change to social & economic conditions.	No substantial short or long-term change to social & economic conditions.
<b>3.8</b>	<ul style="list-style-type: none"> <li><b>Community Stability</b></li> </ul>	No change from existing condition	Improves Community Stability by improving recreation facilities, resource conditions, and the quality of recreation experience within the Fremont Lake Watershed.	Same as Alternative 2
<b>3.8</b>	<ul style="list-style-type: none"> <li><b>Maintenance of Custom, Culture, &amp; Economic Stability</b></li> </ul>	<p>No change from existing condition.</p> <p>Dispersed camping/living in the Stewart Flat/Pine Creek area will continue to lead to recreational impacts to this area.</p> <p>Accumulation of trash, visual quality disruption, and sanitation issues along Pine Creek will likely increase</p>	<p>No effect to harvesting of forest products or oil &amp; gas development.</p> <p>Improves Custom, Culture, and Economic Stability of Sublette County by implementing actions which are designed to improve protection of resources which serve to attract tourists to this area, including improved scenic conditions and better protection for historic sites within the analysis area.</p>	Same as Alternative 2

		over time with this alternative.		
<b>3.8</b>	<ul style="list-style-type: none"> <li>• <b>Conservation &amp; Use of Environment and Natural Resources</b></li> </ul>	No change from existing condition	Facility improvements will help protect natural resources such as water quality, fisheries and wildlife habitat.	Same as Alternative 2
<b>3.8</b>	<ul style="list-style-type: none"> <li>• <b>Existing Multiple Uses in Sublette County</b></li> </ul>	No effect to existing multiple uses.	<p>No significant change in multiple uses within the analysis area.</p> <p>Motor vehicle use is further restricted, primarily within the Stewart Flat and Pine Creek areas, to reduce conflicts and impacts relating to:</p> <ul style="list-style-type: none"> <li>-mule deer migration</li> <li>-moose winter range</li> <li>-scenic integrity</li> <li>-water quality</li> <li>-sanitation</li> <li>-cultural resources</li> <li>-winter ski trails</li> </ul>	Same as Alternative 2