

CHAPTER III AFFECTED ENVIRONMENT

This chapter explains the current condition of resources in the analysis area that are related to the issues. These resource conditions form the basis for determining what changes and impacts would occur should each alternative be implemented.

Lakeside Lodge Resort and Marina – History/Current Status

Lakeside Lodge Resort and Marina, owned by High Plains Marina, LLC, is located approximately three miles north of Pinedale, WY on the Pinedale Ranger District, Bridger-Teton National Forest. All existing facilities are located on the south shore of Fremont Lake in the SE ¼ of section 23, T34N, R109W, (See Vicinity Map). High Plains Marina, LLC operates the existing resort under Special Use Permit issued by the Bridger-Teton NF.

Lakeside Lodge Resort and Marina is a lake based resort providing a large number of services to the public including boat storage and rental, overnight accommodations in duplex cabins or campground sites, food service, and boat gasoline and oil. The resort is authorized to operate now from May until November. For the last two seasons the resort has been granted temporary authorization to operate the restaurant during the winter months (Nov-May) to test the demand for that service.

Lakeside Lodge Resort and Marina has operated since the early 1950's when the first Special Use Permit was issued by the Bridger National Forest. High Plains Marina, LLC purchased the resort in 1994 and were issued a 20 year term Special Use Permit. Previous owners of the resort have added authorized structures and facilities over time. Substandard construction techniques and minimal maintenance over time resulted in an infrastructure with unacceptable safety and health concerns for the present owners.

The current owners of Lakeside Lodge Resort and Marina have made significant improvements to the existing resort facilities including:

- Stabilizing/renovating the existing lodge and reconstructing the decks and walkways around the lodge.
- Replacement of existing docks and boat gasoline storage/service.
- Remodeling the three existing cabins and shower house.
- Replacement of an old 10-unit motel with six new duplex log cabins.
- Replacing the existing electrical service to standard.
- Replacing most of the existing septic tank /leach fields.
- Upgrading the existing potable water system to current EPA Standards.
- Improvement of the road system.

Current Operations

The restaurant and banquet facilities are currently housed in the recently renovated (1995) log structure. Meeting and banquet space are available for rent in the upstairs banquet room, as well as in the restaurant and waterfront deck.

Overnight accommodations are available in 9 duplex cabins. Electricity is provided to all rental cabins. Toilet and shower facilities are available in the six new cabins, but are not in the original three cabins. A bathhouse provides those services to the three cabins.

Twenty campground sites with full hookups are available for rent. Several of these sites are located within 30 feet of the shoreline. The marina provides day use and monthly rental boat slips for boats up to 22 feet, and provides gas and oil. Boats, canoes, kayaks, and windsurf boards are available for rent.

Support Facilities (maintenance shop, laundry, potable water system, etc.) are housed in 1,000 sq. ft. wooden outbuilding which is deteriorating and in need of replacement. A new water supply system and a new sanitary system with alarms were installed in 1996 to service the newer cabins. Some of the facilities still operate on the old septic system, which does not include alarms.

Current Operating Season

Summer/Fall – The resort is open, providing full services seven days per week from May 1st to November 1st.

Winter/Spring – The resort was authorized to operate the restaurant for four days per week during the winter of 2002/2003 and 2003/2004 to test the demand for this service. providing reduced services from November 1st to May 1st. The facilities that would remain open are as follows:

ISSUE #1 – The increased sewage from the proposed septic tanks and drain fields will leach into Fremont Lake affecting water quality and the Town of Pinedale's Water System.

The sewage system has been carefully planned for the existing development as well as the Proposed Action. The sewage enters septic tanks and then is pumped to drain fields located near the Fremont Lake Road, over 600 feet away from the lakeshore. The system has an alarm and, in case of a failure, automatically shuts off, preventing sewage from entering the lake. This sewage system has been approved by the Wyoming Department of Environmental Quality (DEQ) and meets the DEQ standards, (A copy of this permit is available for review in the Project Record at the Pinedale Ranger District Office). Future additions to the sewage system also requires monitoring wells to be drilled between the drain fields and the lake to determine if there are any contaminants flowing underground toward the lake.

The groundwater was studied by Consulting Geologist Frank Bain 2003 to determine the groundwater flow. The objective was to determine if the groundwater flowed toward the lake or away from the lake. The static water elevation was measured in 42 wells south of Fremont Lake including wells for Lakeside Lodge, the summer homes, and the private homes near the lake. Only wells with a depth of 100 feet or greater were used. The study indicates that the hydrologic gradient dips or flows to the southwest, away from Fremont Lake and basically follows the course of Pine Creek. Therefore, the conclusion is that liquid deposited in the wastewater drain fields would flow away from the lake rather than towards the lake. (See Appendix A for the complete report completed by Frank Bain, Consulting Geologist).

The above report is further validated by a report completed by Wester-Wetstein & Associates, Inc, (Consultants in Engineering and Hydrology), in a report for the Lakeside Lodge expansion to locate and perform preliminary design of monitoring wells for the on-site wastewater system. In that report, they concluded that the significant groundwater flowed away from the lake on a rather steep gradient. This report is part of the project record and can be viewed at the Pinedale Ranger District Office.

It has also been hypothesized by members of the public that water from the drain fields in the wastewater system would saturate the soil to a depth where the till from the 4th advance of ice meets the till from the third advance of ice and flows along an impervious clay layer back toward the lake. There is no indication that this would happen, since the materials in the glacial till from all four advances of ice are sand and rock. Therefore, water would flow down through the various till layers until it reached bedrock. Bedrock, an impervious layer, is several hundred feet from the surface, there is little likelihood that the soil would saturate to bedrock and flow back toward the lake. (See Appendix A, Hydrologic Investigation by Frank Bain, Consulting Geologist).

Currently, a new onsite wastewater treatment facility manufactured by Hydro-Action, Inc is being investigated for use at Lakeside Lodge Resort. This new type wastewater system does not require the standard septic tank and drain field. Liquid and solid effluent enters a tank and is mixed and oxygenated to purify the water. The water is 96% pure when exiting the system and can be used for watering landscaping, etc. even in close proximity to the lake. The system has been approved by the Wyoming DEQ for use and is being strongly considered by the owners of Lakeside Lodge Resort and Marina.

A water quality sample program was implemented in 1997 as a result of the Watershed Management Agreement and Memorandum of Understanding signed by the USDA Forest Service, The Town of Pinedale, and The Environmental Protection Agency. The Town of Pinedale takes water samples at four locations on the lake corresponding to potential areas of water quality degradation, (See Appendix B Map for locations). Lakeside Lodge Resort and Marina finances the one sample taken adjacent to the resort. The samples are taken three times per year in June, July and September. The samples are sent to various labs for analysis. Three types of analysis are completed as follows:

1. Bacteriological – Total Coliform Bacteria and Fecal Coliform Bacteria.

2. Chemical – Complete analysis for the presence of chemicals that may be harmful to persons drinking the water, including lead, copper, zinc, and nitrates.
3. Microbial – Presence of Giardia and Cryptosporidium cysts.

The results of the water quality sample program indicate no water quality degradation in Fremont Lake since the sampling program was started, (A complete record of the water sample program can be reviewed at the Pinedale Town Hall). All parameters analyzed have been within established standards and no problem areas have been identified. The June 1998 samples taken near Lakeside Lodge and the Upper Fremont Lake Campground/Sylvan Bay Summer Home area indicated one Giardia Cyst at each location. All other samples during the seven-year period indicated no presence of Giardia or Cryptosporidium.

The following mitigation measures will be added to all action alternatives to ensure wastewater systems are built to standard:

1. All required permits will continue to be obtained from Sublette County, the State of Wyoming, and the US Army Corps of Engineers. These permits will include Septic Tank/Drain Field permits, Building Permits, Permit to Construct, Storm Water Permit, Section 404 Permit, Underground Injection Control Permit, etc.
2. Copies of all required permits issued by the State of Wyoming, Sublette County, and the US Army Corps of Engineers will be submitted to the Pinedale Ranger District, the Town of Pinedale, and the US Environmental Protection Agency.

ISSUE #2 – The proposed Master Development Plan violates the Watershed Management Control Agreement between the Town of Pinedale, the US Environmental Protection Agency (EPA), and the USDA Forest Service, which will result in decreased water quality in Fremont Lake.

Fremont Lake is the drinking water source for the Town of Pinedale. This 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. However, 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 system. The Town of Pinedale chlorinates, but does not filter the water. Instead it relies upon protecting the water from pathogens such as Giardia, viruses, and Cryptosporidium through its Watershed Management Control Plan, first established in 1993. The plan incorporates source water monitoring at various locations in Fremont Lake as well as a Memorandum of Understanding agreement between the US Forest Service, the EPA, and the Town of Pinedale.

The Town is committed to providing safe drinking water to the residents, however it does not want to expend funds for the filtration system if it is not needed. The Town of Pinedale estimates that a filtration system would cost the Town close to one million dollars to install and would significantly increase maintenance costs.

The Safe Water Drinking Act, 42 U.S. 300 (g), establishes the statutory authority to regulate public water systems and gives the Environmental Protection Agency the regulating authority to administer the Act. The Town of Pinedale operates a community water system and is therefore subject to the Act 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, (The Plan), that meets the above criteria was developed by Johnson-Fermelia Company, Inc. for the Town of Pinedale. A Memorandum Of Understanding (MOU) was developed and signed which outlined a cooperative management strategy to be implemented by the Town of Pinedale and the Bridger-Teton National Forest. These actions were completed from 1991-1994. All the requirements of the consent order were met, and The Plan and MOU were accepted by the EPA. The management within the watershed has been in accordance with above agreements since that time. (Copies of those documents are available at the Pinedale Ranger District Office or the Pinedale Town Hall.)

The Pine Creek Watershed is 196 square Kilometers and 99% of the watershed is on National Forest System Lands. The other 1% is either Bureau of Land Management administered lands or private land. Approximately 80% of the watershed is located in the Bridger Wilderness. Fremont Lake is approximately eight miles long, one half mile wide, and 600 feet deep at its deepest point.

The Watershed Management Control Plan recognizes that Lakeside Lodge and Marina intends to expand its operations through development of a new Master Development Plan at some point in the future, and that it represents a potential source of contamination to Fremont Lake. It also recognizes that potential contamination from the sewage system is unlikely, since the discharge from the system is pumped to a leach field installed approximately 600 feet from the lakeshore on a bench.

The objective of the Watershed Management Control Plan and MOU was not to prevent development within the watershed, but to protect the water quality of Fremont Lake and thus the water quality of the water furnished to the residents of Pinedale. All activities within the watershed are reviewed with the Town in accordance with the MOU analyzing the potential of the activities to contaminate Fremont Lake. The proposed Master Development Plan for Lakeside Lodge Resort and Marina was developed with the watershed management criteria at the forefront. The proposed septic system upgrades actually will reduce the potential for contamination of Fremont Lake from sewage discharges by pumping all sewage discharge to leach fields 600 feet away from the lakeshore and by adding alarms and shut-offs to the entire system. Alarm systems installed in 1996 automatically shut the sewage system down if a problem with the system is noted. However, the older portion of the septic system does not yet have alarms installed.

The owners of Lakeside Lodge and Marina have participated in a water quality monitoring program in conjunction with the Town of Pinedale since the water sampling program was begun. Samples are taken by the Town of Pinedale at points near the Lakeside Lodge development and analyzed for contamination. No contamination has been noted in any of the samples. (See water sample results contained in Appendix B). Therefore, there has not been a violation of the Watershed Management Plan or the MOU with this proposal.

In addition, the following Monitoring Requirements were added to the Proposed Action and Alternatives #2, #3, and #4:

1. The existing water-quality monitoring plan will be reviewed and updated, if needed, in conjunction with the Town of Pinedale and the EPA to sample and test water quality in Fremont Lake adjacent to the resort. This plan will include water sampling schedule, sample locations, and type of analysis to be conducted. If the samples indicate a lowering of the water quality in the lake or the presence microorganisms, all construction activities at Lakeside Lodge will cease and operations will be suspended until the location of the pollution source is found and problems are corrected. Copies of the sampling results will be submitted to the Town of Pinedale, The Wyoming Department of Environmental Quality, the Pinedale Ranger District, and the US Environmental Protection Agency.
2. Drinking water testing will be continued as required by the Environmental Protection Agency. Results will be submitted to the Pinedale Ranger District.

ISSUE #3 – The increase in recreation visitors to the resort will increase the amount of trash, will increase the number of pets, and will trample out vegetation along the lakeshore causing increased sedimentation and a lowering of the water quality in Fremont Lake.

The Proposed Action would increase the capacity of the resort from 149 persons at one time to 496 persons at one time. Alternative #2 would increase the capacity of the resort from 149 persons at one time to 367 persons at one time. Alternative #3 would increase the capacity of the Resort from 149 persons at one time to 301. Alternative #4 would increase the capacity of the resort from 149 persons at one time to 346. The resort, from May until November, would probably operate at less than ½ the capacity overall and would operate near capacity during the months of July and August. The resort during the winter operation would operate at less than 10% of capacity. This is a significant increase in the number of recreation visitors at Lakeside. This will require, under terms of the Special Use Permit, an intensive management program to insure problems of increased use do not adversely affect the site or Fremont Lake.

Lakeside Lodge Resort and Marina is required, through the terms of the Special Use Permit, to protect the site from use generated through the operation of the resort. The terms of the Special Use Permit include protection of existing vegetation, prevention of erosion and siltation, refuse cleanup and disposal, and other actions that would adversely affect the environment at Fremont Lake. If the terms of the permit are not met, then the permit can be suspended or revoked.

Lakeside Lodge Resort and Marina has already adopted a management policy that restricts pets to the following, (See Appendix B):

1. All dogs must be on a leash within 200 feet of the lake.
2. No dogs are allowed to swim at the south shore of the lake.

3. All dog waste within 200 feet of the lakeshore must be picked up and disposed of properly.

The following mitigation measures were added to the Proposed Action and Alternatives #2, #3, and #4 and will be incorporated into the Lodge's Annual Operating Plan to ensure that any unacceptable effects of increased recreation use will be minimized:

1. The Pets' Policy will be expanded to include all pets and the leash requirement will be for the entire permit area.
2. All refuse and pet waste will be picked up daily, especially within 200' of the lakeshore.
3. Existing vegetation along the lakeshore will be protected. If vegetation is disturbed or lost, the area will be promptly re-vegetated according to the landscape and erosion control plans. As a general rule, vegetation that is screening development from view will be replaced in kind.

ISSUE #4 – The proposed Master Development Plan will increase the number of boats, increasing the likelihood of oil and gasoline spills into Fremont Lake.

The proposed Master Development Plan will increase the number of boats at the resort from the existing 31 boats to 80 boats being stored on the water, and will continue to authorize 40 boats/trailers stored in dry storage. This will increase the potential of oil and gasoline spills into the lake. However, there have been no known gasoline or oils spills from boats at the resort since the present owners have operated the resort. The boat gasoline storage, dock and delivery system have been rebuilt to present day standards as required by the Wyoming Department of Environmental Quality (DEQ) and the US Forest Service. The DEQ also requires that a spill containment plan be prepared and implemented if a spill occurs. This plan has been developed and all the necessary equipment is on site to contain a spill if it occurs.

ISSUE #5 – The proposed boat septic holding tank/pump station will increase the likelihood of sewage spills directly into Fremont Lake, degrading water quality.

Currently there is no sewage pump station available for boats on Fremont Lake. The proposed system would be a portable system that is moved to a boat desiring to have its holding tank pumped. The system uses a tank and hoses that connect to the boat directly. When the hose is connected correctly, a pump is started and the sewage from the boat is pumped into the portable tank on the dock. If a hose breaks or becomes disconnected the pump automatically shuts off, thus, minimizing the chance of spills into the lake. When the boat holding tank has been pumped, the portable system is removed to a safe area away from the lake and pumped into the wastewater disposal system.

There is very little potential for spills into the lake from this system and it is used extensively in the United States at marinas. This system also provides a way for boaters

to have the holding tanks on their boats pumped and thus they are not tempted to discharge their holding tanks directly into the lake.

ISSUE #6 – The proposed Master Development Plan will destroy valuable Cultural Resources in that area.

Archeological investigations conducted along the south shore of Fremont Lake over the last 20 years have documented a number of prehistoric sites. These sites appear to be temporary campsites that were used on a seasonal basis. Artifacts recovered from the sites indicate that a wide range of activities were taking place, such as plant and animal processing, tool manufacturing, hunting, fishing, and other domestic activities. Many of these sites have buried cultural material and have been determined to be eligible for the National Register of Historic Places.

Fremont Lake has also been extensively used during historic times. Many of the early trappers and explorers visited the lake, and by the early 1900's, the lake was becoming a recreation destination. Development of this recreation industry began in 1921 with the approval by the Forest Service for the construction of a number of Summer Homes along the south shore of the lake. A campground was also constructed by the Forest Service at Sandy Beach during that time. In 1950 the Forest Service issued a Special Use Permit to Charles Story for the development of Lakeside Lodge. Recreation use along the south side of Fremont Lake has increased since the mid 1900's. Much of this activity has likely had a cumulative effect on the cultural resources in the area. Some prehistoric sites have been damaged by construction activities, and unauthorized artifact collecting by the recreating public has resulted in the loss of significant archeological material. The Forest Service currently monitors many of these sites on a yearly basis to insure that further damage is avoided.

A cultural resource inventory was conducted for Lakeside Lodge Resort and a report detailing the results of that inventory has been reviewed by the Wyoming State Historic Preservation Office, (SHPO). There are a total of four sites within the existing resort permit boundary. Three of these sites are prehistoric and one is historic.

Prehistoric site 48SU1918 and SU1919 are small lithic scatters with little potential for buried cultural material. Both sites have been determined by SHPO to be not eligible for the National Register. No further work is needed to protect or preserve these two sites. Prehistoric site 48SU972 is a large site with extensive buried cultural material. Material recovered from the site, indicate it was likely a temporary campsite used on a seasonal basis. Radiocarbon dates obtained from the site indicate that it was used repeatedly from 6,880 years ago to about 1,500 years ago. The site has been determined by SHPO to be eligible for the National Register. The best method for protecting this site is to have all future development activities avoid this site area. Adjusting the permit boundary to exclude the site from the permit area is the best method for avoiding the site. If avoidance is not feasible, then a data recovery plan would have to be developed in consultation with SHPO. This data recovery plan would result in excavation in order to

recover significant archeological materials. The excavation would be required prior to any construction activities within the site boundaries.

Historic site 48SU5073 consists of three log cabins and the log bathhouse that date to the earliest use of Lakeside Lodge. These structures were built in the late 1940's or early 1950's. The original resort consisted of the main lodge, five guest cabins, and a log bathhouse. In 1966 the owners of the lodge leveled an area for a motel and a trailer park, and in 1975 the main lodge was remodeled. The lodge was torn down in 1985 and a new lodge and maintenance shed were constructed. The three old existing cabins and the bathhouse that were a part of the original Lakeside Lodge development were evaluated for the National Register and were recommended as not being eligible. No further work is needed to protect or preserve these structures.

ISSUE #7 – The proposed Master Development Plan will unacceptably degrade the esthetics on the south shore of Fremont Lake.

The Fremont Lake area is high in visual sensitivity and high in scenic quality, therefore protection of the scenic quality is of high importance in the area. The visual quality objectives, as prescribed in the Bridger-Teton NF Land and Resource Management Plan, are Partial Retention or Modification. In order to meet these objectives, management activities or development activities must remain visually subordinate to the natural landscape; or may dominate the view, but must harmonize or blend into the natural landscape.

Existing Visual Quality

There are several developed areas adjacent to the south end of the lake affecting the visual quality in the area as viewed from Forest Service Road #740 (Skyline Drive), Forest Service Road #741 (Fremont Lake Road), and Fremont Lake itself. These developments are as follows:

1. Private homes/land at the south and southeast end of the Lake.
2. Sandy Beach Swim Area/Group Picnic Area and the Lower Boat Ramp located along the south shore; operated by the US Forest Service.
3. Forest Road # 740 & 741
4. Lakeside Lodge Resort and Marina on the south shore
5. 13 Summer Homes located on the south shore and operated under Special Use Permits.
6. A Boat Ramp and Storage Building operated under Special Use Permit to the Sylvan Bay Summer home Owners, (Yacht Club).

The overall area at the south end of Fremont Lake has a significant amount of development. The visual quality of the development, for the most part, is relatively good. The summer homes, yacht club, and Lakeside Resort are mostly screened from view from Fremont Lake Road by landform and vegetative screening and are partially screened from

view from Fremont Lake. Also many of the structures are rustic in nature with wood type siding, dark metal or shingle roofs and vegetation around them soften the hard architectural features. The most notable exceptions are the private homes in the area. There is no vegetative or landform screening from the major viewpoints and they tend to dominate the view, (See Photograph 7).

The existing rustic nature of the development at Lakeside Resort overall is good. The nine existing cabins are almost totally screened from view from Fremont Lake and Fremont Lake Road, (See Photographs 1&2). The materials are log construction with dark brown metal or shingle roofs. The color of the cabins is dark brown, which tends to make them less visually dominant, (See Photograph 3). The restaurant and marina are almost totally screened from view from Fremont Lake Road, but are visually dominant as viewed from the lake. Vegetation, adjacent to the restaurant, helps to soften the view. The restaurant is a log structure with a dark brown metal roof. The building and decks are attractive and well maintained. The existing breakwater structures are native rock and are mostly beneath the water surface, (See Photograph 4). The existing campground units are mostly screened from view both from Fremont Lake and Fremont Lake Road. The most negative visual features at the resort are the boat/miscellaneous vehicle storage parking area and the old existing maintenance building, (See Photographs 5 & 6). These features are viewed from Fremont Lake road. There is little screening of these features.



PHOTOGRAPH #1



PHOTOGRAPH #2



PHOTOGRAPH #3



PHOTOGRAPH #4



PHPTGRAPH #5



PHOTGRAPH #6



PHOTOGRAPH #7

Planned Visual Quality

The objective for future development at Lakeside Lodge Resort and Marina is to make the resort appear as rustic as possible and to minimize the visual resource effect on the landscape as viewed from the identified viewpoints. This is accomplished by using the following techniques:

1. Locate developments so they are screened from view from identified viewpoints either through the use of existing topography, mounds, or vegetation.
2. Use colors, textures, and materials that blend as much as possible with the natural colors, textures, and materials.

The following mitigation measures were added to all alternatives evaluated except the No Action Alternative:

1. All exposed soil resulting from construction activities will be re-vegetated. A Revegetation Plan will be developed that will include vegetation species to be used (Native Species), timing (Initial re-vegetation to establish ground cover to be implemented in the same season as the construction), mulch if needed, etc.
2. An Erosion Control Plan will be developed. The objective of the plan will be to minimize erosion through construction techniques and to maintain any resulting sediment on site. Techniques to be used will be stockpiling of existing topsoil for re-vegetation purposes, sediment traps, silt fences, water bars, and re-vegetation of exposed soils.
3. Existing vegetation along the lakeshore will be protected. If vegetation is disturbed or lost, the area will be promptly re-vegetated according to the landscape and erosion control plans. As a general rule, vegetation that is screening development from view will be replaced in kind.
4. High Plains Marina, LLC will provide a Landscape Management Plan to the Pinedale Ranger District for approval prior to construction of any new facilities. The plan will include the use of earthen mounds, vegetation, and possibly structures to screen development from view as viewed from Fremont Lake Road and Fremont Lake. The plan will contain the following components:
 - Seeding/planting of areas disturbed during construction including species to be planted and timing.
 - General landscaping including species of plants to be planted and the timing of the landscaping.
 - Protection of existing vegetation during construction.
 - Ongoing maintenance and protection of landscaping during operation.
 - All facilities will be constructed from materials that blend with the natural environment.

ISSUE #8 – The increase in traffic to and from the resort will create safety problems and increase road maintenance.

Lakeside Lodge is approximately three miles from Pinedale. Access is via County Road 23-154 for 2 1/2 miles and Fremont Lake Roads (FS Road #741 and #749) for 1/2 mile. County Road #23-154 is a two-lane paved road that is 26ft wide. It has adequate shoulders on the road for people to pull off and is a high standard road with adequate sub-base to withstand the freeze/thaw action in the spring and fall. Forest Service Roads #741 and #749 are two-lane paved roads 22 feet in width. These roads have no shoulders. The sub-base is not adequate and surfacing is shallow, making these roads susceptible to break up due to freeze/thaw action in the spring and fall. This action cracks and breaks up the pavement. When traffic then runs over the pavement, it accelerates the break up. The more traffic the road receives then the faster the breakup of the pavement. The level of traffic on the road now is moderate.

There will be an increase in traffic over time from the existing level of development to the Proposed Action. This increase will occur over a ten to fifteen year time span depending upon the implementation of the Master Development Plan. The traffic associated with the resort will only be near maximum for two months out of the year, since the resort will only be operating at maximum levels during the July and August time frames. During the rest of the operating season, the resort will probably be operating at 50% (or less) of full capacity.

Traffic Safety – Due to the short distance from Pinedale, the standard of the access roads overall, and existing level of traffic, the road is adequate to support the increased traffic from the proposed development safely, with the exception of potholes, which will be repaired annually through a maintenance agreement.

Road Maintenance – County Road 23-154, which has recently been reconstructed, is designed well to withstand the increase in traffic without substantially increasing road maintenance costs. Forest Service Roads #741 and #749 are paved and receive substantial damage each year due to freeze/thaw action. The road requires pothole repairs annually to keep the road surface intact. The effect of increased summer and winter traffic on that road is likely to increase repairs annually. The road from the intersection to the resort is only 1/2 mile in length and would therefore not increase the road maintenance costs significantly. A road maintenance plan will be jointly developed with Lakeside Lodge, the Town of Pinedale, and the Pinedale Ranger District to address annual maintenance and repair needs.

ISSUE #9 – The increase in recreation visitors will increase noise in the area, affecting the existing summer-home owners and the recreating public.

The noise level at the present time is relatively quiet for most of the year. The greatest noise would be during the peak recreation season, which occurs during the months of

July and August. The following developed areas exist along the south shore of Fremont Lake and contribute to noise levels at peak use times:

- Forest Service Roads #741 and #749, which access all the developed and dispersed areas on the south shore.
- Forest Service Road #740 – Skyline Drive
- Sandy Beach Swim and Group Picnic Area
- Lakeside Lodge and Marina
- 13 Recreation Residents (Summer Homes)
- Lower Fremont Lake Public Boat Ramp
- Sylvan Bay Boat Launch and Boat Storage
- CCC Ponds Fishing Area
- Private Homes
- Town of Pinedale Water System

These developments all contribute to noise levels on the south shore of Fremont Lake now, therefore the area is not a quiet, pristine area.

With the increase in recreation visitors at Lakeside Lodge, the noise level will increase. It is difficult to predict how much and how noticeable it will be. Since the visitors at Lakeside Lodge Resort and Marina, to a large degree, are seeking a quiet place to recreate at a lake, it is doubtful the noise level will increase significantly. As development increases over time and noise does become a problem, then Lakeside Lodge will be required to institute policies to keep the noise levels within acceptable levels; ie, quiet hours at night, restrictions on large events, etc.

ISSUE #10 – The proposed Master Development Plan may affect habitat or the existence of Threatened or Endangered (T&E) species of wildlife and fish.

Species Not Considered Further in this Assessment

- Ute ladies’-tresses
- Mountain plover
- Black-footed ferret
- Kendall Warm Springs dace

Ute ladies’-tresses – In Wyoming, Ute ladies’-tresses occurs on low, flat floodplain terraces or abandoned oxbows within close proximity to small perennial streams. Wyoming populations have been found between 4650 ft and 5420 feet. Ute ladies’-tresses is currently known from four locations in southwestern Wyoming (Fertig 2000). This plant also occurs along the Snake River in Idaho, roughly 60 miles downstream from Jackson Hole (Jones 2000). Surveys to locate this species have been conducted on the National Elk Refuge (Fertig 2000), along the Snake River from Palisades Reservoir to South Park (Moseley 1998), and on BLM lands along the Snake River (Jones 2000). To date, no plants have been found despite the presence of suitable habitat. The highest

occurrence of this species in Wyoming and Idaho is 5420 feet, respectively (Fertig 2000). Jones (2000) concluded that the Jackson Hole valley may be too high to support populations of Ute ladies'-tresses and suggested further survey work was unwarranted. Fremont Lake and the surrounding area are located at approximately 7400 feet in elevation. For these reasons, this species is not addressed further in this document. The proposed action should have **“no effect”** on Ute ladies'-tresses or their habitat.

Mountain plover and black-footed ferret – These species will not be considered in this assessment because they are associated with habitats not found in the project area. The proposed action should have **“no effect”** on mountain plover and black-footed ferret or their habitats.

Kendall Warm Springs dace- The only known location of Kendall Warm Springs dace is within Kendall Warm Springs (Spahr et al. 1991) located in portions of Section 2, T38N, R110W, on the Pinedale Ranger District 32 miles north of Pinedale. Lakeside Lodge and Marina project area is located 3 miles north of Pinedale. With approximately 28 miles straight-line distance between Kendall Warm Springs and the Lakeside 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.

Species Evaluated Further in this Assessment

Bald eagle
Canada lynx
Gray wolf
Whooping Crane
Grizzly bear
Colorado River Endangered fishes

Bald Eagle

Bald eagles typically nest within a mile of a perennial stream course or lakeshore. They build large stick nests and tend to select tall, large diameter conifers or cottonwoods as nest trees. Snags or other trees with accessible limbs are frequently used for perches. Most eagles return to their nest sites and begin breeding activities in early February to mid-March. Chicks hatch in late March or early April and fledge by late June or July. Bald eagles primarily feed on fish and waterfowl during the summer, while ungulate carrion and waterfowl make up the bulk of the winter diet (Clark et al. 1989; Spahr et al. 1991).

Winter behavior of bald eagles varies widely. Some migrate, some remain in the vicinity of their nesting territory, and some stay within the “region” (Greater Yellowstone Area), but not near their nest territories. Resident birds may migrate completely out of the region while other eagles that nest to the north (Canada or Alaska) migrate into the region during winter. Documented eagle movements within the Greater Yellowstone Area

(GYA) often cover several hundred kilometers per day and appear to be in response to changes in habitat and prey (Harmata and Oakleaf 1992). During the winter bald eagles are typically food-stressed and are therefore susceptible to activities that influence their foraging patterns (Stangl 1999). Eagles usually return to their breeding territories in early February.

There is one known nest near the project area near Little Soda Lake, approximately 5.4 miles from the proposed project area. The nest was discovered in 1999 and has been an active nest site each year. Another nest is located on the southeast shoreline of Half Moon Lake, approximately 5.8 miles from the project area. Numbers of bald eagle nesting pairs are starting to increase in the Green River valley and there is potential for another nesting pair on Little Soda Lake (Susan Patla, pers. comm.).

Important Interactions: Bald eagles are particularly vulnerable to human disturbance near their nest sites. Eagle sensitivity varies by individual, time of year, weather and condition as well as other factors. The Greater Yellowstone Bald Eagle Management Plan (GYBEWG 1996) recommends application of nest site management zones, a progressive series of spatial and temporal zones around a nest site, to protect eagles from disturbing activities during the sensitive nesting and brood-rearing phases. The Greater Yellowstone Bald Eagle Management Plan (GYBEWG 1996) is applicable to nest sites in the analysis area due to the close proximity of the nest to the Greater Yellowstone Ecosystem. The Greater Yellowstone Bald Eagle Working Group (GYBEWG) identifies the breeding and nesting season as 1 February through 15 August.

The proposed action is beyond all nest site management zones. A portion of Fremont Lake and surrounding shores are located in Zone III of the Little Soda Lake nest site. Zone III is all potential foraging habitats within 4 km of the nest. Suggested management direction in Zone III calls for human activity levels being no more than moderate year round, limiting impacts to prey species, maintenance of important habitat features (e.g. perch trees, snags, nesting habitat, etc.), limitations on permanent developments and those that may increase human activity levels, and avoidance of pesticides (GYBEWG 1996).

Canada Lynx

The Canada lynx was listed as a threatened species in March of 2000. Lynx are also considered a Priority 2 Species of Special Concern by WGFD and have been protected from harvest since 1973. They are considered rare residents of Wyoming. It is expected undocumented animals may exist in the area in suitable habitat.

Important Interactions: The primary forest types used by lynx in the western United States are lodgepole pine, Engelmann spruce and subalpine fir (Agee 1999). Forest cover consisting of a variety of stand ages and structures can provide both denning and foraging habitat.

Foraging habitat for lynx has typically been described in terms of suitability for their primary prey, snowshoe hares. Throughout their range, hares are predominantly associated with forests that have a well-developed understory that provides protection from predation and supplies them with food. Such habitat structure is common in early seral stages but may also occur in coniferous forests with mature but relatively open overstories (Hodges 1999). Buskirk et al. (1999) suggested that snowshoe hare abundance should be high in sapling and old, “gap phase” forests, where tree mortality and snag loss created gaps in the canopy that allowed increased understory production. Thus, foraging habitat could be defined as either sapling or old forest structures with high densities of small diameter stems 1-3 m high.

The breeding season for lynx occurs from March to May, and kittens are usually born in May or June in a den. Denning habitat is defined by the presence of ground-level structures that provide security and cover for kittens. Suitable structures are often found in old and mature forests with substantial amounts of coarse woody debris; however, it may also be provided by early successional forests where wind throw and snags are present (Aubry et al. 1999). Lynx are mainly nocturnal and crepuscular (Ruediger et al. 2000), but can be active at any time of day.

Other forest structural stages, such as closed-canopy mid-age to mature forests with little understory cover, are generally not selected for either foraging or denning, but may serve as travel habitat (Aubry et al. 1999). Lynx may avoid recent clearcuts that are more than 100 m wide because they lack sufficient cover (Aubry et al. 1999). Hares essentially avoid new clear-cuts, young stands of re-growth, and open areas (Hodges 1999).

Witmer et al. (1998) identified two issues of primary concern for conservation of lynx. These include: conservation of appropriate mosaics of seral stages in boreal forest habitat and harvest and human disturbance. In the Lynx Conservation Assessment and Strategy (LCAS), Ruediger et al. (2000) also identified a list of factors that may affect lynx productivity, mortality, or movements. Impacts to the lynx will be assessed by the degree to which the project complies with relevant conservation measures in the LCAS (Ruediger et al. 2000).

Historically lynx occurred in low densities in northwestern Wyoming (McKelvey 1999). Lynx have been documented near the Lynx Analysis Unit (LAU) of the project area in the 1960's and 1970's. Most reports occurred in the 1970s and 1980s and are widely distributed. Currently, lynx are known to occur in the Wyoming Range (Squires and Laurion 1999). A radio collared adult male made seasonal movements as far south as the head of La Barge Creek/head of the Grey's River, traversed the Wyoming Range, and also moved through the Upper Green, Union Pass, and Togwotee Pass areas. This lynx died of starvation in February 2002. Lynx are wide ranging and therefore others could be present within the project area. No survey work has been conducted in this area.

Gray Wolf

Gray wolves were historically found throughout Wyoming, but were virtually exterminated from the western United States by the 1940s (USFWS 1987). Beginning In 1995, wolves were reintroduced into Yellowstone National Park. By 1997, three packs had successfully established territories within the Bridger-Teton National Forest. The number of wolves in the Greater Yellowstone area (GYA) has steadily increased since reintroduction. At the end of 2001, at least 218 wolves were present in the GYA (USFWS et al. 2002).

Gray wolves are habitat generalists that occupy a broad range of habitats throughout their range including coniferous forests, montane meadows and shrub-steppe (Witmer et al. 1998). Key components of suitable habitat include: sufficient year-round prey base of ungulates and alternate prey; suitable and semi-secluded denning and rendezvous sites; and sufficient space with minimal exposure to humans. Preferred wolf prey species include deer, elk and moose. Because ungulates are key prey species for wolves, big game winter ranges are also important to wolves as seasonal hunting areas (USFWS 1987). The area to the west of Fremont Lake is designated big game Crucial Winter Range.

Wolves are highly social animals and live in packs, which typically consist of the dominant breeding pair, pups of the year, and other adults or subadults. Denning occurs in mid-March to early April. Wolves are prone to disturbance during the denning period (USFWS 1987).

Witmer et al. (1998) list three issues, which are of conservation concern for gray wolves. They include: maintenance of large remote areas with limited accessibility to humans; shooting, trapping, poisoning and predator control activities; and maintenance of adequate prey populations. Wolves demonstrate a high level of ecological resilience in comparison to other large carnivores because of their high reproductive and dispersal capabilities (Weaver et al. 1996). Impacts to gray wolves will be assessed by the extent to which they jeopardize or further erode key habitat components (including prey populations), and increase the potential for direct mortality.

Since wolves were first reintroduced into Yellowstone National Park in 1995, individuals have dispersed and formed packs on the BTNF. In 1996, dispersing wolves were first observed in the Pinedale area and they continue to be consistently reported in the area (Jimenez pers. comm). The Teton and Gros Ventre packs on the BTNF have large home ranges (425 mi² – 546 mi²) where they hunt in native ungulate winter ranges and near elk feedgrounds in the Gros Ventre River drainage (USFWS et al. 2001). Single wolves could occur anywhere in the project area. No known den sites are located within or adjacent to the project area.

Whooping Crane

Until recently, whooping crane populations in Wyoming were considered part of the nonessential experimental population and were treated as proposed rather than listed

species on National Forest lands. Whooping crane populations in Wyoming are now officially considered extinct.

Currently, whooping cranes breed only in northern Alberta and the southern Northwest Territories. A small population has been introduced to Gray's Lake National Wildlife Refuge (NWR) in eastern Idaho (Spahr et al. 1991). Whooping cranes that summer in the GYE and vicinity are from the Gray's Lake NWR (Clark et al. 1989).

Whooping crane habitat in the GYE consists of shallow wetlands, wet meadows and adjacent upland for their daily activities. Preferred sites have minimal human disturbance (Clark et al. 1989).

Whooping cranes are monogamous and mate for life. Towards the end of winter, pairs begin their pre-mating behavior and dancing displays. Pairs arrive on breeding grounds in late April. The same nesting territory is used year after year. Nests are built in dense emergent vegetation in water 8-18 inches deep (Spahr et al. 1991). Slight human disturbance is often sufficient to cause adults to desert nests (Clark et al. 1989).

Whooping cranes have been documented on the BTNF in the Upper Green River drainage during summer months, a considerable distance north of the analysis area. Typically one bird is seen, but this single bird has not been seen for a number of years. No reproductive activity has occurred.

Grizzly Bear

Optimum grizzly bear habitat consists of large areas with diverse vegetation communities free from human disturbance. Availability of specialized food sources such as white-bark pine stands, spawning streams and ungulate winter ranges are seasonally important (Clark et al. 1989; Spahr et al. 1991).

Grizzly bear populations on the Bridger-Teton National Forest are found on the Buffalo Ranger District and portions of the Jackson and Pinedale Ranger Districts. The Grizzly Bear Recovery Zone encompasses most of the Buffalo Ranger District and a small portion of the Jackson Ranger District.

The Lakeside Lodge and Marina Master Development Plan project area occurs outside the officially designated Grizzly Bear Recovery Zone, approximately 45 miles away. In the past decade, grizzlies have expanded their range on the Pinedale Ranger District, primarily in the Upper Green River Lakes area. The closest known grizzly bear location is Sweeney Creek, approximately 5 miles northeast of the project area. Seasonal food sources in the form of ungulate carrion and succulent riparian vegetation all occur within a reasonable distance of the project area. No grizzly bears have been reported in the permit area.

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

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 (*Ptychocheilus lucius*), humpback chub (*Gila cypha*), bonytail (*Gila elegans*) and razorback sucker (*Xyrauchen texanus*). Water is required for the operation of the resort and the water source for the resort is Fremont Lake.

A Water Depletion analysis was completed for the existing resort and the Proposed Action, (The detailed Water Depletion Analysis is contained in the Biological Assessment which is part of the project file located in the Pinedale Ranger District Office.) The estimated annual water usage for the existing resort is 4.32 acre-feet and the annual water usage for Proposed Action is approximately 17.0 acre-feet.

The standards used in the table are from the Wyoming Department of Environmental Quality Rules and Regulations. They are found in Chapter 11, Part D, Table 1. The following assumptions were used to calculate the water usage:

The facilities would be used at different levels during the year with the peak use during the summer season. Peak use would be from May thru October for 184 days and a reduced level from November thru May for 181 days.

The water use calculated is based on the resort operating at capacity during the months open and thus overestimates the amount of water that would actually be used.

The formula for calculating the Acre Feet of water used per year from the Gallons of water used per year is as follows:

7.48 Gallons of water per Cubic Foot of water
43,560 Cubic Feet of water equals 1 Acre Foot of water

According to a USFWS Biological Opinion on “Elimination of Fees for Water Depletions of 100 Acre-Feet or Less from the Upper Colorado River Basin” (USFWS 1997, amended 2000), impacts on endangered fish due to project depletions of less than 100 acre-feet/year are offset by recovery actions that are accomplished by the Upper Colorado River Basin Endangered Fish Recovery Implementation Program and do not require the project proponent to pay a depletion charge¹.

Historic stream flow statistics for Pine Creek above Fremont Lake are available for record period 1955-1996 from the United States Geological Survey website (Table 6).

¹ The USFWS has the responsibility to review biological assessment(s) and inform the Deciding Official as to the necessary requirements that will offset depletion impacts. If new depletions were to exceed 100 ac-ft. then a one-time depletion charge would be assessed to project proponent (\$14.36/ac-ft for FY2000) to offset depletion impacts.

Average annual mean stream flow for a record period of forty-two years is 175.4cfs or 126,984 acre-feet of water per year² going into Fremont Lake.

Table 6. USGS 09196500 Calendar year streamflow statistics for Pine Creek above Fremont Lake, WY.

Year	Annual mean streamflow, in ft ³ /s	Year	Annual mean streamflow, in ft ³ /s	Year	Annual mean streamflow, in ft ³ /s	Year	Annual mean streamflow, in ft ³ /s
1955	144	1966	133	1977	105	1987	162
1956	211	1967	204	1978	211	1988	100
1957	205	1968	192	1979	139	1989	145
1958	143	1969	187	1980	164	1990	162
1959	172	1970	158	1981	136	1991	176
1960	131	1971	235	1982	253	1992	116
1961	130	1972	228	1983	227	1993	178
1962	195	1973	165	1984	201	1994	124
1963	172	1974	185	1985	147	1995	208
1964	170	1975	182	1986	248	1996	199
1965	247	1976	178				

ISSUE #11 – The proposed Master Development Plan will affect habitat or the existence of sensitive species of wildlife and fish.

Amphibians

Spotted frog

Population and Habitat Status

Spotted frogs are highly aquatic and are usually found on the marshy edges of ponds and lakes, algae covered pools of springs and streams, or oxbow ponds. Areas where they are expected to be found are areas without fish or bullfrogs and areas that have emergent vegetation. These sites are often located in wet meadows at the edge of lodgepole pine (*Pinus contorta*) forest (Maxell 2000).

Riparian areas often provide critical breeding, foraging, and over-wintering habitats for amphibians such as spotted frogs. These areas also provide migratory or dispersal corridors for frogs. Spotted frogs move considerable distances from water after breeding to forage and seek over-wintering sites, often frequenting mixed conifer and subalpine forests, grasslands, and shrub lands of sagebrush and rabbit-brush (Maxell 2000).

² 1 cubic foot/second flowing for 24-hours=1.983471acre-foot/day

Within the project area, habitat exists along the Fremont Lake shore, but is narrow in width. None of the Proposed development in any alternative encroaches on that riparian area. There are no formally classified “Wetlands” within the project area.

Birds

Yellow-billed cuckoo

Population and habitat status

On July 25, 2001 the USFWS designated the yellow-billed cuckoo, in a portion of its range, as a candidate species under the Act. The yellow-billed cuckoo is a riparian obligate species found in cottonwood and willow areas below 7000 feet (Luce et al. 1999). Cuckoos usually nest in low, dense shrubby vegetation, preferring dense thickets and mature deciduous forests near water (DeGraff 1991; Cerovski et al. 2001).

Declines in abundance have been reported in the West due to loss or disturbance of riparian habitat and prey scarcity caused by pesticides (Cerovski et al. 2001). According to Luce et al. 1999, the cuckoo is uncommon in Wyoming and statewide population status and trends are unknown. The cuckoo has not been observed in the analysis area (Luce et al. 1999).

Boreal owl

Population and habitat status

The boreal owl prefers the high elevation spruce-fir forests or aspen for foraging and nesting. The high association with old growth spruce-fir forests is due to their dependence on this forest type for foraging year round. Nesting habitat structure consists of mature forest types with a relatively high density of large trees, open understory and multi-layered canopy. They avoid open areas, such as clearcuts and open meadows, except for occasional use of the edges of openings for foraging (Reynolds et al. 1989; Spahr et al. 1991). Boreal owls are cavity nesters and are dependent on the presence of primary excavators such as the northern flicker (Reynolds et al. 1989).

The species' abundance in Wyoming is unknown and it is not known to occur in the project area (Luce et al. 1999). No evidence exists that disturbance is an important factor in nest loss or owl movements. Boreal owls seem to tolerate human and machine noise well.

Three-toed woodpecker

Population and habitat status

Three-toed woodpeckers are locally common in western coniferous forests. They are found from Alaska, across Canada, and in the Rocky Mountains south to Arizona and New Mexico. These woodpeckers require snags in coniferous forests for nesting, feeding, perching and roosting and capitalize on dead standing timber left by stand replacing fires. In Wyoming forests, the three-toed woodpecker is found in large, unbroken stands of mature spruce-fir and lodgepole pine. This woodpecker forages on insects, mainly in dead trees, but will also feed in live trees. Wood boring beetles are preferred, and the

three-toed woodpecker is adapted to shift foraging areas to capitalize on high concentrations of these beetles (Finch 1992).

Great gray owl

Population and habitat status

The great gray owl uses mixed coniferous forests usually bordering small openings or meadows. Semi-open areas near dense coniferous forests where small rodents are abundant are optimum habitat for the great gray owl. Broken top snags, stumps, dwarf-mistletoe platforms or old hawk and raven nests are utilized as platforms for nesting. Great gray owls are sensitive to human disturbance that could cause them to abandoned areas with increased human activity.

Northern Goshawk

Population and habitat status

The goshawk is the largest of North American accipiters. The goshawk is a forest habitat generalist, occurring in all major forest types. Preferred habitat during the breeding season is older, tall forests where goshawks can maneuver in and below the canopy while foraging and where they can find large trees in which to nest (Reynolds 1989; Squires and Ruggiero 1996). In the Rocky Mountains, goshawks frequently nest in dense stands of mature lodgepole pine or quaking aspen stands (Jones 1979; Squires and Ruggiero 1996).

The home range of a pair of goshawks is approximately 6000 acres. It is composed of nesting areas, post-fledging family areas (areas used between the time the young leave the nest and no longer need to depend on the adults for food), and the foraging area. The foraging area is approximately 5400 acres in size and surrounds the post-fledging family area (PFA). It is the area that hunting occurs in during and following the nesting season (Reynolds et al. 1992).

The nesting areas are 30 acres in size and may contain more than one nest. They contain stands of large old trees with a dense canopy cover. They are often located on slopes on north aspects. Nesting goshawks can have 2-4 alternate nest sites that may be used in different years. The nesting area is usually occupied from March to September. Goshawks are sensitive to human disturbance during the nesting season and will actively defend their nest sites. Nest sites could be abandoned because of high levels of human activity (Reynolds et al. 1992).

The foraging area is the area used for hunting by the adult and juvenile birds during and following the nesting season. The foraging area includes a variety of successional stages, openings, groups of large trees, snags, downed logs, and an herbaceous or shrubby understory. The canopy can be open to provide for better hunting opportunities (Reynolds et al. 1992).

There are no known goshawk nests in the analysis area. The habitat surrounding Fremont Lake is suitable foraging habitat for this species. Survey work has not been done in the project area.

Flammulated owl

Population and habitat status

The range of the Flammulated owl is restricted to the western United States and Canada. It extends throughout the West from Alaska south to the mountains of Mexico and Guatemala with the eastern limit formed by prairies adjacent to the Rocky Mountain forests. Flammulated owls are known to occur from 6,000 feet to 10,000 feet (Reynolds and Linkhart 1987).

The Flammulated owl prefers ponderosa pine habitat, but will also utilize Douglas-fir, aspen and limber pine. This owl requires cavities for nesting and forages primarily on forest insects. Flammulated owls are secondary cavity nesters using tree hollows or abandoned woodpecker or common flicker nest holes. Timber harvesting is the greatest threat to this owl and its habitat. Flammulated owls are not known to occur in the analysis area (Luce et al. 1999).

Common Loon

Population and Habitat Status

The common loon breeds in the Canadian Rockies and is an occasional breeder in Wyoming, Idaho and Montana. It migrates through the Rockies during the spring and fall. Loons prefer remote areas and are well adapted to swimming and diving. Loons require long stretches of water for take off and normally inhabit lakes greater than 10-15 acres in size, often with islands or undisturbed shorelines. Nesting occurs on muskrat lodges, small islands or projecting shorelines, always very near water. Loons use small fish as food and occasionally eat large, aquatic invertebrates and larval and adult amphibians (Luce et al. 1999).

The most significant changes occurring in loon breeding areas are shoreline development and increased recreational use during the nesting and young-rearing season. Probability of nest success apparently decreases with increased shoreline development and recreational activity, though some loon pairs show an ability to habituate to human activities (Heimberger et al. 1983). Boating can cause nest abandonment and egg loss, due to disturbance and boat wakes. Many unoccupied lakes in the GYE appear to be ideal loon nesting lakes, except for high levels of human disturbance (Cerovski et al. 2001).

Trumpeter Swan

Population and Habitat Status

There is a resident breeding population of swans in the Greater Yellowstone Area, which nest in the Jackson Hole region of the BTNF. The Greater Yellowstone swans remain within the tri-state (Idaho, Montana and Wyoming) area, including Jackson Hole, during the winter. Additional breeding pairs are being released in the Upper Green River drainage, near and on the Pinedale Ranger District, with the expectation these swans will migrate to suitable winter habitat.

Trumpeter swan nesting habitat consists of marshes, lakes, beaver ponds and backwaters of rivers. They prefer quiet shallow water with dense aquatic plant and invertebrate growth. Emergent vegetation is essential for cover. Non-breeding swans gather in flocks on large lakes and reservoirs during the summer. In winter, swans need areas with plentiful aquatic vegetation that remain ice-free.

Virtually all the breeding trumpeters of Canada and the GYE share the same high elevation winter habitat in the GYE (Cerovski et al. 2001). As a result, the Rocky Mountain swan population is threatened by declining winter habitat, overcrowding on existing winter habitat and the potential for widespread disease introduction (WYNDD). The analysis area does not provide suitable winter habitat.

Harlequin Duck

Population and Habitat Status

Harlequin ducks are found in the Northwest corner of Wyoming (Cerovski et al. 2001). Forested banks of swiftly flowing mountain streams are used by Harlequin ducks in Montana, Wyoming and Idaho. They prefer stream size of second order or greater; stream gradients between 1-7% and some areas of shallow water (riffles). They also prefer clear water, with gravel to boulder-size substrate. Factors that may increase the likelihood of use include absence of human presence (boating, fishing, residences) and lack of access by road or trail (Spahr et al. 1991). Harlequins migrate to the Pacific coast during September into November. They return to their breeding areas from late-April through mid-May (Spahr et al. 1991).

Peregrine Falcon

Population and Habitat Status

Statewide recovery goals were met in 1995. Greater Yellowstone and national recovery goals have also been reached, and the peregrine was removed from the Endangered Species list in August 1999. The falcons' status will be monitored for a minimum of five years from the delisting date, as required by the ESA.

Peregrines nest high on cliff ledges often near water because of the abundance of avian prey associated with such sites. Nests are generally located below 8,500 feet. Feeding habitat includes wetlands, riparian gorges, mountain valleys and lakes, which support good populations of small to medium-sized terrestrial birds, shorebirds and waterfowl. Peregrines migrate to Central America or the southwestern United States for the winter unless sufficient prey is available within their breeding territory.

The closest peregrine eyrie is located in the Fremont Lake area approximately six miles from the project area. This eyrie was located at Fremont Lake over ten years ago and has been an active and productive nest. Foraging is likely to occur in the area if there are high concentrations of waterfowl present (Susan Patla, pers. comm.). A peregrine hack site located between Fremont Lake and Little Soda Lake was used from 1988-1990. Fifteen peregrine falcons were released from this site and at least fourteen survived to dispersal age (Bob Oakleaf, pers. comm.).

Fish

Colorado River cutthroat trout

Population and Habitat Status

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 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 (H. Sexauer, pers. comm.).

Snake River cutthroat trout

Population and Habitat Status

Finespotted Snake River cutthroat trout (SRC) (may not be genetically distinctive from Yellowstone cutthroat trout) have similar habitat requirements as the CRC. Finespotted Snake River cutthroat trout native distribution is the Snake River drainage from below Jackson Lake to Palisades. It has been propagated and widely distributed in Western Wyoming (Spahr et al. 1991).

The Pine Creek drainage is not a part of the Snake River drainage. Finespotted Snake River cutthroat trout are not known to be present in the Pine Creek drainage.

Mammals

Fisher and Wolverine

Population and Habitat Status

Wolverines inhabit high mountain forests of dense conifers; primarily in true fir (*Abies*) cover types as well as sub-arctic alpine tundra. They are widespread, but occur in low densities. They are difficult to observe so frequency of sightings may not reflect population size. Wolverines are opportunistic feeders, consuming eggs, roots, carrion, and many types of animals, including deer and other large ungulates trapped in deep snow. Wolverines are often nocturnal and are active year-round. They are generally solitary, and may range over large areas searching for food. Maintenance of wolverine populations is dependent on large areas free from land-use activities that permanently alter their habitat (Ruggiero et. al. 1994). Wolverines are sensitive to human activity and

avoid areas where human disturbance is present. Surveys have not been conducted in the analysis area and status of the wolverine in the area is unknown.

Fishers use closed coniferous and mixed forests. They prefer extensive, mature to old growth spruce-fir forests with high canopy closure in summer and young to mature coniferous forests in the winter (Clark et al. 1989). Fishers prey upon small mammals and birds, but will also eat carrion and fruit. There are no documented sightings on the Bridger-Teton National Forest, either historic or recent. It is likely the species is not present in the project area.

Western big-eared bat and Spotted bat

Population and Habitat Status

The Western big-eared bat occurs in western North America from southwestern Canada to Mexico. In Wyoming, known distribution of Western big-eared bat averages 7000 feet elevation. The bat can occur in many types of habitat but the species is often found near forested areas. It roosts in hollow trees and snags. Caves, mines, and buildings are used for winter hibernation. Big-eared bats eat flying insects, particularly moths, and individuals are often seen foraging near trees. The species is nocturnal, and individuals typically do not leave their roosts until well after sunset.

Spotted bats may be found in a variety of habitats, ranging from deserts to forested mountains. Known distribution of spotted bats averages less than 4000 feet elevation. They roost and hibernate in caves, rock crevices, and on steep cliff faces. It is considered rare in Wyoming and is not known to occur in the project area (Luce et al. 1999).

Potential roosting habitat is present in the analysis area such as cliffs and rock outcrops. No survey work has been conducted and status of the Western big-eared bat and spotted bat in the analysis area is unknown.

Sensitive Plants

Limited survey work has been conducted in the project area. Eleven sensitive plant species are known to occur on the Pinedale Ranger District according to the Wyoming Natural Diversity database (WYNDD): pink agoseris, seaside sedge, black and purple sedge, boreal draba, rockcress draba, wooly fleabane, narrowleaf goldenweed, Payson's bladderpod, naked-stemmed parrya, Greenland primrose and Weber's saw-wort. These plants are not documented within the project area, although no survey work has occurred.

The following sensitive plant species are probably not present as their habitat requirements are outside the elevation range of the project area (approximately 7400'): pink agoseris, sweet-flowered rock jasmine, meadow milkvetch, seaside sedge, black and purple sedge, Wyoming tansymustard, rockcress draba, wooly fleabane, naked-stemmed parrya, and Weber's saw-wort.

Status of the following species is unknown; they may or may not occur in the project area: soft aster, starveling milkvetch, Payson's milkvetch, boreal draba, narrowleaf goldenweed, Payson's bladderpod, creeping twinpod and Greenland primrose.

ISSUE #12 – The proposed Master Development Plan will unacceptably affect an important migration route and winter range of mule deer.

Fremont Lake is an important area for mule deer migrating from summer ranges to the winter range on the Mesa's south of Pinedale. Mule deer migrate along both sides of the lake on their way to and from the Mesa's and spend some transition time in the Fremont Lake area on their way to the winter range. Some mule deer remain in the general area most of the winter depending on the snow depth. The main migration occurs in March through early May in the spring and in the fall during November and December. The timing varies somewhat depending on snow depths and weather.

Operations of the resort are at low levels during these periods. Full service operations do not start until May and stay at low levels through June. Operations will be at low levels, less than 10% of capacity, from the 1st of November thru May 1st. (See map in Appendix D for migration routes). None of the development at Lakeside Lodge poses a barrier for mule deer migration.

ISSUE #13 – The increase in recreation use at Lakeside Lodge will cause increased use of the Sandy Beach Swim Area, causing an increase in trash and negatively affecting or restricting use by local residents and other recreationists.

The Sandy Beach Swim and Group Picnic Area is a Forest Service Developed Recreation site located just east of Lakeside Lodge. It is used mainly in the months of July and August, when the water temperature of Fremont Lake is warm enough to be attractive to swimmers. It is not a heavily used-recreation site. The Forest Service is responsible for operation and maintenance of the site and, thus, is responsible for cleanup, marking the swim area, enforcing regulations, and resolving user conflicts. This is a public Recreation site and is open to all the public.

The recreation visitors at Lakeside Lodge currently make little use of the swim area for the following reasons:

1. There is sufficient area on-site within Lakeside Lodge's permit boundary for swimming.
2. The primary recreation activities pursued by the visitors are boating, lodging, eating at the restaurant, RV camping, and fishing, not swimming.
3. The swimming use of Fremont Lake is low due to frigid water temperatures.

There is some minor use now of the swim area by visitors at Lakeside Lodge, but not enough to significantly affect operations of the site or affect existing users. The increase

in recreation visitors to Lakeside Lodge as a result of the expansion probably will not have a significant effect on operations or existing users of the Swim Area for the above reasons.