CRYSTAL CREEK HELICOPTER LOG LANDING/YARDING SITE

ENVIRONMENTAL ASSESSMENT

January 11, 2002

Prepared by:
Belden Forestry
in cooperation with the National Park Service at
Whiskeytown National Recreation Area

1.0 INTRODUCTION

Mr. Dave Frase owns a parcel of land adjacent to the western boundary of Whiskeytown National Recreation Area. He is going to log this parcel using a large helicopter (S-61) to carry saw logs from the logging area to a landing/yarding site outside of the timber harvest area. The logs will be loaded on trucks and taken to a mill for processing. The landing/yarding site must be approximately one acre in size and have road access suitable for large trucks. Maps are included in the appendix of this document.

Mr. Frase has retained Belden Forestry to prepare a "Timber Harvest Plan," to mark the timber for harvest, and to obtain necessary permits and rights-of-way to facilitate the logging operation. This particular private land was logged in the late 1950's using tractors. A low standard road provided access up Bear Gulch. This road has failed in many locations due to the erosive nature of the soils (decomposed granite) and is no longer useable. It is not desirable to rebuild this road and log using tractors because of the high erosion potential.

This logging operation will use a silvicultural prescription of "Shelterwood Removal Step." An estimated 280,000 board feet of saw logs will be harvested. The parcel will be stocked with young trees that will meet state standards upon completion of this proposed harvest operation. The Timber Harvest Plan (2-01-146-SHA) has been reviewed and approved by the California Department of Forestry. It is estimated that another entry for saw log harvest will not occur for 30 more years.

1.1 PURPOSE AND NEED

The proposed action is for the National Park Service to issue a special use permit allowing the temporary use of a parcel of federal land managed by Whiskeytown National Recreation Area as a landing/yarding site to facilitate a timber harvest operation on private land. This permit would be for a single use, and would not be applicable to other logging operations. If the National Park Service takes no action, and does not issue the special use permit, then Belden Forestry must utilize a landing/yarding site outside of the park. Two alternative locations are analyzed in alternatives A and B as the "no-action" alternatives. Alternative C is the agency preferred alternative, describing the use of a waste rock site within Whiskeytown as a landing/yarding location.

The private timber sale is located in the Bear Gulch drainage in the west 1/2 of section 8, T32N, R07W, MDM. Water from the sale area travels down Bear Gulch to Willow Creek, then into Whiskeytown Reservoir. The timber harvest operation is expected to involve helicopter yarding and trucking for a period of one week. There will be an estimated 200 trips by the helicopter with loads of logs and a maximum of 60 truckloads of logs to the mill. This harvest operation will require an offsite landing/yarding area to which the saw logs will be flown. This landing/yarding area needs to be approximately one acre in size, relatively level, and free of obstructions along the flight path of the helicopter. The landing/yarding area must also be accessible by a road that will accommodate logging trucks. The saw logs will be loaded and taken to a mill for processing.

An additional space will be needed near the landing/yarding site where the helicopter will be parked at night, where it will be serviced and where it will be fueled. The potential for water quality degradation from a fuel spill was identified. Parking the fuel truck within an inflatable containment bladder with the capacity to hold all fuel in the event of an accidental spill will mitigate this. A self-

contained trailer will be parked at this location to house a watchman to provide security for the helicopter and other equipment.

1.2 POLICY AND REGULATIONS

Management actions taken by the National Park Service must adhere to the mission and directions defined by the NPS Organic Act (16 U.S.C. 1 et seq.). NPS actions with the potential to significantly affect the human environment are subject to compliance with the National Environmental Policy Act (NEPA). National Park Service Directors Order 12 guides NPS implementation of NEPA. Additionally, actions taken will comply with other applicable laws and policies to protect park resources and values. This includes the Clean Air Act, Clean Water Act, Endangered Species Act, and the National Historic Preservation Act, when these resources are present.

Authority to issue special use permits is derived from 16 U.S.C. 1-4. Directors Order 53 guides this process. This policy states that the National Park Service may permit a special park use if the proposed activity will not:

- Cause injury or damage to park resources; or
- Be contrary to the purposes for which the park was established; or
- Unreasonably impair the atmosphere of peace and tranquility maintained in wilderness, natural, historic or commemorative locations within the park; or
- Unreasonably interfere with the interpretive, visitor service, or other program activities, or with the administrative activities of the NPS; or
- Substantially impair the operation of public facilities or services of NPS concessionaires or contractors; or
- Present a clear and present danger to public health and safety; or
- Result in significant conflict with other existing uses.

A superintendent must deny initial or renewal requests upon finding that any of the above conditions will not be met.

2.0 ALTERNATIVES

Three alternatives are considered in this Environmental Assessment. All three involve helicopter landing/yarding locations. Alternatives A and B are on private land, and one of them would be used in the event the National Park Service decides not to issue a special use permit as described in Alternative C. Both Alternatives A and B are considered the “No Action” alternative. Mr. Frase will have to negotiate with the other private landowners to use one of these alternative landing/yarding locations should the proposed location in Whiskeytown not be available. The activities on the private parcel will remain the same regardless of the alternative chosen as a landing/yarding location.

2.1 Alternative A - The Highway 299 Alternative

Under this alternative, Mr. Frase would obtain permission from another private landowner to use a site adjacent to Highway 299 in the NW 1/4 NW 1/4 of Section 7, T32N, R07W, MDM. The location has been used as a helicopter landing/yarding area in the past by the landowner. The site could be prepared for use with only minor grading to open the access roads. Herbaceous plants will

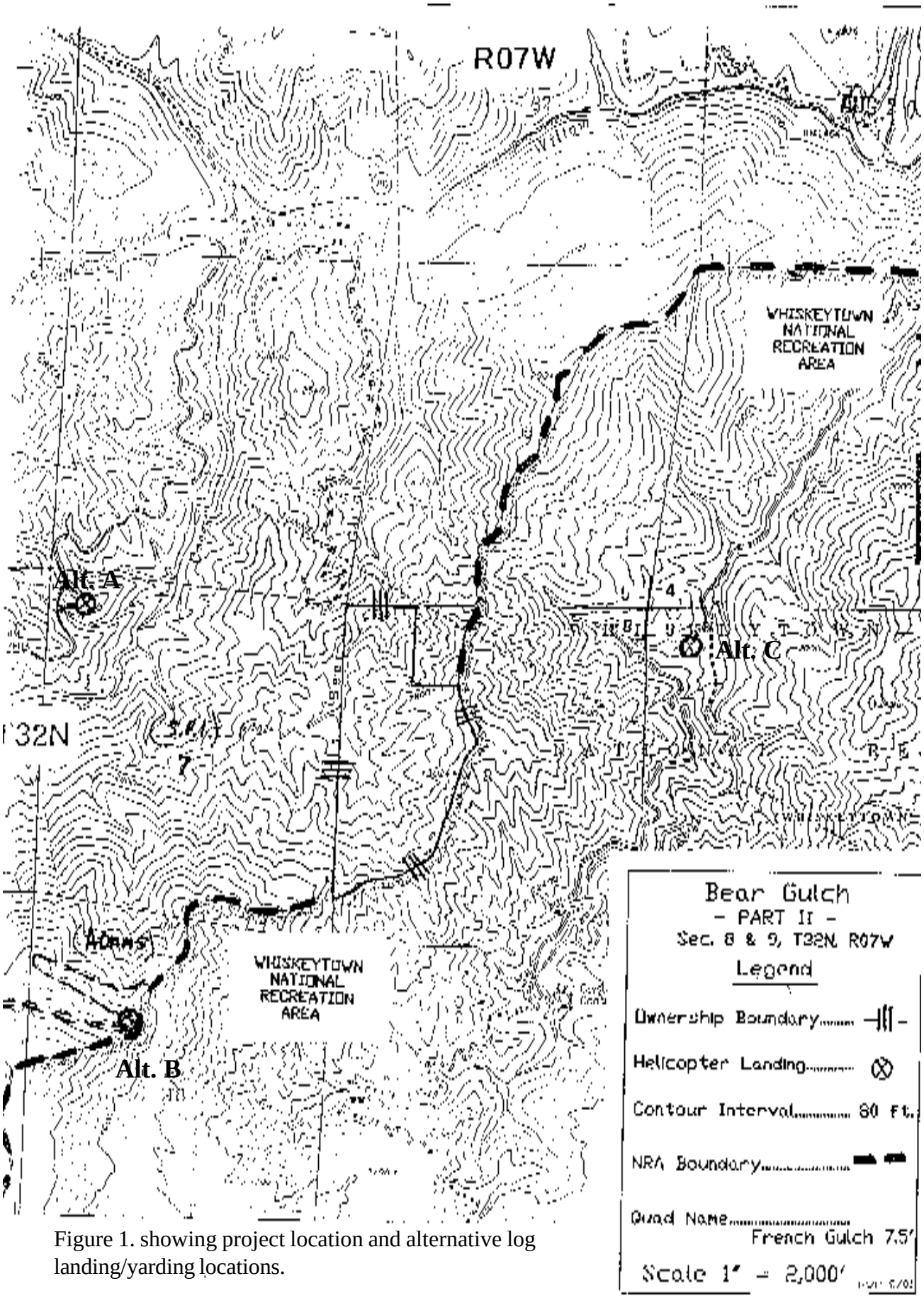

Figure 1. showing project location and alternative log landing/yarding locations.

be bladed from the surface of the site and young ponderosa pine trees (7-8 feet tall) will also be removed. The site is located at the same elevation as the harvest area.

The private landowner of this particular yarding/landing location is reluctant to grant permission for use of the site. A serious safety problem developed during the previous use for the traveling public on Highway 299. The close proximity to the highway caused slow downs, stops and pedestrian use along the highway as the public watched the large helicopter transporting logs. The highway in this area is very curvy with almost no shoulders. The risk of accidents between vehicles or a vehicle and pedestrian are high. Major traffic control measures would be required such as pilot cars to keep traffic moving and the road free of pedestrians.

This alternative would meet the purpose and need of the project proponents, but would result in an undesirable safety risk to travelers on California state highway 299. No natural or cultural resources in Whiskeytown National Recreation Area would be impacted, or impaired if this alternative is chosen.

2.1 Alternative B - The Section 18 Alternative

Under this alternative, Mr. Frase would obtain permission from another private landowner to construct and use a site on their property in the NE 1/4 NW 1/4 of Section 18, T32N, R07W, MDM. This location was used as a landing/yarding site in previous years for tractor harvesting. It is currently too small to accommodate a helicopter operation. It would have to be enlarged from the present size of 1/4 acre to 1 acre. This would be a cut and fill process using a bulldozer. Approximately 2400 cubic yards of material will be moved and layer placed in a fill. Side slopes in the area are approximately 40%. The soils are decomposed granite and prone to erosion. The fill slope will be mulched and seeded to minimize erosion, however some amount of erosion could be expected. The fill material will be layer placed and compacted by tractor to prevent mass earth movement, but should a mass failure occur, nothing could be done to mitigate the soil loss. Eroded material would enter Willow Creek, a tributary of Clear Creek that flows into Whiskeytown Lake in the Whiskeytown National Recreation Area.

Vegetation consisting primarily of manzanita and young white fir saplings that have become established since the initial timber harvest in the 1950s will be cleared or covered. This potential landing/yarding location is far away from any regularly traveled roads. The public would probably not be aware of the helicopter use. The saw logs would be trucked over low standard roads to Buckhorn Summit and then on Highway 299 to a mill.

This alternative would meet the purpose and need of the project proponent, but would necessitate ground disturbance in highly erosive granitic soils. This has the potential to lead to increased sedimentation of Willow Creek, which flows into Clear Creek and Whiskeytown Lake in Whiskeytown National Recreation Area.

2.3 Alternative C - The Proposal (Environmentally Preferred Alternative & Agency Preferred Alternative)

Under this alternative, Mr. Frase would obtain a permit from the National Park Service for the temporary use of a site within Whiskeytown National Recreation Area for a helicopter landing/

yarding location to facilitate a timber harvest operation on private land adjacent to the park. This location is in the NW 1/4 NW 1/4 of Section 9, T32N, R07W, MDM. The location is immediately adjacent to Crystal Creek Road, a paved road under the jurisdiction of Shasta County. This alternative would meet the purpose and need of the project proponent. This is also the environmentally preferred alternative because there are no expected impacts to park vegetation or wildlife, and minimal ground disturbance would be required.

Issuance of this permit applies only to the one-time use of this site, and does not guarantee future use of this site as a landing/yarding area by the project applicant or by any other person, business, or agency. If additional requests to use park property are submitted to the National Park Service they will determined on a case-by-case basis.

The location proposed for use as a landing/yarding area is a waste rock disposal site used during the construction of the Clear Creek Tunnel. The National Park Service uses this site as a rock source for various projects. The area is of adequate size to accommodate the helicopter landing/ yarding area and there is an adjacent flat area immediately to the southwest that is suitable for parking, maintaining and fueling the helicopter. The potential for water quality degradation from a fuel spill was identified. Parking the fuel truck within an inflatable containment bladder with the capacity to hold all fuel in the event of an accidental spill will mitigate this. A power line located south and west of the landing/yarding site provides power to the Crystal Creek Boys Camp. The helicopter pilots will be shown these locations so they can be avoided.

The portion of land that will be used for the landing/yarding site is devoid of vegetation. Equipment that will be used on-site for this operation will be washed to prevent the introduction of exotic or noxious plants to the area. The site will be bladed to remove larger rocks and to smooth the surface. The portion of land that will be used as a fueling/service area for the helicopter has star thistle present. This area will not be bladed but will have a fuel containment bladder laid down and will be subjected to some vehicle traffic.

An Aviation Safety Plan will be developed and approved by the park superintendent at Whiskeytown prior to the start of project activity. The plan will include the frequencies aircraft are working on, and the hours of operation. This will allow for aircraft coordination in the event of an emergency. A person dedicat ed to flight following who is familiar with the Whiskeytown Mishap Response Plan will assist by using a radio with park repeater frequency to communicate with the park dispatcher in an emergency. Additionally, the public will be curious about the helicopter operation and will be inclined to stop and watch. This could potentially create a traffic hazard. This will be mitigated by stationing two flag persons above and below the operation on the road. They will be in radio contact with one another and with the helicopter crew. They will halt traffic when a load of logs are being flown into the landing area and will move traffic through the area when it is clear.

Log trucks will haul the saw logs down the Crystal Creek Road for a distance of 1.3 miles to Highway 299, then to a mill. The Crystal Creek Road is a surfaced road that can accommodate two-way traffic except in a couple of locations between the landing/yarding site and the intersection with Highway 299. At these locations, two-way traffic with one vehicle being a loaded logging truck will present some hazard. It is anticipated that 10 loaded trucks per day for 5 days will use the road once activities start. A maximum of sixty loaded trucks would be permitted. Signs notifying the traveler of the log truck traffic will be posted. The log trucks will be limited to 25 miles per hour. Flag

persons will be stationed at the landing/yarding site and at the intersection of the road and Highway 299. These persons will be in radio contact with one another and traffic will be halted on the Crystal Creek Road when a loaded logging truck is coming down.

The landing/yarding area will experience considerable noise from the helicopter flying in and out. It is estimated that this will occur 200 times during the one week of project activity. The helicopter will be flying during daylight hours. Distance from the Crystal Creek campsite, nearby trails and the Crystal Creek Boys Camp will lessen noise impacts to visitors and the general public at those locations, but it will still be evident.

This project will occur outside of the primary visitor use season, which is from Memorial Day to Labor Day. This will mitigate much of the conflicts with public use, particularly in the area of recreation. This project will also occur outside of the breeding season of the northern spotted owl, to prevent noise disturbance associated with helicopter operation. The winter months are cold and wet, but some recreational use may still occur. The campground and trailheads are open and available. However, the Crystal Creek Water Ditch has been drained for the winter, and is not expected to receive considerable visitor use during the proposed project time.

An additional concern was brought up regarding the landing/yarding site being a waste disposal location for the Clear Creek Tunnel. Unexploded blasting caps have been uncovered during the removal of rock for various purposes in the past. Belden Forestry has consulted people who do blasting in their profession. The general opinion is that the blasting caps failed originally, that they probably have deteriorated into uselessness over the forty-plus years in the ground and that no damage would occur to any equipment that rolled over one should it still detonate.

As a condition of approval for the special use permit, the permittee will secure a $10,000 performance bond (cash bond or certified check) made out to the National Park Service, which will be provided to the Service prior to the event. This bond will be held by the Service until completion of the permit. The Service will at the conclusion of the event, provide the permittee with an itemized list of any charges assessed against the bond or check, if such exist.

Upon successful completion of the project, in accordance with all permit conditions, including absence of regulatory or criminal violations on the part of the permittee and registered participants, said bond will be exonerated and/or returned to the permittee. This bond is required in addition to the liability insurance specified below.

Permittee will secure public liability insurance in the amount of $1,000,000 to cover any claim for damage from accidents or injury arising from negligence on the part of those responsible for the project. A photocopy of the face sheet of the policy will be provided to the National Park Service prior to the project commencing. The United States Government, National Park Service, Whiskey-town National Recreation Area must be identified as additionally insured on the insurance certificate.

3.0 AFFECTED ENVIRONMENT

3.1 Background

The location being considered under Alternative C - The Proposal involves approximately 2 acres of surface area. The use will occur over a one-week period during the winter months. There will be no earth moving except for grading. The location has experienced total disturbance being a disposal area for waste rock removed during construction of the Clear Creek Tunnel.

3.2 Topography

The topography of Whiskeytown National Recreation Area can generally be described as rolling to steep hills with steeply graded, high velocity watercourses. Most slopes are in excess of 20 percent. Elevations above mean sea level range from 800 feet on the south boundary at Clear Creek to 6209 feet on Shasta Bally. Adjacent peaks include Little Bally at 5419 feet, South Fork Mountain at 5189 feet, Buckhorn Summit at 5053 feet, and Kanaka Peak at 2618 feet.

3.3 Climate

The climate in Whiskeytown National Recreation Area varies considerably with the seasons and elevations. Typically, summers are hot and dry, and winters are cool with moderate rainfall. One hundred degree plus Fahrenheit readings often occur during the months of May through October, with occasional sub-freezing temperatures from November through March. The growing season averages 150 days. The mean annual temperature is 58 degrees F., as recorded at the weather station located at Whiskeytown headquarters. Significantly cooler temperatures are experienced at higher elevations.

The average annual precipitation at the weather station at park headquarters is 60 inches. The south side of the lake receives higher total rainfall than the north side. Seventy-five to ninety percent of the total annual rainfall occurs between November 1 and April 30. Reliable figures on snowfall are not available, but snow often falls at the higher elevations and in many years remains well into June.

3.4 VEGETATION

Plant communities in the park include mixed chaparral, ponderosa pine forest, mixed conifer forest, riparian communities, black oak woodlands, blue oak grasslands, and knobcone pine forests.

The mixed chaparral communities cover approximately 20 percent of the land area at Whiskeytown. The chaparral is a mosaic of shrub communities adapted to extremes in temperature and precipitation and periodic consumption by fire. Dominant plants are manzanita, ceanothus and chamise. Other common plants of this community include yerba santa, toyon and poison oak. Oak and pine species are scattered throughout chaparral communities. Typical chaparral vegetation is located on the slopes north of the lake. This vegetation type thrives on the steep slopes that receive intense and prolonged sunlight due to their southwest aspect and soil types. Ponderosa pine forest can be found below 6000 feet on north and east exposures. These slopes are dominated by ponderosa pine while sugar pine, knobcone pine, grey pine, Douglas fir, incense cedar, black oak and other oak species are also well represented.

Remnants of a heavily logged mixed conifer forest are found on the higher ridges of the southern and western boundaries of the park. Scattered white fir, incense cedar and sugar pine grow interspersed with brush, including ceanothus, shrub tan oak, and chinquapin. Exposed, decomposed granitic soil occurs exclusively in this area. Approximately six sections of mixed conifer forest lands have never been logged, providing valuable examples of old growth forest.

Riparian communities cover about 10 percent of Whiskeytown's area. Primary plants are grey pine, willow, white alder, dogwood, Oregon ash, big leaf maple, and Fremont and black cottonwood. Wild grape is also very common, and common riparian shrubs include snowberry, California blackberry, toyon, buckeye and button willow. Flowering herbaceous plants, cattails, sedges, rushes, and ferns make up the riparian understory. The riparian habitats are generally vigorous and well vegetated, especially in the most favorable locations, such as canyons and stream bottoms.

Black oak grasslands cover approximately 400 acres of lower elevation lands. This community is characterized by open stands of blue oak and sometimes grey pine, with an understory of annual and perennial grasses. In some areas, brush species are encroaching on these oak grasslands.

Black oak woodlands cover about 7000 acres at Whiskeytown. This community is dominated by black oak and canyon live oak, with tanoak at higher elevations. Big leaf maple, ponderosa pine and Douglas fir are found on wetter sites. The brush understory is a typical Whiskeytown mix of manzanita, toyon, poison oak and ceanothus, with chinquapin at higher elevations.

Knobcone pine forests are found below 2000 feet throughout the park. The dominant species is knobcone pine with an understory of manzanita, toyon, poison oak and ceanothus. These forests of even-aged knobcones are mature to overmature due to the exclusion of fire, and subsequent lack of regeneration. A large percentage of the cones of knobcone pine are serotinous, i.e., require fire, heat, or stress to open and drop their seed.

3.4.1 Threatened, Endangered and Sensitive Plant Species

There are no federally listed plant species at Whiskeytown in this time. However, sixteen "sensitive" plants, listed by the California Native Plant Society, are found at Whiskeytown. These plants are rare, threatened or endangered in California, as well as, elsewhere in some cases, or are plants of limited distribution or for which more information is needed. These 15 plants are: *Puccinellia howellii*, an alkali grass whose only known global location is in the Whiskeytown Unit; clustered lady's slipper, *Cypripedium fasciculatum*; western trillium, *Trillium ovatum*; Sanborn's onion, *Allium sanbornii ssp. sanbornii*; snowmountain beard tongue, *Penstemon purpusii*; Tehama Navarretia, *Navarretia heterandra*; yellow triteleia, *Triteleia crocea Greene var crocea*; Sanford's arrowhead, *Sagittaria sanfordii*; small spikerush, *Eleocharis parvula*; three-bracted onion, *Allium tribracteatum*; Mildred's clarkia, *Clarkia mildrediae*; Sierra clarkia, *Clarkia virgata*; red-anthered juncus, *Juncus marginatus*; canyon stonecrop, *Sedum paridisum*; and Rattan's linanthus, *Linanthus rattanii*; and *Arnica venosa*.

3.5 WILDLIFE RESOURCES

The Whiskeytown Unit supports an abundant and diverse wildlife community, which reflects

the diversity of the vegetative communities in the park. More than 200 vertebrate species are known to occur in the park, including at least 35 mammal species, 150 bird species and 20 reptile and amphibian species. The perpetuation of relatively intact wildlife populations within the park is partially dependent on the ability of public and private land managers to ensure that adequate habitat is protected in and around the park boundary.

The lake and streams support a large variety of fish, both native and exotic. The state regularly stocks rainbow trout in Whiskeytown Lake and some of the perennial streams during the spring and summer months, and the lake has been stocked with brown trout and kokanee salmon in the past. Fish commonly caught by anglers include rainbow trout, largemouth bass, smallmouth bass, spotted bass, kokanee salmon, bluegill, black crappie, brown trout, brook trout, channel catfish, and brown bullheads. Native fish found at Whiskeytown include steelhead trout, chinook salmon, squawfish, hardhead, riffle sculpins, western suckers and rainbow trout.

3.5.1 Threatened and Endangered Wildlife Species - Whiskeytown is known to contain populations of four federally threatened wildlife species: The southern bald eagle, the northern spotted owl, steelhead trout, and spring-run Chinook salmon.

Southern bald eagles were first documented as nesting at Whiskeytown Lake in 1973. There are currently two nesting pairs of bald eagles at Whiskeytown as well as a substantial wintering population. Eagles at Whiskeytown are closely monitored for nesting success and productivity, and areas of the park that contain potential bald eagle nesting habitat are surveyed annually for potential new nesting territories. The goals of bald eagle management are to protect nesting bald eagles from disturbance and to maintain and enhance bald eagle habitat.

The nearest historic or current known bald eagle nesting territory occurs approximately 4 miles from the timber harvest area and approximately 3.5 miles from the proposed (and nearest) helicopter landing area/log yarding area and will not be affected by project activities. In general most activities occurring more than 1 mile distant from eagle nests typically do not have impacts on nesting eagles.

A pair of nesting northern spotted owls has been documented in the park since 1994. The nesting area is monitored annually and records kept detailing nesting status and production. Spotted owl surveys are ongoing and eventually all suitable habitat within the park will be surveyed. The detection of additional pairs of northern spotted owls is possible, as some suitable habitat exists in some of the more remote areas of the park. The United States Fish and Wildlife Service has determined that habitat within and adjacent to the plan area consists of non-habitat, or marginal roosting or foraging habitat. No suitable nesting habitat occurs within .25 miles of the proposed project area; therefore it is unlikely that nesting spotted owls would be disturbed by project activities.

Steelhead trout and spring-run Chinook salmon are only found in lower Clear Creek below Whiskeytown dam. Whiskeytown contains habitat suitable for red-legged frogs, a federally listed species, but no red-legged frogs have been found to date in the park. The park continues to survey for the frog in suitable habitat areas delineated by the US Fish and Wildlife Service. The park also contains five species that are listed as federal species of concern. Those species are: foothill yellow-legged frog, northwestern pond turtle, Pacific fisher, and the Pacific western big-eared bat and tailed frogs.

3.6 GEOLOGIC AND SOIL RESOURCES

The geology and soils in the Unit are typical of the southern Klamath mountains geologic province. The bedrock underlying the park is extensively tilted, folded and fractured. Metamorphosed sections of these rocks are generally ore bearing, and have produced copper, zinc sulfides, talc, pyrite, gold and silver.

The Shasta Bally batholith is composed of biotite quartz diorite, a granitic rock, and forms the mountains in the southern and western part of the park. The northeastern edge of the batholith is approximately two miles from the south shore of the lake. The soil of the batholith area is derived from the decomposition of this granitic rock. Decomposed granite is extremely friable and subject to erosion. Heavy logging in the past has left some bare slopes where revegetation proceeds very slowly.

Soils in this group comprise more than one-third of the land in the Unit. They are classified as CbF Chaix sandy loam, CaF3 Chaix loamy coarse sand, CxF3 Corbett loamy coarse sand, CxG Corbett loamy coarse sand, and CyG Corbett rocky loamy coarse sand. They are derived in place from granitic rock. Plant competition is slight to moderate. Equipment limitation and erosion hazards are severe. Most of these soils are in the southwest part of the Unit, but a significant area is located north of SR 299 on the west side of South Fork Mountain Road. Smaller areas are found in the southeast corner of the Unit.

3.7 WATER RESOURCES

3.7.1 Whiskeytown Lake

Whiskeytown Lake has a surface area of 3,220 acres and contains 240,000 acre-feet of water at full-pool. The lake is fed by seven major streams: Clear Creek, Mill Creek, Crystal Creek, Boulder Creek, Willow Creek, Brandy Creek and Whiskey Creek, which empty directly into the lake. Paige Boulder Creek drains into Clear Creek about 1 mile downstream from the Whiskeytown Dam. Intermittent streams abound throughout the NRA, and many springs are found at higher elevations.

The Bureau of Reclamation constructed Whiskeytown Lake on Clear Creek in 1962. In addition to fishing, boating, and other recreational activities, the lake is used to provide drinking and domestic water for the park, as well as for several local municipalities, including Shasta, Keswick, Centerville, Redding and Happy Valley. The water in Whiskeytown Lake is managed by the BOR, and the lake level fluctuates seasonally. The lake level is maintained at steady full pool from around May 1 through September 30. The lake is normally drawn down 13 feet in the winter for flood control purposes, although it can be lowered as much as 30 feet for maintenance purposes. The Carr Powerhouse and Spring Creek Tunnel are operated by BOR for the Central Valley Project water diversion and power generation, usually at a flow rate of 3000 cubic feet per second through the lake.

3.7.2 Clear Creek Watershed

Whiskeytown lies almost entirely within the watershed of Clear Creek, a tributary of the Sacramento River. The watershed is approximately 35 miles long, ranges from 5 to 12 miles wide

and covers approximately 242 square miles, or 154,820 acres. The highest elevation in the watershed is found in the Whiskeytown Unit on Shasta Bally at 6209 feet. The lowest elevation is 425 feet at the confluence of Clear Creek and the Sacramento River.

The Federal government is the largest landholder in the watershed with 105,460 acres. The National Park Service administers over 42,000 of these acres in Whiskeytown National Recreation Area, BLM administers 37,760 acres, and the U.S. Forest Service administers 25,600 acres. The State of California and the City of Redding administer small amounts of public land, principally in the lower reaches of the watershed. Timber corporations own approximately 18,600 acres, and other individual holdings comprise about 10,000 acres. The community of French Gulch and surrounding rural residential areas occupy about 800 acres.

Prior to the establishment of the park, mining, logging and development impacted the resources of the watershed. Mining resulted in numerous dredge tailing piles and ditches in and around creek beds and sedimentation of creeks, as well as, numerous pits, adits, tunnels, scars and roads and trails. Massive amounts of gravel were extracted, and gravel extraction continues currently in the lower reaches of Clear Creek. Resultant gravel pits altered streambeds in much of the floodplain and left some deep pits which entrap young fish after flood events. Logging has occurred on most commercially valuable timberland and most old logging roads and landings interfere with natural drainage patterns and revegetation. The south-central portion of the watershed is dominated by a huge granite batholith, which contributes significant amounts of decomposed granite to creeks and Whiskeytown Lake as a result of past logging practices. Some decomposed granite makes its way into lower Clear Creek via the South Fork of Clear Creek and other sub-watersheds. The increased sediment decreases anadromous fish-spawning habitat, as well as, habitat for insects on which the fish feed.

3.8 AIR RESOURCES

Whiskeytown is located in the Sacramento Valley Air Basin. The Shasta County Air Quality Management District oversees air quality matters in the Whiskeytown area. Sections 160-169 of the Clean Air Act (CAA) established the Prevention of Significant Deterioration program to preserve, protect, and enhance air quality in regions of the United States that are of special national or regional natural, recreational, scenic, or historic value. Under these provisions Congress instituted a classification approach for controlling the increase of air pollution based on existing clean air condition. Class I areas are afforded the greatest degree of air quality protection against industrial growth. Class II areas allow for moderate deterioration, associated with well-managed growth. Class III areas allow the greatest amount of deterioration. Whiskeytown NRA is a Class II air quality area. Air quality related concerns at Whiskeytown include visibility, vegetation, and visitor and employee health.

Whiskeytown currently meets all Federal standards, which are evaluated over a one-year period and is expected to meet the new 3-year average Federal standards as well. Whiskeytown currently meets all state standards except for ozone and particulate matter (PM10), for which Shasta County is designated as non-attainment.

Sections 118 and 176 of the Clean Air Act require Federal agencies/facilities to meet all Federal, State, and local air pollution control laws and regulations, and in the case of units/facilities located in areas not meeting Federal or State air pollution control standards (non-attainment areas),

that such units/facilities conform to requirements established to attain and maintain those standards. The requirements may include provisions to reduce emissions from existing facilities and limit emissions from proposed facilities on a greater than 1:1 basis.

3.9 PUBLIC USE

Whiskeytown National Recreation Area receives considerable visitation, primarily during the summer months. The project location is not adjacent to primary visitor use areas such as the Oak Bottom campground, or Brandy Creek and Whiskey Creek day use areas. A small, four-unit rustic campground is located about 1/2 mile south of the proposed landing/yarding location. There are two trailhead locations adjacent to the Crystal Creek Road that are used by day hikers in the park. The Crystal Creek Boys Camp (detention camp) is located approximately two miles to the south on Crystal Creek Road. Employees and visitors to the camp travel the road on a regular basis. Some public travel occurs on the road for sightseeing and in-season hunting.

4.0 IMPACTS

4.1 Methodology

Impacts related to project activities were analyzed for their intensity and duration. An impact to wildlife or plant species that is capable of being detected by a few individuals of a species, with no apparent long-lasting physiological or behavioral effects and no effects on the species local population status is considered a minor impact. Impacts causing overt behavioral changes, physiological harm or death to a few individuals of a species is considered to be a moderate impact. Impacts greater than this, affecting more individuals, with possible population effects are considered major impacts.

Impacts to federally listed threatened or endangered species were evaluated by determining whether or not the species, or suitable habitat, is present in the project area. Site visits and aerial photographs were used to evaluate previously unsurveyed areas.

Geologic and soil resource disturbance that is limited to vehicle use or minor grading of previously impacted or developed areas is considered a minor impact. Vehicle use or minor grading of previously undisturbed soil that is not located on steep terrain or in extremely erosive soils is considered a moderate impact. Vehicle use, grading or excavation of previously undisturbed soils that are located on steep terrain or in highly erosive soils is considered a major impact.

Temporary change to water or air quality resulting from project activities that is short term (1-2 weeks) and does not exceed levels authorized by regulations is considered a minor impact. Temporary changes to water or air quality resulting from project activities that exist for a longer period of time but do not exceed levels authorized by regulations are considered moderate impacts. If permanent changes to water or air quality result from project activities, or if levels authorized by regulations are exceeded, it is considered a major impact.

Short-term (1-2 week) changes to visitor use that occur outside of the busy summer season in locations that are not considered high traffic areas are considered minor impacts. Longer-term impacts are considered as moderate impacts, as are short-term changes in visitor use during the busy summer season in locations that are considered high-traffic, primary visitor use areas. Permanent

changes in visitor use are considered major impacts.

4.2 Non-impairment. No project is allowed to "impair" national park resources or values, according to the NPS Organic Act of 1916 and NPS Director's Order #55. The National Park Service may choose to take an action resulting in some impact, even a measurable or significant impact, but "impairment" is strictly prohibited. The alternatives analyzed in this document contain elements with the potential to impact resources, but the nature of the impacts is short-term, limited in context, and not expected to impair National Park Service resources or values.

4.3 Issues Considered but Dismissed from Further Discussion:

Cultural Resources

No historic or prehistoric cultural features were found on the private parcel that is planned for logging. The presence of cultural features at the alternative landing/yarding locations was reviewed on the ground by qualified technicians. None were observed. The Northeast Information Center of the California Archaeological Inventory was checked regarding the presence of known sites. A negative response was received.

Wetlands and Floodplains

No wetlands or floodplains are present within the timber harvest area, or at any of the landing/ yarding sites being evaluated in this document.

Fire Management/Fire Risk

A negligible risk of fire escape is associated with the burning of slash piles on allowed burn days in areas cleared or devoid of vegetation. This activity is not expected to have a measurable effect on fire management or fire risk, and is not discussed further in this document.

Anadromous Fish

Although anadromous fish are present in Whiskeytown National Recreation Area, they are limited to Clear Creek below Whiskeytown dam. They are not able to migrate beyond the dam into Whiskeytown Lake or the streams that are affected by the actions discussed in this document.

4.4 <u>Alternative A - The Highway 299 Alternative</u>

This alternative involves using a privately owned area outside of Whiskeytown National Recreation Area that is adjacent to Highway 299 at Buckhorn Summit as a landing/yarding site.

Vegetation – Herbaceous plants will be bladed from the surface of the site to make it usable. Young ponderosa pine trees (7-8 feet tall) that are located on the site will also be removed. This constitutes a moderate impact to off-site vegetation.

Wildlife – Use of the site will be intense for a one-week period. This may affect use of this site and the surrounding area for individual animals during project activity. However, physiological harm, death, or changes in the population of any species are not expected. This is considered a minor impact.

Threatened & Endangered Species – No Threatened or Endangered species are present at this site.

However, potentially suitable habitat for the northern spotted owl is adjacent to this area. Project activity would need to occur outside of the breeding season to avoid incidental take.

Geologic and Soil Resources - This area has been used as a helicopter landing/yarding site in past years. It is a previously disturbed site that is stable at the present time. Very little blading will be needed to prepare the site for the proposed use.

Water Resources – This area is located approximately one half mile from a live stream. No erosion or mass soil movement is expected.

Air Resources - Air quality will be affected by engine exhaust during project activity, which is expected to last approximately one week. Slash generated at the landing/yarding site will be piled and burned. The burn day will be coordinated with the Regional Air Quality Control Board.

Public Use -There is no recreational use of this site by the public. However, during previous use of this landing/yarding site a public safety problem developed when drivers slowed or stopped to watch the large helicopter in operation. Pedestrians walked along the shoulder of the highway to watch. The highway is narrow and very curvy at this location. In order to again use this site, pilot cars would be needed to get vehicles past the landing/yarding area. This would result in traffic delays on Highway 299 during project activity, which is expected to last about one-week.

Cumulative Effects – This alternative is not expected to create any negative cumulative impacts.

Impairment Finding – No National Park Service resources or values would be impaired if this alternative is chosen.

4.5 Alternative B - The Section 18 Alternative

This alternative involves using a privately owned location outside of Whiskeytown National Recreation Area that was used as a landing/yarding site for a tractor logging operation in the past. The location will have to be enlarged from 1/4 acre to 1 acre in size to accommodate a helicopter logging operation. The soil material excavated will be side-casted. The soil material is decomposed granite and is highly erosive.

Vegetation - Vegetation will be cleared or covered, consisting primarily of manzanita and young white fir saplings that have become established since the initial timber harvest in the 1950s. This constitutes a moderate impact to off-site vegetation.

Wildlife - Use of the site will be intense for approximately a one-week period. This may affect use of this site and the surrounding area for individual animals during area preparation and actual project activity. However, physiological harm, death, or changes in the population of any species are not expected.

Threatened & Endangered Species - No Threatened or Endangered species are present at this site. Helicopter flight path will not approach known nesting sites for southern bald eagles or northern spotted owls.

Geologic and Soil Resources – The existing landing site would be enlarged from one-quarter acre to one acre in size to accommodate the helicopter operation. This would be a cut and fill process using a bulldozer. Approximately 2400 cubic yards of material would be moved and layer placed in a fill. Side slopes in the area are approximately 40%. The soils are decomposed granite and prone to erosion. The fill slope will be mulched and seeded to mitigate the erosion potential. The layer placement of the fill material will inhibit mass movement. However, should mitigation measures fail, sediments will enter Willow Creek, a tributary of Clear Creek that flows into Whiskeytown Lake in the Whiskeytown National Recreation Area. Additionally, use of a low-standard road to access the landing/yarding site will increase the likelihood of accelerated erosion.

Water Resources - this site is located approximately one mile from a live stream (Willow Creek). No erosion or mass soil movement is anticipated. However, enlargement of the landing site from one-quarter acre, to one acre in size could result in increased sedimentation in Willow Creek, a tributary of Clear Creek that flows into Whiskeytown Lake in the Whiskeytown National Recreation Area.

Air Resources - Air quality will be affected by engine exhaust during project activity, which is expected to last approximately one week. Slash generated at the landing/yarding site will be piled and burned. The burn day will be coordinated with the Regional Air Quality Control Board.

Public Use - there are no public recreation facilities or uses in the area of this landing/yarding site. Activity from this alternative would not involve the public until logging trucks enter Highway 299. No public safety or traffic impacts are expected.

Cumulative Effects – This alternative would result in increased soil disturbance, with an associated increase in sediment entering watercourses due to the presence of highly erosive soils (decomposed granite). If this site is utilized as a landing/yarding site by the project applicant it is likely that other landowners will consider this location as landing/yarding site which would continue the disturbance of the area.

Impairment Finding – No National Park Service resources or values would be impaired if this alternative is chosen.

4.6 Alternative C - The Proposal (Environmentally Preferred Alternative & Agency Preferred Alternative)

This alternative involves using a waste rock disposal area adjacent to the Crystal Creek Road in the NW 1/4 NW 1/4 of Section 9, T32N, R07W, MDM. This site is located on National Park Service managed land in Whiskeytown National Recreation Area.

Vegetation – The proposed landing/yarding area is devoid of vegetation. The area proposed for use as a fueling and service area for the helicopter has star thistle present. No impacts to vegetation are expected. No impairment of park vegetation resources is anticipated.

Wildlife - Use of the site will be intense for approximately a one-week period. This may affect use of this site and the surrounding area for individual animals during area preparation and actual project activity. However, physiological harm, death, or changes in the population of any species are not expected. No impairment of park wildlife resources is anticipated.

Threatened & Endangered Species - No Threatened or Endangered species are present at this site. Helicopter flight path will not approach known nesting sites for southern bald eagles or northern spotted owls. No impairment of park threatened, endangered, or sensitive species, or their habitat is anticipated.

Geologic and Soil Resources - This site has been heavily disturbed in the past. It is a waste rock disposal site for rock that was excavated during construction of the Clear Creek Tunnel when the Whiskeytown dam was being constructed. There will be no additional construction to aggravate erosion or mass movement potential. No impairment of park geologic or soil resources is anticipated.

Water Resources - this site is adjacent to Crystal Creek, a Class I drainage that empties into Whiskeytown Reservoir. Water quality is good at the present time. No additional sedimentation is anticipated from this use. Rainfall on the landing/yarding location percolates through the rock fill, then into the stream. Rainfall onto the service area moves into erosion channels that have armored themselves over the years to the point where down-cutting has stopped. No impairment of park water resources is anticipated.

Air Resources - Air quality will be affected by engine exhaust during project activity, which is expected to last approximately one week. Slash generated at the landing/yarding site will be piled and burned. The burn day will be coordinated with the Regional Air Quality Control Board. No impairment of park air resources is anticipated.

Public Use – There would be short-term impacts to visitor use at the Crystal Creek campsite and nearby trails during project activity, primarily related to noise associated with the helicopter operation. However, the project will occur outside of the primary recreation season at a time when these facilities receive minimal use. Additionally, the project site is located some distance from primary visitor use areas such as the Oak Bottom Campground, the Whiskey Creek and Brandy Creek day-use areas, and the lakeshore.

Park visitors, employees and residents of the Crystal Creek Boys Camp, and members of the general public would experience traffic delays during the project. This would be due to traffic control measures designed to protect public safety when a loaded logging truck is using the Crystal Creek Road, and when a loaded helicopter is flying into the landing/yarding site. Traffic delays are expected to last approximately 3 1/2 minutes about 10 times per day. No impairment to park resources related to public use is expected.

Cumulative Effects – No cumulative negative impacts are expected from the issuance of a permit for the one-time use of this waste rock disposal site as a landing/yarding site to facilitate a helicopter logging operation on private lands. No impairment to park resources or values related to cumulative effects is expected.

5.0 CONSULTATION WITH OTHERS

- National Park Service personnel conducted a site visit with the permit applicant to review this proposal on the ground during the month of August 2001.

- Shasta County Department of Public Works, Traffic Division (Al Cappe) was consulted regarding the need to provide traffic control measures on Crystal Creek Road.

- U.S. Fish and Wildlife Service, (Jan Johnson) Yreka Office provided technical assistance related to northern spotted owls.

- Caltrans was consulted regarding traffic control measures on Highway 299.

- Crystal Creek Boys Camp (Tim Linsky) was contacted to discuss traffic delays resulting from project activity proposed in Alternative C.

- Northeast Information Center, Department of Anthropology, Chico State University was contacted concerning cultural resources.

This Environmental Analysis was prepared by:

L. Dean Price - A retired forester, formerly with the U.S. Forest Service. He has extensive experience in land use planning for the Trinity Unit of the Whiskeytown-Shasta-Trinity National Recreation Area and in preparing environmental assessment documentation for Forest Service projects.

George E. Belden - Forester and civil engineer, owner of Belden Forestry. He has had extensive experience in the planning and operation of timber sales and the use of helicopters for log yarding.

This Environmental Assessment was reviewed by National Park Service staff at Whiskeytown National Recreation Area, and has been recommended for public review by park superintendent, Jim Milestone.

This document will be available to the public and comments will be accepted for 30 days. After receiving and evaluating public comments, if the Superintendent finds that the proposed action will not significantly affect the quality of the human environment a Finding of No Significant Impact (FONSI) will be prepared and forwarded to the Pacific West Regional Director for his approval.