

## **Environmental Assessment**

### **Strongs Peak Fuels Project**

**Ogden Ranger District  
Uinta-Wasatch-Cache National Forest  
Weber County, Utah**

3/4/09

For Information Contact:

Eric LaMalfa  
507 25<sup>th</sup> St.  
Ogden, UT 84401  
801 625-5106

<http://www.fs.fed.us/r4/uwc/projects/>



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## **SUMMARY:**

The Ogden Ranger District, Uinta-Wasatch-Cache National Forest, proposes to construct a fuelbreak by thinning vegetation along an existing section of the Bonneville Shoreline Trail in Weber County. (Township 5N, Range 1W, Sections 2 and 11, SLM). The proposed action will occur within a 205 acre unit. The treatment area is approximately 1.5 miles long and generally located along the Bonneville Shoreline Trail. The project area occurs in Ogden, Utah where the trail connects Strongs Canyon (3500 S) and Beus Canyon (4800 S). The objectives of this project are to improve the existing fuel break provided by the Bonneville Shoreline Trail system and to reduce the dead fuel load and fuel continuity on slopes above the community.

The Strongs Peak Fuels Project will occur in an ecosystem dominated by Gambel oak (*Quercus gambelii* var. *gambelii*), open sagebrush (*Artemisia tridentata* ssp. *vaseyana*), and grasses (such as *Pseudoroegneria spicata* and *Poa bulbosa*); mechanical fuels treatment (thinning with chainsaw) will occur only within the oak patches. The Healthy Forest Restoration Act Environmental Assessment (HFRA-EA) and Decision Notice is expected in April 2009, with implementation beginning in the fall of 2009.

This project was initiated by the Strongs Peak Community Wildfire Council. This group of homeowners and landowners has been working with county, state and federal fire officials in order to decrease fuels on public lands adjacent to the community. The NEPA analysis and decision notice based on this Environmental Assessment (EA) will address one section of the Strongs Peak Community Wildfire Protection Plan (Allen et al. 2008) which requests fuels reduction on adjacent lands managed by the National Forest.

The proposed action is to reduce and modify oak brush dominated fuels within a 205-acre unit. Cleared materials will be piled and burned; some will be dragged to a chipper where roads are accessible. The width of the thinned and cleared areas along the trail will vary from 8 to 24 feet wide depending on topography and plant size/ distribution; the largest trees/stems will be left in order to maintain a sufficient shaded fuel-break. Small patches <20 ft. width may be cleared adjacent to the trail (at least 10 ft. off the trail) and within the oak brush habitat type for piling and burning thinned materials. Dead fuels (standing and downed) which occur within the unit but at least 25 feet away from the trail will be removed to break up the continuity of fuels (<100 ft. width). All treatments will attempt to mimic the natural aesthetic variation that occurs in oak clones (non-repetitive sinuosity and edge). In addition to the proposed action, the Forest Service also evaluated the no action alternative in which current management would continue. Under the no action alternative, no fuel modification would occur.

## **CHAPTER 1 – Introduction and the Proposed Action**

### **A. Background**

This project was initiated as part of the Community Wildfire Protection Plan (CWPP) with guidance from Kelly Allen of the State of Utah Department of Natural Resources (DNR). Several community leaders representing: Weber State University (WSU), Ogden City, Beus Hills development, Bona Villa Park development, and England Hills development have formed the Strongs Peak Community Wildfire Council. The council is actively working with private landowners and community partners in the treatment area to reduce heavy fuel loads, improve access for fire fighting resources, and improve defensible space around homes and other buildings on private property. The USFS Strongs Peak Fuels project will be the one component of the council's fire prevention and mitigation activities occurring on public lands.

Partners in this CWPP identified possible fuel reduction projects on adjacent Forest Service lands. Project proposals included the construction of fuel breaks, use of prescribed fire to reduce fuel loads, and other measures that would take advantage of existing trails and natural changes in fuel types near the community. Suggestions included the use of mechanical, biological, and chemical treatments. Eric LaMalfa, the North Zone Fuels Specialist for the Uinta-Wasatch-Cache National Forest led the planning and development of the Environmental Assessment. The decision to focus on hand thinning of fuels along the existing trail was selected as the proposed action. After considering all of the Council's suggestions and other internal USFS proposals, this action seems most consistent with the Forest Plan and has less environmental effects when compared to the use of prescribed fire, goat grazing, and chemical applications. However, other treatments may be looked at in the future for use along the east bench of the Wasatch Front.

The CWPP includes plans for thinning vegetation along undeveloped portions of Weber State University lands and Ogden City lands adjacent to the community. These projects (not being analyzed under this EA) will be implemented using Regional Forest service money allocated under the Steven's Act. This environmental assessment (EA) and subsequent decision notice will only analyze the effects of treatments occurring on the Uinta Wasatch Cache National Forest lands. The actions occurring on private non-federal lands will not be funded by the Uinta Wasatch Cache National Forest fuels program. The Forest Service has prepared this EA in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations, including the Healthy Forest Restoration Act (2003). This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and no action alternative. Additional documentation, including more detailed analyses of project-area resources including specialist reports, and reference materials may be found in the project planning record located at the Ogden Ranger District Office in Ogden, Utah.

## **B. Purpose and Need for Action**

The Strongs Peak Community sits below a steep hillside containing dense and continuous stands of Gambel oak (*Quercus gambelii*), and patches of sagebrush (*Artemisia tridentata*) mixed with various grasses and forbs. In addition to the natural forest vegetation (fuels), landowners have planted a variety of ornamental trees and shrubs in close proximity to structures and roads in the area. In recent years, several oak brush wildfires on the Wasatch Front have threatened homes, endangering both residents and firefighters. Much of the relatively old and decadent oak brush adjacent to Strongs Peak has not burned for many years. If an ignition occurs during hot and dry conditions it will likely result in extreme wildfire behavior. In this area, strong down-slope and down-canyon winds typically occur in the evening and could rapidly push fires burning on USFS lands above the community into the wildland urban interface (WUI).

Oak vegetation is generally considered in Fire Regime II or III, meaning that fires are usually stand-replacing to mixed (stand-replacing and surface) and with a frequent to moderately long fire return interval (Corbin et al. 2008). Oakbrush fires are often fast-moving, and wind and slope driven. (Bradley et al. 1992, p 45) On the Wasatch Front, oakbrush vegetation is generally dominated by old, dense vegetation with a fair amount of dead wood, contributing to an increased fire hazard. The oldest vegetation/ fuels in the treatment area are relatively mature (65-100 years old).

The Strongs Peak Fuels Project occurs within the Corbett Creek watershed (6<sup>th</sup> order hydrologic unit code HUC), in Weber County. A Fire Regime Condition Class (FRCC) assessment was completed for the national forest portion of this watershed, combined with the national forest portion of the adjacent Strawberry Creek HUC, in June 2005 as part of planning for the Uintah Highlands and Mountain Green Prescribed Burns. For the current Strongs Peak Fuel Project planning, the FRCC was re-evaluated, incorporating changes as a result of implementation of the two prescribed fires. The 2005 FRCC assessment found the watershed to be highly departed from reference conditions, or Fire Regime Condition Class 3, with 69% departure at the landscape (watershed) level. The current (2008) reassessment found that the landscape is still highly departed (FRCC 3), but the percent departure has been reduced to 67%. This project aims to produce a fuel break to reduce fire spread between the National Forest and the community. The proposed action will have negligible direct effects in restoring the natural fire regime at the landscape level because the treatment area is relatively small and thinning actions will primarily occur in selected areas along the trail.

### C. Proposed Action

The action proposed by the Forest Service to meet the purpose and need is creation of a fuel break between Strongs Canyon and Beus Canyon, within an approximately 205-acre area. This action will include the following prescription:

- Along the main trail, clear a linear swath by removing all vegetation within an 8' wide swath up to 10' high. This prescription is consistent with trail standards for pack and saddle (USDA Forest Service Handbook 2309.18 trail maintenance, page 18.2.31b). Although the treatment area is approximately 1.5 miles in length this treatment will only be used where Gambel oak dominates both sides of the trail (figure 2).
- Beyond the cleared swath, a shaded fuelbreak zone will be created by removing all dead wood and much of the smaller woody vegetation, but leaving the largest stems and trees. This zone will be up to about 8 feet from the edge of the cleared trail edge. The total treated width of the fuelbreak zone may be up to 24 feet wide. Specific treatment will vary depending on the oak canopy height.
  - **> 6 ft canopy** - Within this shaded fuel break zone all stems <1 in diameter will be cut flush with the ground surface. All remaining trees greater >1 in diameter will be limbed up to < 6 feet in height where ladder fuels exist.
  - **4-6 ft canopy** - Areas where the oak brush is 4-6 ft in height will be thinned to 2 ft between all rooted stems, selectively removing the smallest size saplings.
  - **< 4 ft canopy** - Areas where the oak brush is <4 ft tall will not be treated.
- Beyond the cleared swath and shaded fuelbreak treatment area but within the 205-acre project area, any dead wood (downed or standing) concentrations may be cut and piled (see figure 2).
- Woody cleared material will be either piled and burned, or dragged to a chipper and chipped.
  - All piling and burning activities will occur in oak dominated vegetation type (none in open sage/ grass types).
  - Small openings <20 ft in diameter may be cut for stacking the cut materials. These openings will be at least 10 ft away from the main trail.
  - Burning activities will occur during the fall and winter seasons (September- March) when soil moisture contents are moderate to high.
- No treatment (cutting, piling, or burning of slash) will occur within 300' of Beus Canyon or Strong's Canyon stream channels in order to protect municipal water and wildlife resources.
- The fuelbreak will also require maintenance, as the oak/maple brush is expected to quickly resprout. Maintenance activities (such as hand-cutting the sprouts) will occur on an approximately 2-5 year interval as needed.
- Any noxious weeds released from the fuelbreak clearing will be monitored and treated (as per the Wasatch-Cache Noxious Weed Treatment EIS 2006).

## **D. Mitigation Measures**

The following measures apply to the proposed action (Alternative 2), and are included in the analysis for environmental effects for this project.

1. Monitor and treat noxious weeds yearly for 2-5 years following project implementation, particularly in burn pile areas after burning. Follow the guidance in the Wasatch-Cache Noxious Weed EIS for any noxious weed treatment.
2. Slash will only be piled on talus material or within oak brush dominated stands where openings have been created. Slash will be piled at least 10 ft away from the trail.
3. Burn slash piles only when weather conditions are suitable to prevent escape and when proper smoke clearance is favorable.
4. No cutting of live or dead vegetation will occur within 300 ft of a stream channel.
5. The implementation of both cutting and burning activities will occur during the fall and winter seasons (September- March) in order to avoid disturbances to neo-tropical migratory birds and other wildlife.
6. Refueling equipment and using other chemicals will not occur within 300 feet of water features to keep from polluting water.
7. Hand trimmed branches will not be placed in the stream channels.
8. To avoid disturbance of wintering big game, implementation of the project will be suspended during periods of deep snow or stressful weather conditions.
9. The Ogden Mountainsnail is not likely to occur in the project area, however, crews working on the project will be trained to identify the snails and the wildlife biologist will be consulted immediately if any snails are located during implementation.
  - a. In the event that snails are located in the treatment area all implementation will be suspended and the Wildlife biologist will be notified.
  - b. Resumption of implementation activities will be contingent upon the assessment of the wildlife biologist after consideration of relevant forest policy, laws, and regulations.
10. Work with Forest Landscape Architect or approved representative during project implementation to delineate the shape of the meander at the edge of the trail (manage vegetation removal to appear non-linear and natural).

Figure 1. General Map Treatment Area.

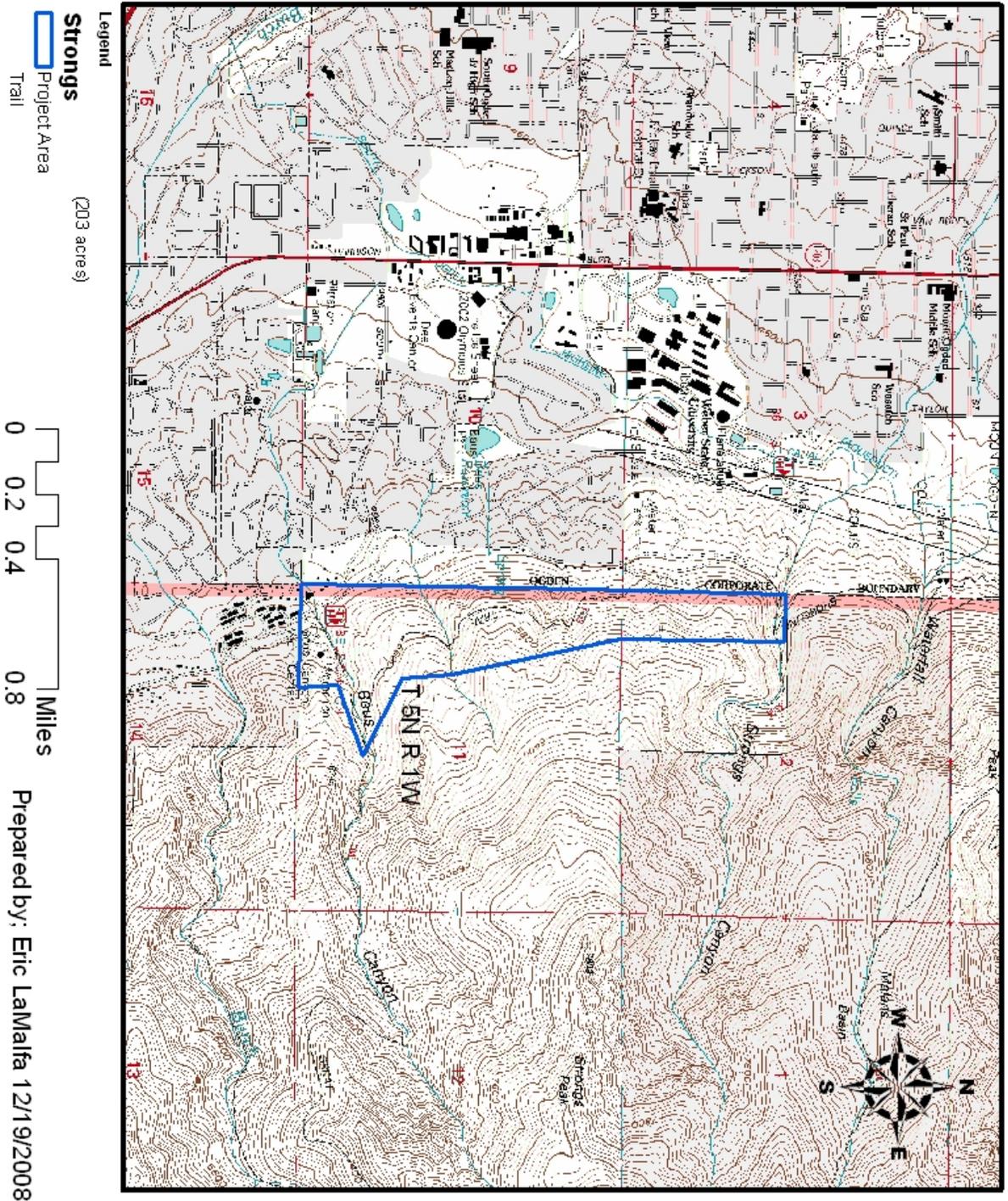
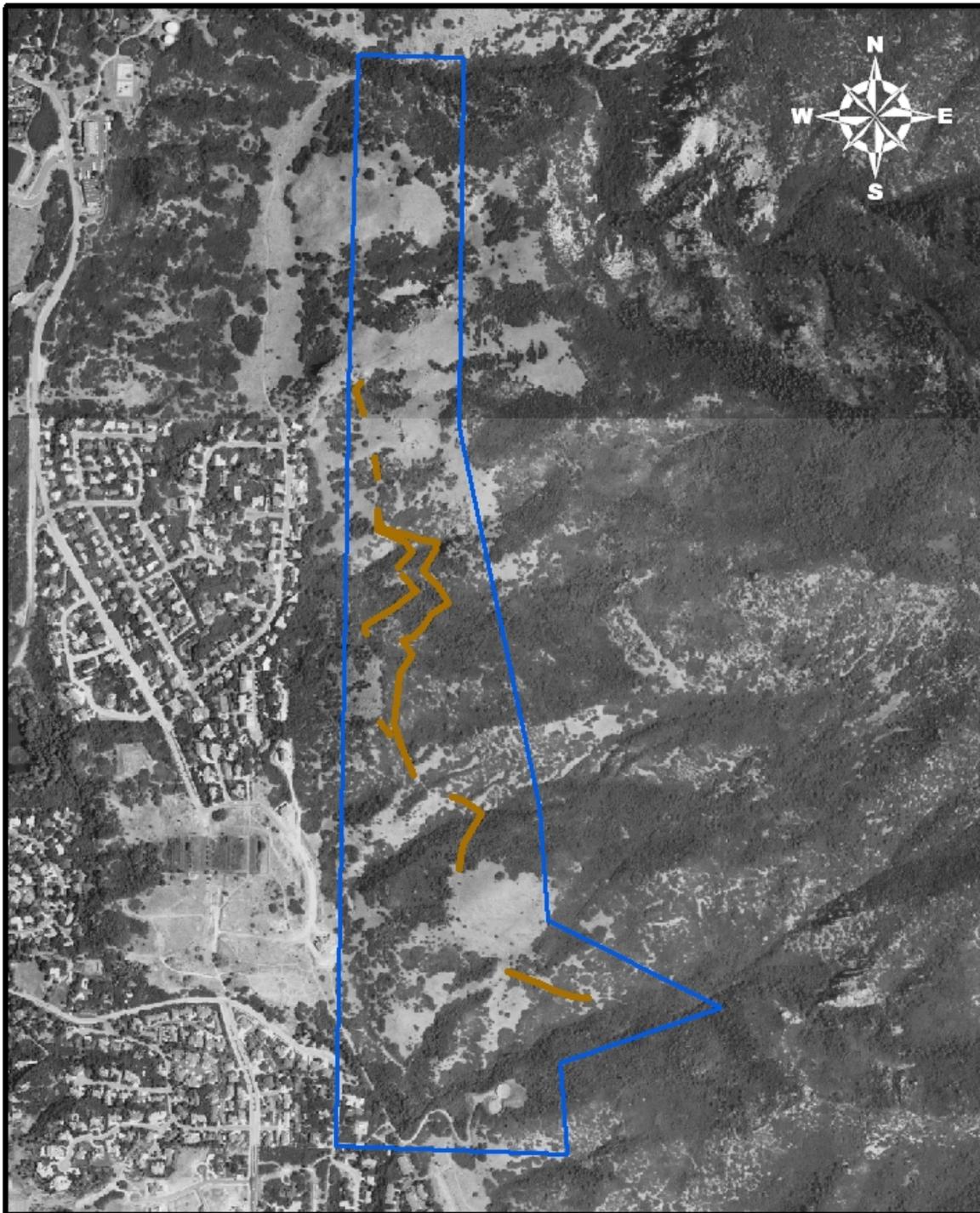


Figure 2. Treatment Area Map.

## Strongs Peak Fuels Project



- Legend**
-  ThinningBST
  -  Project Area (203 acres)
  -  Trail

0 0.1 0.2 0.4 Miles T 5N R 1W

Prepared by; Eric LaMalfa 12/19/2008

## E. Forest Service Policy and Guidance

The proposed action is consistent with the most current Forest Plan. Some pertinent guidance for management of the project area is described below, page numbers refer to the Forest Plan.

### Desired Future Conditions (p 4-142):

Fuel loads, especially in oakbrush, across the urban interface in Box Elder, Weber, and Davis Counties will be reduced and broken up to protect life and property. Access will be provided for fire protection. A fuel control program will be in place between Ogden Valley and the National Forest.

### Forest Goals and Subgoals (4-21):

Fuels are managed to reduce risk of property damage and uncharacteristic fires.

- Reduce hazardous fuels (prescribed fire, silvicultural and mechanical treatments) with emphasis on interface communities (wildland/urban) and increase proactive participation of communities at risk.

### Management Prescription (4-69 & 4-70):

Watershed Emphasis (3.1W consists of uplands identified as important watersheds): Timber harvest, road construction and new recreation facility development are not allowed. Vegetation/fuel treatment, prescribed fire, and wildland fire use are allowed for the purposes of maintaining, improving or restoring watersheds to desired conditions, and to protect property in the wildland urban interface. Livestock grazing is allowed on open allotments to meet site-specific defined desired conditions. New trail construction is allowed with consideration of existing road/trail densities.

### Applicable Forest-wide Standards and Guidelines (4-36 to 4-56):

- (S2) Apply runoff controls during project implementation to prevent pollutants including fuels, sediment, and oils from reaching surface water and ground water.
- (S7) Allow management activities to result in no less than 85% of potential ground cover for each vegetation cover type.
- (G4) At the end of an activity, allow no more than 15% of an activity area (defined in Glossary) to have detrimental soil displacement, puddling, compaction and/or to be severely burned.
- (G5) Do not allow activities that could result in water yield increases that would degrade water quality and impact beneficial uses.
- (G9) Avoid soil disturbing activities (those that remove surface organic matter exposing mineral soil) on steep, erosive, and unstable slopes, and in riparian, wetlands, floodplains, wet meadows, and alpine areas.
- (G11) Use Best Management Practices and Soil and Water Conservation Practices during project level assessment and implementation to ensure maintenance of soil productivity, minimization of sediment discharge into streams, lakes and wetlands to protect designated beneficial uses.
- (G14) Manage vegetation for properly functioning condition at the landscape scale. Desired structure and pattern for cover types of the

- (G35) The full range of fuels reduction methods is authorized consistent with management direction for the specific area.
- (S20) When constructing or maintaining roads, trails and facilities, use Best Management Practices to minimize sediment discharge into streams, lakes, and wetlands.
- (G44) When constructing and reconstructing roads, trails, and facilities minimize potential effects on habitat of plant species at risk and key big game winter and spring ranges.
- (G59) Manage Forest landscapes according to Landscape Character Themes, and Scenic Integrity Objectives as mapped. (See Chapter 4, A.7.Scenery Management [in Forest Plan] for definitions).
- (G60) Resource management activities should not be permitted to reduce Scenic Integrity below Objectives stated for Management Prescription Categories.
- (S32) Review undertakings that may affect cultural resources to identify potential impacts. Compliance with Sections 106 and 110 of the National Historic Preservation Act shall be completed before the responsible agency official signs the project decision document.
- (G88) Design any mitigation measures necessary to resolve adverse effects to sites in such a way that they provide the maximum public benefit that the sites (or the information derived from them) can offer.

The complete Wasatch-Cache National Forest Revised Forest Plan (USDA Forest Service 2003), can be found at: <http://www.fs.fed.us/r4/uwc/projects/wcnf/index.shtml>

## **F. Preliminary Issues**

Non-significant issues were identified as those outside the scope of the proposed action, already decided by law, regulation, Forest Plan, or other higher level decision, or irrelevant to the decision to be made. However, the Forest Service identified two preliminary issues concerning the proposed action requiring the following mitigation:

Disturbance to wildlife and habitat - The implementation of both cutting and burning activities will occur during the fall and winter seasons (September- March) in order to avoid disturbances to neo-tropical migratory birds and other wildlife.

Maintenance requirements for noxious weeds and fuels - Clearing areas adjacent to the trail may stimulate the regeneration of oak brush sprouts and may release noxious weeds; this will necessitate future maintenance activities including annual weed monitoring/ treatment and hand-cutting of oak sprouts. In order to reduce the propagation of cheatgrass, cut materials would be piled/ burned in the oak-dominated habitat type, on rock outcrops, or talus slopes, however, materials may not be piled or burned in or directly adjacent to sagebrush/ forb dominated habitat types.

## Public Involvement (Response to Scoping)

An important aspect of the environmental analysis process is the participation of the public and other agencies in identifying issues and concerns regarding the potential impacts of a proposal. The issues and concerns are then considered in developing alternative ways of meeting the proposal's purpose and need.

In July 2008, a scoping document describing the preliminary proposal and soliciting comments was sent to a number of individuals, organizations, and agencies on the District's mailing list, including adjacent property owners. The preliminary proposal was for fuel break improvement of the Bonneville Shoreline Trail. Two formal responses were received from this scoping. In addition, the development of the Community Wildfire Protection Plan involved extensive community and interagency participation including: Utah Division of Forestry Fire and State Lands, Weber State University, Ogden City, and Weber County Fire District participation.

One of the adjacent landowners was concerned that removing vegetation to create defensible space on his own property was prohibited by the city building code. He was referred to Kelly Allen of the CWPP who is involved with vegetation treatments on private land.

One public interest group supported the general purpose of the project with the premise that all best management practices (BMP's) and other mitigation measures were clearly defined in the EA to prevent the spread of noxious weeds and to protect, wildlife (e.g. migratory birds), soils, and hydrological values. In addition two issues concerning the proposed NEPA analysis were raised:

1) The level of NEPA analysis was not specified in the scoping letter.

Response: the analysis is in the form of a Environmental Assessment (EA) and following provisions of the Healthy Forests Restoration Act (HFRA) as follows;

For areas inside the wildland-urban interface and within 1 1/2 miles of the boundary of an at-risk community, the USDA Forest Service and DOI BLM are not required to analyze any alternative to the proposed action, with one exception:

If the at-risk community has adopted a Community Wildfire Protection Plan and the proposed action does **not** implement the recommendations in the plan regarding the general location and basic method of treatments, agencies are required to analyze the recommendations in the plan as an alternative to the proposed action (Sections 104(d)(2) and (3)).

Agencies are not expected to develop a full no-action alternative. However, they should evaluate the effects of failing to implement the project. This information will be useful if courts consider requests for an injunction and must balance the short and long-term effects of taking or failing to take an action.

For areas within the wildland-urban interface, but farther than 1 1/2 miles from the boundary of an at-risk community, the USDA Forest Service and DOI BLM are not

required to analyze more than the proposed agency action and one additional action alternative (Section 104(d)(1)). Agencies are expected to analyze the effects of failing to take action.

2) The proposed action in the scoping document included removal of live vegetation within the 203-acre treatment area but not adjacent to the Bonneville Shoreline Trail, however this part of the treatment was not clearly defined. The original map included polygons not adjacent to the shoreline trail but within the treatment area.

Response: The original idea was that areas with heavy fuel loading within the unit (not adjacent to the trail) could be cleared in mosaic patterns <100 ft in width to break up the continuity of the heavy fuels within the treatment area. This provision has been removed. In the new proposed action for this EA the treatment prescription includes removal of any dead wood (downed and standing concentrations) within the project area (beyond the cleared swath and shaded fuel break along the Bonneville Shoreline Trail). As part of the mitigation for protection of water and wildlife resources we will not remove any vegetation (live or dead vegetation) within 300 ft of the stream channels.

## **CHAPTER 2 - ALTERNATIVES**

This chapter describes and compares the alternatives considered for the Strong's Peak Fuel break. Since this project is very limited in area, scope, and purpose, only the proposed action and no action alternative are studied in detail. Specific impacts and conditions for each alternative are described in Chapter 3, Affected Environment and Environmental Consequences.

### **A. Alternatives Eliminated from the Environmental Analysis**

This project was initiated by the Strong's Peak CWPP in collaboration with the Utah Division of Natural Resources, Forestry, Fire, and State Lands. The Strong's Peak Community Wildfire Protection Plan requests that the Forest Service reduce hazardous fuels on lands adjacent to the property. The plan suggested using a variety of methods what were discussed by members of the Strong's Peak Community Wildfire Council, including: goat grazing, prescribed fire, chemical applications, and mechanical treatment. From within the USFS, a recreation-specific alternative was proposed by the recreation specialist. We eliminated many of these actions prior to conducting the environmental analysis for the following reasons.

Goat Grazing – Using browsers to reduce fuel loading in oak brush dominated landscapes has been proven to be very effective particularly where plants are of a small stature (e.g. maintenance of re-growth after mechanical clearing). However, the high visibility impacts and cost of this treatment may be prohibitive on the Wasatch front. The primary reason for not using this method at the current time is that areas of the forest being managed with a Watershed Emphasis (3.1W consists of uplands identified as important watersheds) restrict the creation of new grazing allotments. There is no precedent for the

temporary use of goats without the creation of an allotment (although this option may be explored in the future).

Prescribed fire – Fire usually stimulates sprouting of Gambel oak after top-kill, increasing density of previously open stands and merging scattered stands into continuous thickets (Brown 1958). Timing and frequency of burning can influence oak's resprouting ability as well as competition from other species. Harrington (1985) examined effects of burn timing (June, August, or October) and frequency (one or two burns in a 4-year period) on Gambel oak in a Colorado pine-oak stand. He found that after 4 years, all burn treatments increased densities of sprouts relative to unburned controls because of prolific sprouting of top-killed, small-diameter stems. A second burn in summer, however, resulted in the least sprouting because oak carbohydrate reserves to incite sprouting were lowest at that time. Nevertheless, burning in any season appears to kill small stems and stimulate shrub-like sprouting (Harrington 1985). The Ogden Ranger District has recently used prescribed fire to reduce fuels in the Uintah Highlands and Mountain Green fuels projects. By monitoring these past treatments which have occurred in areas with very similar fuels and topography we have learned that the effects of prescribed fire on fuel continuity are temporary. On the front range, fire has a greater potential to promote weed establishment when compared to other treatments. Our objective is to create an effective fire break by using a small precise treatment that will minimize effects to scenic values and recreation opportunities.

Chemical treatment – Single applications of chemical treatments may not fully kill the existing vegetation. Removal of oak may allow for the establishment of cheatgrass or other flashy fuels, shifting the problem of high fire severity risk (oak brush) to high fire frequency (cheatgrass). Also, this treatment similar to prescribed fire allows the vegetation to quickly recover. Unlike the use of fire no vegetation is removed and therefore this method shifts the fuel type from live fuels to primarily dead fuels. This may increase the hazardous fuel load and fuel orientation in the long term.

Mechanical treatment (Heavy Equipment) – Treatment using heavy equipment (e.g. bull hog) is not possible due to the steepness of slopes and potential for soil disturbance in the treatment area.

Mechanical treatment (Recreation quality mitigation) – This alternative for the Strongs Peak Fuel project focused on mitigation of impacts to recreation quality would limit or eliminate vegetation removal immediately along the BST from Beus Canyon to Strongs Canyon (see recreation report, project record). A 10' foot wide clearing on the trail would be adjacent to a visual buffer strip of uncut vegetation along either side of the trail. This uncut strip would be at least 15' in width. Beyond the buffer strip a swath of cleared vegetation would serve as the fuel break. This treatment would mitigate the negative psychological impact that many humans have if they notice reoccurring evidence of vegetative manipulation along the trail. However, this action would not meet the purpose and need which is to produce a sustainable fuel break that will reduce fire spread between the National Forest and the community.

## **B. Alternatives Considered in this Environmental Analysis**

### Alternative 1, No Action

Under the No Action alternative, current management would continue in the project area. Under this alternative, there would be no fuels treatment, and environmental consequences of the existing conditions would continue.

### Alternative 2, Proposed Action

Alternative 2 is the proposed action, creation of the fuelbreak as described in Chapter 1. Figure 1 shows the general location of the project area near Ogden city. Figure 2 shows the specific location of the proposed fuelbreak and affected dead wood removal area.

Table 1. Comparison of alternatives

<b>Treatment</b>	<b>Alternative 1 No-action</b>	<b>Alternative 2 Proposed -action</b>
Fuel Modification (dead wood removal)	None	205 acres
Thinning along the Bonneville Shoreline Trail	None	Approx. 1.5 miles

## **CHAPTER 3 – EXISTING CONDITIONS AND ENVIRONMENTAL CONSEQUENCES**

This section summarizes the physical, biological, social, and economic environments of the project area and the potential direct and indirect impacts to those resources that could occur due to implementation of the alternatives. Direct effects are defined as those impacts that occur at the same time and place as the proposed action; indirect effects are those impacts that occur later in time, or at another location, than the action itself. In addition, this section described the cumulative effects or the incremental impact of past, present, and reasonably foreseeable future actions for the project area. This section also presents the scientific basis for comparison of the alternatives.

### **A. List of Past, Present, and Reasonably Foreseeable Future Activities**

These activities near the project area have been considered in the cumulative effects analyses for this project, as appropriate to each resource. Construction of the Bonnaville Shoreline Trail is the only recorded USFS activity that has occurred within the 205-acre project area.

Table 2.

Action	Description	Date
Housing Developments	Several private subdivisions exist adjacent to the project area, additional subdivisions expected to be built on private property along the Ogden bench.	1940s to present and future
Roads	Numerous paved roads exist within the existing housing developments, roads on USFS lands have been decommissioned along the bench. The trail system allows for non-motorized access only.	1900s to present.
Trails	Beus Canyon trailhead and trail construction & The Bonneville Shoreline Trail construction	1997 to present
Fuels Treatments	Uintah Highlands prescribed fire	2007
Wildfire	Mountain Green prescribed fire	2008
	In the past 40 years at least ten moderately sized wildfires (>100 acres) have been recorded along the Ogden bench. Fires in this area typically ranging from 1-400 acres in size. The project area has not burned in many years (no USFS fire history record found). Based on the fuel loading and vegetation structure we estimate that the oldest vegetation in the project area last burned 65-100 years ago.	1969-present
Grazing	This area is not within a grazing allotment. Presumably the area was grazed heavily by sheep from colonization until the early part of the 19 <sup>th</sup> century.	~ 1850 to ~ 1930
Timber & fuel wood harvest	Timber harvest has not occurred in this area due to vegetation cover type. Presumably fuel wood gathering occurred in this area beginning in the late 1800's.	1800's to present

## B. Literature Review on Gambel oak (*Quercus gambelii*)

Oak brush is the predominant vegetation along the East bench of the Wasatch Front. In recent years this vegetation type has proven to be one of the greatest fire hazards within Northern Utah's Wildland Urban Interface (WUI). This vegetation type becomes extremely dangerous for firefighters when the understory burns without consuming the overhead canopy ("dirty burn"). These highly volatile fuel conditions have the potential to re-burn with little warning due to the preheated and dried condition of the unburned canopy fuels. Re-burn in a steep canyon with mature oak brush physically caused fatalities of fourteen firefighters during the South Canyon Fire near Grand Junction Colorado on August 17, 1994.

Manipulating oak growth forms is one of the main means for managing oak and ecosystem components affected by oak. Published research has classified variants of three basic oak growth forms: shrubby thickets of small stems, pole-sized clumps, and large trees (Abella 2008). The management of oak brush as a hazardous fuel is difficult

because it is a species that thrives in a fire prone environment. Oak brush is slightly fire resistant (large diameter stems may survive fire) and highly fire resilient (prolific resprouting from root clones occurs after fire).

It has been suggested that oak brush stands reach maturity in 60-80 years and begin to die naturally at 80-100 years (Simonin, 2000). The younger communities [shrubby thickets] generally have the greatest density and smallest basal area (Ryniker et al. 2006). After an extended period without fire, light levels at the soil surface can be reduced by the canopy such that juveniles of shade intolerant species, such as oaks, are growth suppressed (Russell and Fowler, 1999). In previous fuels reduction treatments on the Wasatch Front, mature oak brush and mixed oak/ big tooth maple (*Acer grandidentatum*) have been clear cut leaving few if any remaining shade trees to create fire breaks. In these treatments the oak brush has quickly re-sprouted from the surviving root system taking the form of a short but highly dense stand (Personal observation). The utility of these fire breaks is generally short lived requiring frequent maintenance (3-5 year treatment cycle).

Fire spread and intensity are affected by fuel size and the compactness/ arrangement of fuels. Greater biomass (fuel) does not necessarily result in increased fire behavior. For example if the distribution of fuel size has been shifted such that there are more large diameter “logs” and fewer small diameter stems “kindling” a surface fire may not spread as rapidly. An emerging approach to managing oak brush fuels is to manipulate the structure (age class density) of the vegetation. This approach aims to promote the growth of fewer large diameter trees which helps to alter fire behavior and improve access for firefighters. Managing for large diameter trees may also suppress seedlings and may inhibit resprouting, thus, prolonging the effects of the fuels reduction treatment. The uncertainties regarding oak thinning include how clones allocate energy between resprouting and growth of residual stems, and whether sprouting or growth responses vary as stems or clones age (Clary and Tiedemann 1992, Abella 2008).

By comparing the growth rates of oak and maple basal area, Harper (1985) inferred that as oak stands are invaded and displaced by Maple, fire proneness is decreased. Selectively preserving big tooth maple trees when thinning mixed oak/ maple stands may help to accelerate the natural succession of oak to maple-dominated stands. In the Strongs Peak project area a small component of maple exists on the north facing aspects and in the bottoms of ephemeral drainages.

Three strategies for managing oak/ maple fuel structures have emerged on the Wasatch front: 1) clear cutting fire breaks to create short shrubby thickets where fire retardant will be more effective, 2) thinning and limbing trees to promote pole sized clumps and large diameter trees where fire activity will be limited to the ground, and 3) combining these strategies where existing road and trail infrastructures already provide some fire control options. Each of these strategies has trade offs including cost, maintenance, impacts to natural resources and recreation, and effectiveness. Literature on the long term trade offs of these strategies is lacking, therefore additional efforts should be made to design and implement a specific monitoring strategy that will inform future management decisions.

### C. Vegetation and Fuels:

The current and desired future conditions for vegetation and fuels are described in terms of structure and fuel loading, which in combination with weather conditions will determine how a fire behaves. The effects of the alternative actions will be discussed in terms of expected fire behavior. Determination of existing vegetation and fuels conditions are based on fuels monitoring plots established within the project area, and field visits with fire management staff (summer 2008).

#### *Desired Conditions:*

Desired conditions for vegetation and fuels would be oak vegetation structure that would produce relatively low intensity/severity fire behavior on and adjacent to the trail (compared to untreated areas). This desired structure would have minimal dead wood, and would have relatively open oak stands (fewer small diameter stems per area), and a high proportion of large, shade-bearing vegetation. The desired conditions will maintain high ground cover of herbaceous, graminoid native vegetation that will suppress the growth of woody ladder fuels (shrubs and oak brush). This vegetation structure will allow firefighters to safely access the area and/or quickly escape if needed. The fuel break may be used to light a backfire in order to contain a wildfire on the slope above. By leaving considerable amounts of large live woody vegetation including maple, we expect that the small diameter live woody fuels will be suppressed via plant competition. The treatment is expected to have longer utility compared to clearing all vegetation which quickly returns to prefire fuel loading within 18 years (Allman 1953). Invasive weeds should not significantly impact or replace native vegetation (fuels), and weeds should not create new undesirable fuel conditions (e.g. cheatgrass invasion).

#### *Existing Conditions:*

The existing condition of vegetation and fuels is of a relatively dense stands of Gambel oak on the north facing sub-drainages between Strong's Canyon and Beus Canyon. Understory vegetation within these stands is primarily Oregon grape (*Mahonia repens*), and blue wildrye (*Elymus glaucus*). Based on the 2008 monitoring plots, fuel loading is moderate (Tables 1 and 2).

**Table 1 – Dead and Down Fuel Loading**

<b>Fuel Component</b>	1-hr	10-hr	100-hr	1000-hr	duff	litter	Total Dead and Down
<b>Fuel Loading (tons/acre)</b>	0.23	1.9	4.0	4.1	15.4	.2	25.8

**Table 2 - Standing Fuel Loading (fuels less than six feet tall)**

<b>Fuel Component</b>	Live shrub	Dead shrub	Live herbaceous	Dead herbaceous	Total Standing
<b>Fuel Loading (tons/acre)</b>	1.7	7.8	0.2	<0.1	9.8

The Forest Service portion of the subwatershed containing this project was recently classified in Fire Regime Condition Class (FRCC) 2, moderately departed from reference conditions (See Background, in the Introduction). Within the national forest portion of this subwatershed, we have no records of large fires. Moderately sized fires within a mile of the project area include The Strongs Canyon Fire (139 acres in 1990) is above the project area at approximately 6400 ft elevation. The Waterfall Canyon Fire (127 acres in 1963) is adjacent to the north end of the treatment area. Both human and lightning caused fires are common on the Wasatch front.

Under current vegetation and fuels conditions, the expected fire behavior under severe weather would be a relatively fast moving, intense crown fire within the oak dominated fuels. This expected fire behavior would be extremely dangerous for firefighters, homeowners, and recreationists in the fire's path. Home and/or property damage is highly likely to occur during high to extreme fire danger conditions (National Fire Danger Rating System Indices).

Noxious weeds have been identified and treated by the weed management and botany crews. A field survey of the treatment area was conducted to inventory noxious weeds and search for sensitive plant species in August of 2008. The botany crew searched for protected populations of *Draba burkei* among the many rock outcrops, cliff faces and rock formation complexes scattered on the landscape along that segment of the Bonneville Shoreline Trail and into Strong's Canyon. No *Draba burkei* was found. Rock crevices, bases and faces near the Bonneville Shoreline Trail were either bare or grew very sparse vegetation such as *Poa bulbosa*, *Bromus tectorum*, *Ipomopsis aggregata* or small clumps of *Artemisia tridentata*. Rock outcrops in Strong's Canyon were commonly covered with Watson's spikemoss, *Selaginella watsonii*, with occasional *Sedum lanceolatum*.

One hillside within the treatment area was found to be infested with the noxious weed yellow-star thistle (*Centaurea solstitialis*). Other locations had patches of myrtle spurge (*Euphorbia myrsinites*), Dyers Woad (*Isatis tinctoria*) and several other noxious weeds. These areas will be hand pulled or sprayed during the spring of 2009 regardless of the Strongs Peak Fuels project decision based on this EA. For a complete list of plants and weeds inventoried see the project record (Duncan - Botany report 2008).

### ***Environmental Effects (Vegetation and Fuels)***

#### **Alternative 1 – No Action**

Under this alternative, vegetation and fuel conditions would continue to be relatively dense. The risk of dangerous firefighting situations and undesirably severe effects from wildfires such as high burn severity on soils, noxious weed establishment, and erosion/landslides would continue. Cumulative effects from fuel buildup would continue.

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

Direct effects on vegetation from this project would be the immediate creation of relatively open oak stands [pole sized clumps], with increased light and moisture to the understory. This is likely to increase growth of the understory (grasses and herbaceous plants), and may increase young woody sprouts (Simonin 2000). Indirect effects on

vegetation would be the potential for any noxious weeds on site to increase as a result of the more open stand; however, this will be mitigated by planned weed treatments. No direct or indirect effects on TES plants are expected, since none are known or expected within the treatment area.

Direct effects on fuels from the proposed action would be a reduction in fuel loading, with a high reduction in dead fuels (standing and downed), and a minor reduction in small diameter (<1" diameter) live fuels and ladder fuels in targeted areas along the trail. When a future wildfire encounters the treatment area it will have reduced fire behavior (shorter flame lengths and slower rate of spread) in the treated firebreak areas. As a result of this reduced fire behavior, firefighters will be able to use the firebreak as an anchor point for backfires or for fire-line construction. Firefighter access will improve with increased ability to apply standard firefighter safety guidelines: Lookouts, Communications, Escape Routes, and Safety zones (LCES). The risk of life and/or property loss will be reduced when fires occur above the trail.

Effects on the Fire Regime Condition Class (FRCC) are likely to be small. The proposed project will not affect the fire frequency, but will slightly reduce the departure in expected fire severity. The project will directly create a negligible amount of early seral oak vegetation, which is currently under-represented in the subwatershed. However, because the treatment area is small the sub-watershed will still be classified as FRCC 3, high departure from reference conditions (Corbin 2008). Effects on vegetation and fuels from maintenance activities are similar to the effects described above, but to a lesser degree, since only new growth or newly dead wood will be treated. Given the small project area, and minimal additional disturbance from maintenance, effects from maintenance activities will be minor.

**Cumulative Effects** – The cumulative effects on vegetation and fuels will be minimal, given the relatively small size of the project area and low impact to vegetation. Few past actions have occurred on the adjacent National Forest lands. The Uintah Highlands Prescribed Fire was implemented in March 2007. Approximately 290 acres were mapped within the actual burn perimeter. (The affected area was recorded as 639 acres.) Mortality monitoring (conducted April 2007) indicated that within that perimeter, 8% of the oak was topkilled, and about 22% underburned but not topkilled. This indicates that about 23 acres of early seral vegetation were created, and perhaps 60 acres of late seral open created. Similarly, the Mountain Green Prescribed Fire was implemented in April 2008. The affected area was reported at 1000 acres; the burn perimeter was approximately 600 acres. Mortality monitoring indicated that within the burn perimeter, 29% of the vegetation (mostly Gambel oak) was topkilled, and 25% underburned. This produced approximately 200 acres of early seral oakbrush, and perhaps 150 acres of late seral open oak brush.

#### **D. Soil and Water**

In Utah most precipitation occurs from winter snowfall and summer thunderstorm activities. Thunderstorms generally occur as a cloudburst that may drop heavy precipitation along a narrow path (Ashcroft et al. 1992). The project area includes small portions of the perennial streams which flow out of Strongs Canyon and Beus Canyon. A

small ephemeral channel is located north of Beus Canyon is also within the project area. These drainages flow into small basins or into parks within the cities of Ogden and South Ogden. Beus Creek flows through a pipe into Beus Reservoir (Beus Pond) that is then used for wildfowl habitat, recreation, and flood control. Water from Strongs Canyon is used by Ogden City for culinary and industrial uses. The drainages within the project area are not connected directly with other streams or rivers. No other water features are present within the project area.

The State of Utah has designated the streams draining the Bear River watersheds above the National Forest boundary as Antidegradation Segments. This indicates that the existing water quality is better than the established standards for the designated beneficial uses. Water quality is required by state regulation to be maintained at this level. The beneficial uses of streams within these watersheds, as designated by the Utah Department of Environmental Quality, Division of Water Quality, are:

- Class 2B – protected for recreation
- Class 3A – protected for cold water species of game fish and other cold water aquatic species
- Class 4 – protected for agricultural uses.

The numeric water quality standards can be found in Section R317-2, Utah Administrative Code, *Standards of Quality of Waters of the State* (Utah, State of. 2006).

Based on a review of the 2006 Utah 303(d) List of Impaired Waters, the waters draining the project area have not been assessed.

#### ***Environmental Effects (soil and water)***

**Alternative 1, No Action** – No damage to stream banks and no erosion is expected to occur that may move sediment into the stream because the project would not be implemented.

**Alternative 2, Proposed Action** – Cutting by hand with a chain saw and chipping have very little impact on the soils and may improve ground cover. It is expected that the stream channels in the project area will not be affected by the proposed action because no ground disturbance is proposed and the residual vegetation should provide adequate ground cover to protect the soil. Monitoring was done during a field review of a similar treatment on the foothills near Layton, UT on June 1, 2006. The monitoring results indicate that mechanical treatments using chainsaws to cut vegetation do not cause erosion, however they do provide ground cover that protects the soil. With ground cover protecting the soil, no accelerated erosion or sedimentation of streams is expected from the project resulting in no adverse effects to water quality. No work would be done in Strongs Canyon or Beus Canyon and no adverse effects to the stream channels or riparian corridor is expected.

1. Wetlands - Within the project area, no wetlands are located in areas where work would be done and no adverse effects to wetlands are expected.
2. Floodplains - Floodplains are defined by Executive order 11988 as “lowland and relatively flat areas adjoining inland and coastal waters”. No significant effects to floodplains from this project are expected because no floodplains are within or near the project area.

3. Municipal Watersheds – The water in Strongs Canyon and Beus Canyon are used for municipal purposes. The project design does not include work within 300 feet of Beus and mitigation requires no work within 300 feet of Strongs Canyon. These requirements are expected to protect the water quality of these streams and result in no adverse effects to municipal uses of the water.

**Cumulative Effects** - Other activities that occur within the cumulative effects area are two stream crossings by foot bridges and the residential development (Ogden City) below the project area. Since no measurable erosion or sedimentation is expected from the proposed action cumulative effects are not expected.

## **E. Recreation, Scenery, and Roadless**

This portion of National Forest has specific recreation activities that occur based primarily on the improved access created by the Beus Trailhead and Beus Drive and the USFS system Bonneville Shoreline trail. The Beus Trailhead #6573 was constructed in mid-1990's with a cooperative partnership between the Forest Service, Ogden City, and Utah Parks and Recreation. At that time, an informal trail in Beus Canyon existed but the trail was not as usable as it is now. During that same period (1994-1998), the Beus Canyon Trail #6045 was improved and extended an additional 6.5 miles east to Snowbasin. The Bonneville Shoreline Trail #6339 was constructed from Beus Trail to tie into the road north of the gate on Beus Drive.

The section of the Bonneville Shoreline Trail within the project area was planned and constructed in 1997 by the Forest Service. The purpose and need was to extend the BST further south to the Beus Canyon Trailhead. During the NEPA phase of the project, the Ranger District had a neighborhood meeting at a home on Beus Drive. At that time, a new trail route above the private home was proposed. The residents were unanimous in their desire to have the trail build on a much higher elevation to distance the route from their back yards. Since this was a feasible alternative in the EA that fulfilled the purpose and need, the District Ranger chose this alternative. The higher alignment was flagged and partially constructed by the Utah Prison Fire Crew (Flamingos). The remaining section was built by hand by the District Trail Crew. Funding came from a partnership with Utah Parks and Recreation and the Forest Service.

In approximately 2001, the Ogden Trail Network proposed that a section of this constructed trail be rerouted to avoid an excessively steep section. The District Trail Crew constructed a reroute that is evident today since the other route was not abandoned but rather left to be used by trail users who could or was willing to traverse the steep section.

Although this is locally described as the Bonneville Shoreline Trail, this section is not listed on the Bonneville Shoreline Trail Website ([bonnevilleshorelinetrail.org](http://bonnevilleshorelinetrail.org)) as the main trail. In the effort to keep the BST on the actual historic bench created by Lake Bonneville, the city streets beginning on Beus Drive south to I-84 and Highway 89 intersection is the "official" BST. This may be a consequence of choosing the higher elevation trail alignment rather than building on the Lake Bonneville bench. However,

the BST webmaster may add the trail to the BST system (personal communication, Geoff Ellis). The Pathways trail map for Weber County currently shows both the Forest Service trail and the BST located on the city streets.

The Wasatch-Cache Forest Plan EIS lists the BST as an important Regional Trail in the Wasatch-Cache National Forest (USDA Forest Service 2003, FEIS, page 3 – 240). The EIS states the following objectives for the BST on the Wasatch-Cache NF.

- Provide ready access to the Wasatch foothills public lands.
- Provide a place for people to pursue their recreational pursuits that is safe and aesthetically pleasing, trying where possible to accommodate a broad range of non-motorized uses.
- Provide a place for people to have an opportunity for quiet and scenic recreational use nearby, yet apart from the urban Wasatch front.
- Provide for rapid deployment of fire fighting resources to the urban/foothills interface, opportunities for backfiring operations, cleared trails for firefighter escape routes, and to serve as a buffer between the urban and natural environments.
- Contribute to the preservation of aesthetic, wildlife, historic and educational values of the foothills.

Ogden City has a sub-committee assigned by the Mayor of Ogden to manage the system of trails inside Ogden (the river trail) and adjacent to Ogden. The Forest Service signed a MOU with Ogden City in 1992 supporting and approving the maintenance and management of Forest Service lands and trails adjacent to the City boundary. The Forest Service must approve new construction and to date, very little new construction has occurred on NF lands. The majority of activity has been on the private properties extending north from the project area. These trails occur on Weber State University property, the area known as Malan Peak currently owned by Salt Lake Exchange Accommodations LLC (Chris Peterson), Malan Religious Foundation, and Solar Engineering (Behnken family).

Weber Pathways has existed since about 1999 and has been involved in management of these trails as well as others. They publish a trail guide titled Pathways in Weber County which includes the trails in this project area. They have been critical in planning routes including designation of city streets from the project area down to the I-84 and Highway 89 intersection as the official Bonneville Shoreline trail.

*Existing conditions:*

The project area is being managed as a “High” scenic integrity objective in a “Natural Appearing” landscape character theme through the Forest Plan. In this “Natural Appearing” landscape some positive man-made elements are visible to the casual visitor and are considered part of the valued built environment. Such features as trails, and trailheads are evident but repeat the form, line, color and texture of the surrounding landscape. Many managed and user created trails are visible to Ogden residences from their homes, Harrison Boulevard and streets heading easterly. For the most part FS manage trails traverse the viewed landscape and are only visible when there is a light

amount of snow on the ground in the late fall or early spring. User created trails are more evident because they create nearly vertical lines in the landscape.

This westerly slope is the scenic backdrop for the community of Ogden and is common to other westerly slopes along the Wasatch Front where the mosaic of gamble stands provide diversity to the viewed landscape. Local residence place great value in the intactness of this natural appearing landscape as they view it from their homes and travelways.

The route of the Great Western Trail is Beus Canyon Trail over the top of the Wasatch Crest to Snowbasin and north to Cache County. Some overnight camping occurs in Beus Canyon east of the project area in a wider section of Beus Canyon known as “Fern Valley”. This trail is the only legal public access from Ogden City directly to Snowbasin. The Great Western Trail is the second most important Regional Trail in this Forest. Another hiking trail exists through Malan Basin on private property but those trails do not have legal status as open for public use. Beus Canyon also offers the pleasant setting of hiking alongside an active stream. Beus stream is a perennial stream which flows water year-round.

The Strongs Fuel Treatment is within the inventoried Burch Creek Roadless Area. Which is 6,900 acres located just east of the towns of Ogden, South Ogden and Uintah. It borders Snowbasin Resort on the east side right along the ridgeline of the Wasatch Crest. This Roadless area is classified as a Low Value Area. A mostly natural environment is present. In some locations in the roadless area, a visitor’s sense of solitude is diminished from the sights and sounds of nearby development. (USDA Forest Service 2003, FEIS, Appendix C1-40).

*Desired Conditions;*

The Wasatch-Cache National Forest will always play the role of providing ‘natural appearing’ landscapes as a background, middle ground, and foreground, depending on your vantage point in relation with the urban city experience. The National Forest adjacent to the Urban Front is without question important as an escape from the city streets and the only ‘Green Space’ available in any significant amount along the Wasatch Front. Included in this uniqueness are the views of the community from the National Forest.

The hiking and biking trails located on the slopes of Wasatch Front above the communities have a special quality and uniqueness. The mountains along the Ogden Front are so steep; few citizens can find pleasure in hiking cross country and up or down the canyons and draws without trails. These access corridors along the front range, especially the North-South routes, concentrate almost all of the human uses into a very small strip of land. This makes the physical setting alongside the trails (BST, Beus Canyon) important to maintain as natural appearance as physically possible.

The Recreation Opportunity Spectrum (ROS) encompasses a variety of recreational settings under which certain experiences are possible. Seven elements provide the basis for management and delineate recreational settings. These are: access, remoteness, naturalness, facility and site management, visitor management, social encounters, and

visitor impacts. Based on the seven elements described above, a spectrum of seven recreation opportunity classes are used to manage the Wasatch-Cache National Forest. These recreation opportunity classes include: Urban, Rural, Roaded Natural, Semi-Primitive Motorized, Semi-Primitive Non-Motorized, Wilderness/Semi-Primitive Non-Motorized, and Wilderness/Primitive.

The recent Revised Forest Plan inventoried and classified areas of the Forest by recreation opportunity class. The Strongs Fuel Project Analysis Area consists of Semi-Primitive Non-Motorized only. Descriptions of this recreation opportunity class used in the Revised Forest Plan are provided in the Table 3.6.0 (USDA Forest Service 2003, FEIS, Appendix D2-6&7) and in the Forest Plan (USDA Forest Service 2003, Forest Plan, page 4 – 79 to 4 – 88).

Table - 2. Description of Semi-Primitive non-motorized ROS class:

ROS CLASS	DESCRIPTION	
	Setting	Characteristics
Semi-Primitive Non-Motorized	Physical	<i>Water Crossing</i> – rustic structures or bridges made of natural materials <b>Vegetation:</b> Predominately natural, treatment areas exist to enhance forest health but are few and widely dispersed.
	Managerial	Minimum or subtle signing and regulations, some encounters with rangers, motorized travel prohibited
	Social	<b>Off Trail System:</b> Low encounter with other parties <b>Trails:</b> Low to Moderate encounters with other parties <b>Local Adjustment:</b> Some areas are adjacent to population centers and the sights and sounds of these communities could be evident <b>Local Adjustments for Weekends and Holidays Trails:</b> Check with local Ranger Districts for information on trails with High encounters with other parties <b>Camp Spacing:</b> Usually less than 6 parties visible from a campsite <b>Opportunities:</b> Closeness to nature, self-reliance high to moderate challenge and risk, some evidence of others

The physical setting of Semi-Primitive Non-Motorized ROS class is predominately natural and treatment areas are few and widely dispersed, thus, treatments must not be continual along travel routes.

The portion of the Bonneville Shoreline trail within the project area is being managed as a class 2 simple trail with minor development, 18”-24” tread width with a natural surface. Uses are non-motorized hiking, biking and equestrian use. To manage for equestrian use the vegetation clearing would be 2-3 feet from each edge of the tread making a total managed width of 8 feet with a 10 foot minimum clearance height. The clearing edge should mimic natural vegetation patterns by feathering or meandering edges. Prior to this time this portion of the Bonneville Shoreline trail has been managed for hiking with an 18”- 24” tread width with minimal (1 foot) vegetation clearing beyond the tread width.

## *Environmental Effects (Recreation Roadless and Scenery)*

### **Alternative 1, No Action**

There would be no change to the management of vegetation clearing along this portion of the Bonneville Shoreline trails physical setting or the viewed landscape in both foreground and middle-ground views.

### **Alternative 2, Proposed Action**

Management of vegetation (removal) beyond the tread width (up to 8 feet including the tread width) could have a direct effect to the physical setting and viewed landscape in the immediate foreground (with 300 feet) for the frequent user of the trail in the short term. Because of the change in the cleared width of vegetation from 1 foot for hiking up to 3 feet on each side of an equestrian managed trail. There would be no effect to the casual visitor because they would have no reference to past management vegetation clearing. As the vegetation clearing width and height is maintained over time the vegetation clearing width may begin to appear to blend with the natural appearing landscape for the frequent user because that is what they become accustomed to seeing.

There may be a minor effect to the frequent user for this section of the Bonneville Shoreline trail in areas where gamble oak in greater than 4 feet in height. The natural appearing LCT may appear modified to frequent users because of the thinning of oak to 2 foot spacing between oak stems and the removal of dead wood in the physical setting of the immediate foreground of the viewed landscape. But for the casual visitor there may no effect because vegetation would appear as though it had not changed with implementation of mitigation measures.

From the Foreground from 300 feet to ½ mile and middle ground ½ to 3 miles with this increased management the trail may be evident with in the short oak stands (less than 4 feet) during the light snow events because of the shadow line created by the edge of cleared vegetation along the trail.

The proposed 250-acre fuel treatment project, located within the 6,900-acre inventoried Burch Creek roadless area will have no effect on roadless area characteristics for this roadless area (see the project file for details). The Burch Creek roadless area, classified as having a “low” value rating for roadless characteristics, was not recommended for Wilderness in the Revised Forest Plan (USDA Forest Service 2003, FEIS, Appendix C1-40). Although a mostly natural environment is present, in some locations of the roadless area, a visitor’s sense of solitude is diminished from the sights and sounds of the nearby community and development.

Although there may be short-term disturbance while the treatment is being carried out (i.e., sounds of chainsaws), clearing along 1.5 miles of the existing Bonneville Shoreline Trail and thinning of dead Gamble oak in the vicinity of the trail will have no long-term effect on roadless characteristics within the 6,900-acre Burch Creek roadless area. No timber will be harvested, no roads will be constructed, and vegetation clearing and thinning will only take place on 250 acres (4% of the 6,900-acre roadless area). The

proposed project will have no effect on the area's wilderness characteristics and attributes and will not affect any part or the area's wilderness potential in the future.

**Cumulative effects** - Because the treatment area is relatively small and associated with an existing trail the cumulative effects to recreation are determined to be minor.

## **F. Wildlife**

Biologists and botanists have reviewed this project, used available information on species' distributions and habitat (using one or more of the following: topo maps, aerial photos, field reconnaissance, previous surveys), and then assessed the potential for impacts for all federal listed and Region 4 sensitive species. The project was determined to have **no effect** or **no impact**, this determination was based on one or more of these criteria:

1. habitat for the species is not present in the project area.
2. habitat for the species is present but the species does not occur in this area.
3. habitat for the species is present, the species occurs or may occur in the project area, but the project would not have any direct, indirect or cumulative effects on this species.

The project primarily occurs within Gambel's oak stands and is limited in size and duration. Project will occur in the fall and winter thus minimizing effects to nesting neotropical birds. The project implementation will not occur during periods of deep snow or other stressful weather conditions that could negatively impact wintering big game.

### *Desired Conditions*

Desired conditions are to maintain high quality wildlife habitat and minimize impacts to species of interest and federally protected species.

### *Existing Conditions*

The project primarily occurs within Gambel's oak. It was determined that the following protected species do not occur within the project area; Lynx, yellow-billed cuckoo, Bald eagle, Northern Goshawk, Flammulated owl, Three-toed woodpecker, Great grey owl, Boreal owl, Wolverine, Pygmy rabbit, Greater sage grouse, Sharp-tailed grouse, Wolf, Colorado River cutthroat trout, Bonneville cutthroat trout, and Columbia spotted frog. It was determined that Spotted Bat, Peregrine falcon, and Ogden Mountainsnail are not likely to occur within the project area. The project area includes vegetation that may be used as foraging habitat for Townsend's big eared bat, however, because the project is limited in size it will not cause detrimental effects to the present population.

### *Environmental Effects (wildlife)*

**Alternative 1, No Action** – No disturbance of wildlife or damage to wildlife habitat because the project would not be implemented.

**Alternative 2, Proposed Action** - Because the project is limited in size and duration, effects to protected wildlife would be negligible. The project will occur in the fall or winter, thus minimizing effects to nesting neotropical birds and wintering big game. Mitigation for identification of the Ogden Mountainsnail will prevent damage to the population if snails are located during implementation (see proposed action and mitigation sections).

**Cumulative effects** - Because direct and indirect effects are so minor, cumulative effects are also determined to be minor.

## **G. Heritage Resources**

### *Existing Conditions*

Heritage surveys of the project area were completed on September 8, 2008. No heritage resources were located or are otherwise recorded from the project area. A report was submitted to the State Historic Preservation Office and no concerns were raised by the State of Utah. The project, if implemented, is in concurrence with CFR 36 800.4 (d)(1) and has no potential to effect cultural resources.

### *Environmental and Cumulative Effects (Heritage resources)*

No direct, indirect, or cumulative effects to heritage resources are expected from the proposed Strongs Peak Fuels project.

## **H. Irretrievable or Irreversible Commitment of Resources (all resources)**

No irretrievable or irreversible commitment of resources is expected from this project because no permanent land use change or removal of water or non-renewable material will occur. Definitions of these terms are listed below and are from FSH 1909.15, Zero Code, 05 Definitions

Irretrievable - A term that applies to the loss of production, harvest, or use of natural resources. For example, some or all of the timber production from an area is lost irretrievably while an area is serving as a winter sports site. The production lost is irretrievable, but the action is not irreversible. If the use changes, it is possible to resume timber production.

Irreversible - A term that describes the loss of future options. Applies primarily to the effects of use of nonrenewable resources, such as minerals or cultural resources, or to those factors, such as soil productivity that are renewable only over long periods of time.

**Other requirements outside of NEPA** - No other requirements are needed.

## CHAPTER 4 – CONSULTATION, COORDINATION, COLLABORATION

The Forest Service consulted the following people and groups during development of this environmental assessment:

### *Interdisciplinary Team Members (USFS Staff):*

Eric LaMalfa – Fuels / ID team leader  
Beth Corbin – Fire Ecology  
Cody Peel – Fire Management  
Mike Duncan – Botany  
Evelyn Sibbernsen - NEPA  
Charlie Condrat – Hydrology  
Paul Flood – Soils  
Tom Flanigan – Archaeology  
Dave Hatch – Scenery  
Steve Blatt – Wildlife Biology  
Paul Chase – Aquatic Biology  
Rick Vallejos – Recreation

### *Other Agencies:*

Kelly Allen – WUI Coordinator/ Utah Fire, Forestry, and State Lands  
Dave Vickers - Weber County Fire Warden/ Weber Fire District  
State Historic Preservation Office

### *Other Groups:*

Strongs Peak Fire Community Wildfire Council  
Utah Environmental Congress  
Sierra Club, Ogden Chapter

## CHAPTER 5 – MONITORING PLAN

Monitoring planned for this project includes *implementation* monitoring and *effectiveness* monitoring. *Implementation* monitoring includes recording when and how much implementation work (vegetation clearing and dead wood removal) occurs. This will be documented in a narrative form. *Effectiveness* monitoring includes re-reading the fuels/vegetation plots. The information collected includes: cover by vegetation type, fuel loading (biomass), the presence of weeds, and photographs. The plots will be monitored in years 1, 3, and 5 post-treatment. Additional weed monitoring will occur by walking through the area (particularly the trail and swath) and inventorying noxious weeds present. Noxious weed treatment will also occur via hand pulling and spraying.

Fuels monitoring information is recorded in the FIRMON database and is available at the Ogden Ranger District Office.

## CHAPTER 6 – LITERATURE CITED

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