

**Appendix B**  
***Past, Present, and***  
***Reasonably Foreseeable Future Projects***

Past, Present, and Reasonably Foreseeable Future Activities listed below are activities and natural events known to have already happened, are currently happening, or likely to happen within the analysis area boundaries for this project. This appendix lists projects and activities that are within one or more of the Cumulative Effects Analysis Areas for the resources listed below. The Analysis Area boundaries are depicted in Figure B-1

Vegetation

Wildlife

Botanical Resources

Watershed

Cultural Resources

This analysis relies on current environmental conditions as a proxy for the impacts of past actions—the reason is to understand the contribution of past actions to the cumulative effects of the Moonlight and Wheeler Fires Recovery and Restoration proposed action and alternatives. The current conditions reflect the aggregate impact of prior human actions that have affected the environment and might contribute to cumulative effects.

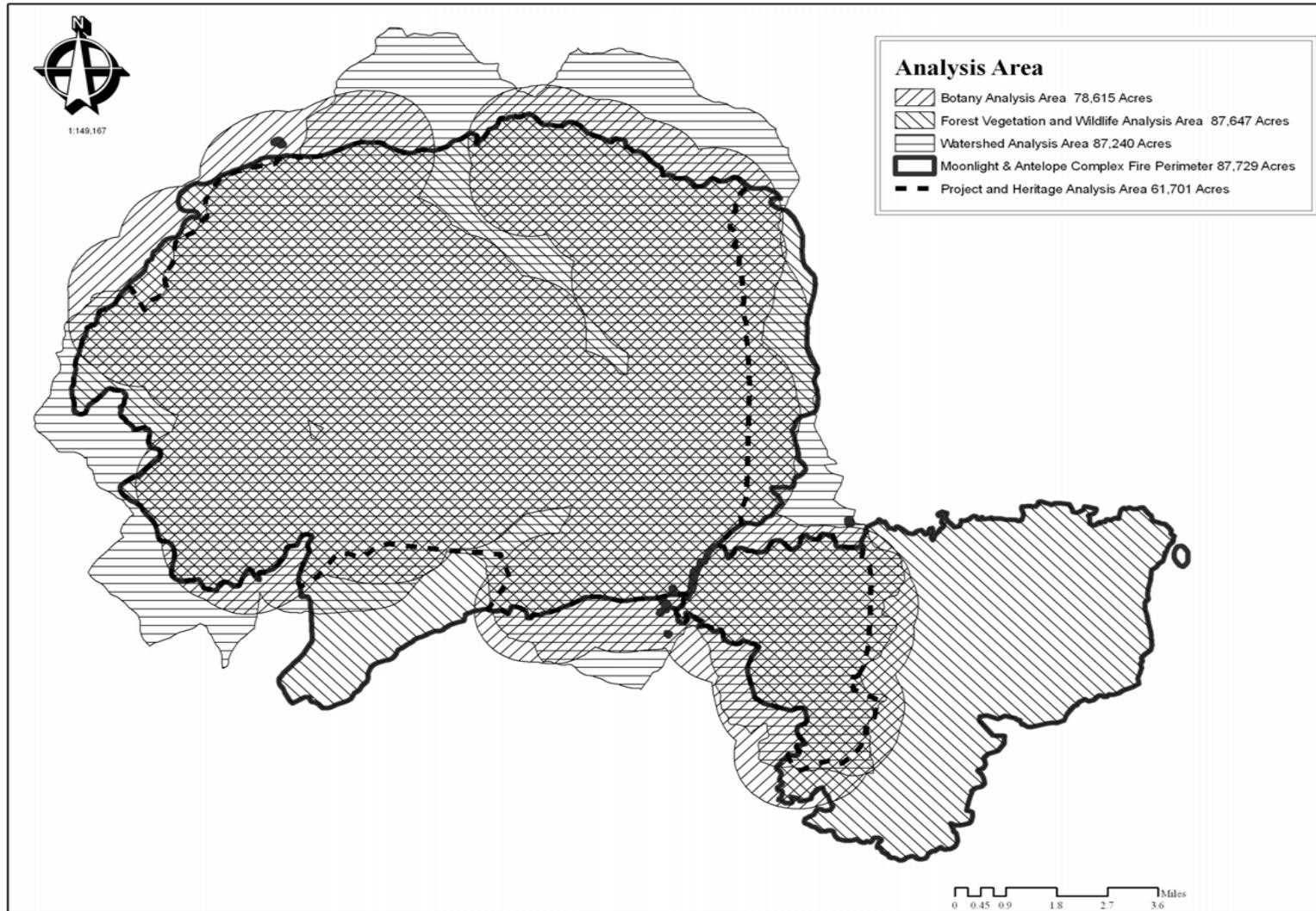
This appendix is organized by Past Projects, Present and Ongoing Projects, and Future Projects. The projects and activities associated with specific resources are listed under each category. The sections below present past vegetation management projects on public and private lands; wild fires; watershed improvement projects; wildlife projects; herbicide treatments; and present, on-going, and reasonably foreseeable future projects. For each resource area, the scale and boundaries for the cumulative effects analysis vary—these are described in Chapter 3 of the Moonlight and Wheeler Fires Recovery and Restoration Project Revised Final Environmental Impact Statement (2009).

## **PAST PROJECTS**

### **Past Forest Service Vegetation Management Projects**

A total of 71 aspen stands, on approximately 194 acres, were treated between 1988 and 2007. Table B-1 lists the acres of past vegetation management actions on public lands, by activity.

Figure B-1 Spatial illustration of resource specific analysis areas.



**Table B-1. Forest Service vegetation management activities between 1974 and 2008 that occurred in the four resource analysis areas (combined) for the Moonlight and Wheeler Project.**

Description of Forest Service Activity	1974	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Activity Fuels Underburn									53	57			345	
Area release and weeding										13				
Burn of Activity Fuels Piles					40			79						5
Burning site preparation for planting														
Commercial Thinning														
Mechanical site preparation for planting							159	190	5	77			20	171
Planting														
Other site preparation for planting														
Overstory removal cut (from advanced regeneration)		624					83	48				98	25	1,230
Piling of Activity Fuels														
Precommercial thinning - individual or selected trees			570	8								75	114	377
Precommercial thinning or cleaning need addition														
Rearrangement of Activity Fuels														
Salvage cut (intermediate treatment, not regeneration)														
Sanitation Cut													91	257
Seed-tree seed cut													14	
Shelterwood final removal cut	464						50							
Single-tree selection cut														441
Site preparation for natural regeneration													63	3
Site preparation for planting					18	345	66	49	9				10	
Special Cut														
Stand clearcutting - Salvage Mortality					25		9							
Stand clearcutting (w/reserves)								61		20	6	89	67	
Stand Clearcutting					34			18						
<b>Grand Total</b>	<b>464</b>	<b>624</b>	<b>570</b>	<b>8</b>	<b>117</b>	<b>345</b>	<b>367</b>	<b>445</b>	<b>67</b>	<b>167</b>	<b>6</b>	<b>262</b>	<b>749</b>	<b>2,484</b>

**Table B-1. Forest Service vegetation management activities between 1974 and 2008 that occurred in the four resource analysis areas (combined) for the Moonlight and Wheeler Project (continued).**

Description of Forest Service Activity	1992	1993	1994	1995	1996	1997	2000	2001	2002	2003	2004	2005	2008	Grand Total
Activity Fuels Underburn											60			60
Area release and weeding														455
Burn of Activity Fuels Piles								4				136		153
Burning site preparation for planting	8													132
Commercial Thinning			20	173	113	744								1,050
Mechanical site preparation for planting				71									141	834
Planting												442	838	1,280
Other site preparation for planting									12					12
Overstory removal cut (from advanced regeneration)	209													2,317
Piling of Activity Fuels							4				1,922			1,926
Precommercial thinning - individual or selected trees	270	80	344		263	215								2,316
Precommercial thinning or cleaning need addition							278							278
Rearrangement of Activity Fuels						50								50
Salvage cut (intermediate treatment, not regeneration)										733	4,573	2,653	2,036	9,995
Sanitation Cut			29											377
Seed-tree seed cut														14
Shelterwood final removal cut														514
Single-tree selection cut	66													507
Site preparation for natural regeneration														66
Site preparation for planting														497
Special Cut							1,096							1,096
Stand clearcutting - Salvage Mortality				71										105
Stand clearcutting (w/reserves)														243
Stand Clearcutting														52
<b>Grand Total</b>	<b>553</b>	<b>80</b>	<b>393</b>	<b>315</b>	<b>376</b>	<b>1,009</b>	<b>1,378</b>	<b>4</b>	<b>12</b>	<b>733</b>	<b>6,555</b>	<b>2,789</b>	<b>2,036</b>	<b>24,189</b>

## Past Vegetation Management Projects on Private Lands

Timber Harvest Plans (THPs) were collected from CalFire; once in March 2008 and again in January 2009. All THPs that overlap with the Moonlight Fire or Antelope Complex perimeter were hand digitized into a Geographic Information System (GIS) shapefile with specific THP data attached in the attribute table. These THPs and attribute data (activity and year) are displayed in Table B-2 below.

**Table B-2. Private harvest activities in watershed analysis area.**

Activity	Acres of Activity by Treatment Year												
	1982	1993	1994	1996	1999	2000	2001	2002	2004	2005	2006	2007	2008
Clearcut	14						16	5			162		
Commercial thin							56						
Modified selection		130								80			
Salvage				60								4,073*	7,381*
Selection			1,146	1,510	1,115			1,555	6	3,570	1,775	154	
Shelterwood removal		60			20	25		36	4				
Transition		16											

\* Approximately 500 acres of salvage were filled in 2007 that were filled again in 2008; they are reflected in 2008 only.

## **Past Post-Fire Vegetation Management Projects within the Moonlight and Wheeler Analysis Area on Federal Lands**

Antelope, Sage, and Last Chance Roadside Hazard Tree Removal Projects (RSHTR)	Approximately 53 miles of roadside hazard removal limited to 150-200 feet on either side of National Forest system roads in response to the Antelope Complex fire on the Mt. Hough Ranger District of the Plumas National Forest.
Camp 14 Project	Approximately 249 acres of salvage and reforestation on the Beckwourth Ranger District of the Plumas National Forest in response to the Antelope Complex fire.
Dry Flat Roadside Hazard Tree Removal Project (RSHTR)	Approximately 1315 acres of roadside hazard removal limited to 150-200 feet on either side of National Forest system roads in response to the Antelope Complex fire on the Beckwourth Ranger District of the Plumas National Forest.

### **Past Wildfires**

There have been approximately 103,000 acres of wildfires within the Moonlight and Wheeler Recovery and Restoration analysis areas since 1917. 87,700 of those acres were the result of the Moonlight and Wheeler fires of 2007. There were 25 fires for 101,099 acres in the wildlife analysis area, 21 fires for 77,258 acres in the botany analysis area, 28 fires for 104,173 acres in the hydrology analysis area, and 14 fires for 22,168 acres in the cultural analysis area. These fires ranged in size from .04 to 64,991 acres with an average size of nearly 2,000 acres.

### **Past Watershed Improvement Projects**

- 2008**                      Approximately 0.5 mile of National Forest System road 28N03 was relocated due to two land slides in 2008. The old segment of road was obliterated, re-contoured, and re-vegetated.
- 2007**                      Post Moonlight Fire Burned Area Emergency Response (BAER) treatments—helicopter straw mulching and mastication of burned submerchantable trees to reduce sedimentation from burned hill slopes.
- 2001**                      Post Stream Fire Burned Area Emergency Response (BAER) treatments — to reduce sedimentation from burned hill slopes. Treatments included contour felling, hydroseed application, and straw wattle placement.

**Early 1990s** Bank stabilization on Indian Creek, several miles below the Dam. Root wads keyed into bank. Willow Creek plug/pond activities.

### **Past Recreation, Lands, and Minerals Projects**

2008 Wind energy testing sites and meteorological towers Four wind energy sites and meteorological towers have been installed in the Moonlight and Wheeler project area for wind energy testing.

### **Past Wildlife Projects**

**Table B-3. Wildlife projects within the Wildlife Analysis Area between 1983 and 1997.**

<b>Project Type</b>	<b>Year</b>	<b>Description</b>
Eight moat type islands	1988	Within Little Antelope Creek Meadow
Check dam installation	1991	Little Antelope Creek
Check dam repair	1997	Little Antelope Creek
Exclosures	1985	Upper Indian Creek
Exclosures	1987	Pachyderm aspen exclosure
Exclosures	1988	Two structures at Antelope Lake for WIFL
Exclosures	1990	Red Light aspen
Vegetation management (excluding aspen)	1983	Cottonwood planting and protection (lower Indian Creek)
Vegetation management (excluding aspen)	1983	Browse way creation, Cairn Butte
Vegetation management (excluding aspen)	1985	Willow plugs, Pierce Creek
Vegetation management	1987	Aspen/willow plant, cottonwood protection, lower Indian Creek
Fish habitat improvement	1986	Log/Bank deflectors - Upper Indian Creek
Fish habitat improvement	1986	Rock rip rap Lower Indian Creek
Fish habitat improvement	1987	Rock rip rap Lower Indian Creek
Fish habitat improvement	1990	Rock rip rap Lower Indian Creek
Fish habitat improvement	1991	Two fish ladders on upper Indian Creek
Fish habitat improvement	1991	Ten instream log plunge structures in side tributary to upper Indian Cr
Fish habitat improvement	1991	Log/riprap structure on Lower Indian Creek

## **PRESENT AND ONGOING PROJECTS**

### **Present and Ongoing Vegetation Management Projects within the Moonlight and Wheeler Analysis Area**

North Moonlight Fire Salvage About 200 acres of fire salvage on the Eagle Lake Ranger District, Lassen National Forest. This timber sale is

currently under contract and implementation will be ongoing through the summer of 2009. Reforestation would occur in the Spring 2010 in areas that were harvested.

2008 Wheeler and Moonlight Fires Reforestation Project      Approximately 2,091 acres of reforestation and manual release on the Mt. Hough Ranger District, Plumas National Forest. Reforestation occurred in Spring 2008 and Spring 2009 and manual release treatments would occur within one to two years following planting.

2008 Frazier Cabin Reforestation Project      Approximately 205 acres of site preparation and reforestation on the Beckwourth Ranger District, Plumas National Forest. Currently approximately 141 acres of site preparation has been completed and reforestation occurred in Spring 2009.

2009 Moonlight Fire Reforestation Project      Approximately 4,450 acres of reforestation and manual release on the Mt. Hough Ranger District, Plumas National Forest. Planting occurred in Spring 2009, and manual release treatments would occur within one to two years following planting.

2009 Antelope Complex Reforestation Project      Approximately 6,000 acres of reforestation and manual release on the Beckwourth and Mt. Hough Ranger Districts, Plumas National Forest. Approximately 4,350 acres of planting occurred in Spring 2009 and manual release treatments would occur within one to two years following planting.

**Present and Ongoing Recreation, Lands, and Minerals Projects**

Recreation activities      Dispersed recreation use is moderate in the project area. Season of use is generally May through November, with activities including camping, hiking, hunting, horseback riding, mountain biking, off-highway vehicle riding, fishing, firewood cutting, wildflower viewing, and rock hounding, by individuals and small groups. January and February may see light use of snowmobile and cross-country skiing activities in the area.

Recreation site maintenance      Developed recreation site maintenance requires hazard tree removal, pile burning, replacing signs, fire rings, tables, and older buildings.

Trail maintenance      There is approximately 17 miles of non-motorized trails within the project area. Annual trail maintenance work consists of clearing hazard trees, maintaining water bars or other erosion control devices, and maintaining and replacing

signs. Work is typically accomplished by force account crews and volunteers.

Personal use  
woodcutting permits

Woodcutting for personal use is permitted throughout the Plumas National Forest. The following is a list of the number of personal use permits sold on the Mt. Hough Ranger District for the past five years. It is estimated that 3 percent of the District's permit sales are within the Moonlight and Wheeler Project Area.

2001 – 998 permits for 2,572 cords

2002 – 938 permits for 2,401 cords

2003 – 819 permits for 2,154 cords

2004 – 758 permits for 2,400 cords

2005 – 942 permits for 2,478 cords

2006 – 978 permits for 2,651 cords

2007 – 960 permits for 2,493 cords

2008 – 1,092 permits for 2,885 cords (January 1st thru

Commercial use  
woodcutting permits

The following is a list of the number of commercial permits sold on the Mt. Hough Ranger District for the past five years. It is estimated that 3 percent of the District's commercial permit sales are within the Moonlight and Wheeler Project Area.

2001 – 17 permits for 160 cords

2002 – 15 permits for 135 cords

2003 – 15 permits for 90 cords

2004 – 19 permits for 95 cords

2005 – 66 permits for 322 cords

2006 – 83 permits for 329 cords

2007 – 107 permits for 372 cords

2008 – 143 permits for 620 cords (January 1st thru November

Christmas tree permits

It is estimated that 5 percent of the Mt. Hough Ranger District's permit sales are within the Moonlight and Wheeler Project Area.

2001 – 2,062 permits

2002 – 2,348 permits

2003 – 2,124 permits

2004 – 2,124 permits

2005 – 2,235 permits

2006 – 2,806 permits

2007 – 2,651 permits

Abandoned mines

Approximately 12 abandoned mineshafts exist within the project area. Open shafts may pose a direct hazard to forest users, Forest Service personnel, and Forest Service

contractors.

Active mining claims There are approximately 302 active mining claims in the project area. The Mt. Hough Ranger district currently administers five active plans of operation and eight notices of intent for those active claims.

Special uses There are three special uses that occur in the Project Area. These include power lines, recreation events, and campground concession operations. These forest uses require annual maintenance for access, fire protection, and hazard tree removal.

Present and Ongoing Grazing Activities

**Table B-4. Present and ongoing grazing activities in the Moonlight and Wheeler Project Area.**

Allotment	Number of Acres	Acres within Analysis Area	Status		
			Status/Kind	Number	Season
Antelope	24,872	6,474	Active/Cattle	207	6/14–10/8
Lone Rock	26,815	26,815	Active/Cattle	116	7/16–9/15
Antelope Lake	5,043	2,551	Active/Cattle	150	9/3–10/4
Taylor Lake	26,718	19,968	Vacant/Sheep	—	—
Hungry Creek	17,774	17,589	Vacant/Sheep	—	—
Jenkins	27,366	3,251	Active/Cattle	600	8/1–9/1
Clarks Creek	16,635	12,446	Active/Cattle	207	6/1–10/1
Lights Creek	29,721	25,477	Active/Cattle	24	6/1–9/1
Bass	2,122	260	Active/Cattle	64	6/1–9/30
Doyle	5,067	230	Active/Cattle	100	6/1–9/15
Fitch Canyon	17,871	53	Active/Cattle	317	6/3–9/2

**FUTURE PROJECTS**

**Future Fuels and Vegetation Management Projects within the Moonlight and Wheeler Analysis Area**

Greenflat Underburn Project 1,000 acres of underburning to be initiated in 2008 and completed over 3–5 years as weather, burn conditions, and resource levels allow.

Campgrounds Fuels and fire personnel may work with recreation staff to develop a hazard tree and ladder fuel removal program in campgrounds. This will likely involve using fire crews to

fall and remove (chip or pile burn) suppressed trees and snags from all developed campgrounds and possibly other high use sites on an “as needed” basis.

## Future HFQLG Projects

**Table B-5. Future HFQLG Projects that are within one or more of the Resource Analysis Areas of the Moonlight and Wheeler Recovery Project.**

Project	Year Planned
Wildcat DFPZ and ITS on the Mt. Hough Ranger District, Plumas National Forest (About 75 acres are within an analysis area). No treatment units from Wildcat or Moonlight and Wheeler Project overlap with treatment units from the other project.	2009
Keddie Project on the Mt. Hough Ranger District, Plumas National Forest. (About 80 acres are within an analysis area)	2009

## Future Watershed Treatments

Burned Area Emergency Response (BAER) treatment for the Lower Lone Rock Creek watershed, scheduled for spring, 2009, will install approximately 1.5 miles of electric fence on Forest Service land adjacent to Lower Rock Creek for the purpose of reducing grazing pressure in this area. This fence will be maintained and monitored for a minimum of two years.

## Future Grazing Activities

A forestwide Range NEPA (*National Environmental Policy Act*) Strategy and Implementation Plan was signed by the Forest Supervisor on December 16, 2005. This plan will analyze and document range NEPA projects on all 65 allotments on the Plumas National Forest and is currently posted on the Plumas National Forest Schedule of Proposed Actions (the “SOPA”).

## Future Recreation, Lands, and Minerals Projects

**Table B-6. Future recreation, lands, and minerals projects.**

Year	Future Activities	Activity Description
2008	OHV Route Designation	The USDA Forest Service is currently undergoing an off-highway vehicle (OHV) route designation process. By 2009, the Plumas National Forest will have a decision to establish a designated OHV route system based on existing non-system and system

		trails on the Forest. It is likely that a number of non-system routes in the Moonlight and Wheeler Project Area will be decommissioned or closed.
2008– 2010	Land conveyance	In order to sustain funding under the <i>Secure Rural Schools and Community Self-Determination Act</i> , the Forest Service may authorize the conveyance of parcels of forest land that are isolated or inefficient to manage.