

B. Cumulative Effects Analysis

According to the Council on Environmental Quality (CEQ) NEPA regulations, “cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7). The Forest queried its databases, including the Schedule of Proposed Actions to determine past, present and reasonably foreseeable future actions. This appendix lists the specific findings and information used for the cumulative effects analysis presented for each resource in Chapter 3. This list is not all inclusive since budgets and changing landscape conditions may warrant changes in management priorities or direction.

Past Actions

For the purposes of cumulative effect analysis, past actions are land disturbance projects fully implemented under completed NEPA decisions. In order to understand the contribution of past actions to cumulative effects, this analysis relies on existing conditions as a proxy for the impacts of past actions (see section 3.01). Existing conditions reflect the aggregate impact of all prior human actions and natural events that affected the environment and might contribute to cumulative effects. The current vegetation database, updated in 2000, reflects existing conditions as of that year. In addition to actions reflected by the 2000 data, a complete assessment of cumulative effects must consider land disturbance actions implemented since that time. Table B-1 lists the land disturbance actions fully implemented from 2000-2008. Table B-2 shows the acres burned by wildfire from 2000-2008.

Table B.01-1 Past Land Disturbance Actions (2000-2008)

Project	Purpose	RD	Acres
Ackerson	Salvage	GR	336
Anderson	Reforestation	GR	253
A-Rock Reforestation	Vegetation	GR	6,085
Bandarita	Reforestation	GR	818
Bear Mountain	Vegetation	GR	322
Bellfour	Vegetation	MW	6
Blue Canyon	Vegetation	CAL	18
Brown Darby	Vegetation	CAL	7,300
Buck Meadows	Reforestation	GR	82
Buena Vista	Reforestation	MW	288
Burnout	Reforestation	MW	387
Buzz Tail	Salvage	MW	3,399
Camp 34	Reforestation	MW	27
Camp 8	Vegetation	MW	627
Castle	Vegetation	SU	537
Cherry Plum	Reforestation	GR	60
China	Vegetation	GR	1,000
Corner	Vegetation	SU	51
Crabtree	Vegetation	SU	250
Crandall	Fuels	MW	1,447
Crockpot	Vegetation	GR	41
Crush	Vegetation	MW	632
Curtis	Vegetation	MW	126

Project	Purpose	RD	Acres
Deer Creek	Vegetation	MW	453
Deer Flat	Reforestation	MW	171
Defroster	Vegetation	MW	182
Dodge Ridge	Vegetation	MW	250
Domingo	Vegetation	CAL	60
Dorrington	Vegetation	CAL	18
Dry Meadow	Vegetation	CAL	738
Expressway	Vegetation	CAL	7
Ganns	Vegetation	CAL	13
Granite	Vegetation	GR	4,322
Grizzly	Reforestation	GR	912
Grohls	Vegetation	CAL	5
Harley	Vegetation	CAL	37
Hazel Brown	Reforestation	GR	117
Ichabod MP	Vegetation	CAL	92
Interface MP	Vegetation	CAL	663
Ixion MP	Salvage	CAL	2,528
Johnson	Vegetation	GR	94
Jordan	Reforestation	GR	130
Kibbie	Salvage	GR	243
Kim Practice	Fuels	GR	25
Leland Gully MP	Vegetation	SU	7
Leland Watershed	Watershed	SU	10
Little Hot Saw Fire	Salvage	SU	17
Lodge MP	Vegetation	SU	274
Lyland Fork MP	Vegetation	SU	724
Miller/Donnell	Vegetation	SU	27
Mineral Fire	Vegetation	SU	22
Mi-Wok Adm Thin	Vegetation	MW	40
Moss Creek	Fuels	GR	223
New Hunt Reforestation	Vegetation	MW	380
Niagara	Reforestation	SU	55
Niagara Fire Salvage	Vegetation	SU	137
Old Default	Vegetation	CAL	15
Old Gulch	Vegetation	CAL	90
Pumpkin Hollow MP	Vegetation	CAL	567
Quartz Summit Knobs	Vegetation	CAL	497
Randall	Vegetation	MW	57
Refuge Fireline	Salvage	CAL	9
Roast Pigeon	Reforestation	SU	105
Rogge-Ackerson Reforestation	Vegetation	MW	1,500
Ruby MP	Vegetation	MW	144
Ruby/Twin Rivers	Vegetation	MW	310
Sammy	Vegetation	MW	729
Sampson	Vegetation	MW	914
Shovel Grave	Vegetation	CAL	40
South 108	Vegetation	MW	1,156
South Dodge	Vegetation	MW	548
South Landing	Fuels	MW	680
Spinning Wheel PG&E	Vegetation	GR	61
Three Fires Salvage	Vegetation	GR	2,300

Project	Purpose	RD	Acres
Twin Thin MP	Vegetation	GR	1,800
Upper Cow Forest Resource	Vegetation	SU	895
West Sheer	Vegetation	SU	488
White Brush	Reforestation	SU	205
White Out MP	Salvage	SU	208
Wilson Loop	Reforestation	GR	747
Yellow Bee MP	Vegetation	SU	21
Interface Recreation Trails	Recreation	CAL	NA
Summit Ranger District Road Management	Road	SU	NA
Summit Ranger District Road Management South	Road	SU	NA
total			51,151

CAL=Calaveras; **GR**=Groveland; **MW**=Mi-Wok; **SU**=Summit

Table B.01-2 Past Land Disturbance Actions: Wildfires (2000-2008)

Year	Acres
2000	421
2001	26,333
2002	884
2003	16,459
2004	3,500
2005	121
2006	238
2007	492
2008	36,973
total	85,421

Present Actions

For the purposes of cumulative effect analysis, present actions are land disturbance projects with completed NEPA decisions that are not yet fully implemented on the ground. Table B-3 lists the present land disturbance actions followed by brief descriptions of each. Detailed information about most projects is available on the internet [<http://www.fs.fed.us/r5/stanislaus/projects/decisions.shtml>].

Table B.01-3 Present Land Disturbance Actions

Project	Purpose	RD	Decision	Acres
Bear Mountain	Fuels	GR	2006	2,300
Blue Mountain Fuelbreak	Fuels	CAL	2001	2,186
China Flat	Fuels	GR	2008	1,700
Dodge Ridge Parking and Snowtubing Facilities	Special Use	SU	2004	100
Hells Hollow Fuelbreak	Vegetation	GR	2006	151
Lake Alpine Station Relocation	Facility	CAL	2005	5
Leland Helicopter	Fuels	SU	2008	101
Long Shanahan	Vegetation	GR	2007	377
Peach Grower's	Fuels	GR	2007	639
Silver Creek Bridge	Recreation	CAL	2007	1
Sourgrass	Vegetation	CAL	2008	1,393
Strawberry	Vegetation	SU	2007	2,500
total				11,453

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Bear Mountain: fire hazard reduction by thinning trees and reducing ladder and ground fuels; includes shredding, biomass, gully restoration, meadow enhancement, road decommissioning and mechanical sawlog harvest.

Blue Mountain Fuelbreak: fuelbreak construction through small timber sale.

China Flat: mastication on 62 units totaling 3,818 acres; hand thinning, piling, and pile burning on 23 units totaling 1,698 acres; underburning on all but one of the units, totaling 4,606 acres; broadcast burning on a 632 acre fuels unit, a large meadow in the Jordan Creek/Bower Cave Special Interest Area; road maintenance on approximately 39 miles of existing NFS roads within the project area.

Dodge Ridge Parking and Snowtubing Facilities: construct a parking facility to increase parking for Dodge Ridge ski resort. The snowtubing facility decision was deferred until more information could be gathered and analyzed.

Lake Alpine Station Relocation: relocate building to new site along Highway 4 at Silver Tip. Construct foundation for building, vault toilet, and parking area.

Leland Helicopter: remove merchantable trees greater than 10 inches and less than 30 inches DBH, primarily suppressed and intermediate trees. The thinned trees would be spaced at a 1/2 to 1 crown spacing between residual crowns (approximately 20 feet between crowns depending on tree size). The emphasis is on retaining the largest, healthiest and most vigorous trees. All large black oak and riparian hardwood species would be retained. Over topped black oak trees would be released where feasible. During thinning, sugar pine and ponderosa pine would be favored for retention. Trees over 30 inch DBH would only be removed where necessary for operational safety. In addition, the Forestwide Hazard Tree Guidelines would be used, allowing larger size hazard (dead and dying) trees to be removed when applicable. Thinning would be conducted on 101 acres. Biomass Treatment: Due to the high cost of biomass removal on steep slopes and the rising cost of fuel, the following options would be allowed: 1) Flown out, chipped at the landing, and removed, or 2) Hand cut, piled, and burned. Biomass treatment would be conducted on 101 acres. Jackpot Burning: Burn concentrations of biomass size material left on site and natural fuel concentrations. Activities would be conducted in the fall or spring depending on favorable weather conditions. Burning activities would be scattered throughout the 101 acres of treatment units.

Long Shanahan: mechanical thinning with sawlog and biomass removal from 23 units covering 1,310 acres. Due to the very low sawlog volumes that are not economical to remove, the mechanical thinning will be implemented immediately on only 7 units covering 350 acres (units 16125fb, 25116, 25121fb, 25131, 25148, 25154 and 25156). The remaining 16 units covering 960 acres will only be mechanically thinned under this decision, should market conditions change and the units become economical to thin for forest health improvement. All fuels reduction and other treatments to these units remain the same as described in the EA for Alternative 1. The effects would be the same as were analyzed and disclosed in the EA. 2. Hazard trees will be removed along the power lines that traverse several units. This action will occur within the planned units and will not significantly alter the planned treatments or the effects. 3. The wildlife Limited Operating Periods (LOPs) will not be applied to the following units: 16160, 16127fb, 25010, 25112, 25112a, 25117, 25121fb, 25131fb, 25134, 25141 and 25154. Small portions of these units fall within a set distance of wildlife activity centers. Based on the habitat, topography and the distance to known nests, the District Biologist determined that the LOPs are unwarranted in these units. All other units retain the LOPs as shown in the EA (p. 23). LOPs do not apply to road construction or timber hauling, which do not occur in the activity centers. 4. Logging slash along Highway 120, Smith Station Road and Sprague Road will be hand piled for burning by the Forest Service. Stumps will be cut low along these roads. The exact width of this treatment will vary with the visibility from the road. 5. Subsoiling of the major skid trails within the 350 acres of commercial timber harvest will cover no more than 17 acres.

Peach Grower's: reducing accumulated fuels and improving forest health on approximately 742 acres; this includes 626 acres of mechanical thinning for sawlog and biomass removal, 20 acres of machine pile and burn, 98 acres of hand thinning, and 645 acres of prescribed burning. Remove approximately 2.0 million board feet of sawlogs and 11,000 green tons of biomass. The project includes treatments designed to enhance wet meadows as well as temporary road construction, road reconstruction, road barrier closures, and road decommissioning. In addition, Road 1S18Y, which borders the northern end of the project boundary, will not be decommissioned.

Silver Creek Bridge: authorizes a pedestrian bridge over Silver Creek on the west side of Lake Alpine approximately 400 feet downstream from the Lake Alpine Dam and allows issuance of Special Use Authorization to NCPA for operations and maintenance of the bridge. Bridge approaches will be constructed to insure safe access to the crossing. This bridge would allow access to both ends of the dam. This bridge would be a low water crossing. The deck of the bridge would normally be dry, but during high dam releases the bridge could be topped and inundated by high flows. During these periods, NCPA would helicopter their employees to the south side of the dam. The bridge will be designed for pedestrian, snow, wind and seismic loads in compliance with the current American Association of State Highway Transportation Code (AASHTC). In addition, do not construct the 1/8 mile of trail connecting the bridge with existing trail 19E01 on the south side of the bridge.

Sourgrass: commercial thinning and biomass removal in distinct treatment units totaling approximately 999 acres; pre-commercial thinning and biomass removal in distinct treatment units totaling approximately 103 acres; prescribed burning of surface fuels over approximately 538 acres of thinned and unthinned stands

Strawberry: fuel reduction and forest health treatments on approximately 2,500 acres and about 20 miles of road system treatments as described in the EA (pp.18-19). The addition of diameter limits within the two spotted owl Protected Activity Centers (PACs) proposed for treatment in the analysis. The western PAC within stands 1, 33, and 199 will have a maximum diameter limit of 25 inches DBH and the eastern PAC within stands 96, 97, 98 and 99 will have a maximum diameter limit of 21 inches DBH.

Reasonably Foreseeable Future Actions

For the purposes of cumulative effect analysis, reasonably foreseeable future actions are land disturbance projects in preliminary planning stages without completed NEPA decisions. Table B-4 lists the reasonably foreseeable future land disturbance actions followed by brief general descriptions of the project purpose types.

Table B.01-4 Reasonably Foreseeable Future Land Disturbance Actions

Project	Purpose	RD	Decision	Acres
2 Mile	Vegetation	MW	2009	2,100
Abernathy	Fuels	GR	2011	417
Ascension	Fuels	GR	2011	99
Bailey	Vegetation	CAL	2009	1,200
Basin	Vegetation	MW	2010	469
Bear Springs	Fuels	MW	2012	627
Bear Valley Mountain Resort Expansion	Special Use	CAL	2010	1,500
Beaver	Vegetation	CAL	2014	845
Bloods	Fuels	CAL	2011	975
Boards	Vegetation	CAL	2013	1,775
Bourland	Fuels	CAL	2012	2,230
Buck Meadows	Fuels	GR	2012	854
Cascade	Vegetation	GR	2011	384
Cottonwood	Vegetation	MW	2010	1,537

Project	Purpose	RD	Decision	Acres
Coward	Fuels	GR	2011	1,292
Dodge Meadow	Fuels	MW	2011	575
Dodge Ridge	Vegetation	SU	2010	822
Eagle Creek	Vegetation	MW	2013	732
Faust (Lewis)	Vegetation	MW	2012	1,441
Fence	Vegetation	SU	2010	1,000
Fisher	Vegetation	CAL	2014	1,025
Flagpole	Fuels	CAL	2012	695
Folsom	Vegetation	CAL	2013	2,630
Fraser	Fuels	MW	2011	431
Gravel Range	Vegetation	GR	2012	391
Great Hunt Reforestation	Vegetation	MW	2010	997
Grizzly	Vegetation	CAL	2014	1,425
Hemlock	Fuels	CAL	2012	1,396
Herring	Fuels	SU	2011	749
Hunter Ridge	Fuels	MW	2012	300
Jackass Mountain	Fuels	GR	2012	254
Jawbone Station	Vegetation	GR	2013	892
Lower Blue Creek (4-08-005-CAL)	Private	NA		438
Matsen	Fuels	MW	2011	1,150
Medusa	Vegetation	CAL	2010	1,534
Middle Beaver Creek (4-07-037-TUO)	Private	NA		567
Middle Fork	Vegetation	GR	2009	520
Monotti	Fuels	GR	2010	2,562
Moran Creek (4-07-042-CAL)	Private	NA		11
Motorized Trails: add dispersed recreation access routes to the trail system	Trail	All	2010	NA
Motorized Trails: construct approximately 5 miles of new trail or trail re-routes in order to complete the OHV trails program	Trail	MW	2010	NA
Murphy, Matsen, Paper	Fuels	MW	2011	2,913
Paper	Fuels	MW	2011	927
Phase II	Vegetation	MW	2009	1,500
Pinecrest Interior	Fuels	SU	2009	950
Prather	Vegetation	CAL	2010	1,202
Reynolds Creek	Vegetation	GR	2010	2,134
Ruby Hill	Vegetation	MW	2013	1,221
Sand Bar	Vegetation	GR	2012	859
Schoettgen	Fuels	CAL	2011	564
Scott Ridge	Fuels	MW	2011	1,700
Soldier Creek	Fuels	GR	2009	2,300
Swamp Creek (4-08-020-CAL)	Private	NA		549
Teton	Fuels	SU	2009	979
Thompson	Fuels	CAL	2011	1,145
Upper Blue Creek (4-08-018-CAL)	Private	NA		172
Upper Griswold Creek (4-08-023-TUO)	Private	NA		628
Walton Cabin, Bear Springs, Hunter	Fuels	MW	2013	927
total				59,511

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Fuels: fuel treatments can be incorporated into vegetation projects or stand alone. Fuels treatment project activities include hand and machine pile, broadcast burning, understory burning or tree removal for the development of fuelbreaks.

Private: the California Division of Forestry (CAL FIRE) website lists harvest plans proposed on private lands.

Special Use: Bear Valley Mountain Resort expansion is in the initial scoping stage with the proponent proposing a number of developments.

Trail: an unknown number of unauthorized routes accessing dispersed recreation sites may be analyzed and added annually to the NFTS. The number of miles added is unknown. Approximately 5.0 miles of new motorized trails are needed to complete connections, bypass private property or address re-route recommendations.

Vegetation: vegetation projects generally have the following activities occurring on the landscape: tree removal, shredding, pre-commercial thinning, biomassing, temporary road construction, road decommissioning, road maintenance and reconstruction, and other site specific resource projects. These future projects have estimated dates of project decisions with an implementation date of one to two years later.

