

Appendix E Cumulative Effects

Introduction

Cumulative effects are the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably future actions regardless of what agency or private entity undertakes such other actions. Cumulative impacts can result from individually minor events that cause significant impact over time (40CFR1508.7). A list of past actions and events within the project area allow resource specialists to conduct the requisite “hard look” analysis of cumulative impacts within the Freeman Project.

Project Boundary

These are past projects (from 1980-2006) or portions thereof, within the Freeman Project boundary (Table E.1 and E.2).

Green Sales

Green sales prescriptions included:

- CC - clear cut strip and/or group select harvest
- shelterwood - strip and/or group select harvest
- overstory removal - oldest age class removed, individual tree removal
- thinning - thinning from below and maintaining within 20% of existing canopy
- aspen enhancement - removing conifers within aspen stand
- sanitation - harvest trees with expected mortality within 10 years

Table E.1. Past green project sales from 1980-2006

| Project Name (Year) | Volume Harvested (MMBF*) | Prescription |
|----------------------------|--------------------------|------------------------------------|
| Freeman T.S. (1980-1983) | 20 MMBF | CC, shelterwood, overstory removal |
| Slave T.S. (1982-1983) | 1.5 MMBF | CC |
| Spot T.S. (1982-1983) | 0.8 MMBF | CC- |
| Smith T.S. (1983-1985) | 1.2 MMBF | CC- |
| Threemile T.S. (1987-1989) | 6 MMBF | CC, shelterwood, overstory removal |
| Westside T.S. (1988-1990) | 8 MMBF | CC, shelterwood, overstory removal |
| Summit T.S. (1988-1990) | 10 MMBF | CC, shelterwood, overstory removal |
| HumBug DFPZ (2004) | 0.2 MMBF | thinning, aspen enhancement |

*MMBF-defined as 1 million board feet

Salvage Sales

Salvage sales included insect kill salvage, roadside hazard sales and combined insect salvage and timber sales. Salvage prescriptions included:

- salvage ITM – salvage marking prescription; individual tree and small groups
- sanitation ITM – salvage marking prescription (mortality within 5 years)
- SSTS – salvage sale and timber sale combined

Table E.2. Past salvage sales from 1980-2006

| Project Name (Year) | Volume Harvested (MMBF*) | Prescription |
|---|--------------------------|--------------------|
| HumBug Insect Salvage (1990-1991) | 5 | salvage ITM (SSTS) |
| OverEasy (1990) | 3 | salvage ITM (SSTS) |
| ThreeMile Gap Insect Salvage (1990-1991) | 7 | salvage ITM (SSTS) |
| Summit Insect (1990-1994) | 10 | salvage ITM (SSTS) |
| ThreeMile Rock Insect Salvage (1993-94) | 2 | salvage ITM |
| Westside Insect Salvage (1993-1995) | 8 | salvage ITM |
| Deek Roadside Hazard Salvage (2004) | 1 | sanitation ITM |
| Smitty Roadside Hazard Salvage (2005) | 1 | sanitation ITM |

*MMBF-defined as 1 million board feet

Miscellaneous Projects

These other projects and activities ranged from grazing permittees to public fuelwood sales. The projects included:

Grazing Allotments Humbug, Grizzly Valley, Grizzly Community, and Lake Davis

Knutson-Vanderberg (KV) Cultural Projects (1980-2006) Site prep, planting and pre-commercial thinning associated with follow-up silvicultural treatments, post-harvest from timber sale and salvage sale projects.

Small Sale Fuelwood and Sawtimber Projects – Meadow Enhancement (1980-1990)

Adjacent to FS Road 24N10, the west side of Lake Davis. These projects were designed to remove conifers competition within and encroaching upon meadow ecosystems surrounding Lake Davis.

Public Fuelwood (2001) Permits in Camp 5 Area totaling approximately 400 acres.

Little Summit Lake Post and Pole (1980-2000)

Recreation Facilities Maintenance and Improvements (1980-2006) The facilities included all fisherman road access to the westside of Lake Davis. Included were road definition and location reconstruction, rock surfacing, chip seal and asphalt surfacing, facilities development, road closures, road decommission and relocations.

Public Fuel Wood Permits (1980-2006) The area inside of FS Road 24N10 was restricted from woodcutting unless by special permit or policy, as was permitted for the Camp Five Area. The entire area within the closure was opened for three short time periods under special permit to

eradicate the mortality; twice during the late 1980's and early 1990's. It was not feasible to achieve these goals via small commercial timber sales.

Pike Eradication (1997) Rotenone, a commercial fish piscicide, was applied to Lake Davis to eradicate the pike within the lake. The pike were an illegally planted fish species which was decimating the lake trout population as well as posing a risk to trout in the Feather River.

Watershed Restoration Projects Freeman and Cow Creeks (1980-2000) KV Projects included bank stabilization, exclosures to livestock grazing, planting of willows, small fuelwood projects and salvage sales to enhance meadow development, reseeding of disturbed areas, and road closure and obliteration of woodcutter access roads into and within sensitive riparian sites.

Extended Boundary

These are past projects (from 1980-2006) or portions thereof extend past the Freeman Project boundary (Table E.4 and Table E.5). Certain resources such as botany and wildlife look beyond the project boundary when doing their cumulative effects analysis.

Green sales

Green sales prescriptions included:

- CC - clear cut strip and/or group select harvest
- shelterwood - strip and/or group select harvest
- overstory removal - oldest age class removed, individual tree removal
- thinning - thinning from below and maintaining within 20% of existing canopy
- aspen enhancement - removing conifers within aspen stand
- sanitation - harvest trees with expected mortality within 10 years

Table E.3. Past green project sales in the extended project boundary from 1980-2006

| Project Name (Year) | Volume Harvested (MMBF*) | Prescription |
|------------------------------|--------------------------|------------------------------------|
| Walker Timber Sale (1980-81) | 8 | CC, shelterwood, overstory removal |
| Midway T.S. (1982-83) | 1.9 | CC, sanitation shelterwood |
| Long Valley T.S (1981-1987) | 8 | sanitation shelterwood, |
| Opportunity T.S. (1983-85) | 3 | thinning |
| Refuge T.S. (1982-85) | 8 | CC, shelterwood overstory removal |
| Davis T.S. (1987) | 5 | CC, shelterwood sanitation |
| Emigrant T.S. (1995) | 3 | CC, shelterwood, sanitation |
| Chance T.S (1996) | 3 | thinning |
| Cate Place MP Thin (1997) | 3 | thinning |
| Blakeless MP Thin (1998) | 2 | thinning |
| Willow Timber Sale (1998) | 4 | thinning |
| Humbug DFPZ (2003) | 3 | thinning |

*MMBF-defined as 1 million board feet

Salvage sales

Salvage sales included insect kill salvage, roadside hazard sales and combined insect salvage and timber sales (Table E.4). Salvage prescriptions included:

- salvage ITM – salvage marking prescription; individual tree and small groups
- sanitation ITM – salvage marking prescription (mortality within 5 years)
- SSTS – salvage sale and timber sale combined

Table E.4. Past salvage sales in the extended project boundary from 1980-2006

| Project Name (Year) | Volume Harvested (MMBF*) | Prescription |
|---|--------------------------|-----------------------------|
| Walker Salvage (1982) | 2 | Salvage ITM, Sanitation ITM |
| Summit Salvage (1983) | 4 | Sanitation ITM, Shelterwood |
| Summit Cull Decks (1984) | 0.4 | Cull Log Decks |
| Walker Cull Decks (1984) | 0.7 | Cull Log Decks |
| Blakeless Insect Salvage (1989) | 2 | Salvage ITM |
| Nye Insect Salvage SSTS (1989) | 2 | Salvage ITM |
| Cinderella Insect Salvage (1990) | 2.5 | Salvage ITM |
| Alice Insect Salvage (SSTS) (1990) | 2 | Salvage ITM |
| Bozo Insect Salvage (SSTS) (1990) | 2 | Salvage ITM |
| Nye Two Insect Salvage SSTS (1991) | 1 | Salvage ITM |
| Bozo Two Insect Salvage SSTS (1991) | 2 | Salvage ITM |
| Cinderella Two Insect Salvage SSTS (1993) | ? | Salvage ITM |
| Bozo III Insect Salvage (1994) | 1 | Salvage ITM |
| Davis Insect Salvage Helicopter (1996-97) | 2.9 | Salvage ITM |

*MMBF-defined as 1 million board feet

Miscellaneous Projects

These other projects and activities ranged from grazing permittees to public fuelwood sales. The projects included:

Grazing Allotments

Long Valley, Willow Creek, and Chase

Knutson-Vanderberg (KV) Cultural Projects (1980-2006)

Site prep, planting and pre-commercial thinning associated with follow-up silvicultural treatments, post-harvest from timber sale and salvage sale projects.

Small Sales - Fuelwood, cull deck, green sawlog and salvage projects (1985-1990)

The District Small Sale Program consisted of 3-6 MMBF during 1985-1990. These projects are too numerous to mention by project name. Many were associated with large green projects and smaller areas of insect infestation. After 1990, this Program became focused District Wide, within this Wildlife Extent Boundary.