Fuel-reduction treatments: treatment types and a landscape strategy to achieve restoration and a fire-safe landscape in the Applegate valley of southwest Oregon.

Introduction
The Ashland Field Office has actively pursued fuel reduction since 1996. Treatment types include handpile and burn (HPB), mechanical mastication, and prescribed fire. Planning and developing a thoughtful landscape level management plan provides the opportunity to strategically identify areas for treatment and achieve multiple objectives. These objectives can include reduced fuel loads, increased biodiversity, and reduced risk of dense forest fire. Treatment planning and implementation is an integrated effort that incorporates treatment types selected to best achieve strategic management goals.

Planning
Establishing a multi-disciplinary team with management and natural resource experts.
- Develop stand and landscape level objectives for multiple disciplines.
- Complete required surveys which provides the necessary data to plan management actions necessary to meet those objectives.
- Complete interdisciplinary project planning (includes collaboration with state, local and private).

Implementation
More than 99% of the on-the-ground work is accomplished through the use of contracting. Contracts are used to accomplish fuel reduction, surveys, timber sales, resource utilization, and other activities.

Fuel reduction work is mainly accomplished with a 5 year, 20 million dollar Fuels Management Services, Indefinite Delivery Indefinite Quantity (IDIQ) contract. This allows all phases of implementation to be completed by the contractor. E.g. Burn plan preparation, manual or mechanical treatment, and prescribed fire. The contractor supplies the skilled personnel and specialized equipment. Contractors often work across ownership boundaries and continue a public lands project on to private lands.

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Pros:
- Reduced risk of escape in wet season
- Reduced smoke issues in wet season
- Can reduce fuel loading without damage to residual stand
- Mimicks natural disturbance
- Chance of escaped burn (potential consequences in WUI)
- Short window to accomplish
- Smoke management constraints
- Can not always be used as initial treatment (potential damage to stand)

Cons:
- Must coordinate with or develop a community wildfire protection plan (CWPP).
- Relatively low cost per acre ($50 - $250/acre)
- Can only be used as initial treatment (potential damage to stand)
- Requires higher level of NEPA clearance (e.g. EA vs. CE)
- May offset fuel hazard reduction costs
- Less natural disturbance
- Reduced crown bulk density and ladder fuels by reducing commercial timber greater than 7 inch DBH
- Potential soil impacts
- Fuel still on the site (i.e. only changed arrangement from fuel model 4 to fuel model 11)

Commercial Thinning
Pros:
- Ensures multi-discipline landscape level objectives for high priority non-commercial WUI areas.
- Helps to fund initial survey and planning costs
- Can treat large area quickly
- Can treat large area quickly
- Can treat large area quickly

Cons:
- More than 99% of the on-the-ground work is accomplished through the use of contracting.
- Contracts are used to accomplish fuel reduction, surveys, timber sales, resource utilization, and other activities.

Machine Mastication
Pros:
- Relatively low cost per acre ($400 /acre)
- Can treat large area quickly
- Can treat large area quickly

Cons:
- Subject to more protest and litigation
- Requires higher level of NEPA clearance
- Less natural disturbance
- Reduced crown bulk density and ladder fuels by reducing commercial timber greater than 7 inch DBH

Prescribed Broadcast/Underburn
Pros:
- Relatively low cost per acre ($100 - $200/acre)
- Can treat large area quickly
- Can treat large area quickly

Cons:
- Short window to accomplish
- Smoke management constraints
- Can not always be used as initial treatment (potential damage to stand)

Slash, Handpile and burn
Pros:
- Relatively high cost per acre ($700 - $1200 acre)
- Can treat large area quickly
- Can treat large area quickly

Cons:
- Must coordinate with or develop a community wildfire protection plan (CWPP).
- Relatively low cost per acre ($50 - $250/acre)
- Can only be used as initial treatment (potential damage to stand)
- Requires higher level of NEPA clearance (e.g. EA vs. CE)
- May offset fuel hazard reduction costs
- Less natural disturbance
- Reduced crown bulk density and ladder fuels by reducing commercial timber greater than 7 inch DBH
- Potential soil impacts
- Fuel still on the site (i.e. only changed arrangement from fuel model 4 to fuel model 11)