X. Accomplishments and Challenges

Introduction

Since 2006 Federal, State, and private landowners have joined forces in an effort to begin mitigating wildfire risk and improve protection efforts. Fuels projects included hazardous and ladder fuels reduction, raising canopy base height, and reducing stand densities. Protection efforts include the fuels projects as well as equipment acquisitions, protection agreements, and training opportunities. Multiple funding mechanisms provided the county extensive work of reducing wildfire risk in Wallowa County.

The 2006 CWPP provided avenues for funding for treatments in Wildland Urban Interface (WUI) areas with much of the revenue designated toward a specific WUI area. These WUI areas were limited to locations where structures and other human development met or intermingled with wildland fuels (WC CWPP 2006).

The new WUI Zone provides some added flexibility for funding distribution toward multiple areas meeting the same criteria. This allows funds to be distributed throughout the County’s WUI Zone giving fire managers increased opportunities for fire mitigation using a landscape approach. Cross boundary treatments along property lines with multiple landowner involvement, creates the most effective defensible space for suppression resources. Treatments within the middle ground areas, away from communities, are often a single landowner or just two ownerships. Opportunities for large-scale projects are possible under both scenarios however proximity to private lands can play a role in treatment options. The middle ground locations often provide more diverse options for treatments such as landscape prescribe burning.

A variety of treatment tools were used on private lands depending on the fire mitigation need. Treatments that involved treating the live tree component of the stands included commercial and noncommercial thinning as well as pruning. Down woody fuels were either the result of natural accumulation or limb wood – breakage from the timber treatments (slash). A variety of approaches was used to mitigate the fuels hazard. The most common approaches on private land has been piling by machine or hand pile then burn the piles; masticating and slash busting was the second most used technique. Forest Service lands utilized the same types of treatments, however depending on treatment location prescribed fire was also used as a means of fuels reduction and stand pruning.

Accomplishments

Oregon Department of Forestry and Private Lands

Oregon Department of Forestry in cooperation with private landowners has accomplished approximately 10,722 acres of work throughout the county. Nearly
8,776 of these acres are within the new WUIZ with the remaining 1,946 acres primarily concentrated in the vicinity of Akers Buttes. Accomplishment dates for the work vary from 2005 to as recently as 2016. Approximately 7,099 acres has multiple type treatments which usually entailed timber thinning then follow up slash reduction.

The more concentrated patchwork of activities have occurred on private lands near the foothills of the Wallowa Mountains stretching from Reavis Creek east to Wallowa Lake totally approximately 1,868 acres. Another 2,060 acres of treatment occurred from the Wallowa Lake Community eastward to Griffith Creek.
Wallowa-Whitman National Forest

The Forest Service public lands in Wallowa County are managed by the Wallowa Mountains Office (WMO). The WMO is a combination of three management zones that include the Eagle Cap Ranger District, Hells Canyon National Recreation Area, and Wallowa Valley Ranger District.

The bulk of the treatment areas have occurred on the Wallowa Valley Ranger District in locations where the forest management designation is identified as timber production. Public lands treatment areas in and near communities and has complemented private landowner efforts with some additional cross-boundary fuels and vegetation management projects. Project location and management direction played a role in how and what treatments were used. Most projects were planned with both fuels and stand vegetation management activities in mind.

Treatment activities were designed for the following purposes: modifying fire behavior potential, reducing surface fuel loadings and ladder fuels, reducing overall canopy density, improving firefighting opportunities by creating and maintaining defensible space along private lands, improving firefighter and public safety, and protecting resource and property values at risk on private and public lands.

Recent projects that supported these treatment activities include:
- Mount Howard, 2005; Mount Howard
- Mount Howard “L” Project, 2010; Mount Howard
- Green McCoy Project, 2008; Bear Creek and Deer Creek
- Arroz Project, 2008; Chesnimus

Treatment activities near homes are designed with protection of life and property in mind, resulting in multiple activities occurring on the same section of ground to toward a single goal. For example, fire risk mitigation, depending on site conditions, may require...
several treatment activities including overstory thinning, ladder fuel reduction, down woody fuels treatment, with a final treatment of prescribed or pile burning. Since 2005, there have been approximately 7 different types of treatment activities implemented for fire risk mitigation on public land that are within 1 mile of private lands.

Treatments associated with down woody fuels account for 5,012 acres, such as machine or hand piling followed by pile burning or thinning for fuels reduction followed by prescribed burning. Since 2005 vegetation activities associated with aerial fuels treatments within 1 mile of private lands account for 1,840 acres. Treatments included fuels modification through overstory and ladder fuel thinning, precommercial and/or commercial thinning. The new WUI Zone contains 5,837 of the combined treatment acres.

![Figure X - 5: All treated acres under timber management/veg. management from 2005 – 2014 (USFS FACTS 2016). CWPP fall within the current WUIZ. Treatments include: overstory thinning, ladder fuels reduction, pre-commercial thinning, etc.](image)

![Figure X - 6: All surface fuels treatments locations between 2005 – 2014. Some locations receiving more than one treatment type (USFS FACTS 2016).](image)

Many of the treatment acres received both crown density and down woody fuels reduction activities in order to achieve the highest level of defensible space and wildfire behavior modification. Crown density and ladder fuel reduction occurred under Figure X - 5 with some areas shown in Figure X - 6 as followed up by some type of down woody fuels reduction treatment such as under burning, fuels removal/rearrangement, or machine/hand pile and burn. Treatment activities are designed to complement one another to meet the overall goal of fire risk mitigation.

**Umatilla National Forest**

The northwest of Wallowa County extends hosts approximately 123,713 acres of the Umatilla National Forest lands, which has accomplished 1,351 acres of fuels and vegetation project since the year 2005. The majority of project activity is identified as a firebreak along the 6200 road that connects Tollgate with Troy.
It is worth mentioning once again that the Grizzly Bear Fire has had a significant impact on stand and fuels conditions to the west of the town of Troy. Although efforts to minimize fire risk have been initiated, the 6200 road identified as a fire break provided a control line for the Grizzly Fire in 2015. Agencies involved with the Grizzly Bear Fire were the Forest Service (Umatilla and Wallowa-Whitman), Oregon Department of Forestry, Wallowa County Emergency Services, and Washington Department of Natural Resources. Meetings with the community of Troy occurred during and after the fire resulting in an ODF engine stationed in Troy for initial attack on wildland fires.

**Equipment**

Fire response is one of the three primary goals of this CWPP. In order to provide safe and effective response to wildfire the appropriate apparatuses are needed.

One of the programs that assist in equipment acquisition is the Federal Excess Personal Property (FEPP). It creates an avenue for Forest Service owned property to be loaned to State Foresters for the purpose of wildland and rural firefighting. The State Forester may place the equipment with local departments to improve local fire programs. Enterprise Fire obtained a Type 6 engine through the FEPP program. The Federal Firefighting Program allowed the county to obtain a D-7 dozer for wildland fires in and around the county landfill, as well as a 2002 Fire Rescue Unit.

The Oregon Department of Forestry also has a co-op engine at its disposal that belongs to the Forest Service but is staffed by ODF. This provides additional wildland coverage during the peak of fire season.
Challenges

**Project Planning, Pace and Scale**

Over the last decade, the issues of pace and scale continue to be at the forefront as millions of acres of forest lands are blackened annually from wildfires. According to Tom Tidwell, Chief of the USDA Forest Service while addressing the House Committee on Appropriations in 2013, “Between 65 and 82 million acres are in need of fuels and forest health treatments—up to 42 percent of the entire National Forest System.”

Federal agencies, including those in eastern Oregon continue to face challenges when attempts are made to increase pace and scale. In 2014, the Oregon Department of Forestry presented Oregon Senate Bill 357, a report to the state legislature on, Federal Forest Management. Section 1(1) of SB 357 requests, “The identification of potential approaches to diversifying revenue sources and improving the level of revenue available to increase the pace and scale of federal forest management.” In other words, finding ways to expand funding sources and the availability of funds is crucial to increasing the timeliness and size of forest management projects. The report also indicates the amount of NEPA completed is a limiting factor for increasing the pace and scale of restoration work on federal forest lands. Projects that are implemented are often found to be too small of acreage size or the treatment prescribed is not extensive enough for overall wildfire mitigation upon first entry. Other contributing factors include reduced staff, extensive detailed environmental analysis to avoid litigation, competing priorities (ODF 2014) or actual litigation.

Litigation of projects continues to occur for many Federal Agency projects. In 2015 a U.S. Government Accountability Office (GAO) provided, *A Report to Congressional Requesters*, on Forest Restoration. Agencies reviewed by the GOA were the Forest Service (FS), Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and National Park Service (NPS). Part of the challenges of project litigation for federal agencies occurs from stakeholders that opted out of collaboration invitations, were not involved from the local area, or from the collaboration participants within the group itself. Litigation is time consuming, costly, strains agency/stakeholder relationships, delays or limits restoration activities and can discourage participation in future projects (GAO 2015).

The GAO report also reviewed 34 collaboration landscape-scale forest restoration projects (projects larger than 50,000 acres with a focus on forests) that occurred over a 10 year period, from 2004 through 2014. The Forest Service reported conducting 24 of the 34 projects; BLM, 8; and NPS, 2. Several project managers in the GAO reported that *upfront collaboration* during planning resulted in increased pace and scale, however large-scale projects continued to be subject to litigation just like small
projects. Litigation often arrives when commercial logging is a key component of fuels reduction projects, however, changing fire on the landscape is ineffective and/or hindered when litigation slows project implementation particularly when mortality rates have increased due to overstocking leading to insect and disease. First entries must be aggressive not only in pace and scale but in thoroughness of treatment applications to avoid the need for additional entries in the near future.

The vulnerability of federal lands is occurring from a wide range of impacts that include, increase in wildfires and drought, stressed forests and vulnerability to insect and disease, and potential loss of critical habitat some of which is being contributed to climate change according to a May 2013 GOA report. As a result, there is growing agreement among land managers that efforts to restore forests should be undertaken at a scale commensurate with the scale at which disturbances, such as unnaturally severe wildfires that burn millions of acres annually, are occurring—that is, at a landscape scale (GAO 2015). The Blue Mountains of eastern Oregon historically experienced a surface fire, resulting in 25% or less mortality in the upper canopy of ponderosa pine plant associations, that burned an estimated 75% of the Fire Regime Condition Class I areas prior to Euro-American settlement (pre 1850). Wallowa County falls primarily within Fire Regime I, II, or II as per Chapter VII. To fully meet the GOA’s pace and scale recommendations sub-basin or larger approaches would be needed to adequately address conditions of Wallowa County. Wallowa County CWPP supports landscape scale approaches for both restoration and fire mitigation that not only promote the three goals of the Cohesive Wildfire Strategy, but also provide sustainable forests, recreational opportunities, and economic stability for the community in the future.

The House of Representatives H.R.2647 passed the Resilient Federal Forests Act of 2015, on July 9, 2015. Title I of the Act is designed to expedite environmental analysis and availability of categorical exclusions to accelerate forest management activities. Forest management activities for NEPA included under this act are those developed through collaboration, a resource advisory committee, or covered by a community wildfire protection plan. Primary purposes of the activities include: insect and disease infestation, reduction of hazardous fuel loads, protection of municipal water sources, maintain, enhance, or modify critical habitat to protect it from catastrophic disturbances; increase water yield or any combination of these. The bill is currently awaiting Senate approval.

**Maintenance**

Many older environmental documents and some recent documents fail to include a plan for maintaining treatment investments. Acknowledgement of retaining post treatment site conditions in plans will preserve accomplished fire mitigation measures and reduce future costs when follow-up activities to sustain initial investments of treatments are needed. Designing a plan to maintain treatment accomplishments and protect costs is identified in Section 102(g) (8) of the Healthy Forest Restoration Act
(HFRA) that requires the USDA Forest Service and DOI BLM to develop a process for monitoring the need to maintain treated areas over time. Proposed actions and alternative descriptions should include an estimated maintenance treatment schedule and cost (USDA 2004). The Forest Service issued a directive that became effective in April 27, 2016 titled Ecosystem Restoration policy. This policy includes restoration activities that will complement management to maintain conditions in areas with ecological integrity. The policy also states that restoration activities will complement management to maintain conditions in areas with ecological integrity (USDA, Forest Service 2016).

Since 2005, Federal, State, and private landowners have joined forces in an effort to begin mitigating wildfire risk. Projects have included hazardous and ladder fuels reduction, raising canopy base height, and reducing stand densities.

Although efforts to minimize fire risk have been initiated, wildfire risk often requires a multiple-phase approach to fully accomplish wildfire risk mitigation. Post-treatment site visits will be needed to assure activities on the ground have met expectation of wildfire mitigation and over time to evaluate the need for maintenance. Ecosystems are not stagnant in nature but dynamic requiring a need for treated areas to be re-visited to avoid changes that increase fire risk. Fire mitigation work is an ongoi ng effort to protect investments.

The length of time before treated areas require re-treatment is dependent on several inter-related factors including:

- Past treatment level (e.g., how much biomass [fuel] was removed initially in the under story and over story);
- Site productivity;
- Rate of fuel accumulation;
- Fuel structure (i.e., condition class)
- Historic fire regime;
- Desired fire behavior (for effective control)
- Climatic regime.

Developing a rotational monitor program that allows for periodic site visits and updating of the CWPP fuels layer allows managers to review risk reduction efforts. The mapping of initial treatment information and fire regime assists in future CWPP updates identifying changes in risk.
Ninety-four percent of wildlands across the conterminous United States is dependent on wildfire as a fundamental ecological component (Stein et. al. 2012). Limited funds and workforce can leave fire managers with critical decision for application of treatments. New wildfire mitigation actions must be augmented with maintenance in previously treated areas in order to provide the highest level of success. There is broad consensus that active management of some type is needed in such forests (Allen et al., 2002; McKelvey et al., 1996), and that such treatment will be needed as a continued maintenance activity (Skinner/Agee).

Projects that have occurred are often too small to be effective, treatments are too passive, and sites are not re-entered for several decades, resulting in lack of progress toward changing fire behavior on the landscape. Designing projects of adequate size and thoroughness in management approaches can provide the highest level of community benefit and safety. Recent wildfires have displayed destructive behavior, and management must be aggressive in order to prevent further landscape damage.

**Land Management Designation**

Wallowa County supports 1.1 million acres of forest with approximately 73% under federal ownership, 14% in private ownership, 12% in family forest ownership with the remaining 1% under state ownership. Wallowa County’s federal forests have a significant portion protected under management designation. Roughly 286,000 acres (36%) are in active management designations intended to produce commercial products and other benefits. Protected lands account for approximately 505,000 acres (64%) of the federal forests and 344,000 acres (43%) of the federal forest lands are highly protected through wilderness area, research are, or wild and scenic designations (Christoffersen 2017). These protected lands include inventoried roadless areas, designated wildernesses, Hells Canyon National Recreation Area, wild and scenic rivers, and research areas.

**Inventoried Roadless Area (IRA)**

The Wallowa-Whitman National Forest supports a dispersion of designated roadless areas. Inventoried roadless areas make up approximately 343,112 acres of public lands within Wallowa County. There is a total of roughly 269 miles of boundary where roadless areas borders private property in Wallowa County.

Roadless areas within the Communities at Risk (CAR) include 32,071 acres of which roughly 85 miles border private lands located primarily in the Imnaha Corridor. Forest Service lands within the new WUIZ support close to 94,975 acres of IRA with 155 miles of boundary next to private land, again with the bulk of the private property and roadless area interface, 76 miles of bordering edge, occurring in the Imnaha Corridor. (Figure X - 8)
In examining the IRA areas with the overall fire risk index a great deal of the IRA were found to be at either extreme or high fire risk. The results show that 43% are in extreme fire risk conditions, 35% in high, 9% in moderate leaving approximately 13% of the IRA in a low risk.

Figure X – 8. Image A = Proximity of Inventoried Roadless to private lands both outside and inside the WUI Zone. Image B = Roadless areas relative to communities at risk boundaries.

The interface of IRA areas and private lands presents several challenges when attempting to meet the national fire policies for reducing wildfire risk in wildland urban interface areas in order to protect communities at risk. Some of the key challenges include:

- Several roadless areas are displaying some of the highest fire risk ratings. The Imnaha Corridor is significantly impacted by roadless areas exhibiting extreme fire risk and are located directly adjacent to the private lands (Figure X – 9). Costs associated with wildfires moving from public lands (roadless in this case) on to private lands are anticipated to be far higher than providing advance treatments.
- There are additional planning and implementation considerations (legal, social, ecological) and costs for planning and analysis could increase.
- Costs to treat across roadless boundaries could above costs compared to timber management allocation so there is less incentive to include these areas in planning. Between 2005 and 2015, according to Forest Service activity
records, vegetation treatments in Inventoried Roadless Areas total 43 acres of thinning hand pile and burn and 495 acres of prescribed burning of which 481 were for wildlife habitat north of Thomason Meadows Guard Station.

- According to May 31, 2012 letter from the Chief of the Forest Service, Road management activities and timber harvest within roadless areas must generally be approved by Chief or the Regional Foresters. This requires extra steps and roadless treatments may need to be a separate project to prevent slowing project in timber management allocated areas.

![Inventario Roadless](image)

Figure X - 9. Private land fuels reduction project. Photo A was accomplished using brush-hog and small skid steer to mow down thick vegetation and down woody debris. Photo B was treated by a thinning hand crew and a small dozer piled debris for later burning. Photos provided by ODF.

Policies and guidelines provide direction on treatments types, material for removal, road construction, and authorities to approve entries within the IRAs. Roadless is not indicative to no entry. The Forest Service 1900 Manual, Chapter 1920 – Land and Resource Management Planning, lists exceptions regarding the need for approval at the Chief or Regional Forester level in inventoried roadless areas including:
The removal of small diameter material to maintain or restore the desirable characteristics of ecosystem composition and structure to reduce the risk of uncharacteristic wildfire effects (FS Manual 1925.04a – Chief).

The cutting, sale, or removal of timber is incidental to the implementation of a management activity and not otherwise prohibited under the land and resource management plan (FS Manual 1925.04a – Chief).

Decisions when a road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event, that without intervention would cause the loss of life or property (FS Manual1925.04b – Regional Forester).

In order to truly meet the three goals of this plan, opportunities of treating roadless areas should be evaluated with protection of lives as a key motivator. A local roadless treatment project was conducted on the Umatilla National Forest. The project is described in the following text. In 2010, the Umatilla National Forest pursued entering roadless as part of a fuels reduction project. The roadless area northwest of Elgin is identified in the Federal Register Vol. 75. No 201, October 19, 2010 as part of the Oregon Tollgate Fuels Reduction Project. The Lookingglass IRA is part of the Forest Service proposal to treat targeted areas along the edge of the IRA boundary where it coincides with private inholdings and Forest Road 6400 (Federal Register 2010). According to the Record of Decision signed in 2014, treatments types were limited in the Lookingglass Potential Wilderness Area (LG PWA) to trees less than 8 inches in diameter and timber stand thinning changed from commercial treatments to non-commercial treatments. The Lookingglass IRA was modified from a commercial option to no commercial component with restrictions of treating trees only less than 8 inches in diameter and with removal of down woody material less than 14 inches in diameter (Umatilla NF 2014).

Wallowa County’s 155 miles of roadless areas bordering private lands presents a number of challenges for both the Forest Service and adjacent landowners. These challenges must be addressed through a collaborative and a responsible program that puts firefighters and public lives first, while improving ecosystem characteristics that support wildfire disturbance. Retention of the current characteristics of the roadless areas is at times contrary to wildland urban interface protection objectives, direction manuals, and ecosystem management direction outlined in the Cohesive Wildfire Strategy.

Wilderness

The Wallowa-Whitman and Umatilla National Forests both host wilderness areas that are within Wallowa County directly bordering private lands. The Wenaha-Tucannon Wilderness is approximately 5 miles to the northwest of the town of Troy with a small section (2.4 miles) against private lanes. The Eagle Cap Wilderness is situation in the southwest of the county with approximately 22.7 miles of boundary adjacent to private
lands. Wilderness acres within the WUI Zone account for 1,324 acres of the Wenaha-Tucannon and 22,110 acres of the Eagle Cap Wilderness.

There is approximately 554 structures within 1 mile of the two wilderness boundaries. The Wallowa Lake – Ski Run Community at risk contains approximately 359 of the structures and is also one of four CAR rated as extreme fire risk. Along this boundary, Wallowa lake visitors and local residents use these structures primarily during peak fire season, thus compounding the concern over public safety. According to Elliot Hinmann of Oregon State Parks and Recreation Department, Wallowa Lake State Park statistics show the for July of 2015 and 2016, visitor days for those months total 119,742 and 103,544 respectively. See Chapter IV for additional information.

The challenges of fire mitigation are partly due to the restrictive nature of the management direction in the wilderness leaving very few options available to fire managers to create defensible space in the middle ground locations. Listed below are a few possible actions that can be taken to mitigate loss in these areas:

- Focus a higher effort on fire mitigation on adjacent private lands through fuels treatment, increase of water sources, and structure vulnerability.
- The Eagle Cap Wilderness has a prescribed fire plan in place that allows for management ignited prescribed fire within the wilderness boundary. As with all fire there are risks involved however having the ability to implement a prescribed burn does the following:
  - Prescribed fire provides fire managers with the ability to dictate the weather and fuels conditions under which the fire will be burning. These can be milder than fire season conditions allowing for a higher level of fire control.
  - Provides a modification in fire behavior outside of fires season reducing potential for an unprecedented wildfire in the wilderness near private lands.
  - Management ignited fire can occur during a time of year where majority of personnel are available to support the burn and provide high protection.
  - Prescribed fire is more likely to retain overstory vegetation and create a mosaic on the landscape.
  - Managers can dictate the amount of acreage burned at one time by identifying and managing the size of the burn.

Between 2002 and 2006 the Wallowa Mountains Office conducted prescribed fires in the Eagle Cap Wilderness in the Minam River corridor. Fuels Management objectives for the project were:
- Reintroduce fire on the landscape in a controlled setting
• to reduce the amount of ladder fuels (understory) beneath the overstory trees in order to raise the canopy base height above the ground to avoid loss of stand in the event of a wildfire;
• reduce the down woody fuel to modify wildfire spread and
• provide a level of protection of the fire tolerant overstory species. Figure X - 10 shows photos of two separate locations 7 and 8 years after the prescribed fires.

Figure X - 10. Photos show 8 and 7 years after a Eagle Cap Wilderness prescribed fire in the Minam drainage. The management ignitions were implemented in 2002 and 2003 respectively. Photos were taken by US Forest Service monitoring crew in June of 2010.

Access routes

Wildland firefighters operate under guidelines called the 10 standard fire orders and 18 situations that shout watch out. These Orders and Watchout Situations provide firefighters with key areas that must be followed while engaging any wildfire. Escape route and safety zones are recognized as a key to safety in both. Multiple escape routes decrease the likelihood of injury or loss of life.

Wallowa County is faced with a variety of access issues that could compromise fire fighter and public safety in a number of locations. Several high use local areas are facing potential safety issues due to ingress – egress problems. Below lists three of the key areas identified during the course of this CWPP planning:

• Lostine Corridor – This area averages 2 wildfire starts annually, yet has one access route and is highly used by members of the public. A secondary exit route is not realistic, providing adequate (large enough) safe areas and fire mitigation treatments in the corridor is critical.
• South end of Wallowa Lake – This area is the highest tourism location receiving over 100,000 visitor days in the State Park alone for the month of July. There is currently only one way in/one way out from this location. There is an access road on the west Moraine of the lake that could provide evacuation relief if used as a secondary route during emergencies. A recent meeting occurred with landowners on the west moraine to discuss the possibility of opening the road to
be used only during emergencies. Unfortunately, a small minority was against opening or gating the road on the west moraine. It is the recommendation of this document to further pursue this option.

- Mount Howard Tramline – The tramline is a gondola line that supports 4 passenger gondola cars from the south end of Wallowa Lake at 4,450 feet elevation to 8,150 feet at the top. Approximately 32,000 visitors use the tramline between mid-May to the end of September. The Tramline cable extends 3.6 miles above wildland vegetation along a ridgeline where it transports visitors to hiking areas. Once at the top there are limited access routes for evacuation: a 15 minute ride back down the gondola; a hiking trail from the top to the bottom; or an old access road off the top into McCully Creek. A review of the Tramlines safety plan is a recommended first step followed by any follow-up means to provide adequate evacuation and safety for visitors and staff.

The Thirtymile Fire started in Chewuch River Canyon on the Okanogan-Wenatchee National Forest in July 2001. The Chewuch River Canyon had a one way access road. Fourteen crewmembers and two civilians were involved in the entrapment. The firefighters were working on a human caused fire when it started another fire (spot fire) down canyon cutting off their access routes. Two civilian hikers had returned to their vehicle at the time of the incident and took refuge with a firefighter in a shelter as the fire overtook them (USFS 2001).

Ten of the personnel and two civilians survived the burnover while four firefighters died during the fire (USFS 2001). The full report can be found in the CWPP reference folders.

The Chewuch River runs down a deep “V” canyon with little elevation change along the bottom with both sides of the canyon having slope steepness of 70 to 100% (USFS 2001).

The significance of mentioning the Thirtymile Fire in this CWPP is it is important to take lessons learned from a previous fire situation and apply that information to locations in Wallowa County in an attempt of making every effort to avoid a second occurrence of similar outcomes.
Infrastructure

Wallowa County no longer supports a lumber mill but hosts a post and pole facility in Wallowa. The presence of the mill provides higher efficiencies to properly developed management projects. Transportation costs are a significant limiting factor in many forest management strategies. The CWPP committee recognizes the importance of maintaining this small woods infrastructure for the success of future management projects. Significant emphasis should be placed on management strategies that maintain this resource and address haul costs to the closest lumber mill in Elgin. Infrastructure challenges are often associated with material size, haul distance, limited contractors with appropriate equipment for the job, and assurance of products over long term.

Eastern Oregon has very little infrastructure that are capable to utilize biomass. Several challenges exist for biomass usage, including: potential start-up fees for new companies, hauling fees of removing the material from site to the facility, limited contractors with appropriate equipment for the job, and limited assurance of product supply over the long term. Initiating the project is often based on estimates of available supply when considering a business plan and facility. This is often expressed as an assurance that a supply will be available from private, state, and federal lands within a realistic haul radius. The timeliness at which restoration activities occur on much of the public land has been slow due to lack of agreement on forest management, limited funding, and a shortage of staffing in the Forest Service and BLM (Davis et al 2010).

Additionally, finding contractors willing to work with biomass can be difficult partially due to the low value of the product, cost of removal, and in many areas the haul distance to processing sites. Because markets for commercial biomass products such as pellets, mulch, firewood, and animal bedding are limited, it is of little economic value to stewardship contractors, who could otherwise offset the agency’s costs of restoration by taking the value of the biomass as full or partial payment for their work (GAO 2015).

Air quality Concerns

Air quality is important for aesthetic, public health, and many outdoor community events. Some project managers, in the GAO report identified prescribed burning as one of the primary methods for forest landscape restoration but it continues to be a challenge do to air quality and safety concerns.

Public perception of air quality standards and lack of education on smoke emissions trade-offs compared to wildfire, limits the opportunities of prescribed burning in an already restrictive program. In many areas smoke emissions constraint are implemented during community events further limiting the number of days a burn may be within the legal parameters of the burn plan.
A 2010 the state of Oregon Department of Environmental Quality (ODEQ) released a five year monitoring assessment. The Forest Service office site that was once in Enterprise hosted a nephelometer (an instrument for measuring smoke) to record the amount of smoke density particulates in the air and the composition of smoke. The ODEQ considers any city over 25μg/m³ to be at risk of violating the National AAQS. The monitoring assessment showed from 2007 – 2009 that Enterprise was at 20 μg/m³, well below the daily standard for that time period of 35 μg/m³ (ODEQ 2010.)

Tradeoffs between smoke generated by a prescribed burning under which management-designed prescription conditions are provided, with specific weather and fuels parameters, and summer wildfires in which fire location and conditions are unpredictable are significant. Smoke emission tradeoffs are beneficial where prescribed fires managed at specific times of year produce less particulate than wildfires that burn during the peak of fire season. Roger Ottmar, one of the leading researchers on fire effects, fuel consumption, emissions production, and impacts on air quality and human health uses the following graph (Figure X - 12), during a Forest Service smoke management class, displaying the amount of particulate matter (PM) emitted from both wildfires and management prescribed fire.

The Eagle Cap Wilderness is a Class I air shed that has visibility compliance in regard to smoke. When burning in or near the wilderness consideration should be given to minimize long term smoke that impairs visibility within the Class I airshed (ODEQ 2017).

There are multiple options available outside of the wilderness to further reduce smoke emissions to support air quality concerns and impacts to community health. These include:

- Woody biomass utilization
- Mechanical processing/removal
➢ Firewood programs
➢ Burn fuel concentrations, creating mosaic burns, pile and burn
➢ Grazing
➢ Converting an area; heavy timber into timber/grass
➢ Burn in advance of precipitation
➢ Portable incinerators (Ottmar 2002).

### Beyond the WUI Zone

This CWPP emphasizes lands within the identified WUIZ for the best protection of local communities, but wildland fire issues do not stop at the WUIZ boundary. Wallowa County is 2,017,280 acres in size, encompassing a WUIZ of 696,662 acres, and 21,950 acres of CAR outside the WUIZ, leaving an additional 1,298,668 acres outside the primary focus of this document. However, consideration must be given to outlying areas not within the WUIZ that may need ecosystem restoration or fire mitigation.

In 2013, Phase III of the National Cohesive Wildland Fire Management Strategy (NCWFMS) was developed called the Western Regional Action Plan. This plan was developed with stakeholder input and is a science-based roadmap to provide a truly western approach to wildland fire that addresses the three goals of the CWS (NCWFMS 2013). An important element of the Action Plan is, “the emphasis on fuels treatments from the community outwards, into the middle lands and toward the wildlands.”

When appropriate, allowance for the incorporation of areas outside the CARs and WUI Zone that support the mitigation actions of this plan can further increase a holistic approach to the CWS goals. Identifying complementing actions that promote a collective and responsible approach to wildland fire mitigation is necessary. This type of approach will assist managers in several ways. It will:
➢ Reduce the need for separate project planning funds for areas elsewhere in the county when those areas can be included during mitigation planning outside the WUIZ.
➢ Expand upon the WUIZ edges when it meets a wildland risk or ecological objective.
➢ Contribute to the overall landscape-scale approach.
➢ Increase the protection for structures not included within the WUIZ.
➢ Allow for local, state, tribal, federal agencies as well as the community to support one another by taking into account all lands and acknowledging the interdependence of actions (keeping in mind the differing land and resource management objectives).
➢ Increase the economic viability of projects through single NEPA planning and taking a big picture approach to meeting the goals of this CWPP.

With wildland urban interface areas as a focus for agency fuels reduction budgets, there is an increased need for creative approaches in spending. This includes approaches during planning and implementation.
Summary

Since 2005, several thousand acres of fuels reduction have been accomplished in Wallowa County for wildland fire mitigation near communities. This marks the first step for local agencies and landowners in progress toward collectively working together for a common cause. This cause must be carried forward to areas that are still at risk while preserving investments already established.

Through the Cohesive Wildfire Strategy’s emphasis on the inclusion of middle ground areas, the west has the ability to expand fire mitigation actions beyond the initial wildland urban interface areas. This ability to expand into middle ground areas combined with the degree of departure of western fire regimes from historic conditions supports the need for landscape scale projects. Wildland conditions in Wallowa County mirror those fire regimes and ecosystem departures of the western forests prompting a need for action.

This philosophy of scale provides several benefits for suppression resources, communities, and ecosystems. A balance of both utilization and consumption of fuels will address many concerns from air quality, economic stability, and fire risk mitigation. Through a diverse use of management tools, a variety of treatments can be applied toward management objectives.

However, several issues continue to challenge agencies and landowners in their efforts to reduce wildland fire risk. Small projects are a starting point but are not effective in cost or timeliness against the continued possible threat of severe wildfires. Large-scale approaches that mimic historical landscape disturbance where a diversity of management tools can be utilized will provide not only success in suppression efforts near communities, but support for economic and ecological resiliency in Wallowa County.
Bibliography


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Chapter X Accomplishments and Challenges


Web Links:


Senate Bill 1072, http://www.oregon.gov/Pages/index.aspx#search?q=Senate%20Bill%201072
