

## **COPWRR Project-Level Ecosystem Monitoring Report Form**

Project: Crescent Lake WUI	
NEPA Authority Used: Environmental Assessment	
Date: September 9, 2009	
Interdisciplinary Team / FS Members Participating: Judith Parker, Kristen McBride, Paul Miller, Joe Bowles, Kevin Carlson, Becky Zimmerman, Holly Jewkes, Mary Farnsworth, Cindy Glick, Robin Vora, Lillian Cross	
Other Participants in Field Evaluation: Bill Dean, Jen O'Reilly, Ben & Kay Sunderland, Joni & Dwayne Mogstad, Carl Wilmsen, Jim Larsen, Glen Ardt	
Unit #: EA Unit #2	Acres in Unit: 102
Other Units from Project Being Monitored: 90 and 7	

### **Background**

**Purpose and Need for Treatment of Unit:**

Since European settlement, fire suppression has reduced the natural role of fire on the landscape. As a result, stand structures and densities have been altered and the potential for high severity fires has increased. Human settlements and uses of the area, riparian areas, and other forest values including adjacent Late Successional Reserves are threatened by high severity fire risk. Reducing fuels within the wildland urban interface can help reduce the rate of spread and increase the ability to control low to moderate intensity wildfire within the project area.

The following purposes have been identified for the project:

1. Reduce the amount of surface and ladder fuels.
2. Lower fire hazard around the community of Crescent Lake and other developments in the area.
3. Lower fire hazard throughout the project area to reduce the risk of high severity fires that could spread quickly and be difficult to control.
4. Improve growth and vigor of trees by thinning in managed plantations.
5. Enhance the growth and vigor of overstory trees and reduce competition and stress to remaining trees by thinning outside of managed plantations.
6. Remove unhealthy lodgepole in the overstory and promote growth of other species where possible.
7. Provide administrative access for vegetation management and fuels reduction treatments.
8. Provide sufficient access for firefighters and adequate escape routes for private property.
9. Improve the condition of riparian meadows where lodgepole encroachment has occurred.

**Management Objectives for Unit:**

This Unit falls within the Intensive Recreation and Old Growth Management Areas of Deschutes National Forest Land and Resource Management Plan. The Unit is also part of the Late Successional Reserve (LSR) Allocation under the Northwest Forest Plan

**Intensive Recreation** – This management area provides a wide variety of quality outdoor recreation opportunities within a Forest environment where the localized settings may be modified to accommodate large numbers of visitors.

**Old Growth** – The goal of this management area is to provide naturally evolved old growth forest ecosystems for the following purposes: habitat for plant and animal species associated with old growth forest ecosystems; representations of landscape ecology; public enjoyment of large, old-tree environments; and the needs of the public from an aesthetic spiritual sense.

**NW Forest Plan LSR** – The Davis LSR covers nearly 50,000 acres. As discussed in the NW Forest Plan’s Record of Decision, silviculture aimed at reducing the risk of stand-replacing fires may be appropriate, including thinning and underburning. “Managers need to seek a balanced approach that reduces risk of fire while protecting large areas of fire-prone late-successional forest.” Nesting Roosting Foraging Specifications for small tree thinning will be followed in Unit 2.

The Unit Prescription for Unit 2 lists the following stand treatment objectives: Reduce fuels and reduce stocking. Harvest dead trees where feasible that are excess to the resource needs.

#### Treatment Summary for Unit:

Unit 2 encompasses some pure lodgepole stands, some dry mixed conifer stands, and minor amounts of wet mixed conifer, with some stands in mature and old-growth age classes and some in immature age classes. Broadly, the treatment will include thinning and small tree thinning with piling and underburning afterwards. Thinning will mostly be accomplished using ground based mechanized equipment but no mechanized equipment is allowed in riparian reserves. The **Unit Prescription** for this unit includes the following Stand Treatment Prescription and Marking Guide direction:

- In the LP type, stand treatment will be mainly thinning from below, but will include a minor amount of thinning from above in places where the larger trees are not relatively healthy. When all commercial and pre-commercial thinning is completed, the unit needs to be fully stocked with an average minimum spacing of 18 ft, or a maximum of 60-80 sq. ft. BA per acre if that amount of BA results in a wider average spacing than 18 ft. Most of the cut trees will be 2-7 inches dbh.

- In the MC dry type, thin from below primarily, but watch for opportunities to favor sapling size and larger, healthy, . = 35% crown ratio DF by removing larger trees of other species, especially LP and WF.

\*Leave BA of trees  $\geq 7$  in dbh should be  $\geq 80$  in almost all of the MC dry type

\* Remove a max of 40% of the BA of trees  $\geq 7$  in dbh in most of the area; a very minor amount could exceed 40%

\* Species preference (in order) is DF, P, WP, MW, ES, WF, LP.

- Harvest excess down and excess standing dead where feasible. A part of the unit is being considered for LP salvage only, and this treatment along with PCT and slash treatment may

accomplish everything needed in this area. A post-salvage recon could determine if any more treatment would be appropriate.

-To the extent feasible, harvest as many of the small diameter trees that are excess to stocking needs, and harvest down to the smallest diameter feasible.

- Leave a minimum 15% of the unit untreated to provide habitat diversity across the landscape.

- Thinning in **riparian reserves** will be limited to trees  $\leq 4.0$  in dbh, and no thinning will occur within 30 ft of stream banks. Tree spacing will be a maximum average of 6 ft between 30 and 150 feet from the stream bank. Outside riparian reserves, thin to an average spacing of 18 ft with 50% variance, spacing of all trees. Favor other species over lodgepole.

The **Environmental Assessment** provides these broad guidelines for small tree thinning, salvage, and thinning treatments:

**Small tree thinning,  $< 8$ " DBH** – Removal of small trees through thinning from below in plantations and stands with high densities of small trees. Thinning “from below” entails removal of trees, beginning with the smallest and moving toward larger trees, until the desired number of trees per acre (density) is met for the stand. Depending on market conditions, some of the trees cut may have a commercial value (post and pole, small sawlog, etc).

**Salvage** – Salvage is shown for units where there is a likelihood of salvaging down lodgepole pine. Salvage would only take place where there are down trees that are excess to identified wildlife needs.

**Thinning of trees  $> 8$ " DBH** – In addition to thinning from below, in several of the lodgepole stands some diseased and poor condition overstory trees would be removed also. The objectives are to reduce stand densities and modify fuel amounts and arrangements. The desired density would range between 60 and 160 square feet basal area per acre, depending on the species composition, site productivity, and stand structure objectives. The focus would be on retaining healthy lodgepole pine, Engelmann spruce, ponderosa pine, and Douglas-fir. Species other than lodgepole pine will be favored where other species are well suited for the site. This treatment could benefit habitat conditions for late forest structure species that are associated with open, mature stands.

#### Selected Implementation Guidelines, Management Measures, and BMPs to Evaluate:

An extensive list of Project Design Considerations and Mitigation Measures apply to this project, covering Soils, Watershed and Fisheries, Wildlife, Noxious Weeds, Cultural Resources, and Recreation and Scenic Views.

These Design Considerations and Mitigation Measures can be found on pages 21 to 30 of the Environmental Assessment for the Crescent Lake WUI project and photocopies will be provided on the day of the field review. A PDF of the Environmental Assessment can be found at:

<http://www.fs.fed.us/r6/centraloregon/projects/units/crescent/crescentlakewui/index.shtml>.

## Unit Evaluation

Were the treatments implemented as described in the decision document or Record of Decision? Were the treatments implemented in accordance with the Selected Implementation Guidelines, Management Measures and BMPs identified above? If not, please explain why.

This unit encompassed some diverse stand conditions and had a variety of treatments implemented within it to achieve multiple objectives. The group made multiple stops within the unit to try to fully grasp everything that was happening here. The unit contained important recreational, old growth, and riparian / aquatic resources and was treated through stewardship contract and through commercial firewood sale.

The stewardship contract portion of this unit was originally marked for a commercial timber sale. But after a storm caused significant blow down the treatment method was switched to stewardship contract and implemented over snow in November 2006.

In the basic lodgepole stands in the stewardship contract area, the group thought the treatment had pretty much been implemented as described. Soil disturbance had been kept within 20% by using designated skid trails. One concern was that the piles left for burning were larger than the Forest Service had hoped for because of market conditions for chip and hogg fuel material.

Someone asked whether any snag creation had been done in this unit. The group did not see many snags in the area. Snags were not created because there were no trees that fit the size profile.

Much less of the riparian buffer treatments have been implemented than described and desired. These areas need to be treated with non-commercial manual thinning which is very expensive. Crescent RD staff explained that they have finite funding for the project and have only been able to do small amounts of the riparian work. If they get additional fuels funding they might be able to do more, but there are also other treatments that have not yet been implemented (strips along residential roads) that would compete for those additional fuels dollars.

The group also thought that the treatment had been implemented as described in the commercial firewood areas.

For each Management Objective for this Unit please evaluate whether the objective has been achieved. If the objective has not been achieved, please comment on barriers, constraints, limitations, etc and what might be needed for future projects to achieve the objective.

The group agreed that the overall objective of improving resilience and reducing fuels, fire hazard and overstocked conditions had been addressed.

In the commercial firewood areas near Odell Creek and eagle and osprey nest sites the group asked whether the fuels reduction objectives had been fully met. The commercial firewood

treatment produced less disturbance to sensitive raptors and the ground than a commercial timber sale and did make a positive impact on fuel loads. (Work was implemented with chainsaws, wheelbarrows, and pick up trucks.) While a different treatment might have reduced fuels more this treatment was sensitive to a sensitive site.

Someone asked whether the blocks of treatments were strategically placed to break up fuels and fire spread at the landscape scale.

Jen O'Reilly expressed concern that the goal of improving conditions in the riparian corridor had not been met because there was not sufficient funding to implement the planned treatments. She emphasized that natural disturbances would have caused openings around springs and small creeks where hardwoods and other key riparian species would have come in and that this process is hugely important for riparian habitat conditions.

### **Project Evaluation**

Were the results of this project what was anticipated and intended? Have treatments addressed the Purposes and Needs for this Unit? If not, why not?

For the portions of this unit where implementation was completed the Purposes and Needs have been addressed. For the portions where implementation has essentially been deferred the answer is "not yet."

Please share any observations or comments about the project planning, implementation, or results that are important to understanding management of this unit or important for improving future management in similar projects.

Market conditions were a real limitation on disposal of biomass and thus more resources will be used for pile burning.

Meanwhile, funding was a real constraint on getting the non-commercial thinning done in the riparian buffer. One possibility for getting these riparian areas treated would be to seek funds from OWEB or the RAC. The Rocky Mountain Elk Foundation might be interested in helping to facilitate work in these areas.

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Unit #: EA Unit #7	Acres in Unit: 239
Other Units from Project Being Monitored: Units 2 and 90	

### **Background**

**Purpose and Need for Treatment of Unit:**

Since European settlement, fire suppression has reduced the natural role of fire on the landscape. As a result, stand structures and densities have been altered and the potential for high severity fires has increased. Human settlements and uses of the area, riparian areas, and other forest values including adjacent Late Successional Reserves are threatened by high severity fire risk. Reducing fuels within the wildland urban interface can help reduce the rate of spread and increase the ability to control low to moderate intensity wildfire within the project area.

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**Management Objectives for Unit:**

This Unit falls within the Intensive Recreation and Old Growth Management Areas of Deschutes National Forest Land and Resource Management Plan. The Unit is also part of the Late Successional Reserve (LSR) and Administratively Withdrawn Allocations under the Northwest Forest Plan

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**NW Forest Plan LSR** – The Davis LSR covers nearly 50,000 acres. As discussed in the NW Forest Plan’s Record of Decision, silviculture aimed at reducing the risk of stand-replacing fires may be appropriate, including thinning and underburning. “Managers need to seek a balanced approach that reduces risk of fire while protecting large areas of fire-prone late-successional forest.”

**NW Forest Plan Administratively Withdrawn Allocation** – These areas are identified in the Deschutes LRMP and occur in the project area as Intensive Recreation and Old Growth management areas.

The Unit Prescription for Unit 7 lists the following stand treatment objectives: Reduce fuels and reduce stocking in order to reduce the risk of catastrophic loss from wildfire, insects, and disease. Meet resource objectives.

#### Treatment Summary for Unit:

Unit 7 is mostly lodgepole pine, but structure is highly variable throughout. Lodgepole old structure is sparse in some areas and heavy / overstocked in others. Small amounts of Englemann spruce, mountain hemlock, and white fir are present and some pockets of dwarf mistletoe are present. Broadly, the treatment will include thinning and small tree thinning with piling burning afterwards. The **Unit Prescription** for this unit includes the following Stand Treatment Prescription and Marking Guide direction:

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\*Where the larger LP is less densely stocked, then stocking should be determined by an average 18 ft spacing. Spacing should be varied to plus or minus 50%, or occasionally more, in order to leave the best trees.

\*Note: When average leave tree size is larger than about 9-10.5 in dbh, then average tree spacing will get wider than 18 ft in order to leave a maximum of 60-80 BA.

\*Leave a maximum of 60-80 BA of relatively healthy mature and/or larger LP (min 25% crown ratio, healthy appearing crown, and less than 1/3 of the crown volume in mistletoe brooms) where there is enough relatively healthy larger lodgepole to leave 60-80 BA.

- Where Englemann spruce is present, favor ES over LP, but include some LP for leave trees also.
  - Harvest dead LP if feasible, both standing and down, where there is excess to resource needs.
  - To the extent feasible, harvest as many of the small diameter trees that are excess to stocking needs, and harvest down to the smallest diameter feasible.
- Leave a minimum 15% of the unit untreated to provide habitat diversity across the landscape.
- Thinning in **riparian reserves** will be limited to trees  $\leq 4.0$  in dbh, and no thinning will occur within 30 ft of stream banks. Tree spacing will be a maximum average of 6 ft between 30 and 150 feet from the stream bank. Outside riparian reserves, thin to an average spacing of 18 ft with 50% variance, spacing of all trees. Favor other species over lodgepole.

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## Unit Evaluation

Were the treatments implemented as described in the decision document or Record of Decision? Were the treatments implemented in accordance with the Selected Implementation Guidelines, Management Measures and BMPs identified above? If not, please explain why.

This was a particularly interesting unit to visit because a fire burned through it shortly after a large portion of the treatment was completed. So the group was able to assess the impact that the treatment had on fire behavior first hand.

Work on this unit was implemented under the Trig stewardship contract. While over 60% of the area intended for treatment in this unit had been completed, there was still a significant number of acres (especially non-commercial acres) deferred until a time when funding was available.

Within the 146 acres treated, the group felt the treatment had been implemented as described. Areas designated not for treatment (wildlife leave areas, some riparian and wet areas) were not disturbed, though a portion of the wildlife leave area was subsequently burned by the fire.

Prior to the fire, the ID team was happy with the work that had been implemented. After the fire, people were impressed by what the treatment had done.

For each Management Objective for this Unit please evaluate whether the objective has been achieved. If the objective has not been achieved, please comment on barriers, constraints, limitations, etc and what might be needed for future projects to achieve the objective.

Prior to treatment, this unit was a dense wall of lodgepole. After the treatment fuel loads had been reduced dramatically and the ID team felt that this helped to limit the severity of the fire and its impacts.

The Hanes fire burned in fall 2008. It was carried quickly by 20 to 30 mph winds. When it reached the treated areas in this unit the fire would lay down as fuels planners had hoped. But with the high winds, the fire would also send embers ahead which started spot fires. So fire suppression efforts were aided significantly by the treatment but still had challenges. Ultimately, fire crews were able to catch the fire in the treated areas and prevent it from spreading into residential areas and into the Wilderness area. Crescent RD staff thought that structures would likely have been lost if there had been no treatments before the fire.

Carl W. asked whether Matsutake mushroom production was considered in design of this project. The ID team answered that the mushrooms were not a driver for this project but were definitely taken into account when planning implementation. Canopy retention and prevention of soil disturbance (through over-snow operations) were built into the prescriptions in relevant areas.

Immediately after treatment there was only a modest amount of down material in the unit. One year after the fire burned through there was a lot of blow down and this presents a new fuels issue.

### **Project Evaluation**

Were the results of this project what was anticipated and intended? Have treatments addressed the Purposes and Needs for this Unit? If not, why not?

Since the fire was contained and loss of structures and lives from the Hanes Fire was prevented the group felt the treatment definitely addressed the Purposes and Needs.

Please share any observations or comments about the project planning, implementation, or results that are important to understanding management of this unit or important for improving future management in similar projects.

Judith explained the differences between Timber Sales and Stewardship Contracts to the group. A timber sale goes to the highest bidder and some of the value from the sale goes to post-harvest work such as slash disposal (KV dollars and Brush Disposal dollars). There is one entry to get the merchantable material and then another entry using the funds set aside for post-harvest work to deal with the small material and slash disposal. Some of the members of the ID team expressed concern that the BD and KV funds that were collected for this project were not sufficient to get all the post-harvest work done.

Under a stewardship contract, the contractor agrees to remove large and small material in a single entry and trades the value of the material removed for the service of reducing fuel loads on the site to the desired level. Often there are appropriated dollars provided to the contractor to cover the services that are not covered by the value of the material. This site had lots of non-saw log material and the contractor signed up for the stewardship contract because he believed he could market it.

The Crescent RD used an 18 foot spacing in the prescription for this unit rather than accomplishing the thinning through a basal area approach (typically 60 to 80 square feet in a stand like this). This was a practical approach in this area because it allowed the machinery to operate effectively. The ID team expressed concern that a wider spacing would have left trees vulnerable to being wind thrown. The net result of this spacing was about 20 to 30% canopy closure. Someone asked whether this was too low for Matsutake habitat.

The ID team discussed the community response to the treatment. At first people had many questions but became more supportive as the project unfolded. Then people were very pleased after the fire – they realize that it wasn't just luck that structures didn't burn in the Hanes fire and they are supportive of more treatments.

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Within the 146 acres treated, the group felt the treatment had been implemented as described. Areas designated not for treatment (wildlife leave areas, some riparian and wet areas) were not disturbed, though a portion of the wildlife leave area was subsequently burned by the fire.

Prior to the fire, the ID team was happy with the work that had been implemented. After the fire, people were impressed by what the treatment had done.

For each Management Objective for this Unit please evaluate whether the objective has been achieved. If the objective has not been achieved, please comment on barriers, constraints, limitations, etc and what might be needed for future projects to achieve the objective.

Prior to treatment, this unit was a dense wall of lodgepole. After the treatment fuel loads had been reduced dramatically and the ID team felt that this helped to limit the severity of the fire and its impacts.

The Hanes fire burned in fall 2008. It was carried quickly by 20 to 30 mph winds. When it reached the treated areas in this unit the fire would lay down as fuels planners had hoped. But with the high winds, the fire would also send embers ahead which started spot fires. So fire suppression efforts were aided significantly by the treatment but still had challenges. Ultimately, fire crews were able to catch the fire in the treated areas and prevent it from spreading into residential areas and into the Wilderness area. Crescent RD staff thought that structures would likely have been lost if there had been no treatments before the fire.

Carl W. asked whether Matsutake mushroom production was considered in design of this project. The ID team answered that the mushrooms were not a driver for this project but were definitely taken into account when planning implementation. Canopy retention and prevention of soil disturbance (through over-snow operations) were built into the prescriptions in relevant areas.

Immediately after treatment there was only a modest amount of down material in the unit. One year after the fire burned through there was a lot of blow down and this presents a new fuels issue.

### **Project Evaluation**

Were the results of this project what was anticipated and intended? Have treatments addressed the Purposes and Needs for this Unit? If not, why not?

Since the fire was contained and loss of structures and lives from the Hanes Fire was prevented the group felt the treatment definitely addressed the Purposes and Needs.

Please share any observations or comments about the project planning, implementation, or results that are important to understanding management of this unit or important for improving future management in similar projects.

Judith explained the differences between Timber Sales and Stewardship Contracts to the group. A timber sale goes to the highest bidder and some of the value from the sale goes to post-harvest work such as slash disposal (KV dollars and Brush Disposal dollars). There is one entry to get the merchantable material and then another entry using the funds set aside for post-harvest work to deal with the small material and slash disposal. Some of the members of the ID team expressed concern that the BD and KV funds that were collected for this project were not sufficient to get all the post-harvest work done.

Under a stewardship contract, the contractor agrees to remove large and small material in a single entry and trades the value of the material removed for the service of reducing fuel loads on the site to the desired level. Often there are appropriated dollars provided to the contractor to cover the services that are not covered by the value of the material. This site had lots of non-saw log material and the contractor signed up for the stewardship contract because he believed he could market it.

The Crescent RD used an 18 foot spacing in the prescription for this unit rather than accomplishing the thinning through a basal area approach (typically 60 to 80 square feet in a stand like this). This was a practical approach in this area because it allowed the machinery to operate effectively. The ID team expressed concern that a wider spacing would have left trees vulnerable to being wind thrown. The net result of this spacing was about 20 to 30% canopy closure. Someone asked whether this was too low for Matsutake habitat.

The ID team discussed the community response to the treatment. At first people had many questions but became more supportive as the project unfolded. Then people were very pleased after the fire – they realize that it wasn't just luck that structures didn't burn in the Hanes fire and they are supportive of more treatments.