Southwestern Crown of the Continent Minimum Stump to Mill and Net Financial Analysis

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Harvest Cost Equations Used

Ground – based (0-40%)

Cost per ton = 35.079 + (0.805*average DBH[inches]) + (skid distance in 100” * 0.083)

Skyline – cable (41-60%)

Cost per ton = 37.442 + (skid distance in 100” * 0.558) + (0.871*volume per acre removed in MBF)

Haul Cost Equation Used (to Pyramid Lumber)

Cost per ton = 72.379 + (skid distance * 1.208) + (0.864*volume per acre removed in MBF)

2012 Q1-4 and 2013 Q1-2 average WMPA delivered log prices

Douglas Fir – Larch (P1PO 8") $361.25/MBF

Inland Red Cedar $869.12 / MBF

Whitewoods/other $348.58/MBF

Rough estimate of commercial value estimated as recent price per MBF converted to potential revenue per acre using our estimate of commercial volume per acre. This would be one major source for paying minimum stump to mill costs as well as other common restoration costs listed here.

Additional Costs Above Minimum Stump to Mill

Mitigations:

Non-wood Treatments $40-85/acre, $140/mile
Weed Monitoring $5-15/acre
Landing File Burning $120/acre
Landing Rehabilitation $60-1,081/acre
Skid Trail Landing Rehab $62-222/acre

Other project activities:

Prescribed Burning Only $100-350/acre
Fireline Construction Hand $50/hour or 6,000/mile
Fireline construction mechanical $2,400/mile
Lop and scatter natural fuels $20/acre
Piling and burning non-activity fuels $200/acre
Thinn and Hand File Fuels $380/acre
Spot slashing for non-commercial treatments $80-600/acre
Pre-commercial Thinning $90-411/acre
Fish Passage Improvements $900-47,500/substrate
Non-commercial Thinning $200-310/acre
Rejuvenation Planting $5,000/acre
Aquatic Rehab $131,000/mile
Create exotic fish barriers $5,000/each
Road maintenance on non-haul roads $1,743/acre
Hazard Tree Felling and Removal $510/acre
Sage Grass Burns $62/acre

Maximum Stump to Mill Cost is the combination of yarding cost and haul costs. It represents a minimum to conduct the commercial component of the restoration treatments that fire and fuels and silviculture staff recommended for the portion of the landscape where target basal areas are lower than existing basal areas.

Starting Point is Estimate of Commercial Volume from FIA bridged with VMAP

Yarding cost reflects estimated commercial volume/acre, which we estimate as: (Existing basal area – target basal area / existing basal area) – percent non-marketable * board foot total = estimated board foot commercial, and then apply using one of three Region One yarding costs equations, based on common slope breakpoints.

Haul cost also reflects estimated commercial volume/acre, using the Region One haul cost equation per ton converted to MBF per acre using 5.5 tons per MBF and volume estimates per acre.

Commercial related activity:

Sale Preparation and Sale Administration $13.90-19/CCF
Road Construction $20,000-40,000/mile
Road Reconstruction $2,140-15,625/mile
Temporary Road Construction / Removal $5,122-18,000/mile
Road Best Management Practice Maintenance on Haul $400-531,000/mile
Long Term Road Storage $406-1,135/mile
Snowplowing $25-550/mile
Silvicultural Exams $12-142/acre
Certification of Silv exams at year 5 $12/acre
Slashing Damaged Residues $4-110/acre
Underburning after Harvest $55-276/acre
Jackknife Burning After Harvest $130/acre
Landing Piling $110-200/acre
Landing File Burning $70-196/acre
Burning for Site Prep $140/acre
Rejuvenation Planting $500-600/acre
Interplanting $520/acre

Non-Commercial Vegetation Treatments Recommended by SWCC Silviculturists

Clearcut with reserves (6) $300
Commercial thin (from below) (8) $80
Commercial thinning (3) $380/acre
CT or improvement harvest (thin from below) (3) $200
Group selection (8) $20
Improvement harvest (Thin from below) (13) $250
Improvement harvest (N/A) – Too small, or don’t need any treatment $110/acre
Regeneration harvest (12) $110/acre
Shelterwood with reserves (4) $110/acre
Thin from below (40) $110/acre
Thin from below, daylight PIMO (11) $380/acre
Thin from below, daylight PINO (11)

Non-Commercial Fire Treatments Recommended by SWCC Silviculturist

Borax/Slaicing $300
Borax / Slaicing/ pullback $80
Daylight whitebark pine $300
N/A
Precommercial thinning $20
PCT/Thin for fuels $80
Plant $30
Slashing $80
Slashing/pullback $30

Non-Commercial Fire Treatments Recommended by SWCC Silviculturist

Site Prep Burn $30
Underburn $30
Broadcast Burn $30
Jackpot Burn $30
Lop and Scatter $30
Mastication $30
Burn Landing Pile $30

Treatments Recommended by SWCC Silviculturists as Part of Restoration Prescriptions

Total of 161 potential VMap Classes in the SW Crown

Cost per ton = 37.442 + (skid distance in 100” * 0.558) + (0.871*volume per acre removed in MBF)

Cost per ton = 72.379 + (skid distance * 1.208) + (0.864*volume per acre removed in MBF)

Cost per ton = 5.079 + (0.805*average DBH[inches]) + (skid distance in 100” * 0.083)

Cost per ton = 37.442 + (skid distance in 100” * 0.558) + (0.871*volume per acre removed in MBF)

Cost per ton = 72.379 - (skid distance * 1.208) + (0.864*volume per acre removed in MBF)

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