

Condon Thin Dxp
Logging Feasibility Report

North Fork Siuslaw Land Management Project EA

Central Coast Ranger District

Siuslaw National Forest

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Table of Contents

Summary 3
Resource Management Objectives..... 4
Timber Characteristics 4
Recommended Logging Systems..... 4
Logging Plan Narrative..... 5
Skyline Profile Data and Payload Analyses (see Appendix A) 7
Equipment Access and Haul Route..... 7

- Appendix A: Logger PC and Profile Data
- Appendix B: Appraiser Information
- Appendix C: Logging Plan Overlays for Aerial Photos

Summary

Condon Thin DXP is comprised of 10 thinning units. Current trees per acre range between 90 and 300 (TPA); based on stand-exam data. After thinning the units will have areas consisting of 40 to 75 TPA. Stand exam information was used for estimated volumes. The total sale acreage is estimated at 253; total volume is estimated at 4,388 MBF or 8,165 CCF. The project area is located in T. 17 S., R. 11 W. Sections 8, 9, 10, 14, 15, 16, 21, 22.

Douglas-fir is the dominant species in all the units. As much as is feasible, hardwoods will not be felled in the units. No Pacific yew was observed during stand exams and logging systems analyses; if any Pacific yew is found during operations, none will be felled. Minimum DBH for trees to be harvested is 7 inches. Trees less than 7 inches will be protected where practical.

GIS was used to calculate the length for most roads and the acres for the units. A string box was used to determine the length for temporary roads (see Table 1.).

System roads 5841, 5841 763, and 5841 759 will generally require roadside brushing, grading, and additional rock.

Table 1. Estimated quantities for landings, tailtrees, intermediate supports and deadman anchors

*G = guyline anchor; T = tailhold anchor (cat tractor on existing landing is recommended)

Unit	Temporary Road Reopening (Feet)	New Temporary Road Building (Feet)	Number of Landings	Number of Tailtrees	Number of Intermediate Supports	Number of Special Anchors (G/T)*
1	861	0	2	5	0	0
1a	0	0	2	6	0	0
2	2043	0	11	11	1	0
3	60	0	7	24	5	Eq. 2 (G)
4	2051	0	8	6	1	Eq. 1 (G)
5	443	0	1	0	0	0
7	0	0	2	0	0	0
9	524	0	4	15	7	Eq. 1 (G)
10	4402	0	7	23	2	0
11	2745	0	8	17	4	0
Total	13,129	0	52	107	20	Eq. 4, G

Note: Unit 1a LND C is shared with Unit 1

Ground-based volume from Unit 3 likely will skid to LND H of Unit 4

Resource Management Objectives

The stand prescriptions, unit layout, and logging and transportation plans will be designed to meet the following resource objectives:

- Speed the development of late-successional forest characteristics in managed stands by thinning these heavily stocked stands to maintain stand health, promote tree growth, and enhance stand diversity.
- Manage riparian reserves consistent with the Northwest Forest Plan's Aquatic Conservation Strategy.
- Protect water quality and fish habitat in all streams.
- Minimize soil disturbance during all phases of harvest activity.
- Protect T&E wildlife species by limiting operating seasons.

Timber Characteristics

Refer to the cruise data for information about timber characteristics.

Recommended Logging Systems

A. Logging System Requirements

The following requirements are designed to meet the resource management objectives stated in section I.

- Except during lateral yarding, the skyline must be capable of keeping the leading end of logs suspended above the ground during inhaul.
- Where yarding occurs across streams, the skyline system must be capable of keeping the entire length of logs fully suspended above streams during inhaul.
- Where the skyline passes through stream buffers, skyline corridors will be spaced so that no more than 20% of the existing canopy in the buffers will be removed in a given 1,000 foot reach of stream.
- Minimum skyline corridor spacing shall be 120 feet and maximum corridor width shall not exceed twelve (12) feet.
- Ground-based yarding shall be limited to slopes of 35 percent or less and use designated skid trails. All designated skid trails must be approved by the sale administrator.

B. Acceptable Yarding Equipment

The skyline system should be capable of transporting logs for a horizontal distance of up to 1,500 feet. A rigging length of up to 2,100 feet might be necessary to reach tailholds.

The skyline system must: (1), be capable of meeting the log suspension requirements stated above; (2), be capable of lateral yarding; and (3), be capable of being rigged in a multi-span configuration (Units 2, 3, 4, 9, 10, 11).

The carriage must be capable of maintaining a fixed position on the skyline, while lateral yarding up to 120 feet on either side of the skyline in some instances, and it must be capable of passing support jacks where intermediate supports are used.

Ground-based equipment must be able to provide suspension of the leading end of logs during skidding (units 2, 3, 4, 9, 10).

C. Logging System Specifications

Table 3 shows the specifications of the logging systems that were used in the analysis for this project. These systems are recommended because they are available, capable of meeting the resource management objectives and logging system requirements, reduce the number of intermediate supports needed, and are capable of doing the job economically.

Table 3. Recommended logging system specifications

Yarder	Madill 6150, SPCM
Tower height	50 feet
Skyline diameter/length/type	0.875 inches/2,000 feet/Swaged
Mainline diameter/length/type	0.625 inches/2,300 feet/Swaged
Haulback diameter/length/type	0.5 inches/4,300 feet/Swaged
Strawline diameter/length/type	N/A
Carriage	Eagle Eaglet; 1,200 pounds

Other equipment—Hardware for rigging tailtrees (2 sets) and intermediate supports (3 sets); crawler tractor for landing clearing; equipment for a guyline and tailhold anchors; a Yoader or Modified Loader; ground-based equipment for yarding logs on designated slopes of 30 percent or less; and a loader/shovel.

Logging Plan Narrative

This section discusses the logging and transportation plans for each unit (See Unit Summary Sheets).

A. General Information

- All unit boundaries are marked with blue-paper or aluminum tags and yellow ribbon.
- All landings are marked with yellow plastic tags, and solid blue and solid white ribbon.
- Minor clearing is required for some landings.
- Landings are located to minimize yarding over buffered streams and headwalls.

- All roads and landings will be reviewed on the ground by a District hydrologist and the Forest transportation planner for the timber-sale appraisal and contract.
- Log hauling will be limited to the **dry season on most temporary roads** because of the cost associated with the quantity of rock needed.
- There are a few streams and associated headwalls that exist within the units. These areas will be buffered and excluded from the units. Buffer boundaries will be marked on the ground to protect slope stability and water quality. Full-log suspension is required over streams and headwalls.
- Skyline landings generally use fan-shape and parallel settings, with most turnroads using single-span configurations. Tailholding on opposing slopes is emphasized, where opportunities exist, to reduce the need for tailtrees and intermediate supports.
- Where yarding will occur over streams, some areas may lack the deflection necessary to obtain full suspension of logs during whole-tree yarding; therefore, shorter log lengths will be required over these areas.
- Most of the units will require some loader/shovel logging along the roadway or on designated skid trails.

Skyline Profile Data and Payload Analyses (see Appendix A)

Profile and skyline payload analyses were conducted with SkylineXL_14. Adequate tree sizes are available for tailtrees and intermediate supports, using a rigging height of up to 40 feet (most profile analyses figured tailtrees and intermediate supports at a height of 20 and 30 feet), and a skyline diameters of 0.75 or 0.875 inches. Adequate payloads equate to three average logs or two long logs (whole-tree length, measured from the stump cut to a 5" top).

Equipment Access and Haul Route

The sale location and probable equipment access and haul routes are displayed on the vicinity map in the timber sale contract. No access or haul route problems are anticipated. The forest transportation planner has verified the following haul routes.

Log haul for all the units in this timber sale are planned to haul south out on the 5841 and 5841 763 to county road 5078 (Condon Cr. Road), to county road 5070 (North Fork Siuslaw River Road) west to Highway 126.

Log hauling for this timber sale will be restricted to dry season only, generally from June 15th to October 15th. The fisheries biologist has agreed to extend the dry season to November 1st.

Appendix A

SkylineXL and Profile Data

Appendix B

Appraiser Information

Watershed—North Fork Siuslaw River Watersheds; Condon Creek and Uncle Creek Watersheds.

Environmental Assessment- North Fork Siuslaw Landscape Management Project EA (May 2012) covers the sale area.

Survey monuments—see unit summary sheets and logging map.

Appendix C

Logging Plan Overlays for Aerial Photos

Condon Thin DxP Unit Summary Sheet

Central Coast Ranger District

General Information

Unit # :	1	Stand # :	607109B
Legal Location:	<u>T.17S. R.11E., Sec. 8, 9</u>		Acres: <u>17</u>
Photo Number:	<u>0672-109</u>	Year of Origin:	<u>1969</u>
Unit Designation:		Residual TPA Post Harvest:	<u>40</u>
Recon by/Date:		<u>12/14 K.Wangerin</u>	

Volume Information

Source of volume estimate: Stand Exam Estimated Volume: 14 MBF/acre

Special Considerations

	Yes		No	
	Yes	No	Yes	No
Power Lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive/Sensitive Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dump Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Survey Monuments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Heritage Sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Meadows	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Water Systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Road and Landing Information

Landing	Road Type	Road Length	Road Status		Landing	Road Type	Road Length	Road Status
A	non-system	284	Existing					
C	non-system	381	Existing					
D	non-system	196	Existing					

Notes

Temporary Spur Summary: Temp
 Spur #1: LND A to Jct. 5841 763; Existing template; native surface; reopen; Favorable: 0-10%; Dist: 284'
 Temp Spur #3: LND D to LND C; Existing template; some aggregate; reopen; Favorable: -0-5%; Dist: 196'
 Temp Spur #3: LND C to Jct. 5841 766; Existing template; some aggregate; reopen; Favorable: -0-5%; Dist: 381' (Temp Spur #3 total length = 577') Note:
 LND C is shared between Unit 1 and Unit 1a Note: LND B
 was removed after pre-sale dropped that portion of unit due to low conifer stocking/low volume per acre

Condon Thin DXP Unit Summary Sheet

Central Coast Ranger District

General Information

Unit # :	<u>3</u>	Stand # :	<u>607166 & 607248</u>
Legal Location:	<u>T.17S. R.11E., Sec. 16, 21</u>		Acres: <u>54</u>
Photo Number:	<u>1189-248</u>	Year of Origin:	<u>1984</u>
Unit Designation:	<u>DxP</u>	Residual TPA Post Harvest:	<u>75</u>
Recon by/Date:	<u>12/14 K. Wangerin</u>		

Volume Information

Source of volume estimate:	<u>Stand Exam</u>	Estimated Volume:	<u>8.5 MBF/acre</u>
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Special Considerations

	Yes	No		Yes	No
Power Lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fences	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive/Sensitive Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Heritage Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dump Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Meadows	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Survey Monuments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Water Systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Road and Landing Information

Landing	Road Type	Road Length	Road Status		Landing	Road Type	Road Length	Road Status
A	5841 761		Existing					
B	5841 761		Existing					
C	non-system	60	Existing					
D	5841 763		Existing					
E	5841 763		Existing					
F	5841 763		Existing					
G	5841 763		Existing					

Notes

Survey Monuments: PVT/FS Boundary and property corners established with orange carsonite posts. The boundary gets harder to follow (Very brushy) on the southern side of the unit. **

2 acres of gaps planned for the 607166 part of this unit

Condon Thin DxP Unit Summary Sheet

Central Coast Ranger District

General Information

Unit # :		Stand # :	607164 A&B
Legal Location:	<u>T.17S. R.11E., Sec. 16</u>	Acres:	<u>22</u>
Photo Number:	<u>268-155</u>	Year of Origin:	<u>1968</u>
Unit Designation:	<u>DxP</u>	Residual TPA Post Harvest:	<u>65</u>
Recon by/Date:	<u>01/15 K. Wangerin</u>		

Volume Information

Source of volume estimate: Stand Exam Estimated Volume: 13 MBF/acre

Special Considerations

	Yes		No		
	Yes	No	Yes	No	
Power Lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fences	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive/Sensitive Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Heritage Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dump Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Meadows	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Survey Monuments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water Systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Road and Landing Information

Landing	Road Type	Road Length	Road Status		Landing	Road Type	Road Length	Road Status
A	non-system	340	Existing					
B	non-system	42	Existing					
C	non-system	726	Existing					
D	5841 763		Existing					
E	non-system	171	Existing					
F	non-system	131	Existing					
G	non-system	141	Existing					
H	non-system	500	Existing					

Notes

Temp Spur Road Summary: Temp
 Spur #1: LND A to LND B; Existing template; some aggregate; reopen; Favorable: 5-15% up to 17%; Dist: 340'
 Temp Spur #1: LND B to Jct. 5841 763; Existing template; aggregate; reopen; Favorable: 16% w/pitch up to 21% for 50'; Dist: 142' Temp
 Spur #2: LND C to Jct. 5841 763; Existing template; some aggregate; reopen; Adverse: 6-13% Favorable 5-10%; Dist: 726' Temp Spur #3:
 LND H to LND G; Existing template; aggregate under duff layer; reopen; Adverse 0-5% ave 10-12% Dist: 500'
 LND G to LND F; Existing template; some aggregate; reopen; Adverse: 0-5%; Dist: 141'
 LND F to LND E; Existing template; some aggregate; reopn; Adverse: 5%; Dist 131'
 LND E to Jct. Temp #2; Existing template; some aggregate; reopen; Adverse: 0-5%; Dist: 171'

Condon Thin DXP Unit Summary Sheet

Central Coast Ranger District

General Information

Unit # :	<u>5</u>	Stand # :	<u>607191</u>
Legal Location:	<u>T.17S. R.11E., Sec. 22</u>		Acres: <u>2</u>
Photo Number:	<u>1762-123</u>	Year of Origin:	<u>1962</u>
Unit Designation:	<u>DxP</u>	Residual TPA Post Harvest:	<u>40</u>
Recon by/Date:	<u>01/2015 K. Wangerin</u>		

Volume Information

Source of volume estimate: Stand Exam Estimated Volume: 13 MBF/acre

Special Considerations

	Yes	No		Yes	No
Power Lines	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Fences	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Invasive/Sensitive Plants	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Heritage Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Dump Sites	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Meadows	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Survey Monuments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Water Systems	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Improvements	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Road and Landing Information

Landing	Road Type	Road Length	Road Status		Landing	Road Type	Road Length	Road Status
A	non-system	443	Existing					

Notes

Lots of blowdown in areas of unit; when stand was originally logged some downhill was included. I recommend not including any downhill yarding settings as there is no run-out and a steep cut-bank where the LND A was originally built. Pre-sale should only include the timber ~200' above the LND that will reach by directional felling and reaching with a shovel or endlining to the LND location. Some sidehill yarding will be required to yard this particular unit. **

Note: Pre-Sale should buffer 100' no thin on Uncle Creek (coho habitat)

CondonThin DxP Unit Summary Sheet

Central Coast Ranger District

General Information

Unit # : 9 **Stand # :** 607147
Legal Location: T.17S. R.11E., Sec. 10 **Acres:** 31
Photo Number: 0672-32 **Year of Origin:** 1971
Unit Designation: DxP **Residual TPA Post Harvest:** 60
Recon by/Date: Jan-15

Volume Information

Source of volume estimate: Stand Exam **Estimated Volume:** 13 MBF/acre

Special Considerations

	Yes		No			Yes		No	
Power Lines				x	Fences				x
Invasive/Sensitive Plants				x	Heritage Sites				x
Dump Sites				x	Meadows				x
Survey Monuments	x				Water Systems				x
Improvements				x	Other				x

Road and Landing Information

Landing	Road Type	Road Length	Road Status		Landing	Road Type	Road Length	Road Status
E	non-system	524	Existing					
F	5841 759		Existing					
G	5841 759		Existing					
H	5841 759		Existing					

Notes

Temp Spur Road Summary: Temp
 Spur #2; LND E to Jct. 5841 759; Existing template; native surface; reopen; Adverse: 4-12%; Dist: 524' (fill crack ~ 300' or so down the spur) **

Note: There is PVT land east of unit on both sides of Condon Cr., it is not necessary for tailholds on PVT therefore would be up to the purchaser to get permission if they want to tailhold on the PVT landowner; Landowner's name is Steve Andrus (Lonnie Woosley would be a good contact to get more info)

